Religion, Identity, and Preferences

Bouke Klein Teeselink*[1,3] and Georgios Melios[2]

[1] *Department of Political Economy, King's College London*
[2] *Department of Behavioural Science, London School of Economics and Political Science*

Abstract

This paper provides causal evidence on the impact of religious identification on political preferences, gender norms, societal beliefs, and group behavior. Exploiting clergy sexual abuse scandals as a source of exogenous variation in Catholicism, we demonstrate that religious de-identification leads to significant shifts in individual attitudes and political alignment. Using data on millions of U.S. college freshmen and county-level voting records, we find that secularization causes more progressive positions on issues like abortion rights and same-sex marriage, but more conservative views on universal healthcare and military spending. The net effect is a substantial leftward shift in overall political orientation. We also document more progressive gender attitudes, particularly regarding women's workforce participation, among those who de-identify as Catholic. Notably, religious de-identification reduces individuals' propensity to engage in other group activities. Additional analyses suggest that as individuals disaffiliate from Catholicism, they increasingly identify with their social class, which polarizes economic preferences between high and low-income groups.

Keywords: Religion, Identity, Political Preferences, Social Norms, Group Behavior, Secularisation

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*Klein Teeselink: bouke.klein_teeselink@kcl.ac.uk. Melios: g.melios@lse.ac.uk. We would like to thank the British Academy and Leverhulme Trust for funding parts of this research under their Small Grants scheme - Grant No: SRG2223-231469.

1 Introduction

People's identities are often centered around social categories such as politics, race, and religion (Akerlof and Kranton, 2000; Shayo, 2009). These identities carry behavioral prescriptions that influence people's norms, values, and behaviors. Economists increasingly recognize that incorporating identity into economic analysis is important for understanding topics such as labor market discrimination (Giuliano et al., 2011; Åslund et al., 2014; Bagues et al., 2017), productivity (Bandiera et al., 2005; Hjort, 2014), and human capital formation (Gershenson et al., 2016; Lavy et al., 2018).

Among the various markers of identity, religion stands out as one of the oldest and most influential categories, governing behavior for billions of people (Alesina and Giuliano, 2015; Guiso et al., 2006; McCleary and Barro, 2006). Hence, religious identity plausibly influences a wide spectrum of personal preferences, ranging from views on personal liberties and family structure to attitudes toward economic policies and civic engagement. Understanding this influence is important because such preferences eventually determine electoral outcomes, economic decision-making, social cohesion, and institutional development (sources). Moreover, in the face of rising secularization, understanding the effects of religiosity becomes increasingly vital for anticipating societal changes (Norris and Inglehart, 2011; Voas and Chaves, 2016). Despite this importance, however, causal evidence on these relationships remains scarce (Iyer, 2016).

This paper aims to fill this gap by providing causal evidence on the effect of religious identification in the United States on policy preferences, gender norms, societal attitudes, and group-oriented behaviors. The main empirical challenge is the non-random nature of religious identification. Individuals often select their religious identity based on observed and unobserved factors such as economic status, geographic location, personal life experiences, and cultural compatibility. Since these factors likely also political preferences, it is unclear whether any observed correlation between religion and our outcome variables is merely a spurious consequence of omitted variables, or represents a genuine causal connection. To overcome the empirical challenge, we use clergy scandals in the Catholic church as a source of exogenous variation in religiosity (Hungerman, 2013*b*; Bottan and Perez-Truglia, 2015).

As a first step, we provide detailed evidence that scandals cause a decline in Catholicism. Using individual-level data for millions of US Freshmen and staggered difference-in-differences identification, we show that local scandals cause an 1.0 to 1.2 percentage point reduction in the likelihood that individuals identify as Catholic. This effect is stronger for individuals for whom church is a more important form of social support/protection such as individuals from low-income or poorly educated families. The observed decrease in Catholicism manifests as an overall decline in religiosity, rather than merely re-alignment between denominations, as in Hungerman (2013*b*). Moreover, the reduction in religious identification extends to religious practice, as scandals reduce how frequently people attend church. This pattern of secularization also applies to the wider population, as scandals cause a reduction in county-level Catholic school attendance and religious identification, which is consistent with Bottan and Perez-Truglia (2015).

Next, we leverage this quasi-experimental variation to examine how religiosity affects policy preferences. Using an instrumented difference-in-differences approach, we find that religious de-identification makes individuals adopt more progressive positions on issues like abortion rights, redistribution, same-sex marriage, immigrant rights, and employer drug testing. However, they adopt more conservative views on universal health care and military spending. These mixed effects make it unclear whether secularization shifts people toward the Democratic or Republican party.

To assess the overall impact of religiosity on political ideology, we estimate how Catholic identification influences individuals' self-reported position on the political spectrum. Our results show that individuals who de-identify with Catholicism move nearly two points to the left on a five-point political scale, indicating that progressive shifts in personal and moral attitudes outweigh conservative shifts in economic and foreign policy. This leftward shift extends to county-level outcomes, where clergy scandals both bolster support for progressive candidates and increase financial contributions to Democrats. The shift in political orientation is caused by changing values, not voter turnout. Taken together, our findings provide strong evidence that Catholicism causally sways people's political preferences in a more conservative direction. This is particularly interesting given the fact that Catholics in the U.S. are split politically, with 48% leaning Republican and 47% leaning Democratic (Smith, 2020).

We additionally provide evidence that this conservative shift extends to gender

norms. In particular, our findings indicate that Catholicism leads people to adopt more conservative norms about marriage, raising a family, sexual entitlement, and the woman's role in the household. The effects are particularly pronounced for attitudes towards early marriage and traditional gender roles in the workforce, suggesting that religious de-identification may lead to more progressive attitudes on gender roles, particularly regarding women's participation in the labor market and the timing of family formation.

To interpret these results, we draw on insights from identity economics. This framework posits that individuals, by identifying with a particular group, internalize the norms of that group, and value outcomes benefiting fellow group members. Consequently, religious identification shapes personal, moral, and political preferences, as adherents align with their faith's dominant views. Importantly, individuals possess multiple, sometimes competing identities, and switch between them based on factors such as the relative status of those identities (Shayo, 2009). Because events like clergy scandals undermine religious institutions' moral authority, they diminish the utility of religious group membership, and induce adherents to adopt one of their alternative identities such as class or race. These identity shifts, in turn, cause individuals to internalize the norms and values of their new group, and increase support for policies favoring their newly adopted in-group members.

We provide evidence that scandals precipitate a shift towards class identification, as low-income individuals who disaffiliate from Catholicism become more supportive of redistribution, drug legalization, criminal rights, and universal healthcare, whereas the opposite holds true for higher income individuals. This divergence suggests an increased alignment with class interests following religious disaffiliation. We find limited evidence of religious de-identification leading to stronger racial or gender identification.

Our findings relate and contribute to several important strands of the literature. First, we add to the literature on the institutional and cultural determinants of preferences. While preferences have traditionally been treated as fixed and exogenously determined in economic models (Stigler and Becker, 1977), an emerging body of research highlights how preferences can be shaped by external forces like institutions, social norms, life experiences and environmental factors (Bowles, 1998; Alesina and Fuchs-Schündeln, 2007; Tabellini, 2008; Henrich et al., 2010; Nunn and Wantchekon, 2011; Fehr and Hoff, 2011; Malmendier and Nagel, 2011; Alesina and Giuliano, 2015;

Fouka, 2020). We build on and extend this literature by providing novel evidence on how a foundational societal institution like religion has a causal impact in molding preferences across personal, moral, economic and political domains.[1]

We also contribute to the literature on the relationship between religion and politics. A large body of research in political science demonstrates a strong correlation between religious identification and voting behavior, with a tendency for religious individuals to favor conservative parties (Rose and Urwin, 1969; Lijphart, 1979; Leege and Welch, 1989; Gill, 2001; Green, 2007; Woodberry, 2012; Grzymala-Busse, 2012; Fowler, 2018). Despite this well-established correlation, however, causal evidence remains scarce, and some have argued that the observed correlation results from reverse causality or omitted variable bias (Patrikios, 2008; Margolis, 2018; Campbell et al., 2018).[2] Our findings provide some of the first causal evidence that individuals who de-identify with Catholicism shift towards the left.

A growing body of literature examines the relationship between religion and gender-related attitudes and outcomes. Guiso et al. (2003); Seguino (2011) find that religious people tend to hold more conservative views on women's roles, with Muslims exhibiting the most traditional attitudes. Nunn et al. (2014) provides evidence that Catholic missionary activities did little to boost female education in Africa compared to Protestant missions, which is consistent with Protestants placing greater emphasis on women's literacy. In the European context, Becker and Woessmann (2008) demonstrate that Protestantism reduced the gender gap in basic education in 19th century Prussia. Taken together, these papers suggest that Catholicism likely promotes more conservative gender attitudes compared to Protestantism and atheism. We advance this literature by providing causal evidence on a wider range of gender-related attitudes, including views on marriage, sexual entitlement, women's role in the workforce, family importance, and casual sex.

We furthermore provide new insights into the relationship between religious affiliation and group affiliation more broadly. In particular, we examine the effect of reli-

[1] See e.g. Guiso et al. (2003); Stegmueller et al. (2012); Stegmueller (2013) for correlational evidence.

[2] One exception is Gerber et al. (2016), who use Blue Law repeals to show that religion causally affects turnout. In contrast to their findings, however, we find no effect of religion on turnout. One potential reason is that Gerber et al. (2016) focus on changes in religiosity induced by a pull factor from the secular side (increased shopping opportunities), whereas we focus on a push factor from the religious side (abuse scandals). It is possible that pull factors that decrease religiosity similarly decrease other civil actions, whereas push factors do not.

gion on other group activities such as joining sports teams or fraternities/sororities. Recent work in economics has examined the concept of 'groupiness', which is an individual's propensity to exhibit group-oriented preferences (Kranton and Sanders, 2017; Kranton et al., 2020). A priori, the effect of religious de-identification on groupiness is ambiguous. If groupiness represents a fixed individual trait, the decline in religious participation may increase involvement in other social groups, as people reallocate their demand for group attachment. Alternatively, religion itself may nurture groupiness, in which case declining religiosity could lower the desire to affiliate with collectives. Our results support the latter, as we find that losing one's Catholic identity reduces the propensity to join athletic teams, college clubs, and fraternities. This suggests that religious engagement may have important positive spillovers in terms of cultivating broad social capital, and that secularization could lead to a general decline in group-oriented behavior.

More general, we contribute to the study of the causal effects of religion. A growing body of research uses natural experiments and instrumental variable analyses to identify the impacts of religiosity on a wide set of outcomes and behaviors. Examples are economic outcomes (Barro and McCleary, 2003; Gruber, 2005; Bryan et al., 2021), alcohol and drug use (Gruber and Hungerman, 2008), subjective well-being (Gruber, 2005; Campante and Yanagizawa-Drott, 2015), charitable giving (Hungerman, 2013*b*; Bottan and Perez-Truglia, 2015), turnout (Gerber et al., 2016), and beliefs in equality and harmony (Clingingsmith et al., 2009). Our study enriches this literature by providing evidence of how religious de-identification causally affects a wide range of policy preferences as well as gender and social norms.

The rest of the paper proceeds as follows. Section 2 provides background on the clergy sexual abuse scandals in the Catholic Church. Section 3 describes our data sources and empirical strategy. Section 4 presents our main results on the causal impact of religion on political preferences, gender norms, other societal attitudes, and group-oriented behaviors. Section 5 concludes by discussing the implications of our findings for understanding the societal consequences of secularization trends and highlighting avenues for future research.

2 Background Clergy Scandals

The quality and perceived legitimacy of institutions influences public trust and social capital, which are essential for economic and social stability (North, 1990; Acemoglu et al., 2005). Recent evidence suggests that institutional failures can lead to broader societal consequences, including changes in individual behavior and erosion of social norms (Solé-Ollé and Sorribas-Navarro, 2018; Gulino and Masera, 2023). The Catholic Church clergy abuse scandal provides a clear example of these dynamics.

Since the mid-1980s, the Catholic Church in the United States has experienced repeated revelations of sexual abuse committed by members of its clergy. The number of allegations increased rapidly after the Boston Globe published a series of articles in 2002 detailing accusations against the defrocked priest John Geoghan and his long record of sexually abusing children (Globe, 2002). These reports also brought to light the fact that Catholic Church officials were aware of the abuse but did not act to stop it. The articles triggered a surge of accusations of abuse across the country (Hungerman, 2013*a*). Additional details were released in 2018 following a detailed grand jury report on clerical sexual abuse in six Pennsylvania dioceses, outlining offenses by over 300 priests against more than 1,000 child victims that occurred over many decades (Pennsylvania Grand Jury, 2018). The report also described a pattern of cover-ups by church leaders and criticized bishops for taking measures to avoid public scandal rather than protecting victims (Pennsylvania Grand Jury, 2018).

According to reports commissioned by the United States Conference of Catholic Bishops and conducted by the John Jay College of Criminal Justice, approximately 4% of Catholic priests who served in the U.S. between 1950-2002 faced substantiated accusations of child sexual abuse (John Jay College of Criminal Justice, 2004; Terry et al., 2011). The vast majority of the alleged abuses took place between 1960 and 1990, with a peak in the 1970s. However, most of the accusations were reported decades later, with the peak number of allegations coming in the early 2000s (John Jay College of Criminal Justice, 2004).

The U.S. Catholic Church has taken some steps to address the scandal, including adopting a 'zero tolerance' policy and preventing accused priests from having contact with parishioners (United States Conference of Catholic Bishops, 2002).

However, the Church has faced criticism for an insufficient response to the crisis (Formicola, 2016). Some argue that aspects of the Church's structure, the requirement of celibacy for priests, and the male-only priesthood have contributed to the pervasiveness of abuse, while others point to broader societal changes in attitudes toward sexual behavior since the 1960s (Plante, 1999).

The repeated revelations of abuse and the perceived failures in the Church's response have led to a significant crisis for Catholicism in the United States. Numerous dioceses have filed for bankruptcy due to abuse-related costs, and the Church has paid over $3 billion in lawsuit settlements and other expenditures related to the crisis (The Guardian, 2023). In addition to these direct costs, the scandals have potentially imposed even greater costs by harming the reputation of the Church, weakening adherents' religious faith and participation, and eroding public trust in the institution (Bottan and Perez-Truglia, 2015).

3 Data and Empirical Strategy

3.1 Data

We obtain data on the occurrence and timing of abuse scandals in the Catholic church from Bottan and Perez-Truglia (2015).[3] Their database covers more than 3,000 scandal revelations between 1980 and 2010, which is the end-point of our analyses. The list of scandals is based on the records published by Bishop Accountability, cross-checked with newspaper articles and court documents. The reported date of the scandal follows the first newspaper mention rather than the date of the scandal. In other words, we consider the effect of abuse being revealed, rather than abuse occurring. The main justification for focusing on revelations is that the revelation date of clergy abuse scandals represents a significant information shock to the public, whereas the date of the actual abuse is mostly private information. For each scandal, we know the exact zip code and county in which it took place. Figure A41 shows the frequency of scandal revelations over time. The main peak is in 2002, coinciding with the Boston Globe revelations. Figure A42 shows a map of scandals across the United States, showing that scandals are widespread across the country.

[3]We thank the authors for kindly sharing their data.

We furthermore use data from the CIRP Freshman Survey (TFS). The TFS is an annual survey of first-year college students in the US, which provides insights into their attitudes, beliefs, and aspirations about a wide range of issues. The survey is a repeated cross-section that is conducted by UCLA's Higher Education Research Institute and has been running since 1966. The survey asks respondents about their own religious affiliation and their parents' religious affiliation. Individuals report their policy preferences on issues such as abortion, gay rights, and redistribution on a four-point scale, ranging from 'strongly disagree' to 'strongly agree', and their political orientation on a five-point scale from 'far right' to 'far left'. Respondents additionally answer a set of questions about gender-related issues, society more general, and group-oriented behaviors. Appendix A1.1 in the Appendix provides an overview of all questions we analyze. Respondents also report their home zip code, which is the zip code in which they lived before going to college. In addition, we have information on a number of demographic and socioeconomic background characteristics such as ethnicity, gender, parents' income, and parents' education.[4]

We supplement the TFS data with several county-level data sets. From the Longitudinal Religious Congregations and Membership File, we obtain the fraction of people who are registered as Catholics between 1980 and 2010 (Grammich et al., 2018). This survey, designed and carried out by the Association of Statisticians of American Religious Bodies (ASARB), measures the numbers of adherents across 302 religious groups for all US counties. It is conducted once every decade. We obtain the number of Catholic school and Catholic school students for each county from the Private School Survey (see also Bottan and Perez-Truglia (2015)).[5] The Private School Survey is a biannual census of all private schools in the US, and our data ranges from 1989 to 2010. We consider the number of schools and students per capita. To measure county-level political orientation, we obtain Democrat and Republican vote shares in all presidential, senate, and House elections between 1980 and 2010 from David Leip's Election Atlas (Leip, 2022), as well as the turnout rates in each of those elections. We obtain county-level political donations to Democrat and Republican candidates from the Database on Ideology, Money in Politics,

[4]Parents' income is a student's best guess for their parents' total yearly income, reported in one of 30 categories.

[5]Most students enrolled in Catholic schools belong to Catholic families according to the National Catholic Educational Association.

Table 1: Summary statistics

	No scandal	Scandal
Religious	0.845	0.837
Catholic	0.291	0.400
Catholic mother	0.314	0.429
Catholic father	0.299	0.414
Mother went to college	0.468	0.444
Father went to college	0.522	0.503
Political orientation	3.058	3.126
White	0.775	0.733
Female	0.556	0.555
Observations	6,642,400	1,762,565

Notes: The table gives summary statistics for the Freshmen Survey data. The left column shows data for individuals from zip codes that did not experience a scandal, and the right column shows data for individuals from zip codes that experienced at least one scandal. *Religious* is a binary variable that takes the value of 1 if the individual identifies by any religion other than 'none'. *Catholic* is a binary variable that takes the value of 1 if they identify as Catholic. *Catholic mother/father* take the value of 1 if the individual's mother or father identify as Catholic, respectively. *Mother/Father went to college* take the value of 1 if an individual's mother or father went to college. *Political orientation* is an individuals political orientation on a five-point scale from far right (1) to far left (5). *White* takes the value of 1 if the individual identifies as White. *Female* takes the value of 1 if the individual identifies as female. *Observations* gives the total number of respondents.

and Elections (Bonica, 2015). Here, we calculate the total amount of donations to Democrats, Republicans, and in total for all US zip codes, and log-transform each of these values.

Table 1 gives summary statistics for the TFS data. Our full data set comprises 8,404,965 college freshmen between 1982 and 2010. Of these, 6,642,400 students are originally from zip codes that never experienced a clergy abuse scandal (no-scandal zips), whereas 1,762,565 students are from zip codes with at least one scandal (scandal zips). In both types of zip codes, approximately 84% of individuals are religious. Among those who are from scandal zips, approximately 40% identify as Catholic, compared to only 29% who are from non-scandal zips, indicating that scandals are relatively likely to occur in areas with large numbers of Catholics. Parents' education levels, students' racial composition, and gender ratios are approximately equal in scandal and no-scandal areas.

3.2 Empirical Strategy

Our empirical strategy builds on the notion that clergy scandals reduce Catholic identification (Bottan and Perez-Truglia, 2015). To corroborate this notion, we employ a difference-in-differences framework that compares changes in Catholicism within areas that experienced scandals to changes in areas without scandals.[6] We extend the approach of Bottan and Perez-Truglia (2015) in two important ways. First, we use individual-level data on religious identification from TFS rather than relying solely on county-level proxies. Second, we address potential bias in difference-in-difference estimators with staggered timing by using recent advances in the econometric literature that address the problem of negative weights (Goodman-Bacon, 2021; Sun and Abraham, 2021; Callaway and Sant'Anna, 2021; Borusyak et al., 2021; Gardner, 2022). Our baseline specification is:

$$R_{ict} = \tau D_{ct} + \Omega \mathbf{X_{ict}} + \mu_c + \mu_t + \varepsilon_{ict} \tag{1}$$

where R_{ict} is an indicator that equals 1 if individual i from zip code c identifies as Catholic in year t. D_{ct} is an indicator equal to 1 if a scandal has been revealed in zip code c in year t. Zip codes remain treated for the duration of the sample period following a scandal. $\mathbf{X_{ict}}$ is a vector of individual controls including college selectivity, gender, race, parental education, and family income.[7] μ_c and μ_t are zip code and year fixed effects. We cluster standard errors at the home zip code level. For treated individuals, we examine a 7-year window before and after scandal revelation.[8] It is important to re-iterate that treatment depends on the zip code where an individual lived before going to college, rather than the zip code where they currently live.

To estimate Equation (2), we apply the estimator developed by Gardner (2022).[9] This approach estimates the zip code and time fixed effects μ_c and μ_t using only untreated/not-yet treated observations, yielding estimates $\hat{\mu}_i$ and $\hat{\mu}_t$ that are then used to residualize the outcome variable as $\tilde{Y}_{it} = Y_{it} - \hat{\mu}_i - \hat{\mu}_t$. Treatment effects τ^k are estimated by regressing $\tilde{Y}_{it}$ on D_{it}^k via GMM, producing asymptotically correct

[6] We additionally examine the effect on identifying as religious in general.

[7] Section 4.6 demonstrates that our results are robust to excluding these covariates.

[8] Section 4.6 shows that the results are qualitatively similar when we consider 5-year or 10-year windows.

[9] Our estimations use the *did2s* package in R (Butts, 2021).

standard errors.[10]

Identification relies on the parallel trends assumption, which holds that absent scandals, outcomes would have developed along the same path for treated and untreated individuals. We assess this assumption by estimating a dynamic specification that allows us to test for differential pre-trends:

$$R_{ict} = \sum_{k=-L}^{K} \tau^k D_{ct}^k + \Omega \mathbf{X_{ict}} + \mu_c + \mu_t + \varepsilon_{ict} \tag{2}$$

Here, D_{ct}^k indicates that zip code c in year t is k years away from a scandal. The coefficients τ^{-L} to τ^{-2} capture pre-treatment effects and enable tests of the parallel trends assumption. Equation (2) also allows us to trace out the evolution of treatment effects over time. For our main estimates, we furthermore show the sensitivity of our results to potential violations of the parallel trends assumption (Rambachan and Roth, 2023).

A potential issue is the possibility that scandals in one zip code may also reduce religiosity in neighboring areas, which can generate divergent pre-trends. Indeed, if scandals are spatially correlated (i.e., more likely to occur in certain regions than in others), regions with high treatment probabilities will both have faster declines in religiosity (because neighboring zip codes are relatively likely to be treated), and higher chances of being treated themselves. Consistent with this intuition, Figure A43 in the appendix shows that ignoring spillovers leads to pre-trend violations in the effect of scandals on Catholic identification. To address this issue, we expand the treatment definition to include zip codes for which a scandal took place within a 50km radius. As long as spillovers do not extend over this horizon, spillovers should not cause pre-trend violations. Section 4.6 demonstrates robustness to alternative radii.

Another important assumption is that the composition of people coming from a particular zip code does not systematically change as the result of clergy scandals. Section 4.6 provides evidence supporting this assumption.

In our next step, we use this quasi-experimental variation in Catholicism to estimate the effect of religiosity on a range of policy preferences, political orientation,

[10]Section 4.6 shows the results for an alternative estimation method (Callaway and Sant'Anna, 2021). All main conclusions remain unchanged.

gender norms, other societal values and beliefs, and group behavior. To do so, we deploy a two-stage least squares difference-in-differences (2SLS-DD) framework that uses clergy scandals as an instrument for religiosity:

$$Y_{ict} = \beta \hat{R}_{ict} + \Gamma \mathbf{X_{ict}} + \mu_c + \mu_t + \varepsilon_{ict} \tag{3}$$

$$R_{ict} = \gamma D_{ct} + \Pi \mathbf{X_{ict}} + \alpha_c + \alpha_t + \nu_{ict} \tag{4}$$

Where $\hat{R}_{ict}$ is instrumented religiosity from the first-stage, estimated in Equation 4, and Y_{ict} is the outcome variable of interest. For identification, the 2SLS-DD approach requires parallel trends, treatment effect homogeneity, as well as the exclusion restriction assumption that scandals impact our outcomes only through their effect on Catholic identification. A particular concern is that scandals also affect preferences and beliefs of people who are not religious. For example, scandals might undermine people's general institutional trust, which could reflect for example in changed beliefs about the role of government. We therefore also provide difference-in-differences estimates for the effect of scandals on all these outcome variables using the identification strategy explained above. The identification assumptions of these reduced-form estimates are weaker, but the resulting estimates measure the effects of scandals rather than Catholicism, which is our prime interest. We again consider a 7-year window before and after scandal revelation for each treated unit.

Finally, we supplement the individual analysis with a county-level investigation of the effect of scandals both on religion and on political outcomes such as voting, turnout, and political donations.[11] To do so, we re-estimate Equations (1) and (2) with counties as the unit of analysis. Here, we control for income-per-capita, population size, fractions of Whites and Blacks, and the fractions of the population that are below 25 or between 25 and 64 [12] We cluster standard errors at the county level.

[11] Here we omit the spillover correction as counties are roughly 10 times larger than zips, and spillovers are less likely to be an issue.

[12] Bottan and Perez-Truglia (2015) suggest that zip-codes are a better approximation of local communities than counties. Counties are on average larger in population, such that only a relatively small share of a county's population will be exposed to a scandal. We therefore control for population size in all our estimations.

Table 2: Baseline results for the effect of scandals on Catholicism

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	-0.012^{***}	-0.011^{***}	-0.010^{***}	-0.010^{***}
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	3,400,550	3,220,341	3,305,588	3,727,101
Adjusted R-squared	0	0	0	0

Notes: The table shows the baseline difference-in-difference estimates for the effect of clergy scandals on Catholicism. The outcome variable in column 1 is whether an individual identifies as Catholic, in column 2 whether an individual's father identifies as Catholic, in column 3 whether the mother identifies as Catholic, and in column 4 whether the person went to church last year. *Scandal* is an indicator variable that takes the value of 1 for all years after a zip code has experienced a clergy scandal. Standard errors are clustered at the home zip code level and given in parentheses. Asterisks denote significance at the 0.01 (***), 0.05 (**) and 0.1 (*) level. Treatment effects are estimated using the method outlined in Gardner (2022).

4 Results

4.1 Effect of Scandals and Catholicism

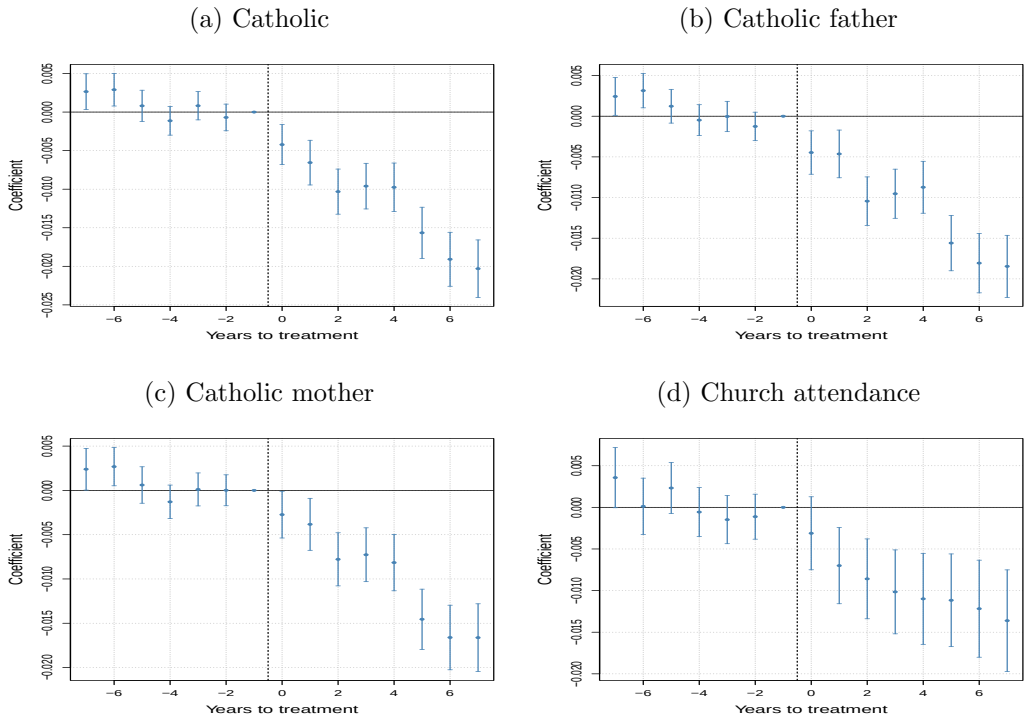
We begin our analysis by examining the impact of clergy sexual abuse scandals on religious identification. As our main measure of religiosity, we consider whether an individual self-identifies as Catholic. We additionally consider their parents' religious identification, and whether they attended church last year. We estimate treatment effects using the staggered difference-in-differences method outlined in Section 3.2.

Table 2 presents our baseline estimates. Exposure to a clergy scandal in a freshman's home zip code reduces the likelihood of Catholic identification by 1.2 percentage points ($p < 0.001$). We observe comparable declines in Catholicism among both parents. Moreover, the effect extends to religious practice, with individuals being 1.0 percentage points less likely to attend church following a scandal ($p < 0.001$).[13]

Figure 1 displays the dynamic treatment effects, showing a persistent decline in Catholic identification for both freshmen and their parents following scandal revelations. Church attendance also shows a steady downward path. Importantly, we observe no clear violations of the parallel trends assumption in the pre-treatment

[13]Because the survey asks about church attendance last year, we shift treatment back by one year for this analysis.

Figure 1: Dynamic effects of scandals on Catholicism



Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism. The outcome variables measure whether the respondent is Catholic (Panel A), whether their father is Catholic (Panel B), whether their mother is Catholic (Panel C), and whether they attended church last year (Panel D). *Relative time to treatment* measures years to treatment, which is given by the year of the first revelation of a clergy scandal in a zip code. Control variables are college selectivity, gender, race, parental education, and family income. Error bars depict 95% confidence intervals. All effects are estimated using the method outlined in Gardner (2022). Standard errors are clustered at the home zip code level. For treated units, we consider a time window from 7 years before to 7 years after the scandal revelation.

period. Nevertheless, we provide additional robustness checks in Section 4.6.

To ensure these effects are consistent with secularization rather than people merely switching between denominations, we also examine the effect on overall religiosity. Results in Table A17 and Figure A37 in the Appendix confirm that scandals lead to a general decline in religious identification, rather than only realignment to other denominations. While the effect on overall religiosity is smaller and noisier, it remains highly statistically significant ($\beta = -0.004$; $p < 0.001$). We, therefore, interpret our subsequent results as capturing the consequences of Catholics becoming

Table 3: Baseline effect of scandals on Catholicism, county-level data

	Catholic adherents	Catholic schools	Catholic students
Scandal	-0.008^{**}	-0.004^{***}	-1.041^{***}
	(0.004)	(0.001)	(0.136)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	8,008	19,283	19,283
Adjusted R-squared	0.001	0.007	0.013

Notes: The table shows the estimated effect of clergy scandals on county-level measures for Catholicism. *Catholic adherents* gives the fraction of individuals in a particular county that identifies as Catholic. *Catholic schools* is the number of Catholic schools in a county. *Catholic students* is the number of students attending Catholic schools. Control variables are income-per-capita, population size, fractions of Whites and Blacks, and the fractions of the population that are below 25 or between 25 and 64. Standard errors are clustered at the county level. All other definitions are as in Table 2.

non-religious.[14]

To corroborate our individual-level findings and extend them to the broader population, we analyze county-level data on Catholic adherents, schools, and students. Table 3 presents these results, showing significant declines across all measures.[15] Although the confidence intervals for the adherents' analysis are wide because the decennial nature of the data, the overall effect remains negative and significant, and quantitatively similar to our freshmen estimates. These results indicate that our freshmen results extend to the general population.

To provide further insights into the relationship between scandals and secularization, we examine heterogeneity in treatment effects across various demographic and geographic dimensions. For our individual-level analysis, we examine variation in treatment effects by gender, race, parental education, and parental income. For the county-level analysis, we consider heterogeneity by pre-treatment political orientation, income-per-capita, and population density.[16] We again remove all questions

[14]Appendix A1.3.8 in the appendix shows all our main results using 'religious' as the treatment variable instead of 'Catholic'. All important conclusions are the same.

[15]Figure A44 in the Appendix shows the dynamic treatment effects. We find no clear indication of pre-trend violations.

[16]Because our previous analyses demonstrate that scandals affect, among other things, voting choices, we base our heterogeneity tests on pre-scandal values from 1980. For political orientation, we classify counties as Republican if the Republican party received at least 50% of the votes in the 1980 presidential election, and as Democrat otherwise. For income per capita, we split counties by above vs. below median income in 1980. For density, we consider above and below median density in 1980.

for which the confidence intervals exceed 5.

Table A19 presents individual-level heterogeneity results. We find that the secularizing effect of scandals is more pronounced among more vulnerable populations—specifically, individuals who are Black, from low-income families, and whose parents have lower levels of education. Several explanations for this heterogeneity are plausible. More vulnerable groups may rely more heavily on religious institutions for social support and community resources, making scandals more consequential for their overall well-being and identity. Alternatively, individuals from higher socioeconomic backgrounds may have more resources to rationalize scandals or face higher social and economic costs from disaffiliation, leading to greater resistance to changing their religious identification. Taken together, the observed pattern suggests that socioeconomic factors play an important role in shaping individuals' responses to institutional failures within religious organizations.

Table A20 presents county-level heterogeneity results, revealing significant variation along geographic and political lines. The secularizing impact of clergy scandals is substantially larger in counties that were Democrat-leaning and densely populated in 1980. This aligns with the notion that such environments are often characterized by greater openness to change and less deference to traditional institutions (Jost, 2017). Urban settings, with their diverse populations and exposure to varied ideologies, may facilitate easier transitions away from religious affiliations following scandals. The stronger effect in Democrat-leaning counties could reflect a political climate more conducive to questioning established religious institutions. Interestingly, we find no significant differences in scandal effects based on county-level income per capita. This suggests that the aggregate economic conditions of an area may be less influential than its political leanings or urbanization in determining responses to religious scandals.

4.2 Effect of Catholicism on Political Preferences

Our analysis next turns to the impact of Catholicism on a broad spectrum of policy preferences, spanning 19 distinct domains. These include contentious issues such as same-sex marriage, immigrant rights, environmental protection, affirmative action, and wealth redistribution. Respondents rate their stance on each issue using a four-point scale, ranging from 'strongly disagree' to 'strongly agree'. We employ the 2SLS

difference-in-differences approach described in Section 3.2, instrumenting treatment (Catholic identification) with exposure to clergy scandals. This approach allows us to isolate the causal impact of religious affiliation on policy preferences. We remove outcomes for which the confidence intervals exceed -5 or 5.

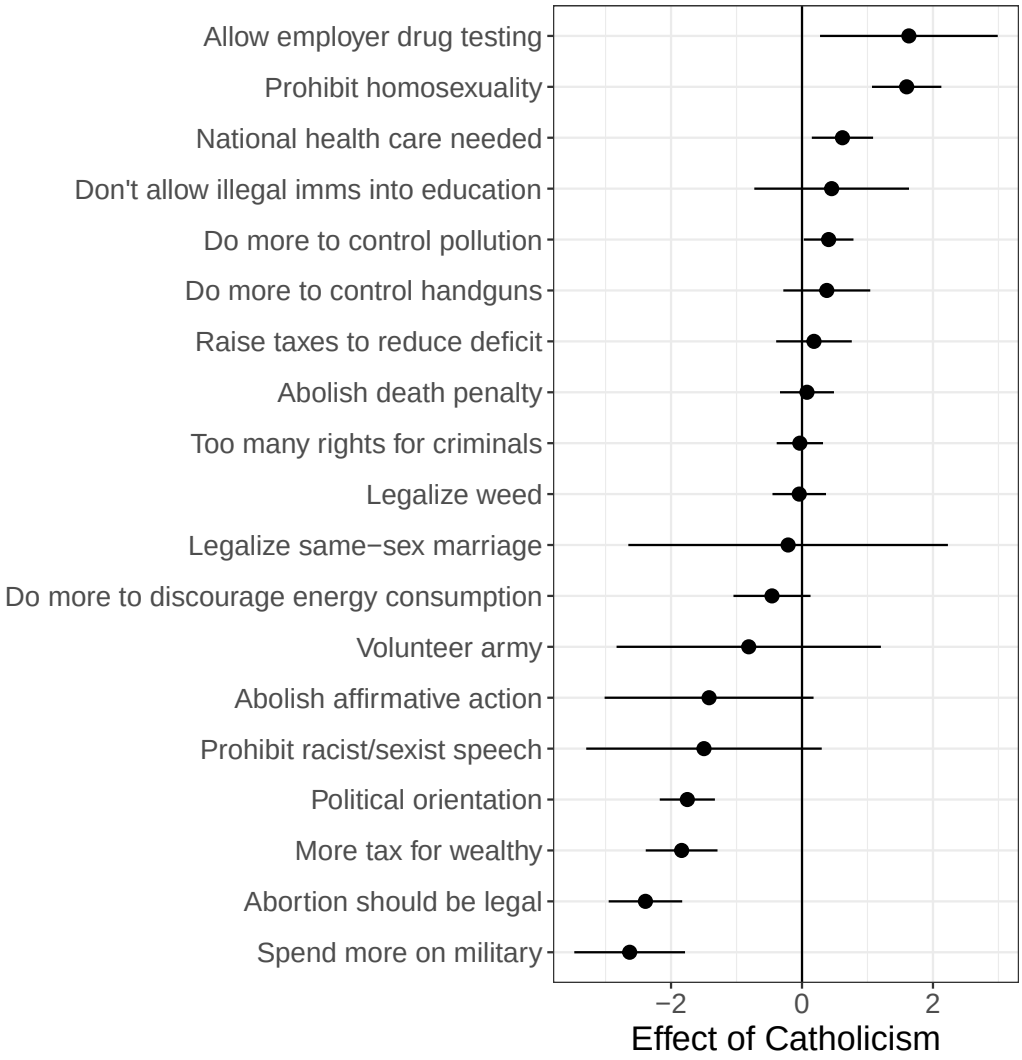
The results, presented in Figure 2, reveal a mixed relationship between Catholicism and political preferences. On issues closely tied to traditional Catholic doctrine, such as prohibiting homosexuality ($\beta = 1.60$, $p < 0.001$), allowing employer drug testing ($\beta = 1.63$, $p = 0.018$), and legalizing abortion ($\beta = -2.39$, $p < 0.001$), we find that Catholic identification leads to more conservative views. This aligns with the Church's long-standing emphasis on the sanctity of life and traditional family values. However, the picture becomes more complex when we consider other policy domains. Catholicism appears to foster more progressive stances on issues like lowering military spending ($\beta = 2.63$, $p < 0.001$), providing national health care ($\beta = 0.62$, $p = 0.0.001$) and increasing environmental protection ($\beta = 0.41$, $p = 0.036$). These findings resonate with Catholic social teachings that emphasize human life and the common good.

Given these mixed effects, the overall impact of Catholicism on political alignment is not immediately clear. We therefore also estimate the effect of Catholic identity on political orientation, measured on a five-point scale from 'extreme right' to 'extreme left'. The results, shown in Table 4 indicate a significant rightward shift associated with Catholicism. Specifically, we find that Catholic identification causes a two-point move to the right on this five-point scale. This effect is both statistically significant ($p < 0.001$) and economically sizable, suggesting that the conservative influence of Catholicism on social issues far outweighs its more progressive leanings on certain other matters such as military spending.

To enhance the external validity of our results, we extend our analysis to county-level political outcomes. Here, we examine the impact of clergy scandals on Democratic vote shares, voter turnout, and political donations. This approach allows us to capture the aggregate effects of religious de-identifiation on concrete voting behavior, complementing our individual-level attitudinal findings. We use the staggered difference-in-differences methodology described in Section Section 3.2.

Consistent with our individual-level results, we find that clergy scandals, which reduce Catholicism, lead to significant increases in Democratic vote shares across all levels of government (Table 5, Panel A). The magnitude of this effect is substantial,

Figure 2: Effect of Catholicism on policy preferences



Notes: The figure shows the estimated effect of Catholicism on policy preferences. Each dot represents the estimated effect of Catholicism on preferences, where Catholicism is instrumented by whether a clergy scandal has occurred in an individual's home zip code. All effects are estimated using the 2SLS-DD method outlined in Section 3.2. Error bars represent 95% confidence intervals. Standard errors are clustered at the home zip code level. Detailed descriptions of all survey questions are given in Appendix A1.1.

ranging from a 2.8 percentage point increase in House elections to a 3.8 percentage point increase in Senate elections (all $p < 0.001$).[17] These findings suggest that the

[17]Figure A45 display the dynamic treatment effects. While we find some evidence of a pre-trend violation for presidential elections, there is no such evidence for the other two election types.

Table 4: Effect of Catholicism on political orientation

Catholic	-1.925^{***}
	(0.246)
Zip fixed effects	Yes
Year fixed effects	Yes
Controls	Yes
Observations	3,783,021
Adjusted R-squared	0.079

Notes: The table displays the estimated effect of Catholicism on political orientation, measured on a 5-point scale from *Extreme right* to *Extreme left*. Treatment effects are estimated using the 2SLS-DD approach outlined in Section 3.2. Other definitions are as in Table 2.

leftward shift in political orientation associated with religious disaffiliation translates into tangible changes in voting behavior.

Interestingly, we find no significant effect of scandals on voter turnout rates (Panel B).[18] This result contrasts with previous literature suggesting a positive relationship between religiosity and civic engagement (Gerber et al., 2016). One potential explanation for this discrepancy is that Gerber et al. (2016) focus on changes in religiosity induced by a pull factor from the secular side (increased shopping opportunities), whereas we examine a push factor from the religious side (abuse scandals). It is possible that pull factors decrease civic engagement more broadly, while push factors do not. These results are also somewhat inconsistent with the interpretation that scandals reduce trust in institutions more broadly, as a reduction in institutional trust would likely imply lower turnout rates (Grönlund and Setälä, 2007).

Finally, we observe a significant realignment in political donations following clergy scandals (Panel C).[19] Donations to Democratic candidates increase, while contributions to Republican candidates decrease. This shift in financial support further corroborates our political alignment results and re-iterates the impact of religious disaffiliation on political behavior.

To further unpack the relationship between religion and political preferences, we explore heterogeneous treatment effects across various demographic and geographic dimensions. This analysis allows us to identify which groups are most influenced

Section 4.6 shows the sensitivity of these estimates to parallel trend violations.

[18] Figure A46 in the Appendix shows no evidence of pre-trend violations for turnout.

[19] Appendix Figure A47 displays the dynamic treatment effects, showing no clear evidence of a pre-trend violation.

Table 5: Effect of scandals on county-level political outcomes

	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel A: Voting			
Scandal	0.031***	0.038***	0.028***
	(0.002)	(0.005)	(0.006)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	13,610	18,292	26,747
Adjusted R-squared	0.035	0.008	0.003
	Turnout rate (pres.)	Turnout rate (Senate)	Turnout rate (House)
Panel B: Turnout			
Scandal	0.001	0.002	−0.0002
	(0.001)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	13,608	18,292	26,985
Adjusted R-squared	0	0	0
	Donations (Dem.)	Donations (Rep.)	Donations (total)
Panel C: Political donations			
Scandal	0.122***	−0.065**	−0.033
	(0.033)	(0.027)	(0.021)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	49,910	52,451	55,756
Adjusted R-squared	0.001	0	0

Notes: The table shows the estimated effect of clergy scandals on county-level voting outcomes (Panel A), turnout rates (Panel B), and political donations (Panel C). In Panel A, the outcome variables in columns 1-3 are the Democrat vote share in presidential elections, the Democrat vote share in Senate elections, and the Democrat vote share in House of Representatives elections. In Panel B, the outcome variables are turnout rates in the same three elections. In Panel C, the outcome variables are donations to Democrat candidates (log), donations to Republican candidates (log), and total political donations (log). Standard errors are clustered at the county level. Treatment effects are estimated using the method outlined in Gardner (2022). All other definitions are as in Table 2.

by religious affiliation in shaping their political views, potentially providing insights into the mechanisms through which religion impacts political attitudes.

Our investigation is guided by two complementary hypotheses. First, we posit that the influence of religion may be inversely related to the availability of alternative sources of meaning and community. Individuals with diverse social networks and secular institutions may be less reliant on religion to shape their worldviews. Second, we consider the possibility of identity substitution: as individuals disengage from religious identity, they may increasingly identify with other salient group characteristics such as gender, socioeconomic status, or race, potentially adopting the political preferences associated with these alternative identities.

Figure A48 reveals striking gender differences in how Catholicism shapes political attitudes. Most notably, the effect of Catholicism on opposition to homosexuality is nearly four times larger for males ($\beta = 2.69$; $p < 0.001$) than for females ($\beta = 0.71$; $p = 0.024$). This substantial gap suggests that religious teachings on sexuality may resonate more strongly with men, perhaps due to differences in how gender roles are internalized within religious contexts. Additionally, we find that Catholicism exerts a stronger influence on men's attitudes towards abortion, criminal rights, and immigration. Despite this heterogeneity, however, we find little evidence that people who lose their religion shift their main identity towards gender (see Section 4.3 for further evidence).

Socioeconomic status, as measured by parental income, also moderates the impact of Catholicism on political attitudes (Figure A51). Interestingly, we observe divergent effects of religion on redistribution. Catholicism significantly increases support for redistribution among the poor, but tends to decrease redistributive preferences among the rich, although the latter effect is not statistically significant. This divergence is consistent with a shift from religious identity to class identity, as both groups appear to shift their altruism to those of similar income levels.

We also find divergent effects along income lines for other issues. For example, Catholicism increases support for drug legalization and criminal rights among lower-income respondents but decreases it among higher-income individuals. This pattern may reflect differing experiences with criminal enforcement across socioeconomic strata. Similarly, while Catholicism generally increases support for universal health care, these effects are more pronounced among lower-income respondents. All these results point towards stronger class identification.

When examining heterogeneity by mother's education and race, we find relatively uniform effects across different categories (Figure A50, Figure A49). Additional analyses, shown in Appendix A1.2 in the Appendix, provide little evidence for people switching to racial identification when they secularize.

Next, we consider county-level heterogeneity for the effect of scandals on voting, turnout, and political donations. Table A21 presents the heterogeneous effects of scandals on Democratic vote shares across elections. While we observe positive and significant effects across all subgroups, the magnitude of these effects varies substantially. Scandals induce a particularly large leftward shift in counties that were Democratic-leaning, wealthy, or densely populated in 1980. This pattern aligns with

our findings on where scandals have the strongest secularizing effect, suggesting a synergy between pre-existing community characteristics and the political impact of religious disaffiliation. The amplified effect in these counties may stem from a combination of factors: reinforcement of existing progressive tendencies, higher levels of education and information access leading to quicker responses to institutional failures, and greater availability of secular alternatives in urban settings.

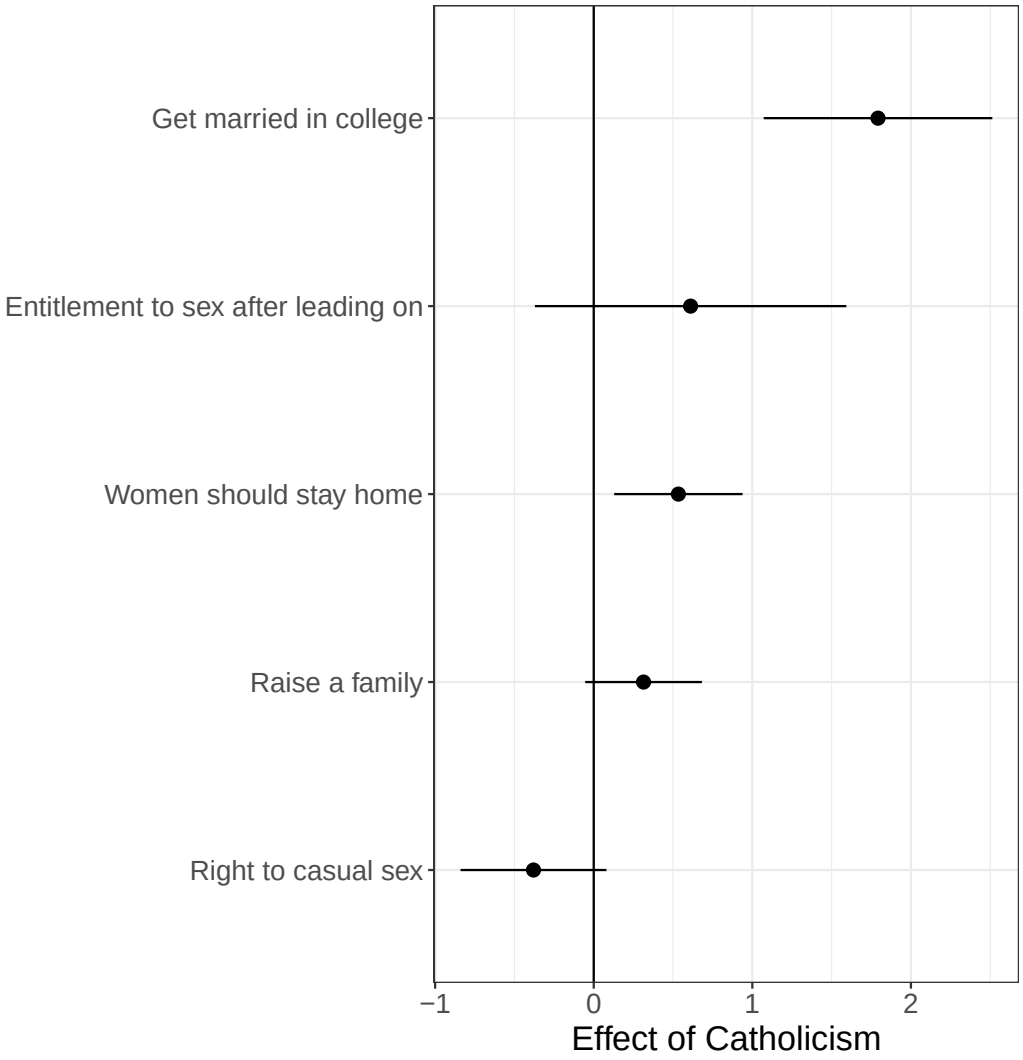
The heterogeneity in the effects on turnout and political donations is less noteworthy. Table A22 shows little to no variation in the effect of scandals on turnout across different counties, as the effects are consistently close to zero and mostly statistically insignificant. Table A23 shows heterogeneity in the effect of scandals on political donations. For each group, the increase in donations is considerably stronger for Democrats than Republicans, but the differences are less clear cut than in our analysis of election results.

4.3 Effect of Catholicism on Gender Norms

Many argue that the Catholic Church plays a significant role in shaping societal norms on gender roles and family structure (Guiso et al., 2003; Becker and Woessmann, 2008; Seguino, 2011; Nunn et al., 2014). To quantify this influence causally, we examine the effect of Catholic identification on five key dimensions of gender-related attitudes: attitudes towards marriage during college, sexual entitlement, women's role in the workforce, the importance of raising a family, and views on casual sex. We employ our 2SLS difference-in-differences estimator, instrumenting Catholic identification with exposure to clergy scandals, to investigate how religious de-identification affects these gender-related beliefs.

Figure 3 presents our findings, showing that Catholicism consistently fosters more conservative gender attitudes. The effects are particularly pronounced for attitudes towards early marriage and traditional gender roles in the workforce. Specifically, Catholic identification significantly increases the likelihood of planning to marry during college ($\beta = 1.79$, $p < 0.001$) and strengthens the belief that women should prioritize homemaking over paid employment ($\beta = 0.53$, $p = 0.010$). While the effects on attitudes towards sexual entitlement, family importance, and casual sex are directionally consistent with more conservative views, these estimates are either nonsignificant or marginally significant.

Figure 3: Effect of Catholicism on gender norms



Notes: The figure shows the estimated effect of Catholicism on gender norms. Detailed descriptions of all survey questions are given in Appendix A1.1. All definitions are as in Figure 2.

These results provide causal evidence for the often-hypothesized conservative influence of Catholicism on gender norms. They suggest that religious de-identification may lead to more progressive attitudes on gender roles, particularly regarding women's participation in the workforce and the timing of marriage. This shift could have far-reaching implications for labor market dynamics, family formation patterns, and broader social structures as secularization trends continue.

Perhaps surprisingly, Figure A52 shows that these effects are relatively similar

between genders. Although the treatment effects are more often statistically significant for males, the estimates for males and females are not statistically different from each other. This result provides evidence against the notion that people switch to gender as their main identity, as such a shift would require that secularizing men adopt more traditional values, whereas women less traditional ones. For the other heterogeneity dimensions, we also find little systematic heterogeneity.[20]

4.4 Effect of Catholicism on Societal Beliefs and Attitudes

Beyond gender norms, we explore the influence of Catholicism on broader societal beliefs and attitudes. We focus on four dimensions: (i) the tension between personal values and legal obedience, (ii) beliefs about individual agency in societal change, (iii) perceptions of ongoing racial discrimination, and (iv) attitudes towards political dissent.

Figure 4 presents our findings. In contrast to our results on gender norms, we find that the effect of Catholic identification is statistically indistinguishable from zero for all four domains (all $p > 0.301$). For beliefs about individual capacity to change society and perceptions of racial discrimination, we obtain precisely estimated null effects. While the confidence intervals are wider for attitudes towards law obedience and political dissent, the point estimates remain close to zero.

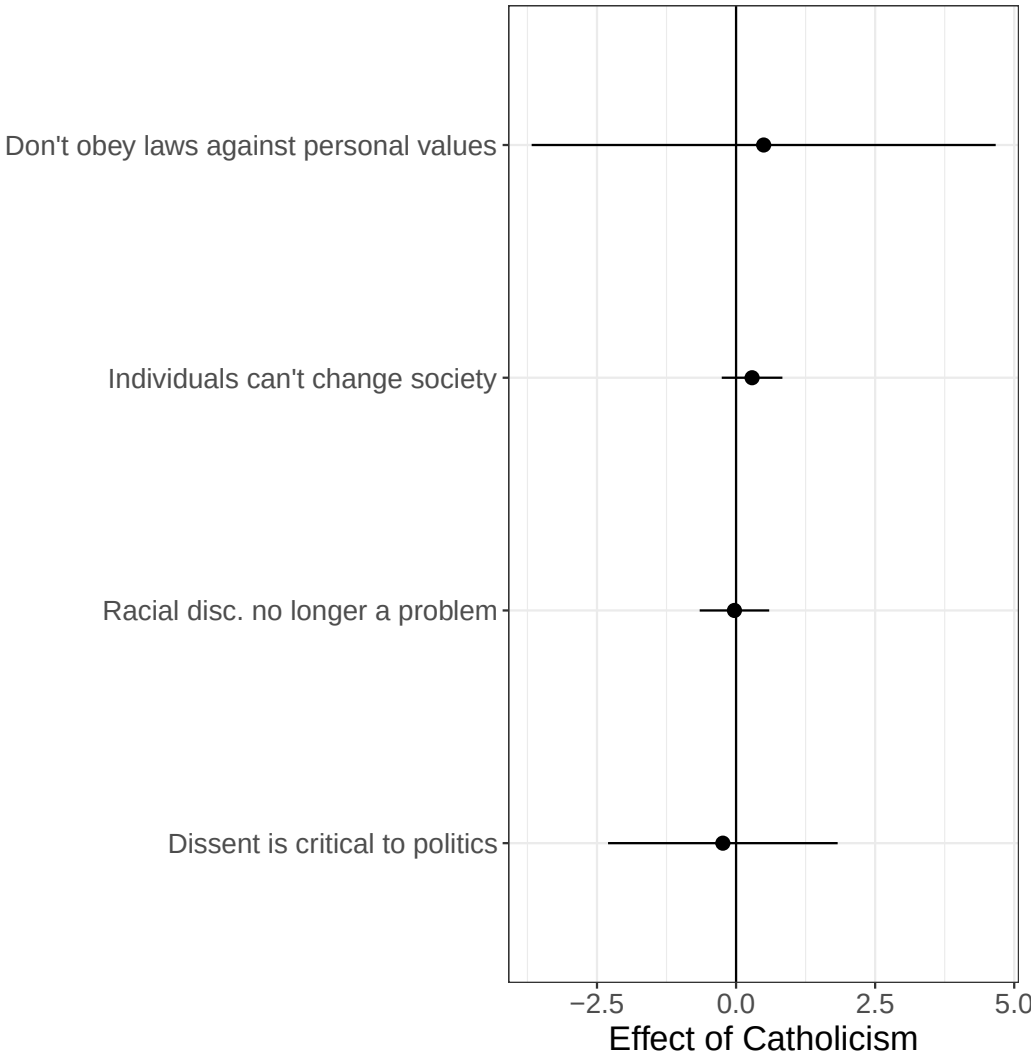
This pattern holds across various demographic subgroups, as shown in Figures A56 to A59, which reveal no meaningful heterogeneity in these null effects. Figures A56 to A59 also reveal no meaningful heterogeneity between groups. Taken together, these results suggest that the influence of Catholicism on societal beliefs is relatively domain-specific; while Catholic affiliation strongly shapes policy preferences and gender-related attitudes, its impact appears limited in other areas

4.5 Groupiness

An interesting question that emerges from our analysis is how religious participation relates to broader patterns of group engagement. This question relates to the concept of 'groupiness', which is the extent to which an individual's social preferences are influenced by in-group/out-group distinctions (Kranton and Sanders, 2017). We

[20]Some estimates are missing because the end-points of the confidence intervals are below -5 or above 5.

Figure 4: Effect of Catholicism on other social norms

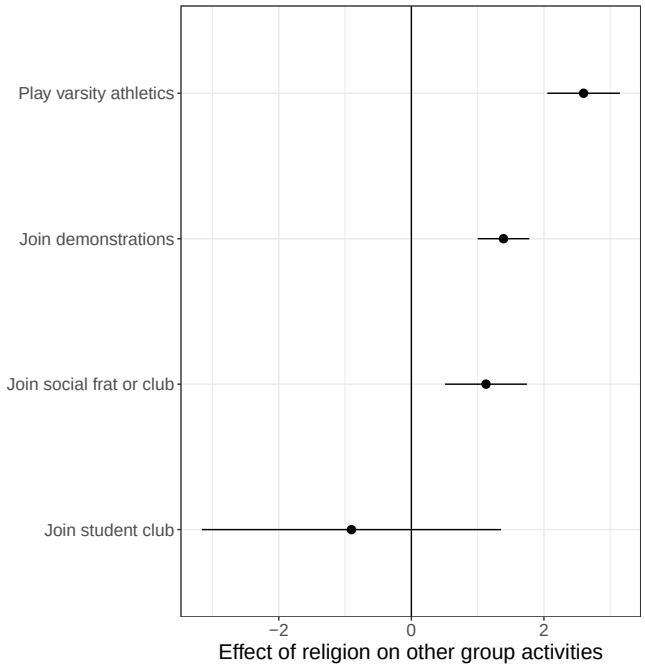


Notes: The figure shows the estimated effect of Catholicism on societal norms and beliefs. Detailed descriptions of all survey questions are given in Appendix A1.1. All definitions are as in Figure 2.

extend this concept to encompass an individual's general propensity to engage in group activities and address the question whether religious de-identification affects the likelihood of joining other groups. To empirically investigate the relationship between religion and group membership, we estimate the effect of Catholicism on the probability of joining various student groups (sports, student clubs, demonstrations, or fraternities) using our 2SLS-DD approach.

Figure 5 presents the results. We find a positive and statistically significant effect

Figure 5: Effects of Catholicism on intended participation in group activities



Notes: The figure shows the estimated effect of Catholicism on the proclivity to join group activities. Each dot represents the estimated effect of Catholicism on the intention to join a group activity, where Catholicism is instrumented by whether a clergy scandal has occurred in an individual's home zip code. All other definitions are as in Figure 2. Appendix A1.1 in the Appendix provides more detailed descriptions of the survey questions.

of religious identification on the likelihood of playing varsity athletics ($\beta = 2.07$, $p < 0.001$), joining demonstrations ($\beta = 1.30$, $p < 0.001$), and joining a social fraternity or club ($\beta = 1.56$, $p < 0.001$), but not on joining a student club ($\beta = 1.87$, $p = 0.221$). These results suggest that losing one's religious affiliation reduces the overall propensity to engage in group activities. This finding is particularly striking given the time demands and potential 'groupiness satiation' one might expect from religious involvement.

Our evidence challenges the notion of groupiness as a stable trait, as proposed by Kranton and Sanders (2017); Kranton et al. (2020), instead indicating that religious participation may actively cultivate a desire for group-based activities more broadly. One potential explanation for this phenomenon is that religious communities foster a general sense of belonging and social connection that translates into other group settings. The shared values, norms, and experiences within religious groups may

engender a greater affinity for the structure and purpose of organized activities in general. Alternatively, the skills and preferences developed through religious participation—such as cooperation, shared goal-setting, and community-mindedness—may be particularly well-suited to other forms of group engagement.

4.6 Robustness Checks

To ensure the validity of our main findings, we conduct a series of robustness checks. These checks address potential concerns about sample composition, spillover effects, parallel trends violations, estimation methods, and the sensitivity of our results to various specification choices.

First, we examine whether clergy scandals alter the composition of college freshmen from affected zip codes. If scandals disproportionately deter students from certain backgrounds from attending college, our main results could reflect changes in student composition rather than changes in preferences or norms. We estimate the impact of scandals on student characteristics such as gender, race, parental education, and family income. As shown in Table A6, we find no significant effects on most characteristics. The sole exception is a small (0.3 percentage point) decrease in the likelihood of having a college-educated father. Given that lower parental education is typically associated with more conservative views, this composition change would, if anything, bias our estimates towards zero, suggesting our main results may slightly understate the true effects.

Second, we vary the assumed radius of scandal spillover effects from our baseline of 50km, to either 25km or 75km. Tables A7 and A8 and associated figures Figures A1 to A8 demonstrate that our key findings remain robust to these alternative specifications. As expected, the 25km specification shows slightly more pre-trend divergence than our baseline model, while the 75km specification shows less, confirming the importance of accounting for spillovers to satisfy the parallel trends assumption.

Third, we assess the sensitivity of our first-stage results to potential violations of the parallel trends assumption using the method developed by Rambachan and Roth (2023). This approach relaxes the parallel trends assumption by allowing post-treatment violations up to some multiple $\bar{M}$ of the maximum pre-treatment violation. Figure A9 shows that our primary measure of Catholic identification remains

statistically significant even under the most conservative assumption ($\bar{M} = 0$). Results for parental Catholicism and church attendance are somewhat more sensitive but remain significant for most violations considered. Figures A10 to A13 show the robust confidence intervals for the county-level analyses. For the decennial religious adherence data, the effect becomes insignificant, which is perhaps unsurprising given that we only have decennial data, which leads to relatively large variation in pre-treatment estimates (and thus in maximum pre-treatment parallel trend violations). For Catholic students and schools, the results are robust to any of the considered violations.

Fourth, we compare our main 2SLS-DD estimates measuring the effect of Catholicism on outcomes to difference-in-differences that measure the effects of scandals. Figures A14 to A16 show that these approaches yield very similar results, with, as expected, reduced-form estimates generally being the opposite sign of our 2SLS-DD estimates.[21] This consistency suggests our findings are not artifacts of our instrumental variable strategy

Fifth, we re-estimate our models using the difference-in-differences method of Callaway and Sant'Anna (2021) as an alternative to our primary approach based on Gardner (2022). The main difference between Gardner (2022) and Callaway and Sant'Anna (2021) is that the former makes comparisons relative to all pre-treatment periods, whereas the latter only to the last pre-treatment period (see e.g. Roth et al., 2023, for a more detailed discussion). We allow for a control group consisting of both never-treated units and not-yet-treated units.[22] We report baseline estimates that correspond to the weighted average of all group-time average treatment effects with weights proportional to group size, as well as plots for the dynamic treatment effects. Tables A9 and A10 and associated figures Figures A17 to A24 show that this alternative method produces results largely consistent with our main findings.

Sixth, we re-run our analyses without covariates. Tables A11 and A12 and Figures A25 to A28 demonstrate that excluding these controls has minimal impact on our estimates, suggesting our results are not driven by our choice of control variables.

[21] This is consistent with negative first-stage coefficients in the 2SLS-DD approach.

[22] For computational tractability, we consider the specification without covariates (besides zip and year fixed effects). However, as we show next, including covariates does not materially alter our results.

Seventh, we vary the pre- and post-treatment window from our baseline 7 years to 5 and 10 years. Tables A13 to A16 and figs. A29 to A36 show that our key findings are robust to these alternative time horizons.

Last, we replace our main treatment variable 'Catholic' (does an individual identify as Catholic) by an alternative treatment 'religiosity', which measures whether an individual identify with any religious or not. The first-stage results in Table A17 and fig. A37, and the second-stage results in Figures A38 to A40 provide highly similar findings to our main specification. Hence, we conclude that our results may also be interpreted as the effects of religion more broadly, rather than Catholicism alone.

5 Conclusion and Discussion

This study provides causal evidence on the impact of religious identification on political preferences, gender norms, societal beliefs and group behavior. Leveraging clergy scandals as an exogenous shock to religious identification and using data for millions of US freshmen, we find that decreased Catholic identification leads to significant shifts in political ideology and policy preferences. Our analysis shows that religious de-identification causes individuals to adopt more progressive positions on personal and moral issues such as abortion rights, same-sex marriage, redistribution, and drug policy. Simultaneously, it leads to more conservative views on universal healthcare and military spending. These divergent effects add up to a substantial leftward shift in overall political orientation, with individuals moving nearly two points to the left on a five-point scale. These individual-level attitudinal changes are corroborated by county-level voting behavior and political contributions. Clergy scandals generate higher vote shares and campaign donations for progressive candidates. We find little impact on voter turnout, suggesting the primacy of preference changes over participatory effects.

In addition to political preferences, we find that religious de-identification leads to more progressive gender norms, particularly regarding women's roles in the workforce and attitudes towards marriage. Our findings provide causal evidence for the often-hypothesized conservative influence of religion on gender attitudes, suggesting that the decline of religious affiliation may be a driving force behind evolving

societal views on gender roles.

Our investigation of 'groupiness' reveals that religious de-identification reduces the propensity to join other social groups and organizations. This finding challenges the notion of groupiness as a stable personality trait, instead suggesting that religious participation may actively cultivate a desire for group-based activities more broadly. The implications of this result are significant, as it suggests that secularization may have broader consequences for civic engagement and social capital formation. As societies become increasingly secular, we may observe a general decline in group-oriented behavior, potentially affecting everything from volunteer organizations to community associations. This highlights an important and often overlooked aspect of secularization: its potential to reshape not just individual beliefs, but also patterns of social interaction and community engagement.

To explain these results, we draw on insights from the identity economics literature. In particular, we show that individuals who de-identify with Catholicism appear to identify more strongly with their socioeconomic class. This is reflected in divergent effects on redistribution and criminal justice preferences between high and low-income individuals, suggesting that as religious identity wanes, class identity may become more salient in shaping political attitudes. This identity substitution may partly explain the policy preference changes we document. Interestingly, we do not find evidence of increased identification with other salient social categories like race, gender, other religious denominations, or political parties.

These findings shed light on how the rising trend of secularization across developed nations may shape the future evolution of societal values and norms. Extrapolating from our findings, increasingly secular societies may gravitate towards greater progressivism on personal liberties and moral issues. At the same time, the evidence suggests religious de-identification may dampen civic participation. Anticipating these attitudinal and behavioral shifts helps us understand the evolution of the socio-political landscape in secularizing countries.

Some caveats are worth noting. First and foremost, our analysis focuses on a specific religious group (Catholics) in the United States, relying primarily on data from college freshmen. Catholics are also somewhat unique in the United States in that they do not clearly align with either major political party (Brooks and Manza, 2004; Grzymala-Busse, 2012; Fowler, 2018). While we corroborate key findings with aggregate county-level data, the generalizability to other faith traditions and cultural

settings merits further investigation.

Second, while we provide suggestive evidence for certain mechanisms like identity substitution, we cannot definitively rule out all alternative explanations. For example, scandals could cause a general loss of trust in institutions, or a shift toward more secular, modernist values beyond just the decline in religious practice. A more cautious interpretation of our results would therefore be that clergy scandals, rather than losing religiosity, cause a progressive shift in attitudes and behaviors. Additional research could aim to test the channels driving our results more directly.

Notwithstanding these limitations, our study provides clear evidence on the causal effect of religious identification on personal, moral and political values. The results highlight the importance of institutional factors and identities in shaping societal beliefs and behaviors. As such, our findings suggest a need for economic models that better incorporate the role of institutions and culture in preference formation.

References

Acemoglu, D., Johnson, S. and Robinson, J. A. (2005), 'Institutions as a fundamental cause of long-run growth', *Handbook of economic growth* **1**, 385–472.

Akerlof, G. A. and Kranton, R. E. (2000), 'Economics and identity', *The Quarterly Journal of Economics* **115**(3), 715–753.

Alan, S., Duysak, E., Kubilay, E. and Mumcu, I. (2023), 'Social exclusion and ethnic segregation in schools: The role of teachers' ethnic prejudice', *Review of Economics and Statistics* **105**(5), 1039–1054.

Alesina, A. and Fuchs-Schündeln, N. (2007), 'Good-bye lenin (or not?): The effect of communism on people's preferences', *American Economic Review* **97**(4), 1507–1528.

Alesina, A. and Giuliano, P. (2015), 'Culture and institutions', *Journal of Economic Literature* **53**(4), 898–944.

Åslund, O., Hensvik, L. and Skans, O. N. (2014), 'Seeking similarity: How im-

migrants and natives manage in the labor market', *Journal of Labor Economics* **32**(3), 405–441.

Bagues, M., Sylos-Labini, M. and Zinovyeva, N. (2017), 'Does the gender composition of scientific committees matter?', *American Economic Review* **107**(4), 1207–1238.

Bandiera, O., Barankay, I. and Rasul, I. (2005), 'Social preferences and the response to incentives: Evidence from personnel data', *The Quarterly Journal of Economics* **120**(3), 917–962.

Barro, R. J. and McCleary, R. M. (2003), 'Religion and economic growth'.

Becker, S. O. and Woessmann, L. (2008), 'Luther and the girls: Religious denomination and the female education gap in nineteenth-century prussia', *The Scandinavian Journal of Economics* **110**(4), 777–805.

Bonica, A. (2015), 'Database on ideology, money in politics, and elections (dime)', *Harvard Dataverse* **2**.

Borusyak, K., Jaravel, X. and Spiess, J. (2021), 'Revisiting event study designs: Robust and efficient estimation', *arXiv preprint arXiv:2108.12419* .

Bottan, N. L. and Perez-Truglia, R. (2015), 'Losing my religion: The effects of religious scandals on religious participation and charitable giving', *Journal of Public Economics* **129**, 106–119.

Bowles, S. (1998), 'Endogenous preferences: The cultural consequences of markets and other economic institutions', *Journal of economic literature* **36**(1), 75–111.

Brooks, C. and Manza, J. (2004), 'A great divide? religion and political change in us national elections, 1972–2000', *Sociological Quarterly* **45**(3), 421–450.

Bryan, G., Choi, J. J. and Karlan, D. (2021), 'Randomizing religion: the impact of protestant evangelism on economic outcomes', *The Quarterly Journal of Economics* **136**(1), 293–380.

Butts, K. (2021), *did2s: Two-Stage Difference-in-Differences Following Gardner (2021)*.
URL: *https://github.com/kylebutts/did2s/*

Callaway, B. and Sant'Anna, P. H. (2021), 'Difference-in-differences with multiple time periods', *Journal of Econometrics* **225**(2), 200–230.

Campante, F. and Yanagizawa-Drott, D. (2015), 'Does religion affect economic growth and happiness? evidence from ramadan', *The Quarterly Journal of Economics* **130**(2), 615–658.

Campbell, D. E., Layman, G. C., Green, J. C. and Sumaktoyo, N. G. (2018), 'Putting politics first: The impact of politics on american religious and secular orientations', *American Journal of Political Science* **62**(3), 551–565.

Clingingsmith, D., Khwaja, A. I. and Kremer, M. (2009), 'Estimating the impact of the hajj: religion and tolerance in islam's global gathering', *The Quarterly Journal of Economics* **124**(3), 1133–1170.

Currarini, S., Jackson, M. O. and Pin, P. (2010), 'Identifying the roles of race-based choice and chance in high school friendship network formation', *Proceedings of the National Academy of Sciences* **107**(11), 4857–4861.

Fehr, E. and Hoff, K. (2011), 'Introduction: Tastes, castes and culture: The influence of society on preferences', *The Economic Journal* **121**(556), F396–F412.

Formicola, J. R. (2016), *Clerical Sexual Abuse: How the Crisis Changed US Catholic Church-State Relations*, Palgrave Macmillan.

Fouka, V. (2020), 'Backlash: The unintended effects of language prohibition in us schools after world war i', *The Review of Economic Studies* **87**(1), 204–239.

Fowler, R. B. (2018), *Religion and politics in America: Faith, culture, and strategic choices*, Routledge.

Gardner, J. (2022), 'Two-stage differences in differences', *arXiv preprint arXiv:2207.05943* .

Gerber, A. S., Gruber, J. and Hungerman, D. M. (2016), 'Does church attendance cause people to vote? using blue laws' repeal to estimate the effect of religiosity on voter turnout', *British Journal of Political Science* **46**(3), 481–500.

Gershenson, S., Holt, S. B. and Papageorge, N. W. (2016), 'Who believes in me? the effect of student–teacher demographic match on teacher expectations', *Economics of education review* **52**, 209–224.

Gill, A. (2001), 'Religion and comparative politics', *Annual Review of political science* **4**(1), 117–138.

Giuliano, L., Levine, D. I. and Leonard, J. (2011), 'Racial bias in the manager-employee relationship: An analysis of quits, dismissals, and promotions at a large retail firm', *Journal of human resources* **46**(1), 26–52.

Globe, T. B. (2002), 'Church allowed abuse by priest for years'.
URL: *https://www.bostonglobe.com/news/special-reports/2002/01/06/church-allowed-abuse-priest-for-years/cSHfGkTIrAT25qKGvBuDNM/story.html*

Goodman-Bacon, A. (2021), 'Difference-in-differences with variation in treatment timing', *Journal of Econometrics* **225**(2), 254–277.

Grammich, C., Hadaway, K., Houseal, R., Jones, D., Krindatch, A., Stanley, R. and Taylor, R. (2018), 'Longitudinal religious congregations and membership file, 1980-2010 (county level)', *Association of Religion Data Archives* .

Green, J. C. (2007), *The faith factor: How religion influences American elections*, Bloomsbury Publishing USA.

Grönlund, K. and Setälä, M. (2007), 'Political trust, satisfaction and voter turnout', *Comparative European Politics* **5**, 400–422.

Gruber, J. H. (2005), 'Religious market structure, religious participation, and outcomes: Is religion good for you?', *The BE Journal of Economic Analysis & Policy* **5**(1).

Gruber, J. and Hungerman, D. M. (2008), 'The church versus the mall: What happens when religion faces increased secular competition?', *The Quarterly journal of economics* **123**(2), 831–862.

Grzymala-Busse, A. (2012), 'Why comparative politics should take religion (more) seriously', *Annual Review of Political Science* **15**, 421–442.

Guiso, L., Sapienza, P. and Zingales, L. (2003), 'People's opium? religion and economic attitudes', *Journal of monetary economics* **50**(1), 225–282.

Guiso, L., Sapienza, P. and Zingales, L. (2006), 'Does culture affect economic outcomes?', *Journal of Economic Perspectives* **20**(2), 23–48.

Gulino, G. and Masera, F. (2023), 'Contagious dishonesty: Corruption scandals and supermarket theft', *American Economic Journal: Applied Economics* **15**(4), 218–251.

Henrich, J., Ensminger, J., McElreath, R., Barr, A., Barrett, C., Bolyanatz, A., Cardenas, J. C., Gurven, M., Gwako, E., Henrich, N. et al. (2010), 'Markets, religion, community size, and the evolution of fairness and punishment', *science* **327**(5972), 1480–1484.

Hjort, J. (2014), 'Ethnic divisions and production in firms', *The Quarterly Journal of Economics* **129**(4), 1899–1946.

Hungerman, D. M. (2013*a*), 'Substitution and stigma: Evidence on religious competition from the catholic sex-abuse scandal', *American Economic Journal: Economic Policy* **5**(3), 227–253.
URL: *https://doi.org/10.1257/pol.5.3.227*

Hungerman, D. M. (2013*b*), 'Substitution and stigma: Evidence on religious markets from the catholic sex abuse scandal', *American Economic Journal: Economic Policy* **5**(3), 227–253.

Iyer, S. (2016), 'The new economics of religion', *Journal of Economic Literature* **54**(2), 395–441.

John Jay College of Criminal Justice (2004), The nature and scope of sexual abuse of minors by catholic priests and deacons in the united states, 1950-2002, Technical report, John Jay College of Criminal Justice, City University of New York, Washington, D.C. Prepared for the United States Conference of Catholic Bishops.

Jost, J. T. (2017), 'Ideological asymmetries and the essence of political psychology', *Political psychology* **38**(2), 167–208.

Kranton, R. E. and Sanders, S. G. (2017), 'Groupy versus non-groupy social preferences: Personality, region, and political party', *American Economic Review* **107**(5), 65–69.

Kranton, R., Pease, M., Sanders, S. and Huettel, S. (2020), 'Deconstructing bias in social preferences reveals groupy and not-groupy behavior', *Proceedings of the National Academy of Sciences* **117**(35), 21185–21193.

Lavy, V., Sand, E. and Shayo, M. (2018), 'Charity begins at home (and at school): Effects of religion-based discrimination in education', *Working paper/National Bureau of Economic Research, Inc.* .

Leege, D. C. and Welch, M. R. (1989), 'Religious roots of political orientations: Variations among american catholic parishioners', *The Journal of Politics* **51**(1), 137–162.

Leip, D. (2022), 'Election atlas'.

Lijphart, A. (1979), 'Religious vs. linguistic vs. class voting: The "crucial experiment" of comparing belgium, canada, south africa, and switzerland', *The American Political Science Review* **73**(2), 442–458.
URL: *http://www.jstor.org/stable/1954890*

Malmendier, U. and Nagel, S. (2011), 'Depression babies: Do macroeconomic experiences affect risk taking?', *The quarterly journal of economics* **126**(1), 373–416.

Margolis, M. F. (2018), *From politics to the pews: How partisanship and the political environment shape religious identity*, University of Chicago Press.

McCleary, R. M. and Barro, R. J. (2006), 'Religion and economy', *Journal of Economic perspectives* **20**(2), 49–72.

McPherson, M., Smith-Lovin, L. and Cook, J. M. (2001), 'Birds of a feather: Homophily in social networks', *Annual review of sociology* **27**(1), 415–444.

Norris, P. and Inglehart, R. (2011), *Sacred and secular: Religion and politics worldwide*, Cambridge University Press.

North, D. C. (1990), *Institutions, Institutional Change and Economic Performance*, Political Economy of Institutions and Decisions, Cambridge University Press.

Nunn, N., Akyeampong, E., Bates, R. and Robinson, J. A. (2014), 'Gender and missionary influence in colonial africa', *African development in historical perspective* .

Nunn, N. and Wantchekon, L. (2011), 'The slave trade and the origins of mistrust in africa', *American economic review* **101**(7), 3221–3252.

Patacchini, E. and Zenou, Y. (2016), 'Racial identity and education in social networks', *Social Networks* **44**, 85–94.

Patrikios, S. (2008), 'American republican religion? disentangling the causal link between religion and politics in the us', *Political Behavior* **30**, 367–389.

Pennsylvania Grand Jury (2018), Report of the grand jury investigation into the sexual abuse of minors by clergy in six dioceses of the commonwealth of pennsylvania, Grand jury report, Office of the Attorney General, Commonwealth of Pennsylvania. Accessed: 15-04-2024.

Plante, T. G. (1999), *Bless me father for I have sinned: Perspectives on sexual abuse committed by Roman Catholic priests*, Bloomsbury Publishing USA.

Rambachan, A. and Roth, J. (2023), 'A more credible approach to parallel trends', *Review of Economic Studies* **90**(5), 2555–2591.

Rose, R. and Urwin, D. (1969), 'Social cohesion, political parties and strains in regimes', *Comparative political studies* **2**(1), 7–67.

Roth, J., Sant'Anna, P. H., Bilinski, A. and Poe, J. (2023), 'What's trending in difference-in-differences? a synthesis of the recent econometrics literature', *Journal of Econometrics* **235**(2), 2218–2244.

Seguino, S. (2011), 'Help or hindrance? religion's impact on gender inequality in attitudes and outcomes', *World Development* **39**(8), 1308–1321.

Shayo, M. (2009), 'A model of social identity with an application to political economy: Nation, class, and redistribution', *American Political science review* **103**(2), 147–174.

Smith, G. A. (2020), '8 facts about catholics and politics in the u.s.'. Pew Research Center.
URL: *https://www.pewresearch.org/short-reads/2020/09/15/8-facts-about-catholics-and-politics-in-the-u-s/*

Solé-Ollé, A. and Sorribas-Navarro, P. (2018), 'Trust no more? on the lasting effects of corruption scandals', *European Journal of Political Economy* **55**, 185–203.

Stegmueller, D. (2013), 'Religion and redistributive voting in western europe', *The Journal of Politics* **75**(4), 1064–1076.

Stegmueller, D., Scheepers, P., Roßteutscher, S. and De Jong, E. (2012), 'Support for redistribution in western europe: Assessing the role of religion', *European Sociological Review* **28**(4), 482–497.

Stigler, G. J. and Becker, G. S. (1977), 'De gustibus non est disputandum', *The american economic review* **67**(2), 76–90.

Sun, L. and Abraham, S. (2021), 'Estimating dynamic treatment effects in event studies with heterogeneous treatment effects', *Journal of Econometrics* **225**(2), 175–199.

Tabellini, G. (2008), 'Institutions and culture', *Journal of the European Economic association* **6**(2-3), 255–294.

Terry, K. J., Smith, M. L., Schuth, K., Kelly, J. R., Vollman, B. and Massey, C. (2011), The causes and context of sexual abuse of minors by catholic priests in the united states, 1950-2010, *in* 'United States Conference of Catholic Bishops, Washington, DC'.

The Guardian (2023), 'Sex abuse: Catholic church bankruptcy oakland california', `https://www.theguardian.com/world/2023/nov/12/sex-abuse-catholic-church-bankruptcy-oakland-califonia`. Accessed: 2024-04-15.

United States Conference of Catholic Bishops (2002), 'Charter for the protection of children and young people'.

URL: *https://www.usccb.org/offices/child-and-youth-protection/charter-protection-children-and-young-people*

Voas, D. and Chaves, M. (2016), 'Does religion make a difference? assessing the effects of christian affiliation and practice on marital solidarity and divorce in britain, 1985–2005', *Sociology of Religion* **77**(4), 417–437.

Woodberry, R. D. (2012), 'The missionary roots of liberal democracy', *American political science review* **106**(2), 244–274.

A1 Appendix

A1.1 Additional Details Freshmen Survey

The table below provides a description of all the questions of the Freshmen Survey that we analyze.

Panel A: Political Preferences	
Question	**Description**
Abortion should be legal	Abortion should be legal
More tax for wealthy	Wealthy people should pay a larger share of taxes than they do now
Prohibit racist/sexist speech	Colleges should prohibit racist/sexist speech on campus
Abolish affirmative action	Affirmative action in college admissions should be abolished
Volunteer army	The county should have a volunteer army
Do more to discourage energy consumption	The federal government should do more to discourage energy consumption
Legalize same-sex marriage	Same-sex couples should have the right to legal marital status
Legalize weed	Marijuana should be legalized
Too many rights for criminals	There is too much concern in the courts for the rights of criminals
Abolish death penalty	The death penalty should be abolished
Raise taxes to reduce deficit	The federal government should raise taxes to reduce the deficit
Do more to control handguns	The federal government should do more to control the sale of handguns
Do more to control pollution	The federal government is not doing enough to control environmental pollution
Don't allow illegal imms into education	Undocumented immigrants should be denied access to public education

National health care needed	A national health care plan is needed to cover everybody's medical costs
Prohibit homosexuality	It is important to have laws prohibiting homosexual relationships
Allow employer drug testing	Employers should be allowed to require drug testing of employees or job applicants

Panel B: Gender Norms	
Question	**Description**
Right to casual sex	If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short period time
Raise a family	Indicate the importance of raising a family
Women should stay home	The activities of married women are best confined to the home and family
Entitlement to sex after leading on	Just because a man thinks that a woman has 'led him on' doesn't entitle him to have sex with her
Get married in college	What is your best guess as to the chances that you will get married while in college

Panel C: Societal Beliefs and Attitudes	
Question	**Description**
Dissent is critical to politics	Dissent is a critical component of the political process time
Racial disc. no longer a problem	Racial discrimination is no longer a major problem in America
Individuals can't change society	Realistically, an individual can do little to bring about changes in our society time
Don't obey laws against personal values	People should not obey laws which violate their personal values

Panel D: Group Activities	
Question	**Description**
Join student club	What is your best guess as to the chances that you will join a student club
Join demonstrations	What is your best guess as to the chances that you will join demonstrations
Join social frat or club	What is your best guess as to the chances that you will join a social fraternity or club
Play varsity athletics	What is your best guess as to the chances that you will play varsity athletics

A1.2 Shifts to Racial Identification

To examine whether people shift their identity from religion to race, we draw on literature that documents the tendency for people to exhibit racial homophily in social interactions (see e.g. McPherson et al., 2001; Currarini et al., 2010; Patacchini and Zenou, 2016; Alan et al., 2023). If losing religious identity causes people to identify more strongly with their race, we might expect an increase in the desire to socialize with others of the same racial background. Moreover, stronger identification with race should lead to policy preferences that benefit one's own race. For minorities, this would arguably be affirmative action. We test these predictions by estimating the effect of Catholicism on people's intention to socialize with other racial groups in college, and their aspiration to promote racial understanding, and consider heterogeneity between races in the effect of Catholicism on support for affirmative action.

Table A5 gives the results. Contrasting the main prediction, Panel A shows no evidence that decline in Catholic identity affects racial homophily. Panel B furthermore shows that the effect of Catholicism on affirmative action is similar for Whites and Blacks.[23] We do find some evidence that losing Catholicism leads to a stronger desire to promote racial understanding. Collectively, however, these result

[23] Although the effect is only statistically significant for Whites, the effect for Whites not different from that for Blacks.

mostly suggest that race did not become a stronger source of identity for people who disaffiliated from the Catholic Church in response to clergy scandals.

Table A5: Effect of Catholicism on race identification

	Socialize with other races	Promote racial understanding
Panel A: Race-based preferences		
Catholic	0.075	-0.488^{**}
	(0.779)	(0.206)
Zip fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Controls	Yes	Yes
Observations	1,070,029	3,569,067
Adjusted R-squared	0.116	0.124
	Abolish affirmative action (Whites)	Abolish affirmative action (Blacks)
Panel B: Affirmative action		
Catholic	-2.647^{***}	-1.921
	(1.024)	(5.125)
Zip fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Controls	Yes	Yes
Observations	1,320,142	108,383
Adjusted R-squared	0.101	0.161

Notes: The table displays the estimated effect of Catholicism on racial identification. In Panel A, the outcome variable in the left column is whether an individual intends to have other-race friends, and the right column's outcome variable is whether the individual aspires to promote racial understanding. Treatment effects are estimated using the 2SLS-DD approach outlined in Section 3.2. Other definitions are as in Table 2.

A1.3 Robustness checks

A1.3.1 Composition of students

Table A6: Baseline results for effect of scandals on composition of students

	Sex	Black	Father college	Mother college	Income
Scandal	0.002*	−0.0001	−0.003***	0.001	0.023
	(0.001)	(0.001)	(0.001)	(0.001)	(0.016)
Zip fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Observations	3,511,287	3,511,287	3,556,100	3,526,324	3,511,287
Adjusted R-squared	0	0	0	0	0

Notes: The table shows the baseline difference-in-difference estimates for the effect of clergy scandals on the composition of freshmen students. *Sex* is a dummy variable that takes the value of 2 if a student is female and 1 otherwise. *Black* is a dummy variable that takes the value of 1 if a student is Black. *Father college* and *Mother college* take the value of 1 if the student's father/mother went to college, and 0 otherwise. *Income* is a student's best guess about their parents income, reported in one of 30 categories. All other definitions are as in Table 2.

A1.3.2 Different spillover thresholds

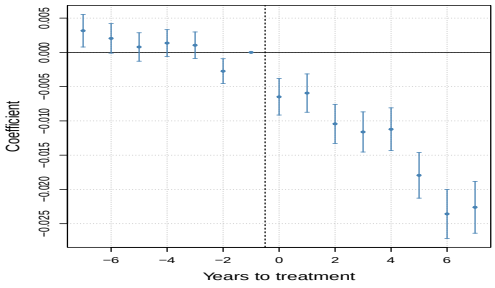
Table A7: Effect of scandals on Catholicism, 25km spillover

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	−0.014***	−0.013***	−0.012***	−0.007***
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	4,106,303	3,886,908	3,990,929	4,335,043
Adjusted R-squared	0	0	0	0

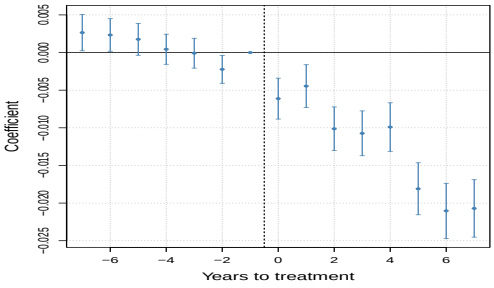
Notes: The table shows the estimated effects of clergy scandals on Catholicism, using a maximum 25km spillover distance instead of 50km. All other definitions are as in Table 2.

Figure A1: Dynamic effects of scandals on Catholicism, 25km spillover

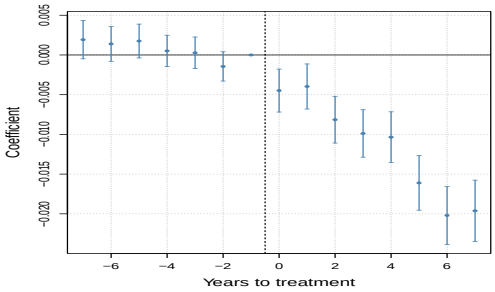
(a) Catholic



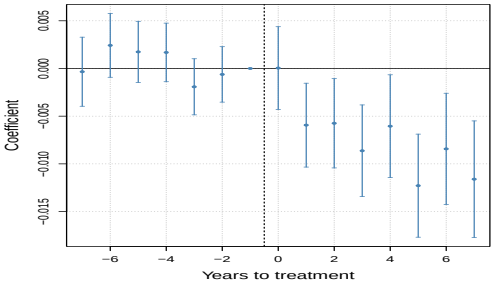
(b) Catholic father



(c) Catholic mother

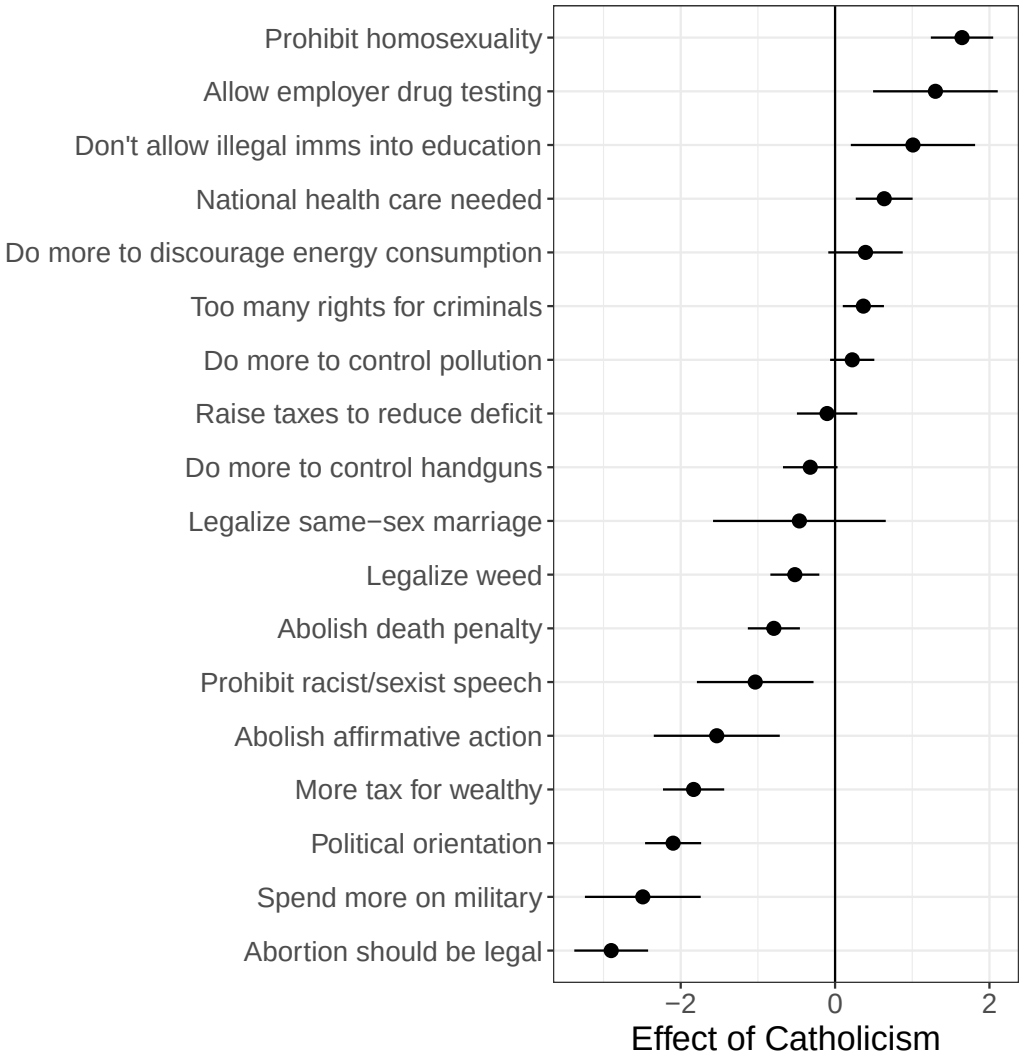


(d) Church attendance



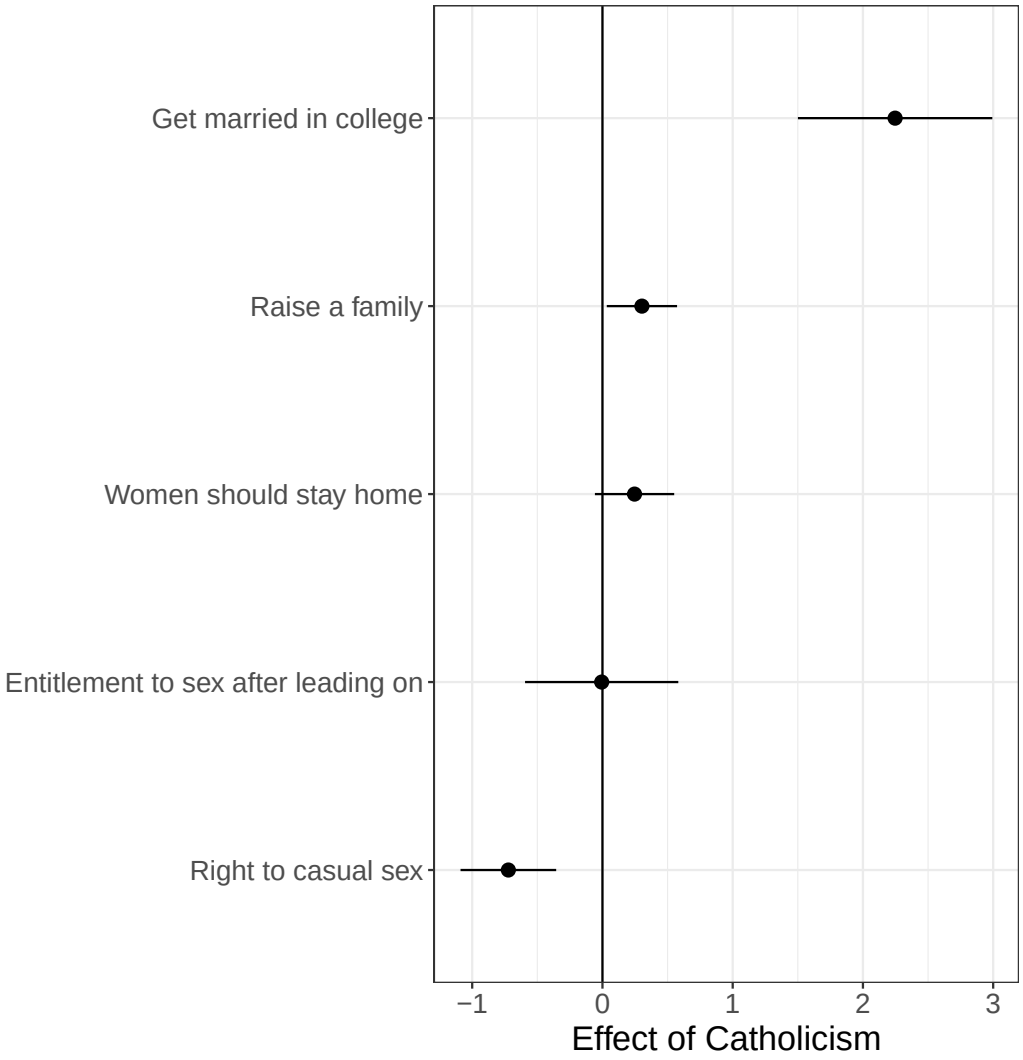
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism, using a maximum 25km spillover distance instead of 50km. All definitions are as in Figure 1.

Figure A2: Effect of Catholicism on policy preferences, 25km spillover



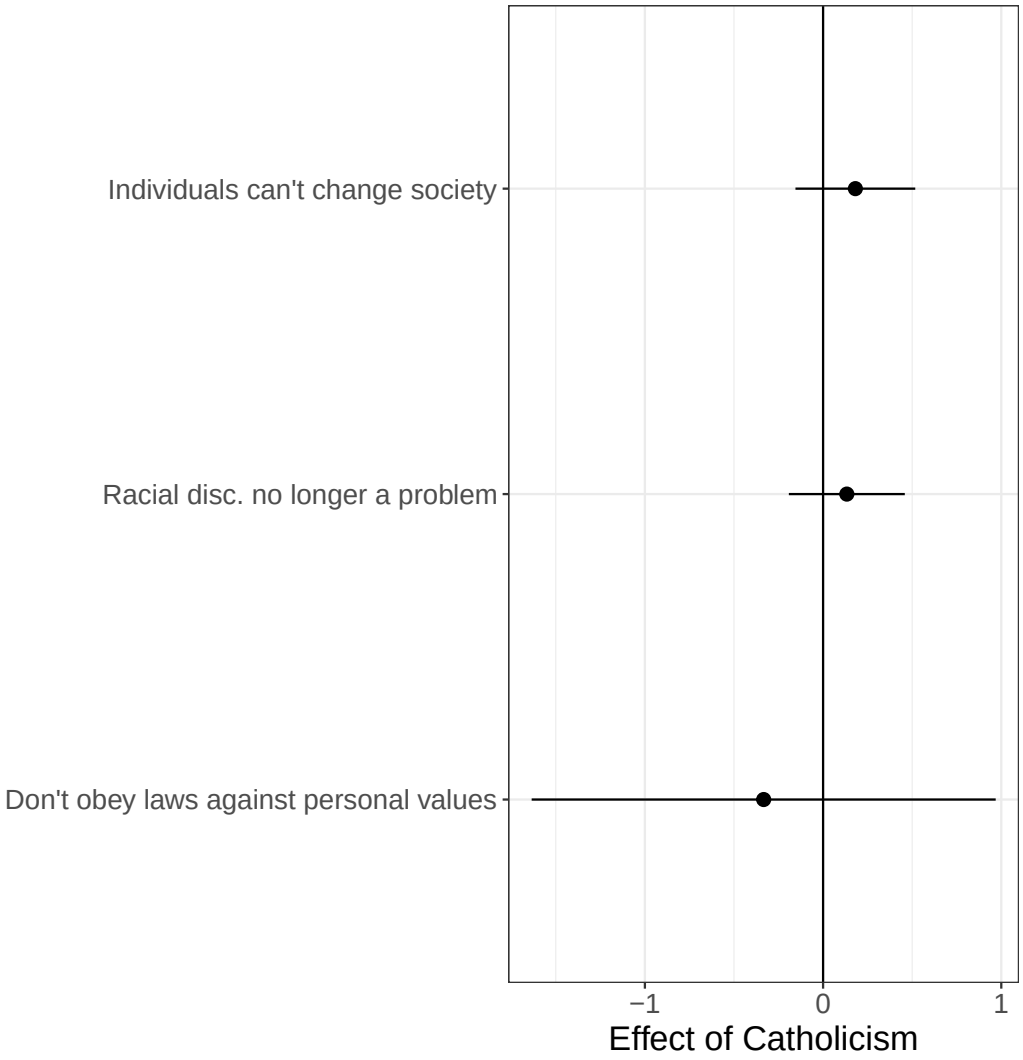
Notes: The figure shows the estimated effect of Catholicism on policy preferences, using a maximum 25km spillover distance instead of 50km. Other definitions are as in Figure 2.

Figure A3: Effect of Catholicism on gender norms, 25km spillover



Notes: The figure shows the estimated effect of Catholicism on gender norms, using a maximum 25km spillover distance instead of 50km. Other definitions are as in Figure 3.

Figure A4: Effect of Catholicism on other societal norms and beliefs, 25km spillover



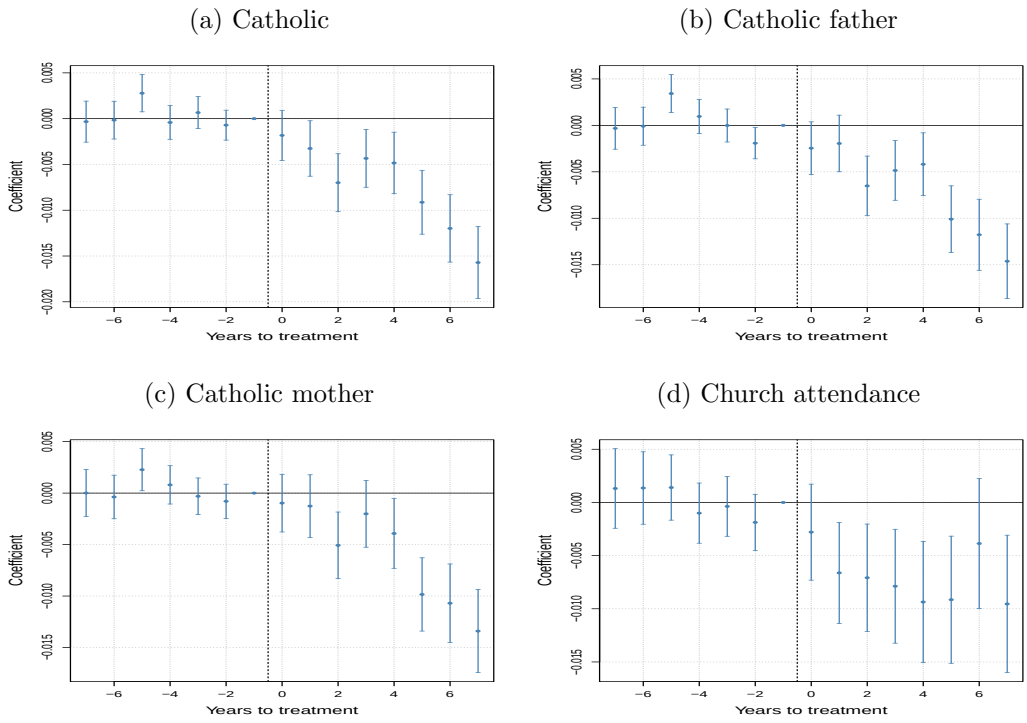
Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, using a maximum 25km spillover distance instead of 50km. Other definitions are as in Figure 4.

Table A8: Effect of scandals on Catholicism, 75km spillover

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	−0.007***	−0.007***	−0.006***	−0.007***
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	3,023,032	2,862,855	2,939,003	3,401,454
Adjusted R-squared	0	0	0	0

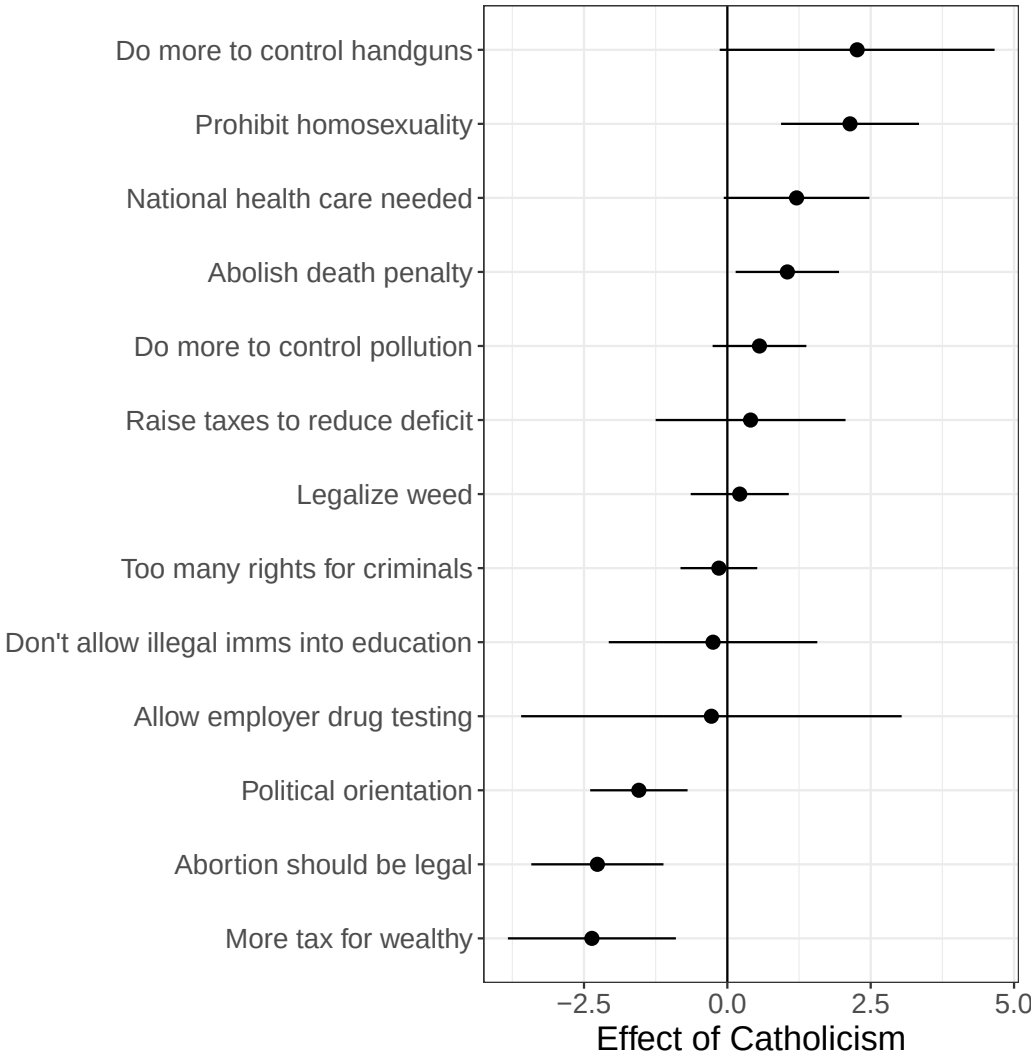
Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, using a maximum 75km spillover distance instead of 50km. All other definitions are as in Table 2.

Figure A5: Dynamic effects of scandals on Catholicism, 75km spillover



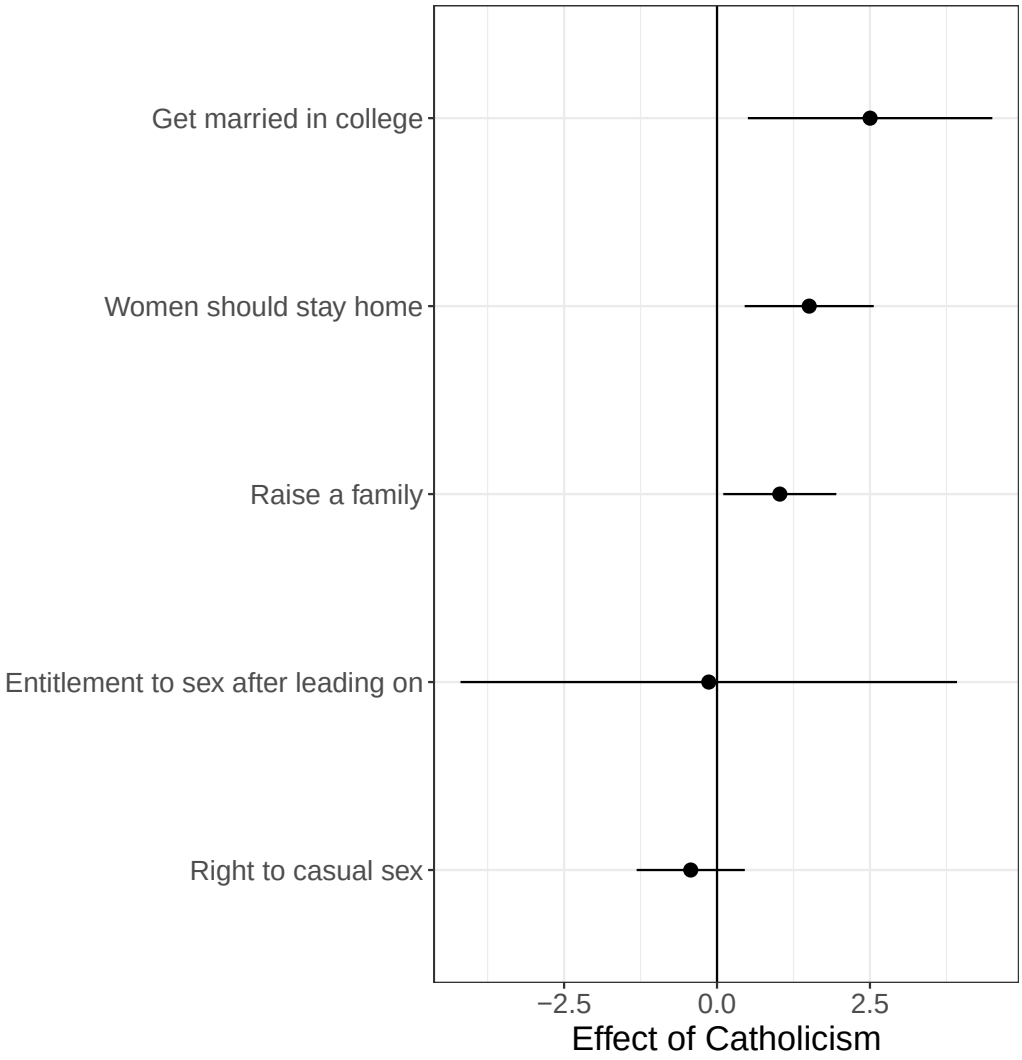
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism, using a maximum 75km spillover distance instead of 50km. All definitions are as in Figure 1.

Figure A6: Effect of Catholicism on policy preferences, 75km spillover



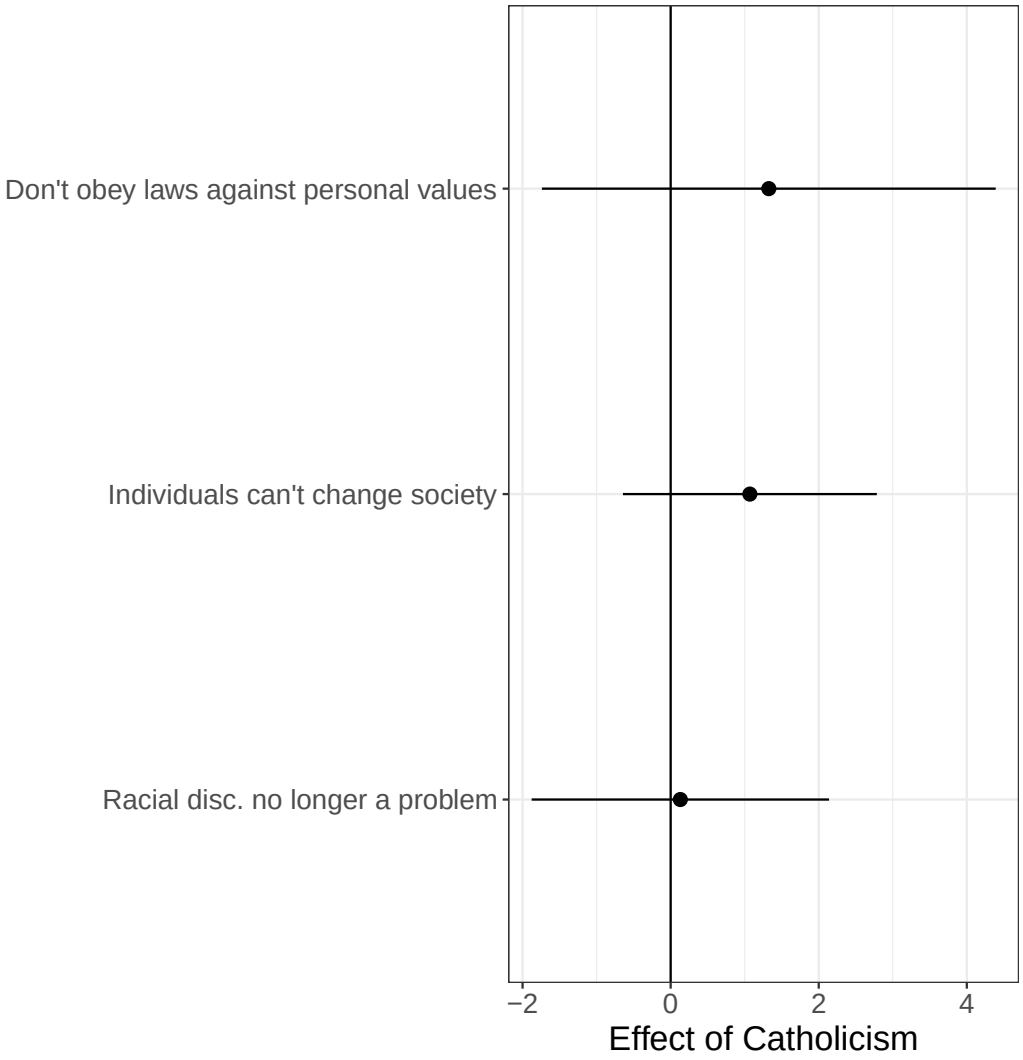
Notes: The figure shows the estimated effect of Catholicism on policy preferences, using a maximum 75km spillover distance instead of 50km. All definitions are as in Figure 2.

Figure A7: Effect of Catholicism on gender norms, 75km spillover



Notes: The figure shows the estimated effect of Catholicism on gender norms, using a maximum 75km spillover distance instead of 50km. Other definitions are as in Figure 3.

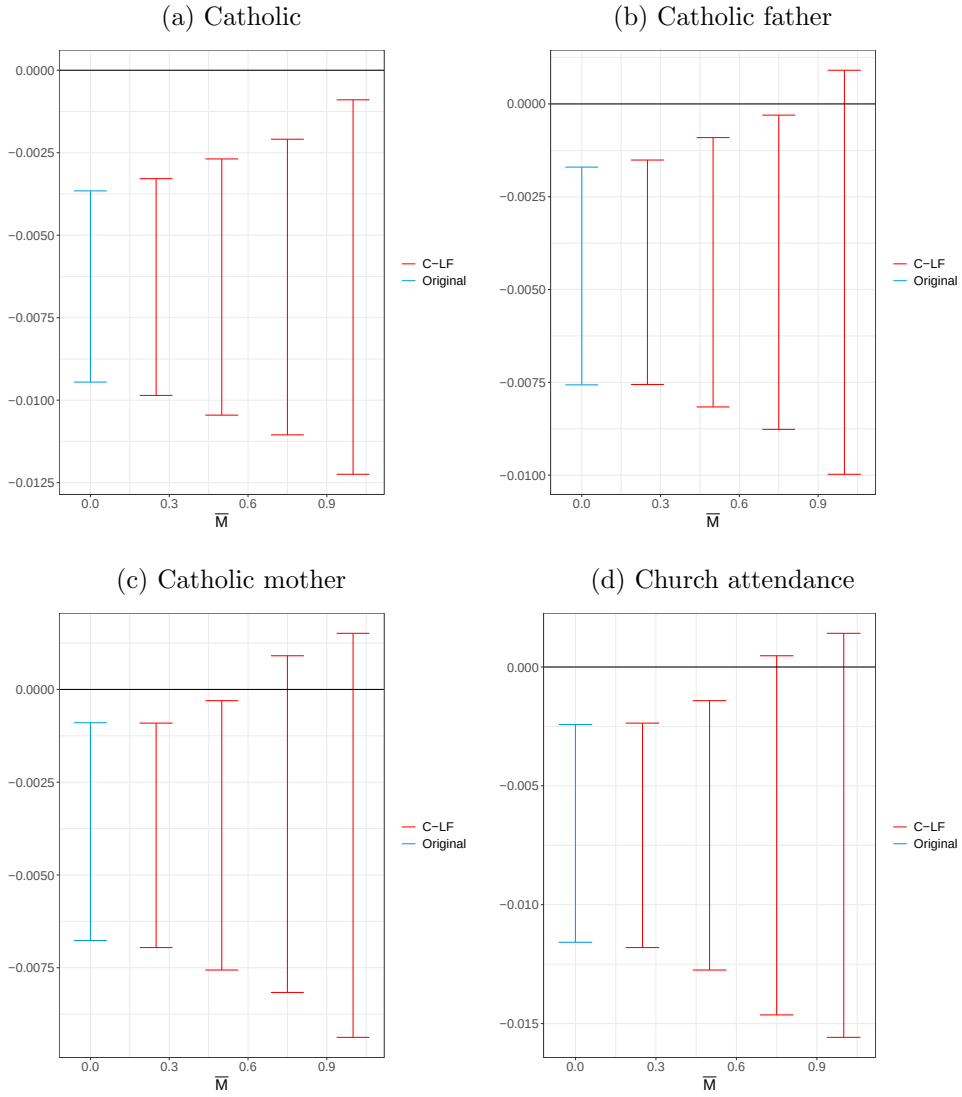
Figure A8: Effect of Catholicism on other societal norms and beliefs, 75km spillover



Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, using a maximum 75km spillover distance instead of 50km. Other definitions are as in Figure 4.

A1.3.3 Credible approach to parallel trends

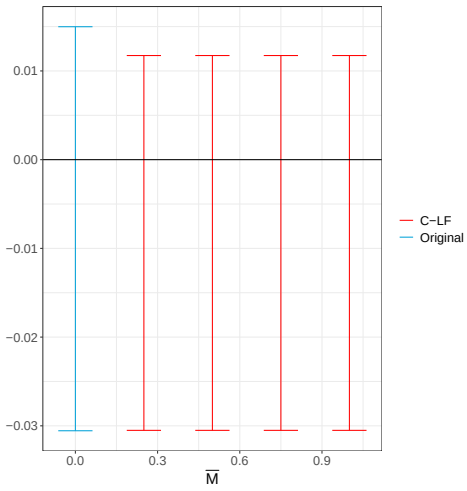
Figure A9: Credible approach to parallel trends, Catholicism



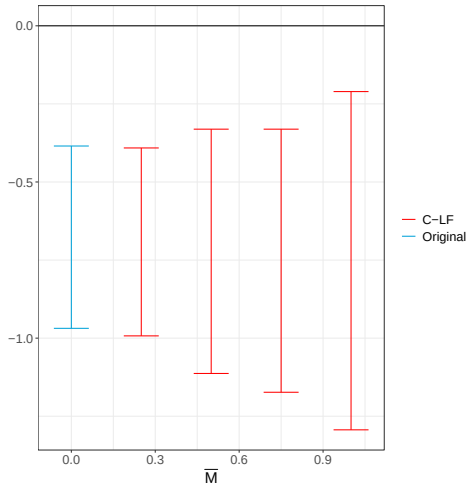
Notes: The figure shows the sensitivity to parallel trend violations of the treatment effect estimates for the effect of scandals on Catholicism, given in Table 2. $\bar{M}$ is the maximum pre-trend violation. The figure shows treatment effect bounds for different violations of the parallel trends assumption, up do $\bar{M} = 1$, which is the value at which parallel trend violations are equal to the largest parallel trend violation in the pre-treatment period. All effects are estimated using Rambachan and Roth (2023).

Figure A10: Credible approach to parallel trends, county-level Catholicism

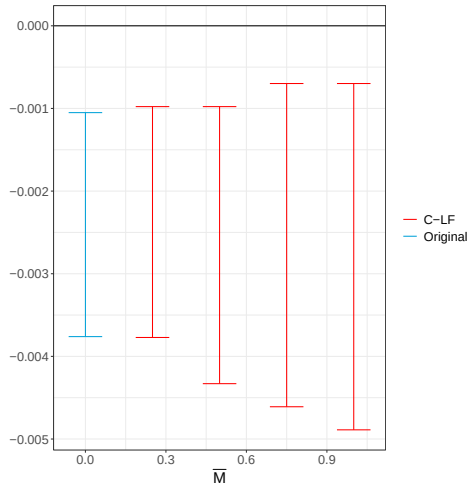
(a) Catholic



(b) Catholic students



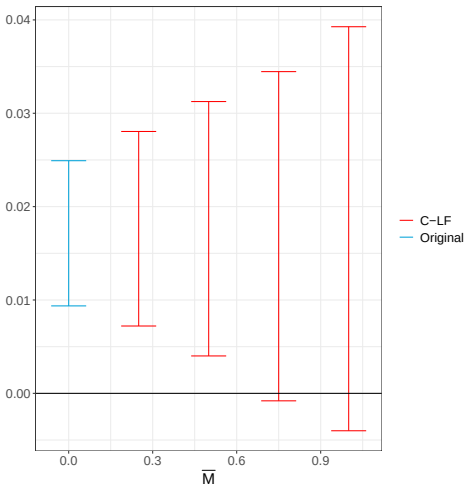
(c) Catholic schools



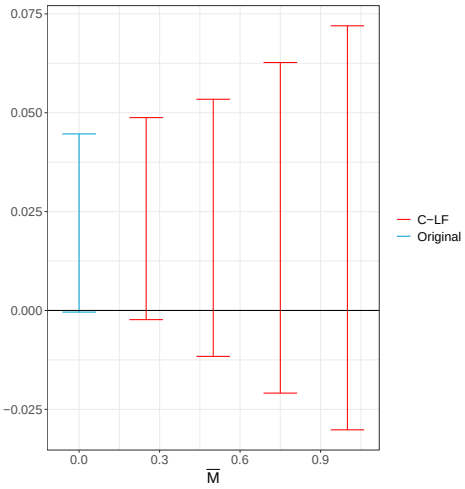
Notes: The figure shows the sensitivity to parallel trend violations of the dynamic treatment effect estimates for the effect of scandals on county-level Catholicism. Definitions are as in Figure A9.

Figure A11: Credible approach to parallel trends, county-level election results

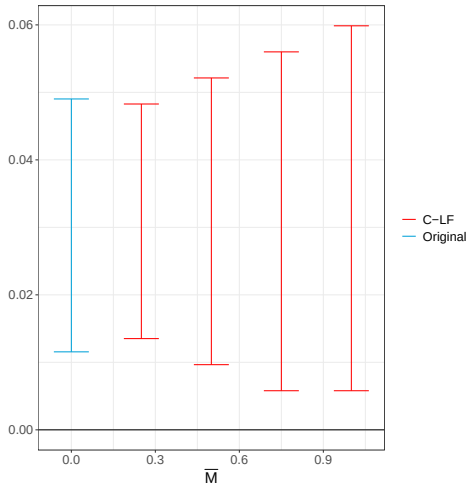
(a) Dem. vote share (pres.)



(b) Dem. vote share (Senate)

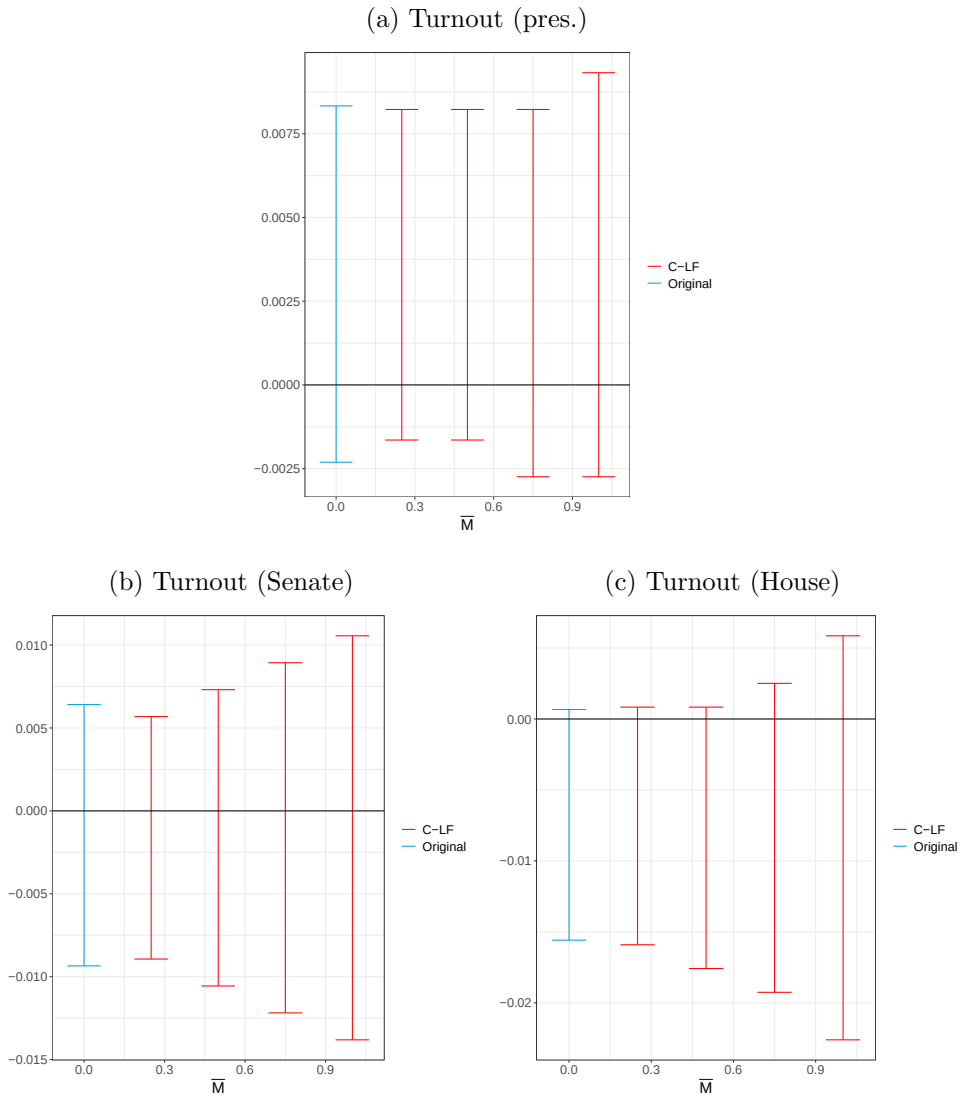


(c) Dem. vote share (House)



Notes: The figure shows the sensitivity to parallel trend violations of the dynamic treatment effect estimates for the effect of scandals on county-level election results. Definitions are as in Figure A9.

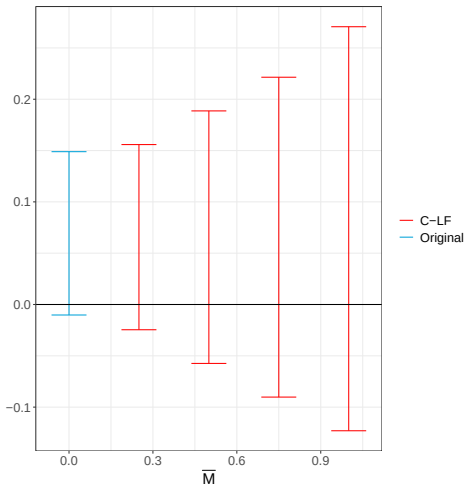
Figure A12: Credible approach to parallel trends, county-level turnout



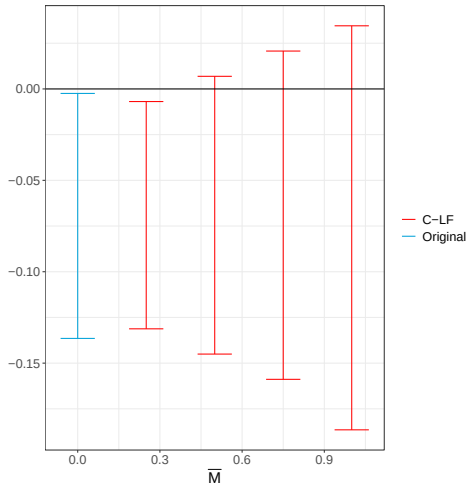
Notes: The figure shows the sensitivity to parallel trend violations of the dynamic treatment effect estimates for the effect of scandals on county-level turnout rates. Definitions are as in Figure A9.

Figure A13: Credible approach to parallel trends, county-level political donations

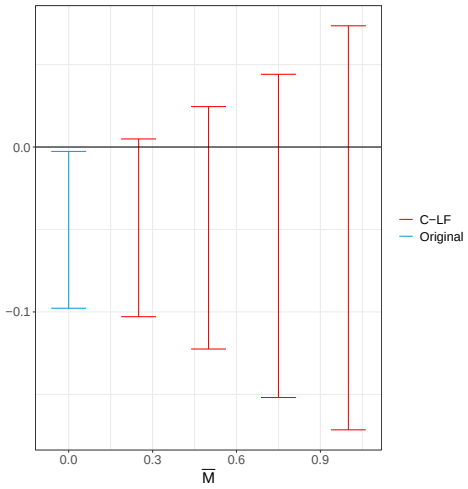
(a) Donations to Dem. (log)



(b) Donations to Rep. (log)



(c) Donations total (log)



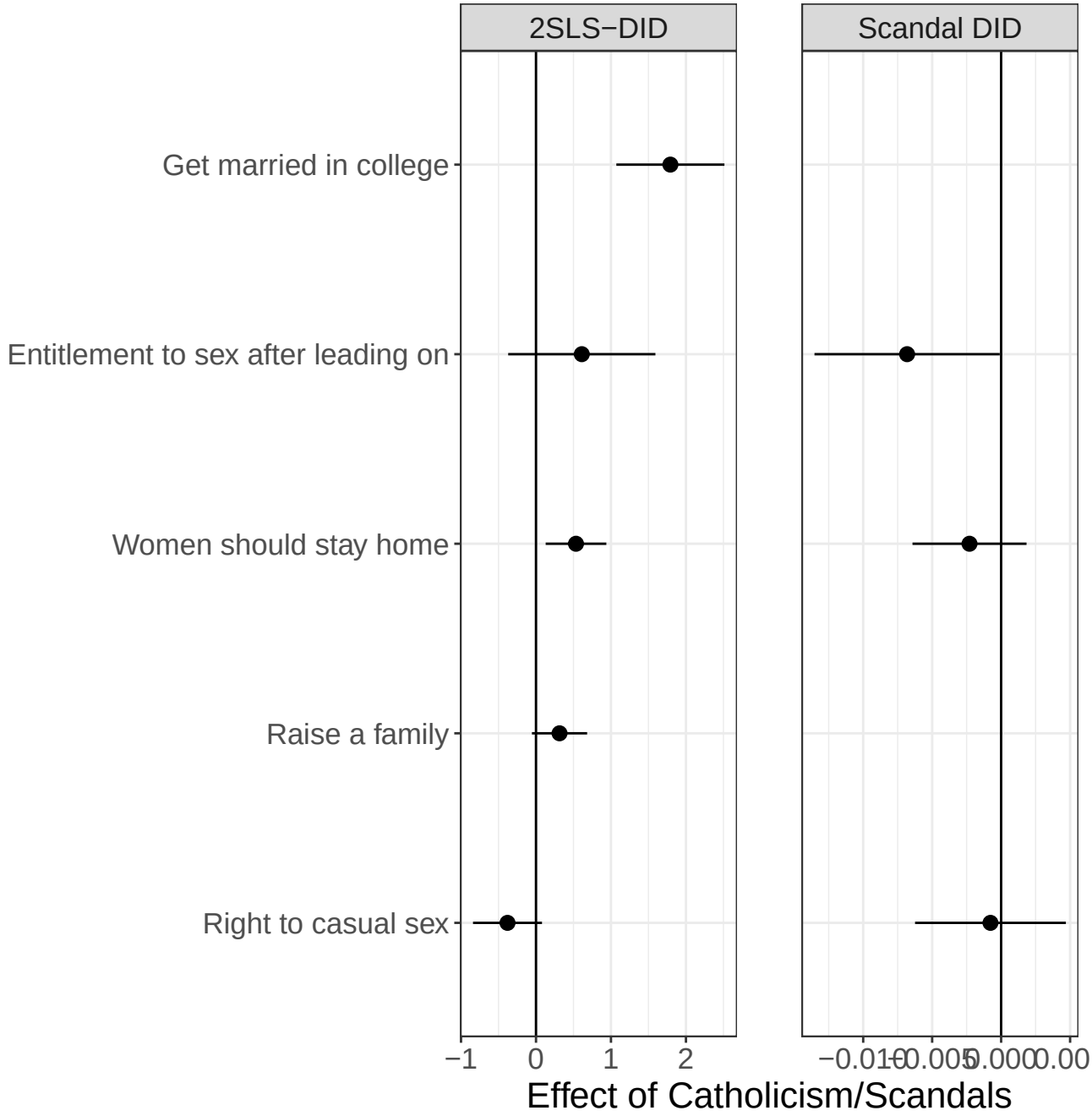
Notes: The figure shows the sensitivity to parallel trend violations of the dynamic treatment effect estimates for the effect of scandals on county-level political donations. Definitions are as in Figure A9.

A1.3.4 Comparison 2SLS-DD and staggered difference-in-differences

Figure A14: IV estimates vs. reduced form estimates, policy preferences

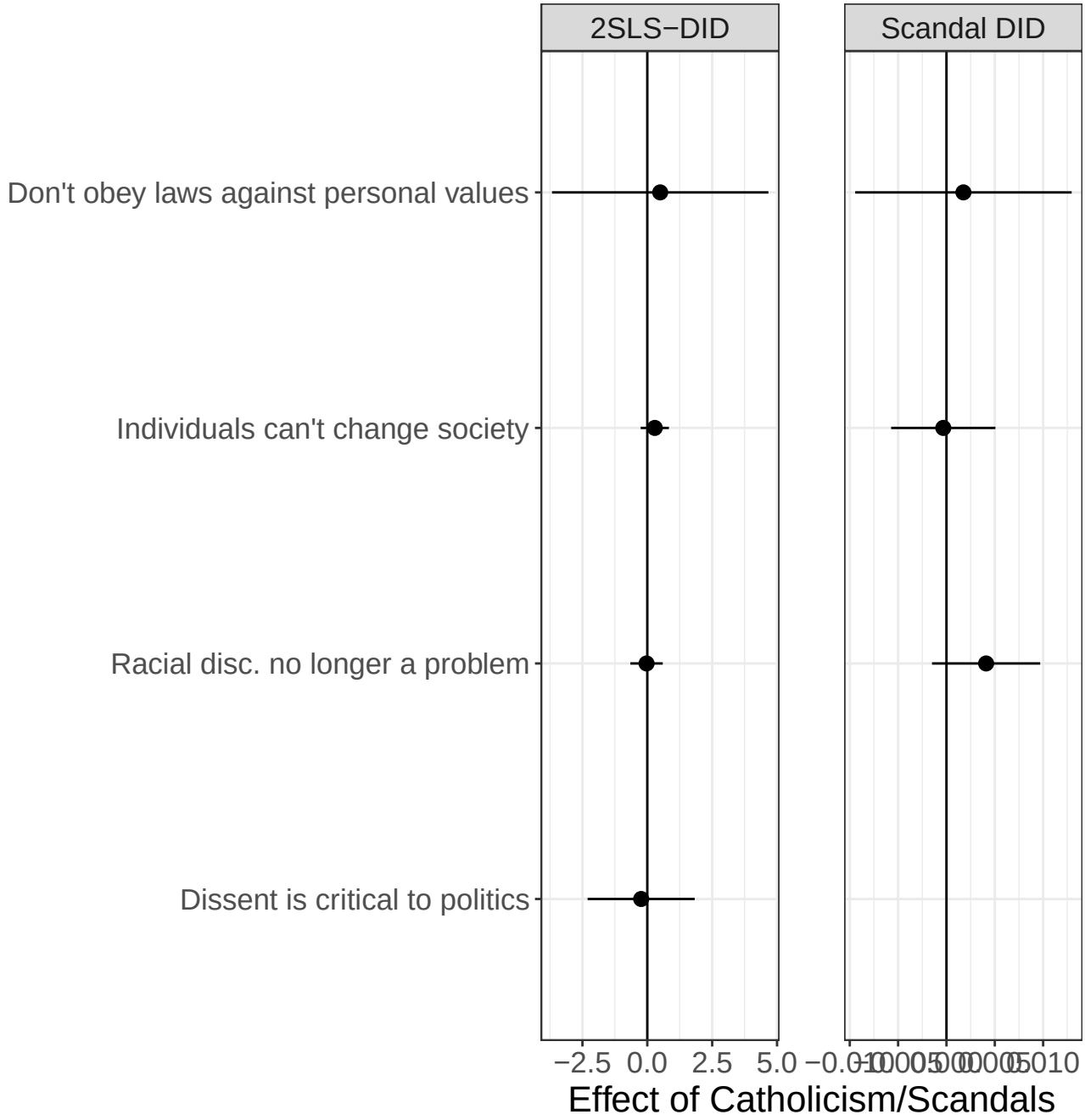
Notes: The figure shows the 2SLS-DD estimates for the effect of Catholicism on policy preferences (left window) and the reduced form baseline difference-in-differences estimates for the effect of clergy scandals on preferences (right window). Both estimation methods are explained in Section 3.2. Standard errors are clustered at the home zip code level. All other definitions are as in Figure 2 and Table 2.

Figure A15: IV estimates vs. reduced form estimates, gender norms



Notes: The figure shows the 2SLS-DD estimates for the effect of Catholicism on gender norms (left window) and the reduced form baseline difference-in-differences estimates for the effect of clergy scandals on preferences (right window). Both estimation methods are explained in Section 3.2. Standard errors are clustered at the home zip code level. All other definitions are as in Figure 2 and Table 2.

Figure A16: IV estimates vs. reduced form estimates, other social norms



Notes: The figure shows the 2SLS-DD estimates for the effect of Catholicism on social norms (left window) and the reduced form baseline difference-in-differences estimates for the effect of clergy scandals on preferences (right window). Both estimation methods are explained in Section 3.2. Standard errors are clustered at the home zip code level. All other definitions are as in Figure 2 and Table 2.

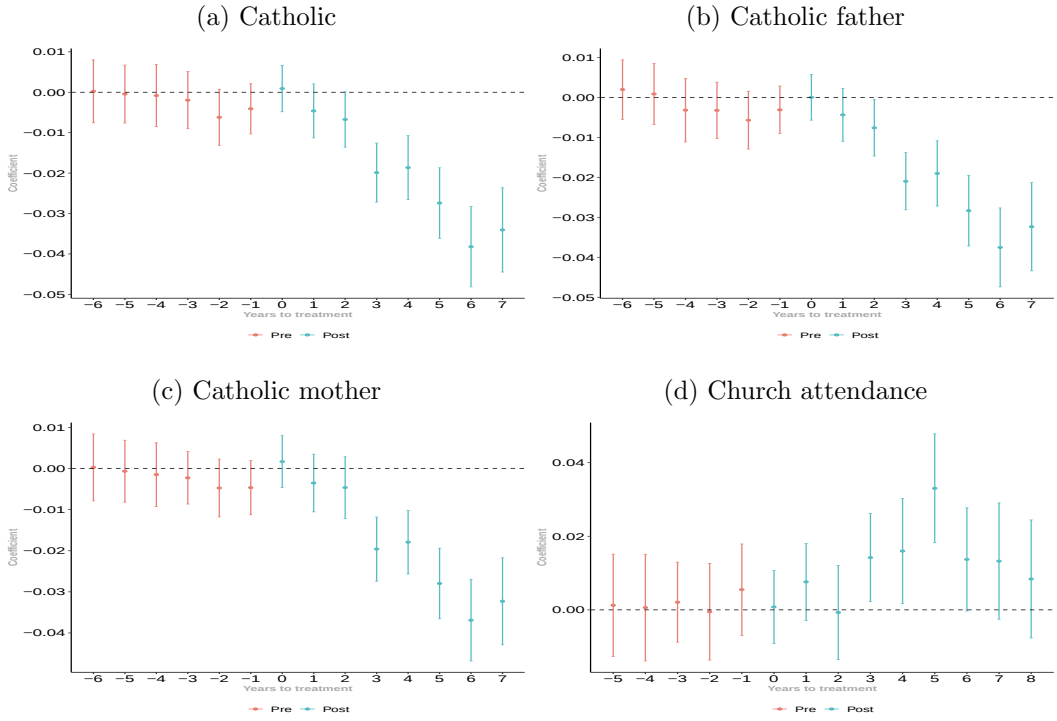
A1.3.5 Alternative estimation method

Table A9: Effect of scandals on Catholicism, Callaway and Sant'Anna (2021)

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	-0.018^{***}	-0.017^{***}	-0.019^{***}	0.012^{***}
	(0.002)	(0.002)	(0.002)	(0.004)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: The table shows the baselines difference-in-differences estimates for the effect of clergy scandals on Catholicism, estimated using the methodology outlined in Callaway and Sant'Anna (2021). Other definitions are as in Table 3.

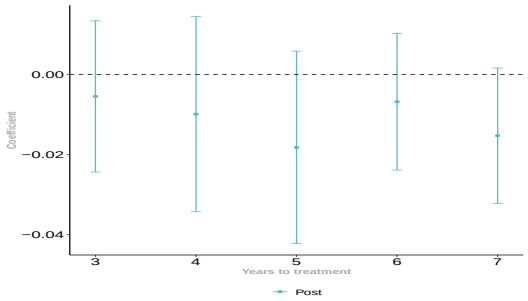
Figure A17: Dynamic effects of scandals on Catholicism, Callaway and Sant'Anna (2021)



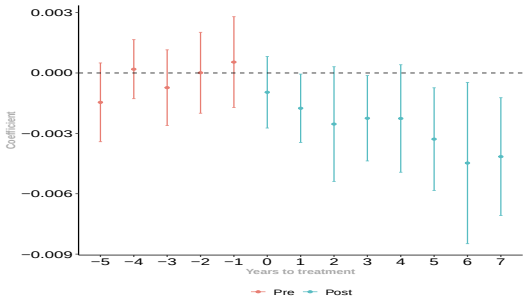
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism, estimated using the methodology outlined in Callaway and Sant'Anna (2021). Other definitions are as in Figure 1.

Figure A18: Dynamic effects of scandals on county-level Catholicism, Callaway and Sant'Anna (2021)

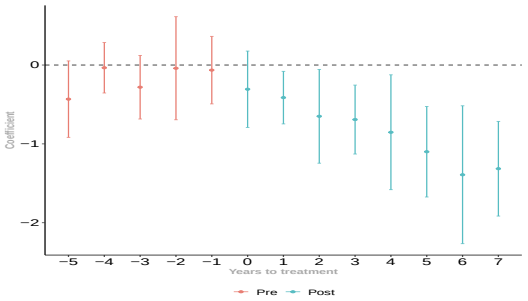
(a) Catholic adherents



(b) Catholic schools



(c) Catholic students



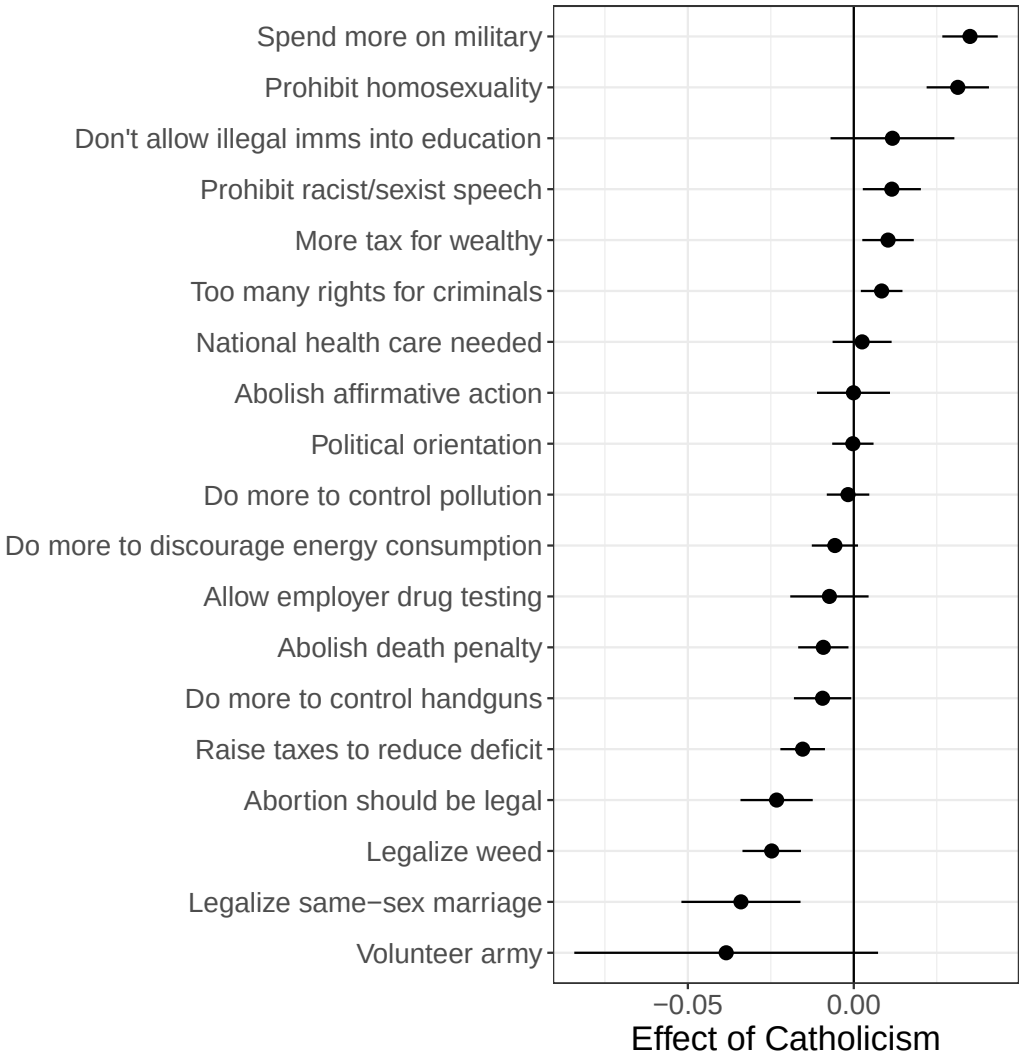
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on county-level religiosity, estimated using the methodology outlined in Callaway and Sant'Anna (2021). Other definitions are as in Figure A44.

Table A10: Baseline results for effect of scandals on county-level outcomes, Callaway and Sant'Anna (2021)

	Catholic adherents	Catholic schools	Catholic students
Panel A: Catholicism			
Scandal	-0.018^{***}	-0.003^{***}	-0.823^{***}
	(0.003)	(0.001)	(0.132)
Zip fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel B: Voting			
Scandal	0.025^{***}	0.031^{***}	0.024^{***}
	(0.002)	(0.006)	(0.007)
Zip fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
	Turnout rate (pres.)	Turnout rate (Senate)	Turnout rate (House)
Panel C: Turnout			
Scandal	0.002^{*}	-0.005^{*}	-0.003
	(0.001)	(0.003)	(0.002)
Zip fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
	Donations (Dem.)	Donations (Rep.)	Donations (total)
Panel D: Political donations			
Scandal	0.221^{***}	0.030	0.025
	(0.049)	(0.038)	(0.023)
Zip fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes

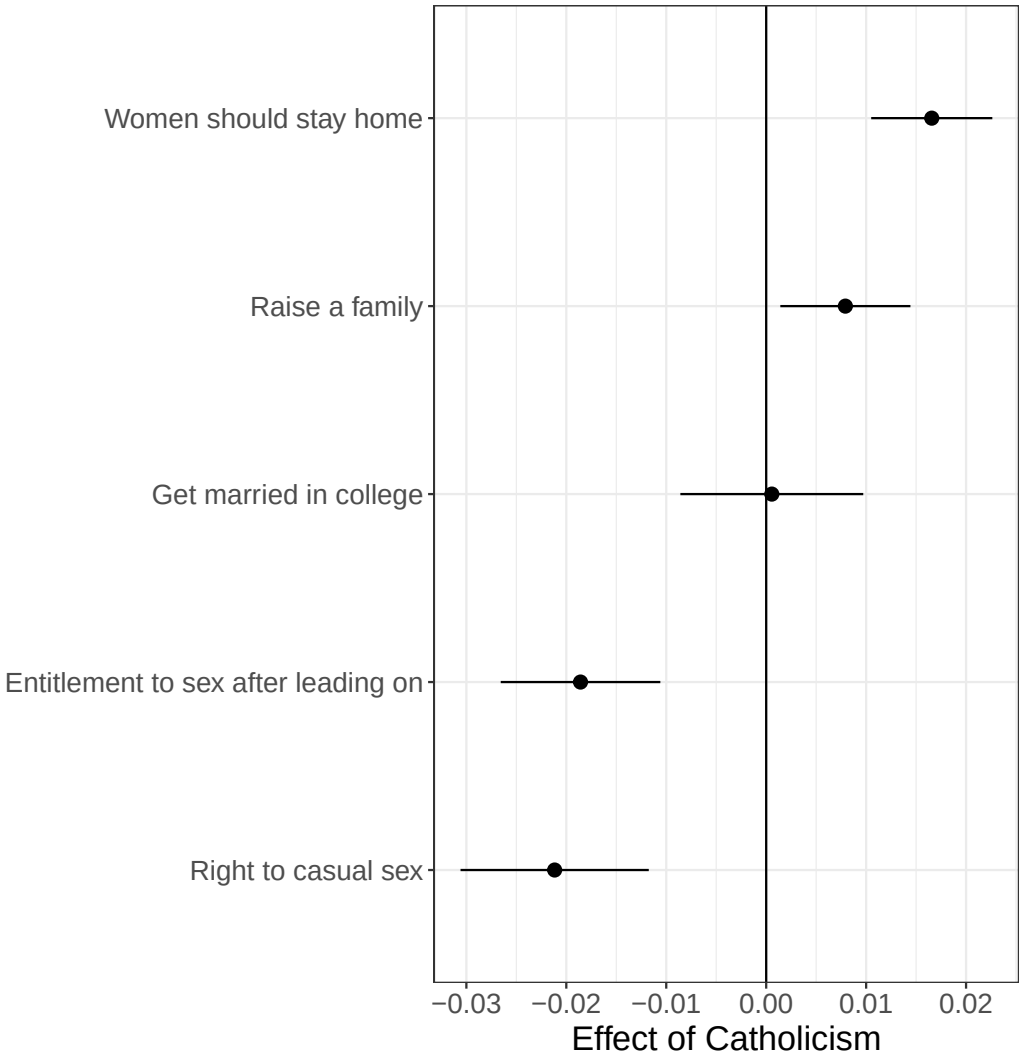
Notes: The table shows baseline difference-in-differences estimates for the effect of clergy scandals on county-level outcomes, estimated using the methodology outlined in Callaway and Sant'Anna (2021). Panel A shows the effects on Catholicism, Panel B on election outcomes, Panel C on turnout, and Panel D on political donations. Other definitions are as in Table 3.

Figure A19: Effect of Catholicism on policy preferences, Callaway and Sant'Anna (2021)



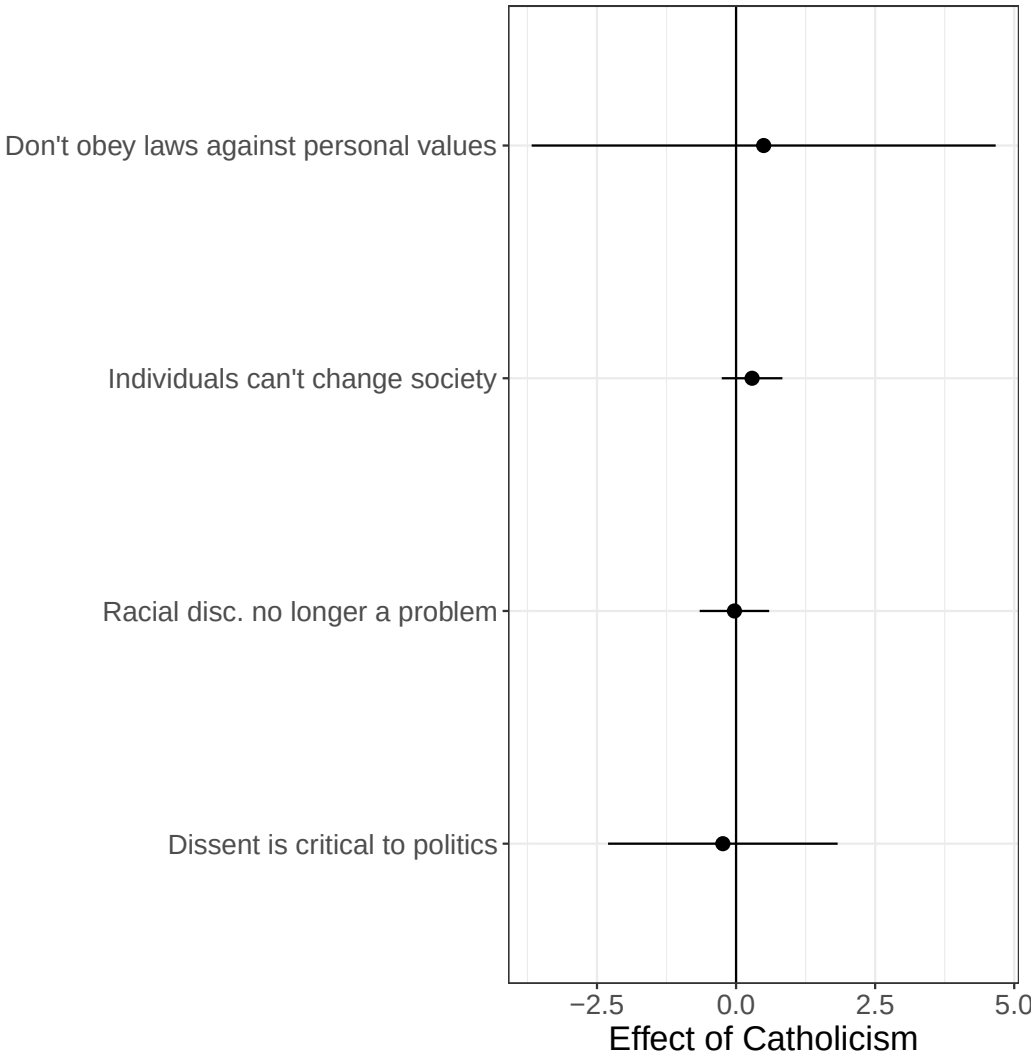
Notes: The figure shows the estimated effect of Catholicism on policy preferences, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure 2.

Figure A20: Effect of Catholicism on gender norms, Callaway and Sant'Anna (2021)



Notes: The figure shows the estimated effect of Catholicism on gender norms, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure 3.

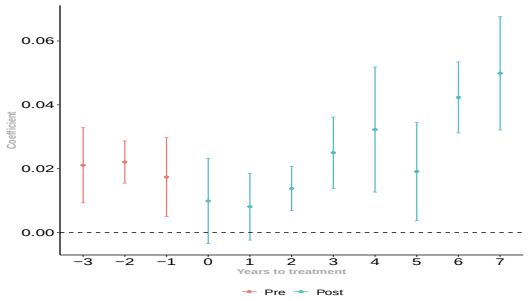
Figure A21: Effect of Catholicism on other societal norms and beliefs, Callaway and Sant'Anna (2021)



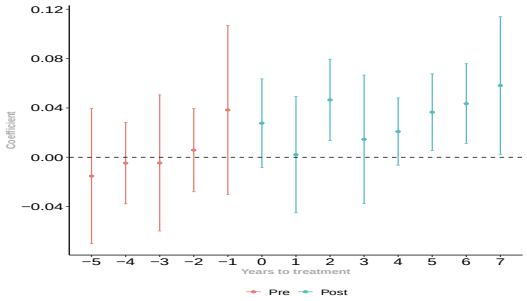
Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure 4.

Figure A22: Dynamic effects of scandals on county-level voting, Callaway and Sant'Anna (2021)

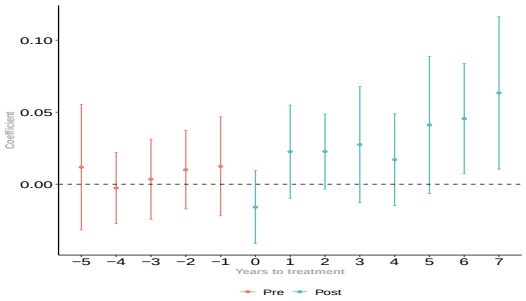
(a) Dem. vote share (pres.)



(b) Dem. vote share (Senate)



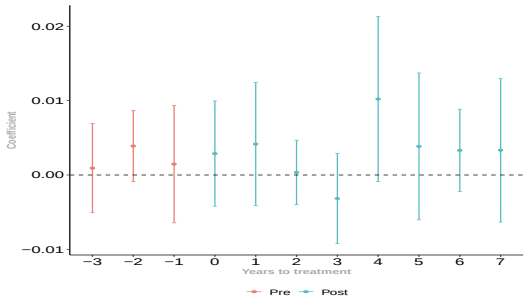
(c) Dem. vote share (House.)



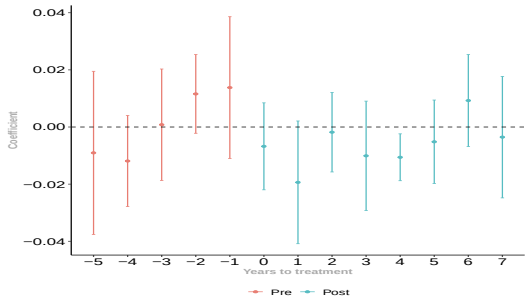
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on voting, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure A45.

Figure A23: Dynamic effects of scandals on county-level turnout, Callaway and Sant'Anna (2021)

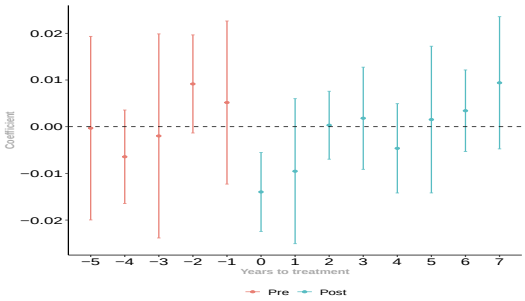
(a) Turnout (pres.)



(b) Turnout (Senate)



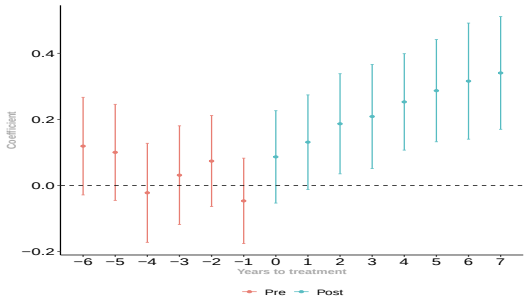
(c) Turnout (House.)



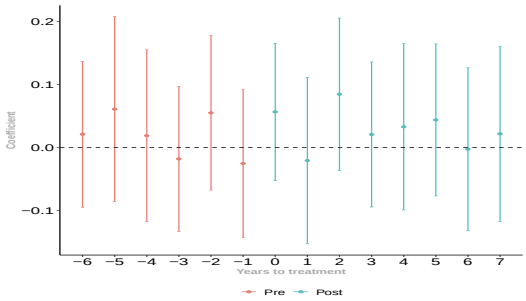
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on turnout, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure A46.

Figure A24: Dynamic effects of scandals on county-level political donations, Callaway and Sant'Anna (2021)

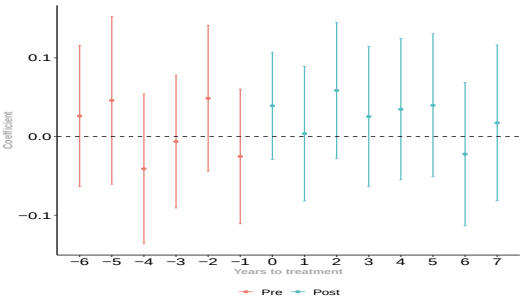
(a) Political donations Dem. (log)



(b) Political donations Rep. (log)



(c) Political donations total (log)



Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on political donations, estimated using the methodology outlined in Callaway and Sant'Anna (2021). All definitions are as in Figure A47.

A1.3.6 No covariates

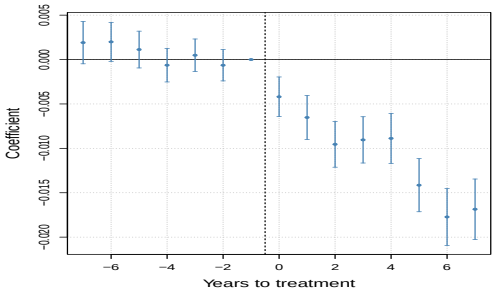
Table A11: Effect of scandals on Catholicism, no covariates

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	−0.011***	−0.011***	−0.009***	−0.015***
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	3,955,430	3,739,586	3,841,793	4,374,768

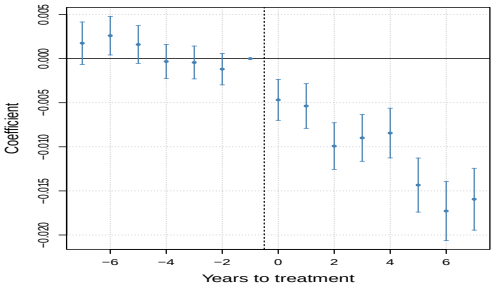
Notes: The table shows the estimated effects of clergy scandals on Catholicism without adding any additional control variables. All other definitions are as in Table 2.

Figure A25: Dynamic effects of scandals on Catholicism, no covariates

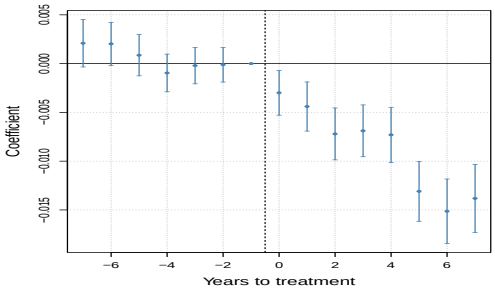
(a) Catholic



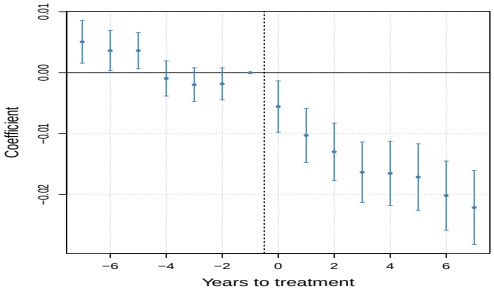
(b) Catholic father



(c) Catholic mother

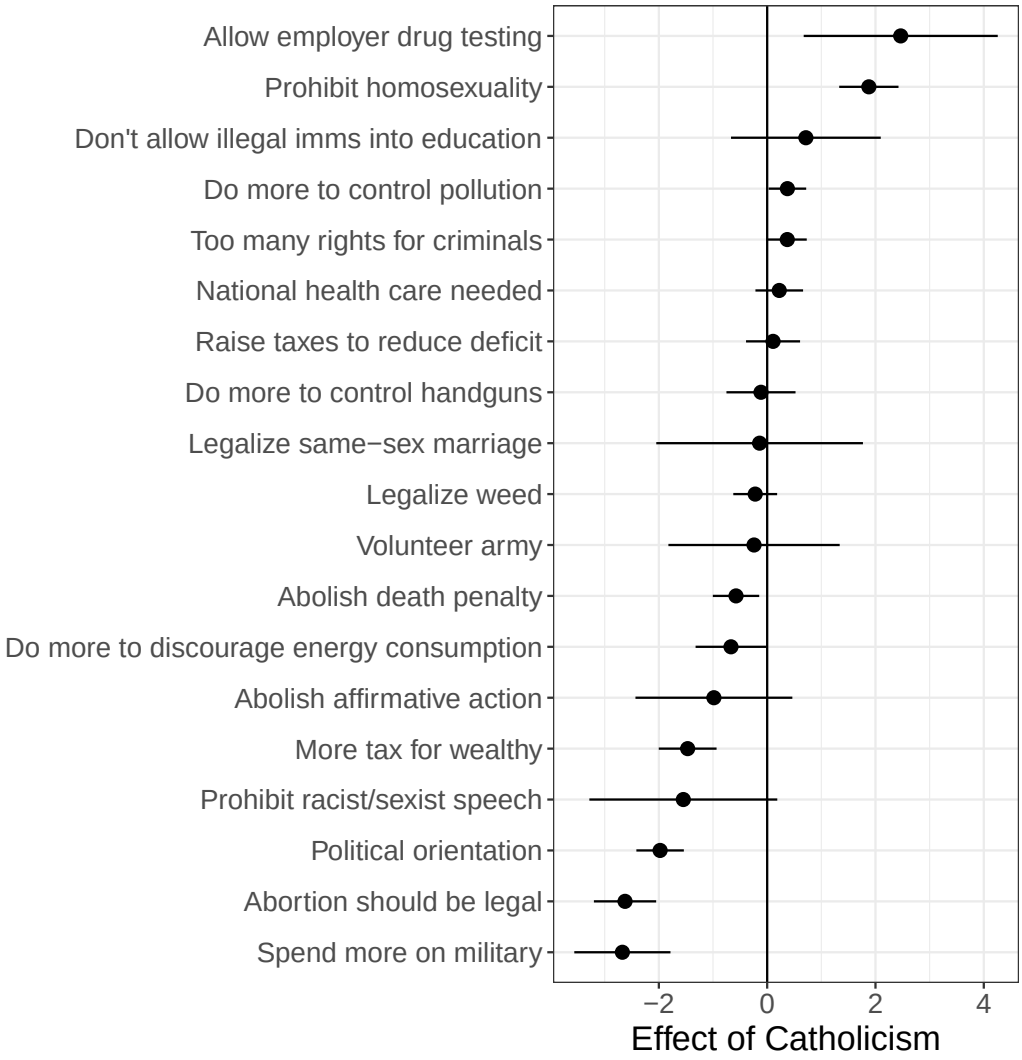


(d) Church attendance



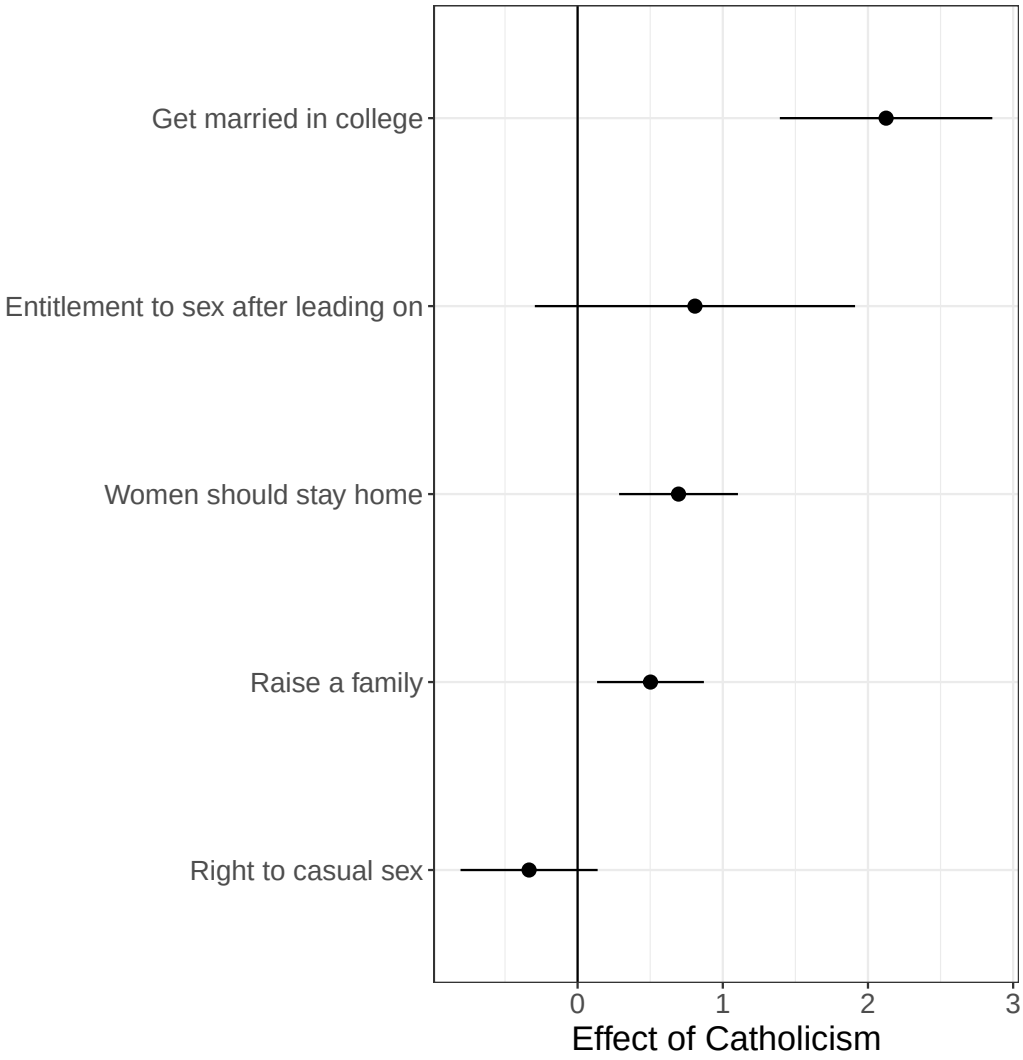
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism without controlling for additional covariates. All definitions are as in Figure 1.

Figure A26: Effect of Catholicism on policy preferences, no covariates



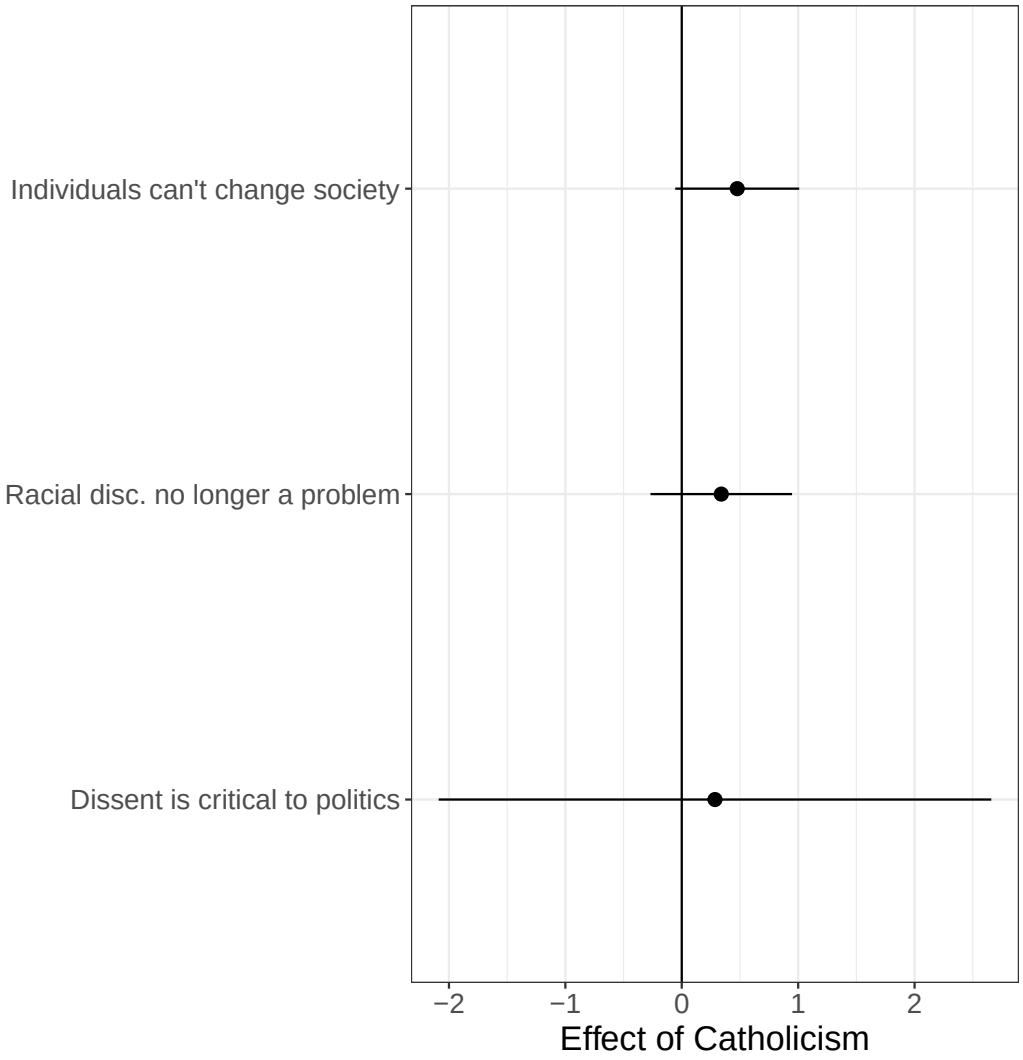
Notes: The figure shows the estimated effect of Catholicism on policy preferences without controlling for additional covariates. All definitions are as in Figure 2.

Figure A27: Effect of Catholicism on gender norms, no covariates



Notes: The figure shows the estimated effect of Catholicism on gender norms, no covariates. All definitions are as in Figure 3.

Figure A28: Effect of Catholicism on other societal norms and beliefs, no covariates



Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs without controlling for additional covariates. All definitions are as in Figure 4.

Table A12: Baseline results for effect of scandals on county-level outcomes, no covariates

	Catholic adherents	Catholic schools	Catholic students
Panel A: Catholicism			
Scandal	-0.015^{***}	-0.644^{***}	-176.733^{***}
	(0.003)	(0.103)	(46.591)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	11,807	19,422	19,422
Adjusted R-squared	0.008	0.044	0.02
	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel B: Voting			
Scandal	0.036^{***}	0.041^{***}	0.032^{***}
	(0.002)	(0.005)	(0.006)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	21,677	18,749	27,440
Adjusted R-squared	0.024	0.009	0.004
	Turnout rate (pres.)	Turnout rate (Senate)	Turnout rate (House)
Panel C: Turnout			
Scandal	0.004^{***}	0.002	0.001
	(0.001)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	13,955	18,749	27,678
Adjusted R-squared	0.001	0	0
	Donations (Dem.)	Donations (Rep.)	Donations (total)
Panel D: Political donations			
Scandal	0.300^{***}	0.065^{***}	0.062^{***}
	(0.028)	(0.024)	(0.018)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	62,464	68,112	75,421
Adjusted R-squared	0.006	0	0

Notes: The table shows baseline difference-in-differences estimates for the effect of clergy scandals on county-level outcomes without controlling for covariates. Panel A shows the effects on Catholicism, Panel B on election outcomes, Panel C on turnout, and Panel D on political donations. Other definitions are as in Table 3.

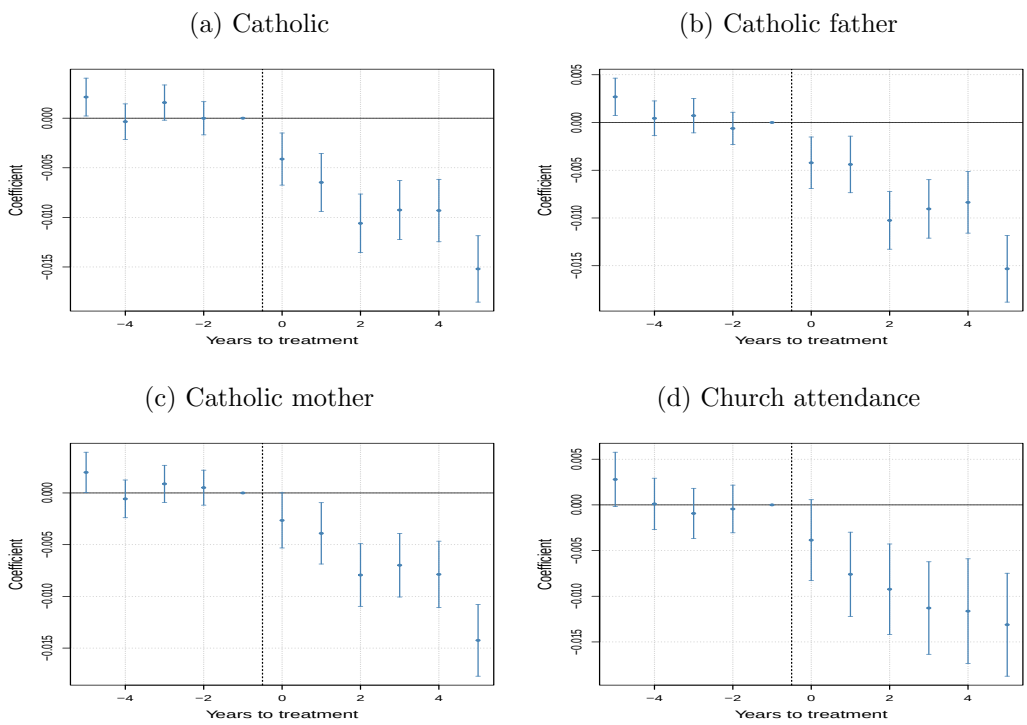
A1.3.7 Different window lengths

Table A13: Effect of scandals on Catholicism, 5 year treatment window

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	-0.009^{***}	-0.009^{***}	-0.007^{***}	-0.010^{***}
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	2,843,631	2,696,808	2,766,585	3,101,999
Adjusted R-squared	0	0	0	0

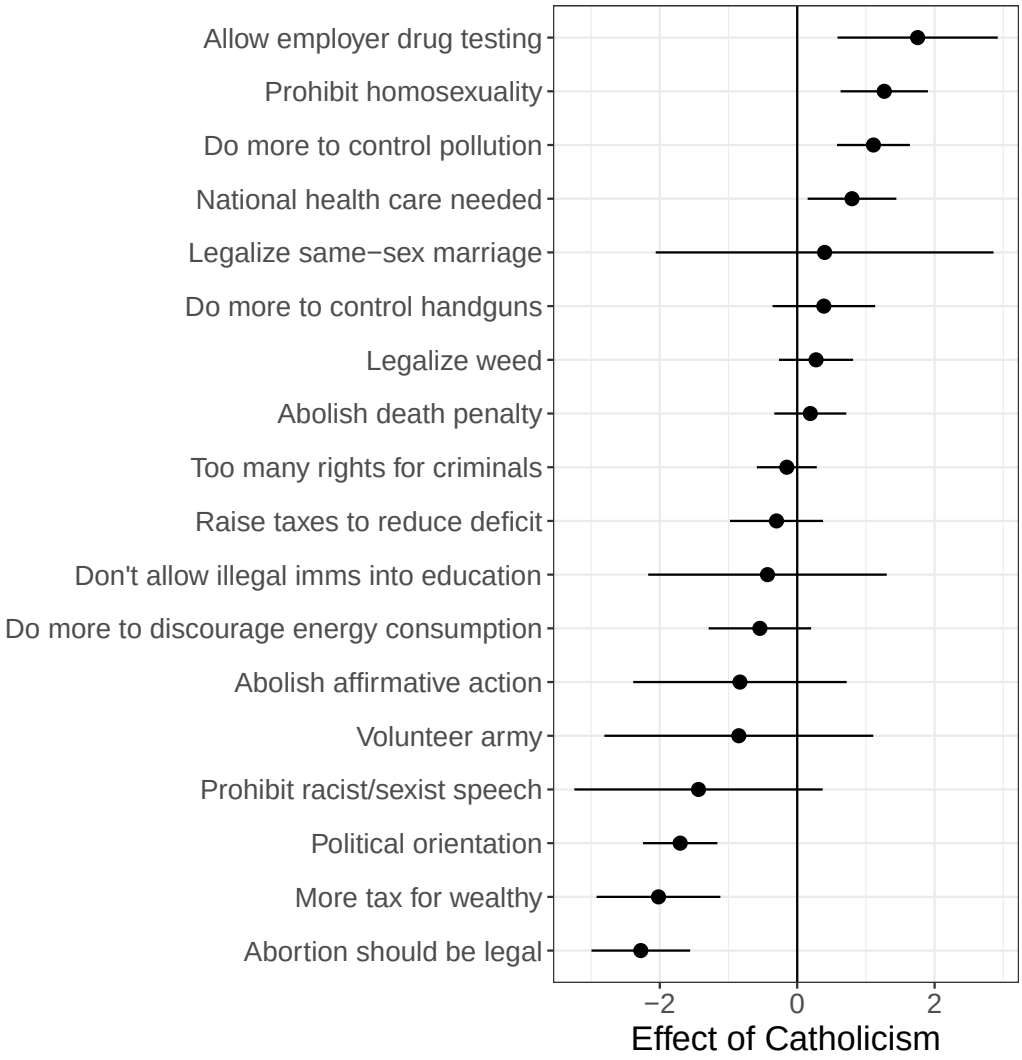
Notes: The table shows the estimated effects of clergy scandals on Catholicism, using a 5-year pre- and post-treatment window instead of 7 years. All other definitions are as in Table 2.

Figure A29: Dynamic effects of scandals on Catholicism, 5 year treatment window



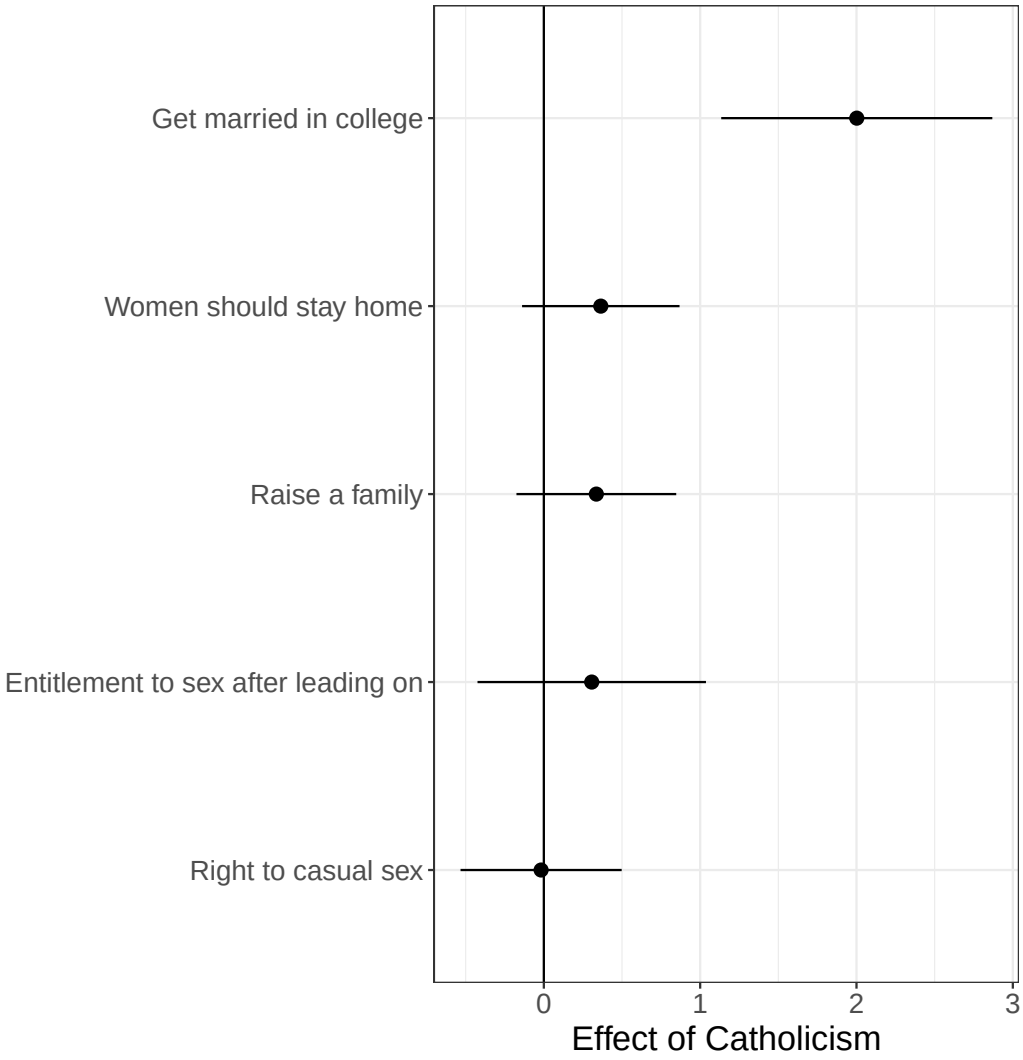
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism, using a 5-year pre- and post-treatment window instead of 7 years. All definitions are as in Figure 1.

Figure A30: Effect of Catholicism on policy preferences, 5 year treatment window



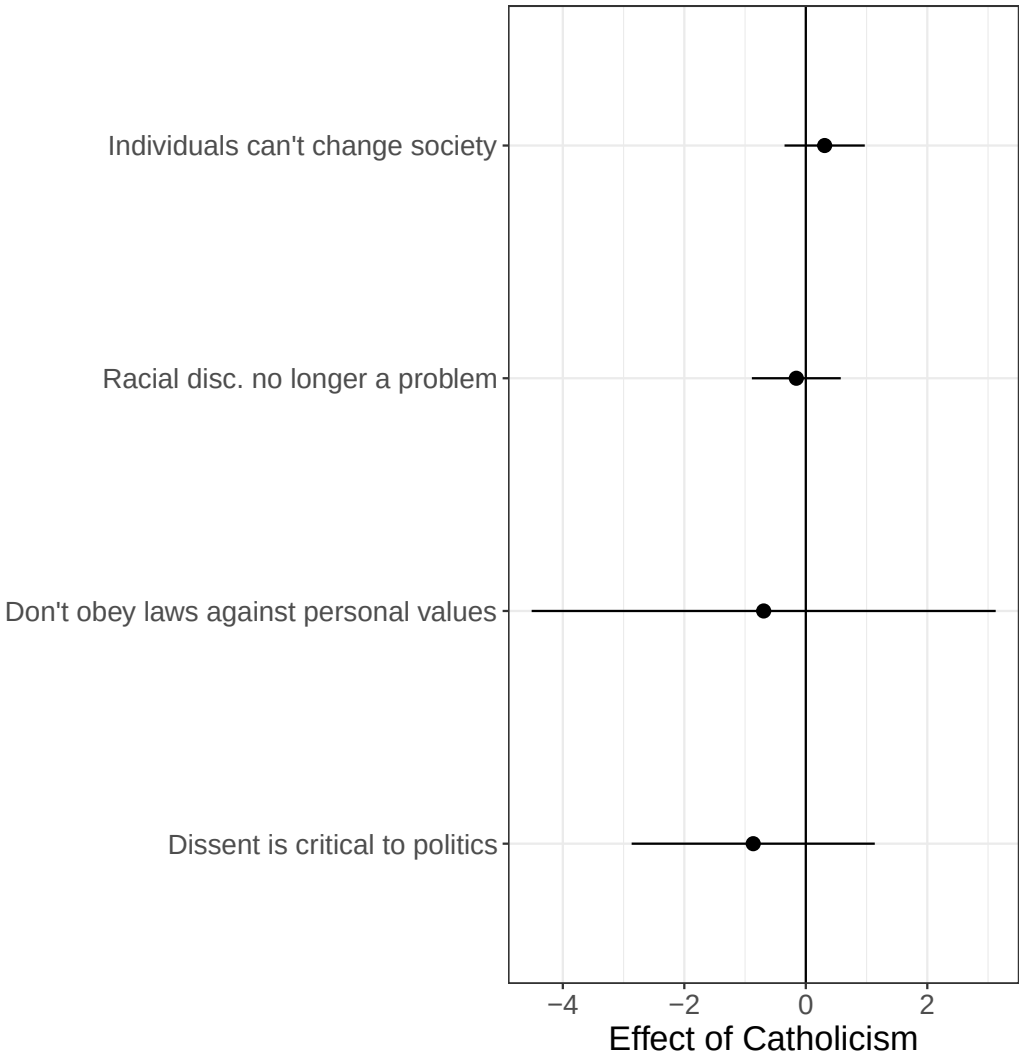
Notes: The figure shows the estimated effect of Catholicism on policy preferences, using a 5-year pre- and post-treatment window. All definitions are as in Figure 2.

Figure A31: Effect of Catholicism on gender norms, 5 year treatment window



Notes: The figure shows the estimated effect of Catholicism on gender norms, using a 5-year pre- and post-treatment window. All definitions are as in Figure 3.

Figure A32: Effect of Catholicism on other societal norms and beliefs, 5 year treatment window



Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, using a 5-year pre- and post-treatment window. All definitions are as in Figure 4.

Table A14: Baseline results for effect of scandals on county-level outcomes, 5 year treatment window

	Catholic adherents	Catholic schools	Catholic students
Panel A: Catholicism			
Scandal	-0.019^{*}	-0.003^{***}	-0.853^{***}
	(0.011)	(0.0005)	(0.117)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	7,729	18,463	18,463
Adjusted R-squared	0.001	0.004	0.007
	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel B: Voting			
Scandal	0.018^{***}	0.034^{***}	0.020^{***}
	(0.002)	(0.005)	(0.006)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	12,964	17,800	25,905
Adjusted R-squared	0.009	0.005	0.001
	Turnout rate (pres.)	Turnout rate (Senate)	Turnout rate (House)
Panel C: Turnout			
Scandal	-0.0001	-0.00003	-0.002
	(0.001)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	12,962	17,800	26,136
Adjusted R-squared	0	0	0
	Donations (Dem.)	Donations (Rep.)	Donations (total)
Panel D: Political donations			
Scandal	0.090^{***}	-0.054^{**}	-0.026
	(0.031)	(0.027)	(0.020)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	48,133	50,652	53,943
Adjusted R-squared	0.001	0	0

Notes: The table shows the effect of scandals on county-level outcomes, using a 5-year pre- and post-treatment window instead of 7 years. Panel A shows the effects on Catholicism, Panel B on election outcomes, Panel C on turnout, and Panel D on political donations. Other definitions are as in Table 3.

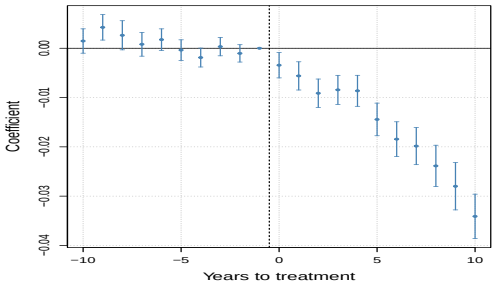
Table A15: Effect of scandals on Catholicism, 10 year treatment window

	Catholic	Catholic father	Catholic mother	Church attendance
Scandal	−0.015***	−0.014***	−0.013***	−0.010***
	(0.001)	(0.001)	(0.001)	(0.002)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	4,106,919	3,883,970	3,989,399	4,524,389
Adjusted R-squared	0	0	0	0

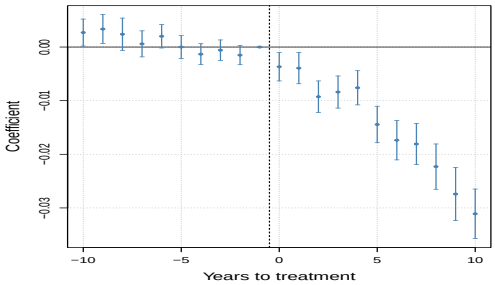
Notes: The table shows the estimated effects of clergy scandals on Catholicism, using a 10-year pre- and post-treatment window instead of 7 years. All other definitions are as in Table 2.

Figure A33: Dynamic effects of scandals on Catholicism, 10 year treatment window

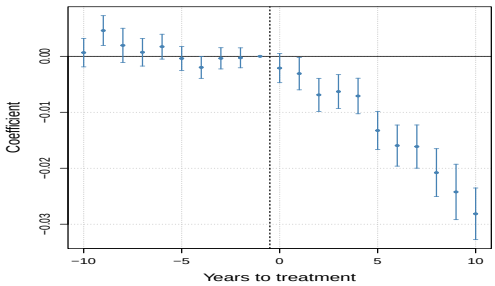
(a) Catholic



(b) Catholic father

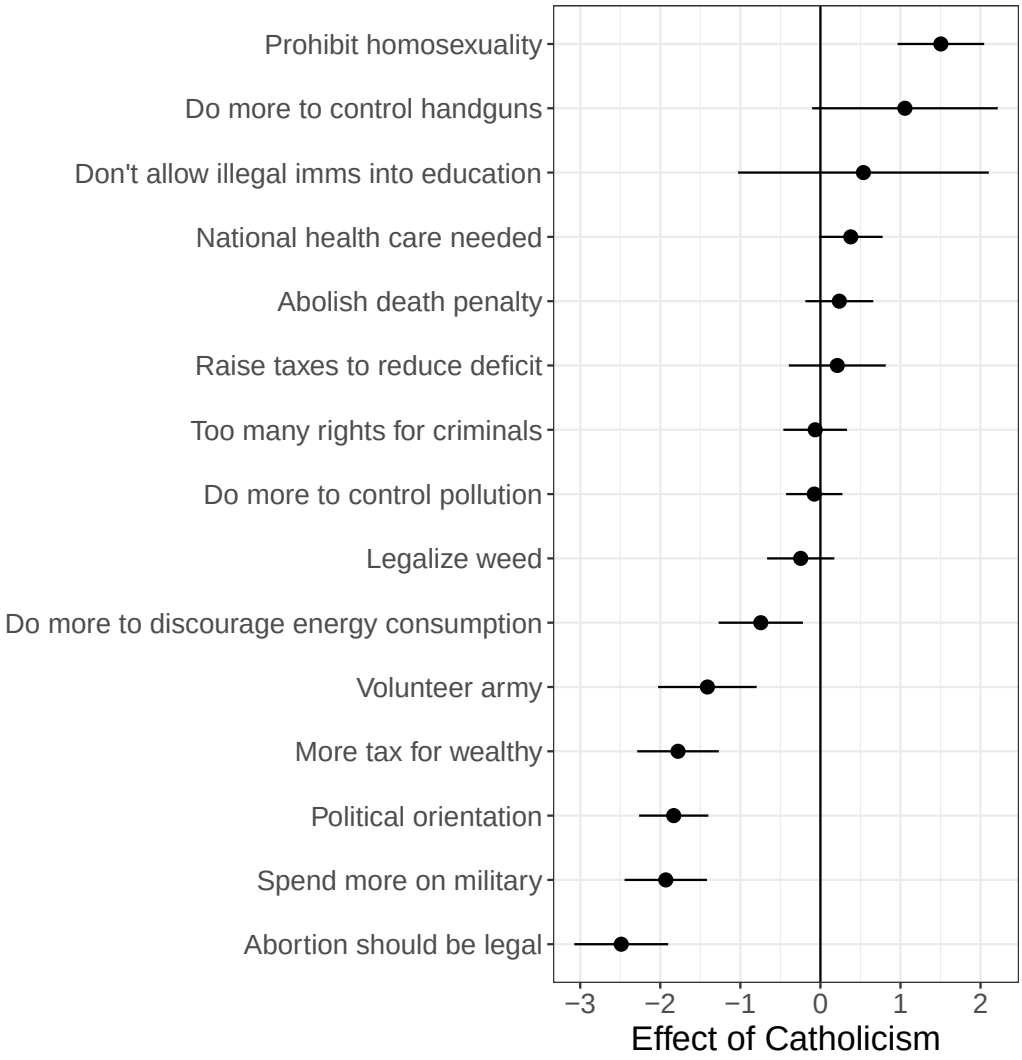


(c) Catholic mother



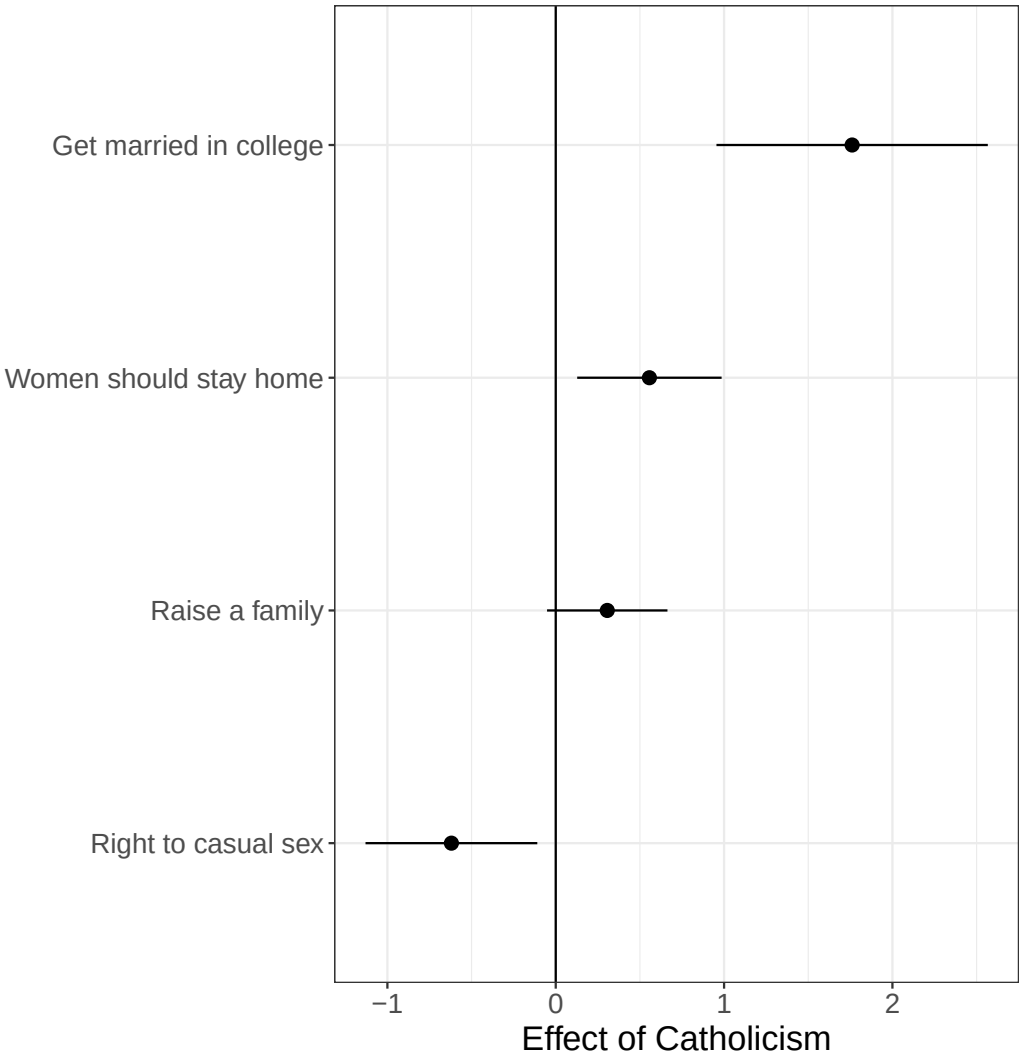
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism, using a 10-year pre- and post-treatment window instead of 7 years. All definitions are as in Figure 1.

Figure A34: Effect of Catholicism on policy preferences, 10 year treatment window



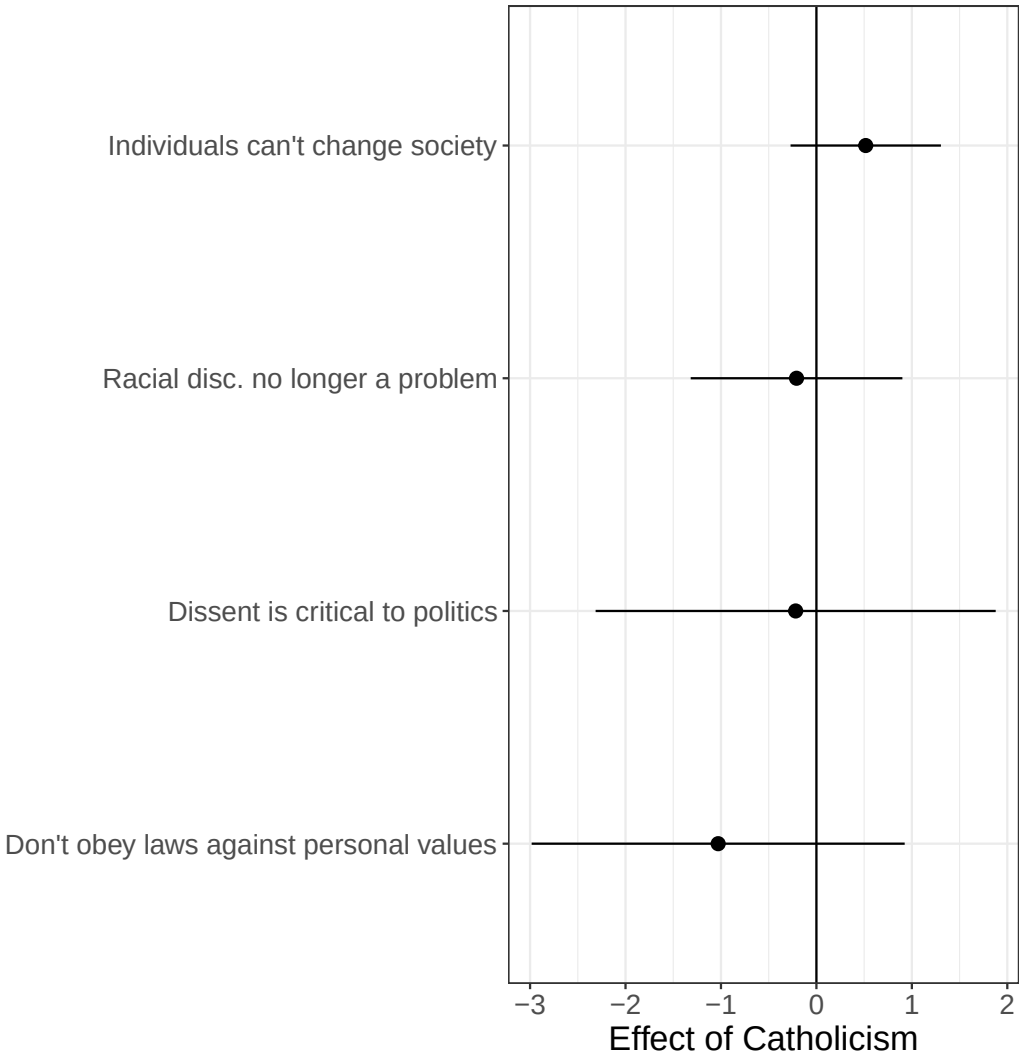
Notes: The figure shows the estimated effect of Catholicism on policy preferences, using a 10-year pre- and post-treatment window. All definitions are as in Figure 2.

Figure A35: Effect of Catholicism on gender norms, 10 year treatment window



Notes: The figure shows the estimated effect of Catholicism on gender norms, using a 10-year pre- and post-treatment window. All definitions are as in Figure 3.

Figure A36: Effect of Catholicism on other societal norms and beliefs, 10 year treatment window



Notes: The figure shows the estimated effect of Catholicism on other societal norms and beliefs, using a 10-year pre- and post-treatment window. All definitions are as in Figure 4.

Table A16: Baseline results for effect of scandals on county-level outcomes, 10 year treatment window

	Catholic adherents	Catholic schools	Catholic students
Panel A: Catholicism			
Scandal	-0.018^{***}	-0.004^{***}	-1.124^{***}
	(0.003)	(0.001)	(0.152)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	8,395	20,013	20,013
Adjusted R-squared	0.012	0.009	0.016
	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel B: Voting			
Scandal	0.038^{***}	0.044^{***}	0.041^{***}
	(0.003)	(0.004)	(0.006)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	14,022	19,055	27,826
Adjusted R-squared	0.054	0.013	0.008
	Turnout rate (pres.)	Turnout rate (Senate)	Turnout rate (House)
Panel C: Turnout			
Scandal	0.001	0.002	-0.001
	(0.001)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	14,020	19,055	28,072
Adjusted R-squared	0	0	0
	Donations (Dem.)	Donations (Rep.)	Donations (total)
Panel D: Political donations			
Scandal	0.140^{***}	-0.068^{**}	-0.041^{*}
	(0.034)	(0.029)	(0.022)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	51,778	54,389	57,737
Adjusted R-squared	0.002	0.001	0

Notes: The table shows the effect of scandals on county-level outcomes, using a 10-year pre- and post-treatment window instead of 7 years. Panel A shows the effects on Catholicism, Panel B on election outcomes, Panel C on turnout, and Panel D on political donations. Other definitions are as in Table 3.

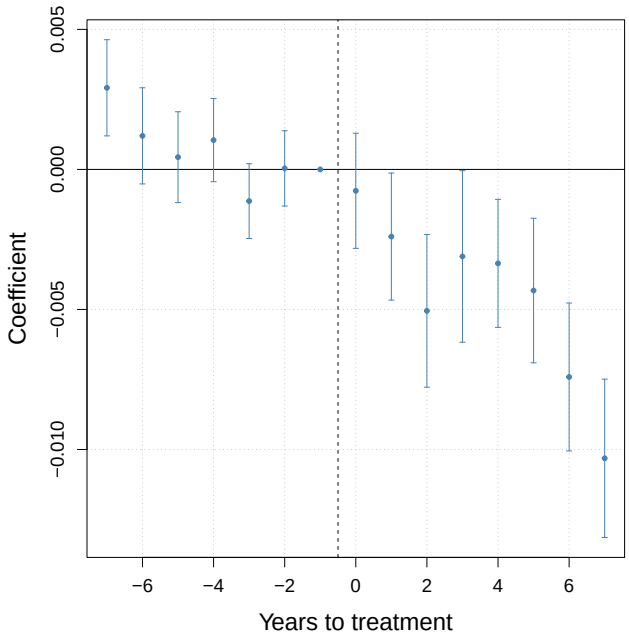
A1.3.8 Religiosity Instead of Catholicism

Table A17: Baseline results for effect of scandals on overall religiosity

	Religious
Scandal	-0.005^{***}
	(0.001)
Zip fixed effects	Yes
Year fixed effects	Yes
Controls	Yes
Observations	3,400,550
Adjusted R-squared	0

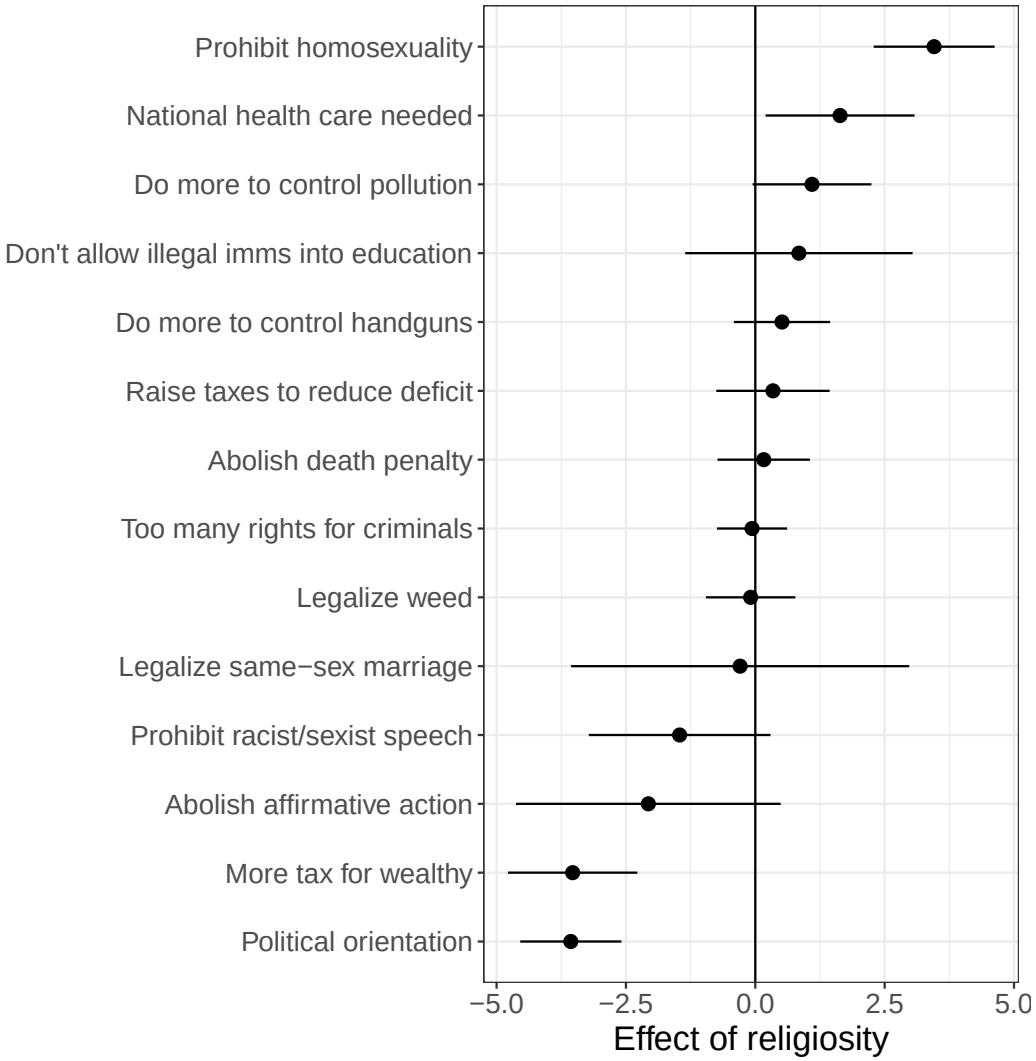
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on overall religiosity. All definitions are as in Table 2.

Figure A37: Dynamic effects of scandals on overall religiosity



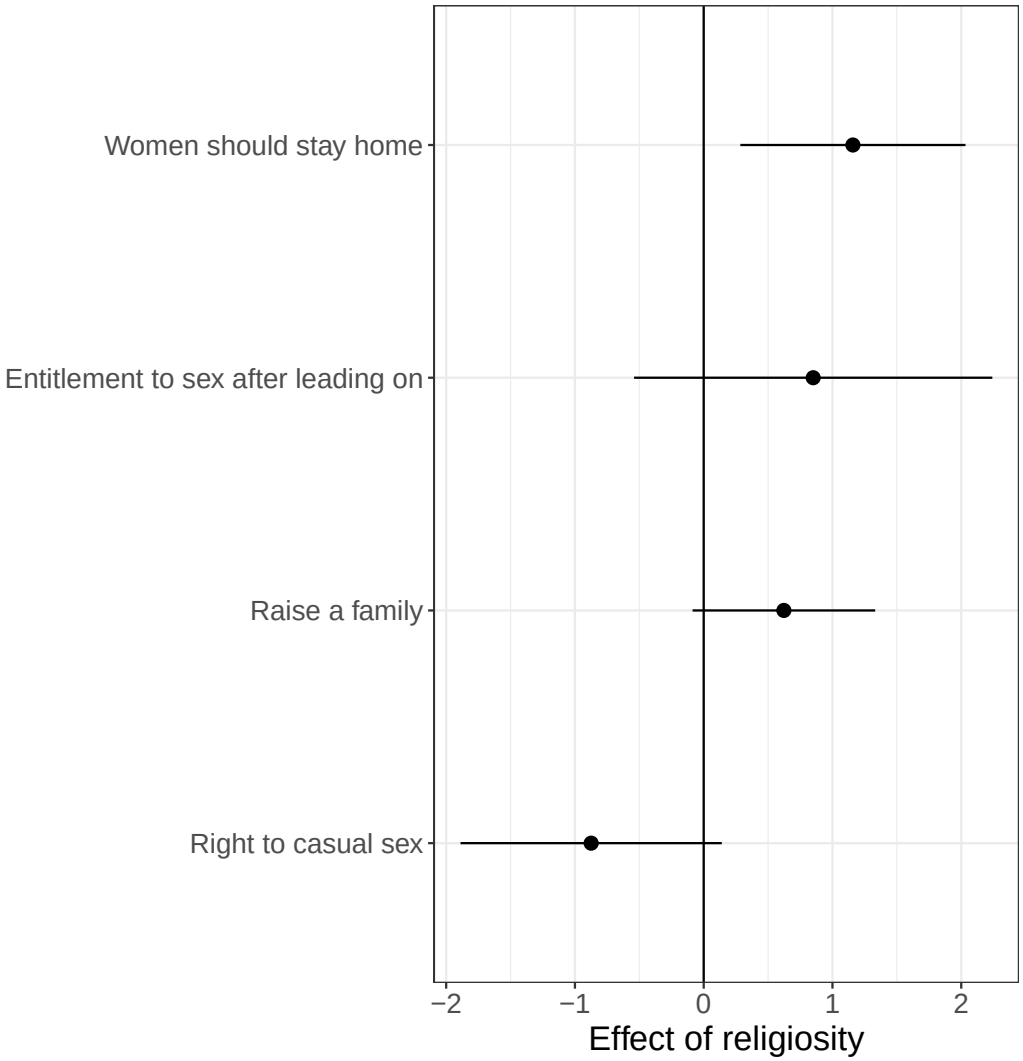
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on overall religiosity. All definitions are as in Figure 1.

Figure A38: Effect of religion on policy preferences



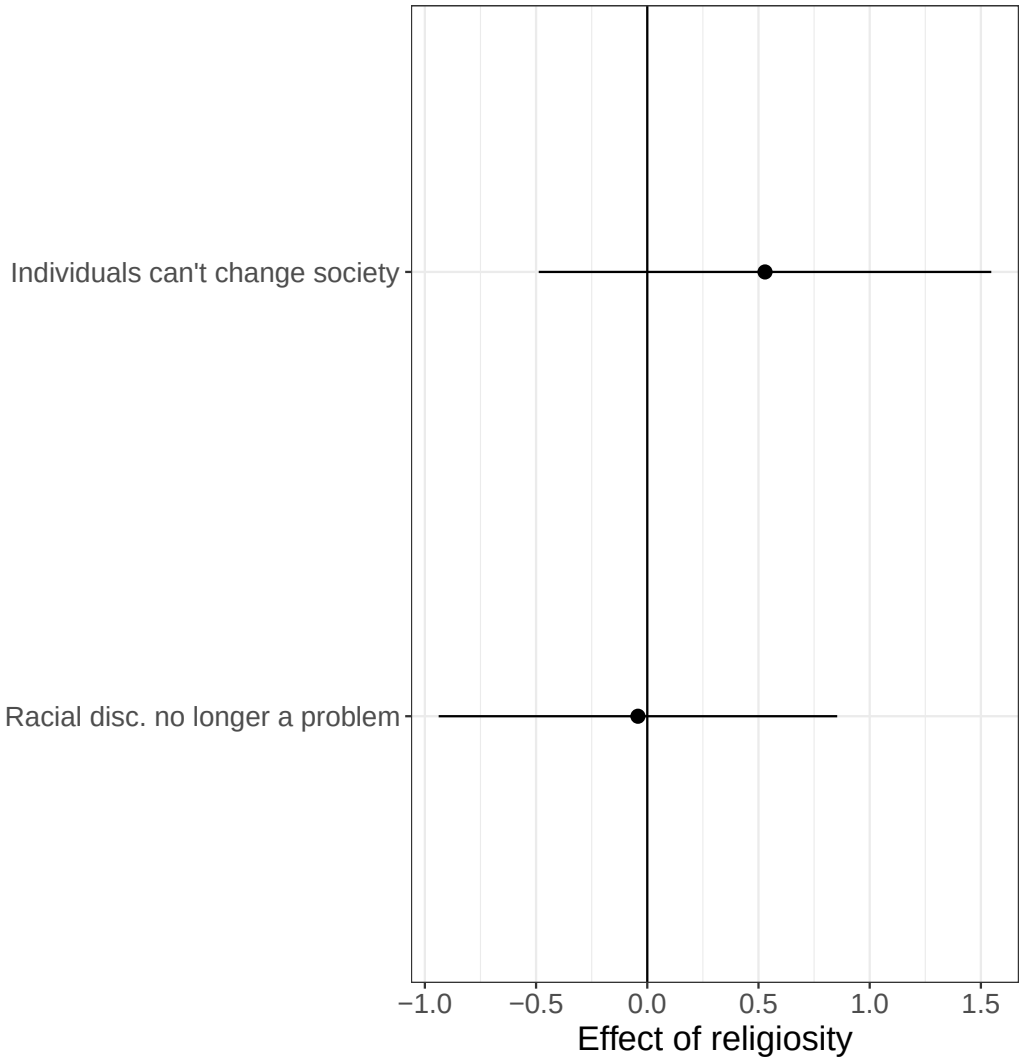
Notes: The figure shows the estimated effect of religiosity on policy preferences. The main explanatory variable is whether an individual identifies as religious. All definitions are as in Figure 2.

Figure A39: Effect of religion on gender norms



Notes: The figure shows the estimated effect of religiosity on gender norms. The main explanatory variable is whether an individual identifies as religious. All definitions are as in Figure 3.

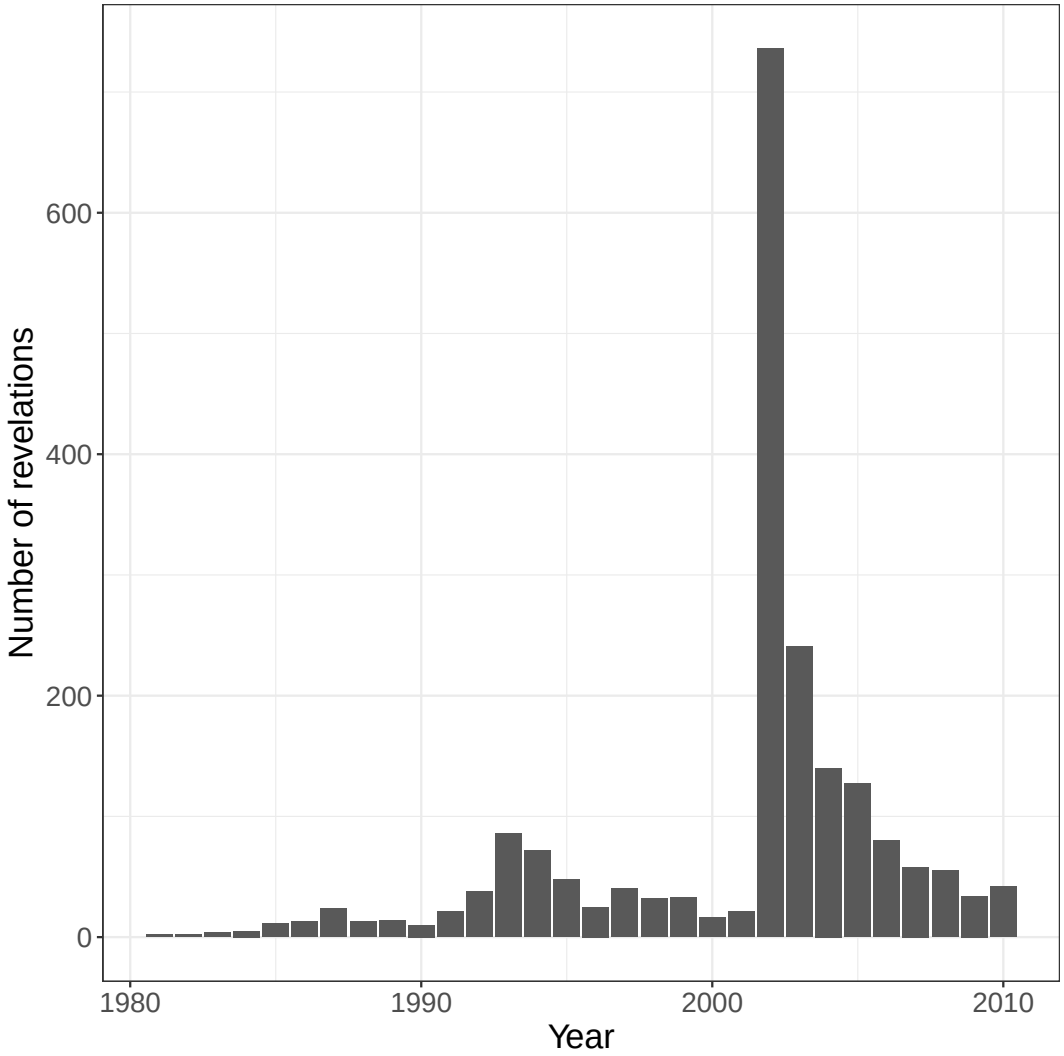
Figure A40: Effect of religion on other societal norms and beliefs



Notes: The figure shows the estimated effect of religiosity on other societal norms and beliefs. The main explanatory variable is whether an individual identifies as religious. All definitions are as in Figure 4.

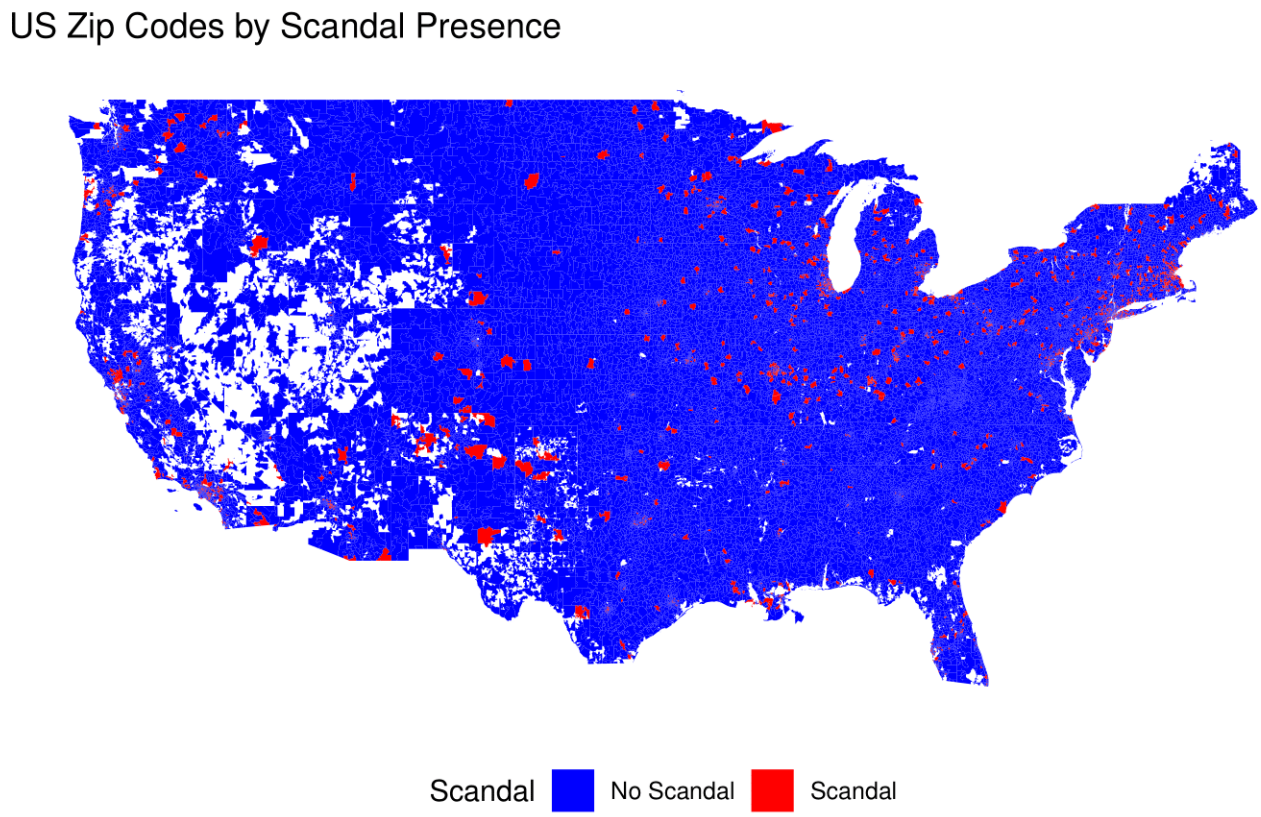
A1.4 Additional Tables and Figures

Figure A41: Frequency of scandal revelations per year



Notes: The figure shows the number of revealed clergy scandals per year.

Figure A42: Map of scandals



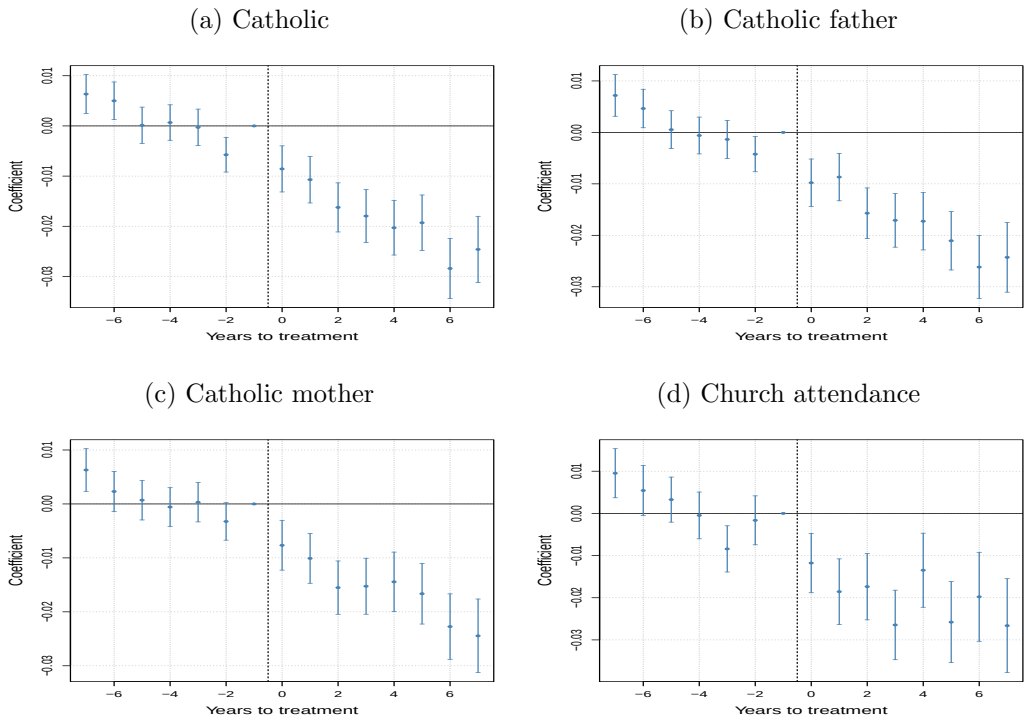
Notes: The figure shows the incidence of clergy scandals across the united states. Zip codes with a clergy scandal are coded in red, non-scandal zip codes are in blue.

Table A18: Effect of scandals on Catholicism, no spillover adjustment

	Catholic	Catholic father	Catholic mother	
Scandal	−0.017***	−0.017***	−0.015***	0.366***
	(0.002)	(0.002)	(0.002)	(0.001)
Zip fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	6,190,057	5,851,937	6,014,869	
Adjusted R-squared	0	0	0	

Notes: The table shows the estimated effects of clergy scandals on Catholicism, ignoring spatial spillovers. All other definitions are as in Table 2.

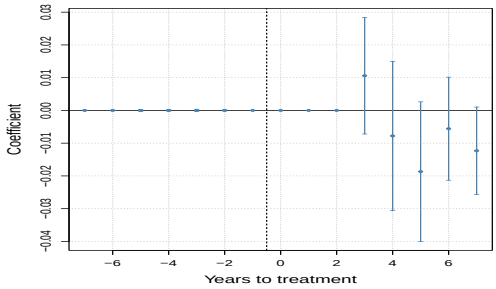
Figure A43: Dynamic effects of scandals on Catholicism, no spillover adjustment



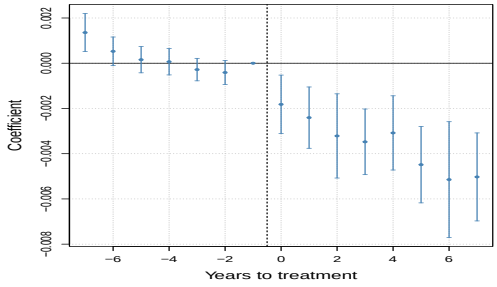
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on Catholicism without adjusting for spillovers. All definitions are as in Figure 1.

Figure A44: Dynamic effect of scandals on Catholicism, county-level data

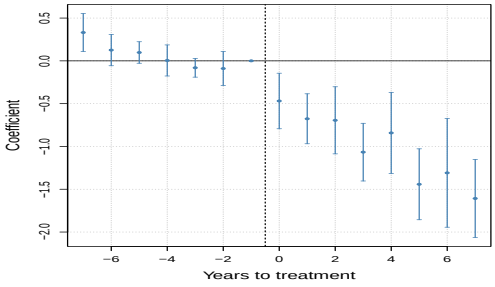
(a) Catholic adherents



(b) Catholic schools



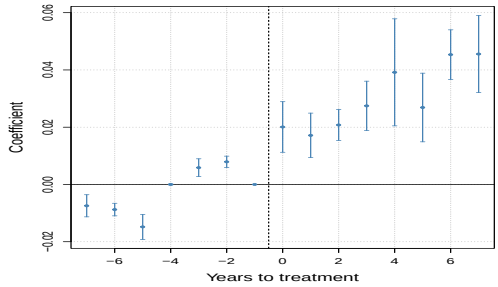
(c) Catholic students



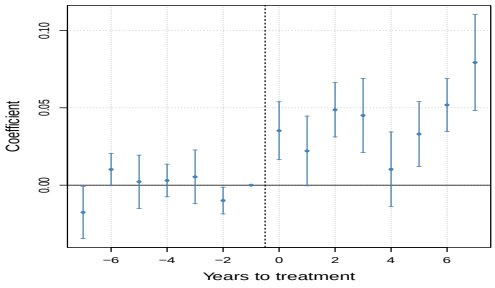
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on county-level religiosity. *Catholic adherents* gives the fraction of individuals in a particular county that identifies as Catholic. *Catholic schools* is the number of Catholic schools in a county. *Catholic students* is the number of students attending Catholic schools. Standard errors are clustered at the county level. All effects are estimated using the method outlined in Gardner (2022). Standard errors are clustered at the county level. Other definitions are as in Figure 1.

Figure A45: Dynamic effect of scandals on voting

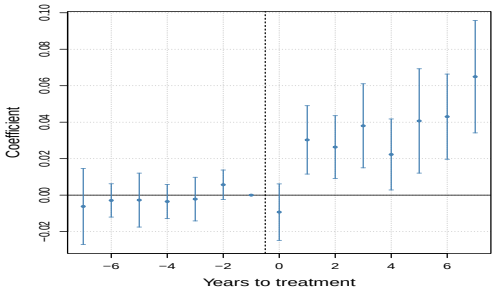
(a) Dem. vote share (pres.)



(b) Dem. vote share (Senate)



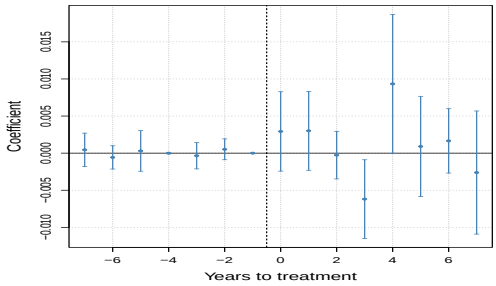
(c) Dem. vote share (House)



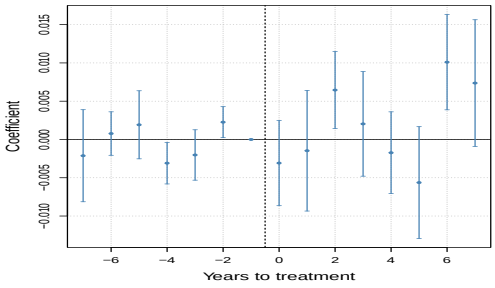
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on county-level voting outcomes. All definitions are as in Figure 1 and Table 5.

Figure A46: Dynamic effect of scandals on turnout

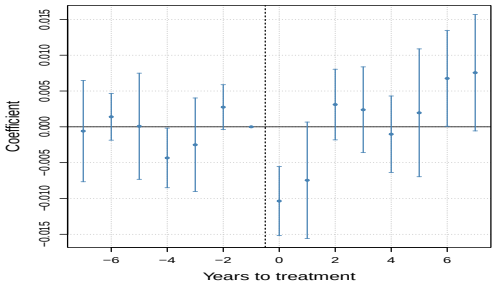
(a) Turnout (pres.)



(b) Turnout (Senate)



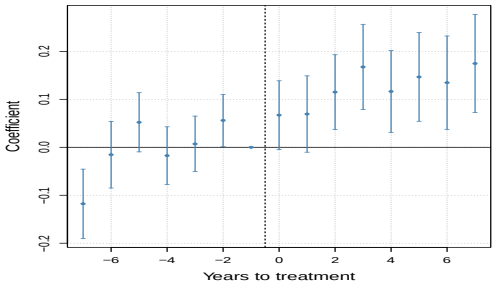
(c) Turnout (House)



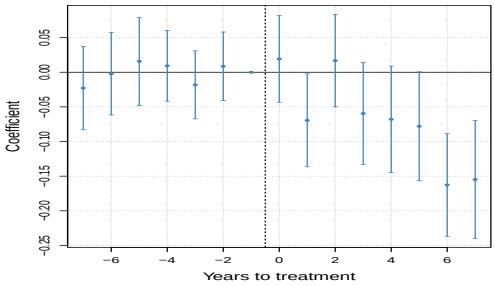
Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on county-level turnout rates. All definitions are as in Figure 1 and Table 5.

Figure A47: Dynamic effect of scandals on political donations

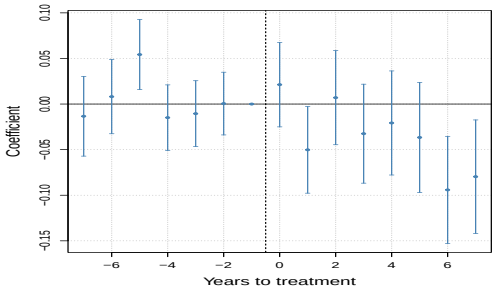
(a) Donations to Dem. (log)



(b) Donations to Rep. (log)



(c) Donations total (log)



Notes: The figure shows the dynamic treatment effects for the effect of clergy scandals on county-level political donations. All definitions are as in Figure 1 and Table 5.

A1.4.1 Heterogeneous treatment effects

Table A19: Effect of scandals on Catholicism, individual heterogeneity

	Catholic	Catholic father	Catholic mother	Church attendance
Panel A: Female				
Scandal	−0.011***	−0.010***	−0.009***	−0.011***
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	1,843,024	1,737,228	1,790,096	2,010,120
Adjusted R-squared	0	0	0	0
Panel B: Male				
Scandal	−0.014***	−0.012***	−0.010***	−0.009***
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	1,549,301	1,475,115	1,507,345	1,707,202
Adjusted R-squared	0	0	0	0
Panel C: White				
Scandal	−0.009***	−0.008***	−0.006***	−0.014***
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	2,775,692	2,625,285	2,696,776	3,012,652
Adjusted R-squared	0	0	0	0
Panel D: Black				
Scandal	−0.011***	−0.008***	−0.010***	0.010**
	(0.002)	(0.002)	(0.002)	(0.005)
Observations	232,057	224,648	228,247	261,373
Adjusted R-squared	0.001	0	0	0
Panel E: Mother no college				
Scandal	−0.014***	−0.014***	−0.012***	−0.018***
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	1,859,881	1,755,472	1,803,211	2,037,158
Adjusted R-squared	0	0	0	0
Panel F: Mother college				
Scandal	−0.003**	−0.002	0.001	−0.001
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	1,567,178	1,489,816	1,527,879	1,720,195
Adjusted R-squared	0	0	0	0
Panel G: Low income				
Scandal	−0.016***	−0.017***	−0.015***	−0.016***
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	1,916,479	1,811,669	1,863,465	2,084,439
Adjusted R-squared	0	0	0	0
Panel H: High income				
Scandal	−0.005***	−0.004**	−0.002	−0.010***
	(0.002)	(0.002)	(0.002)	(0.003)
Observations	1,507,313	1,430,394	1,464,519	1,668,762
Adjusted R-squared	0	0	0	0

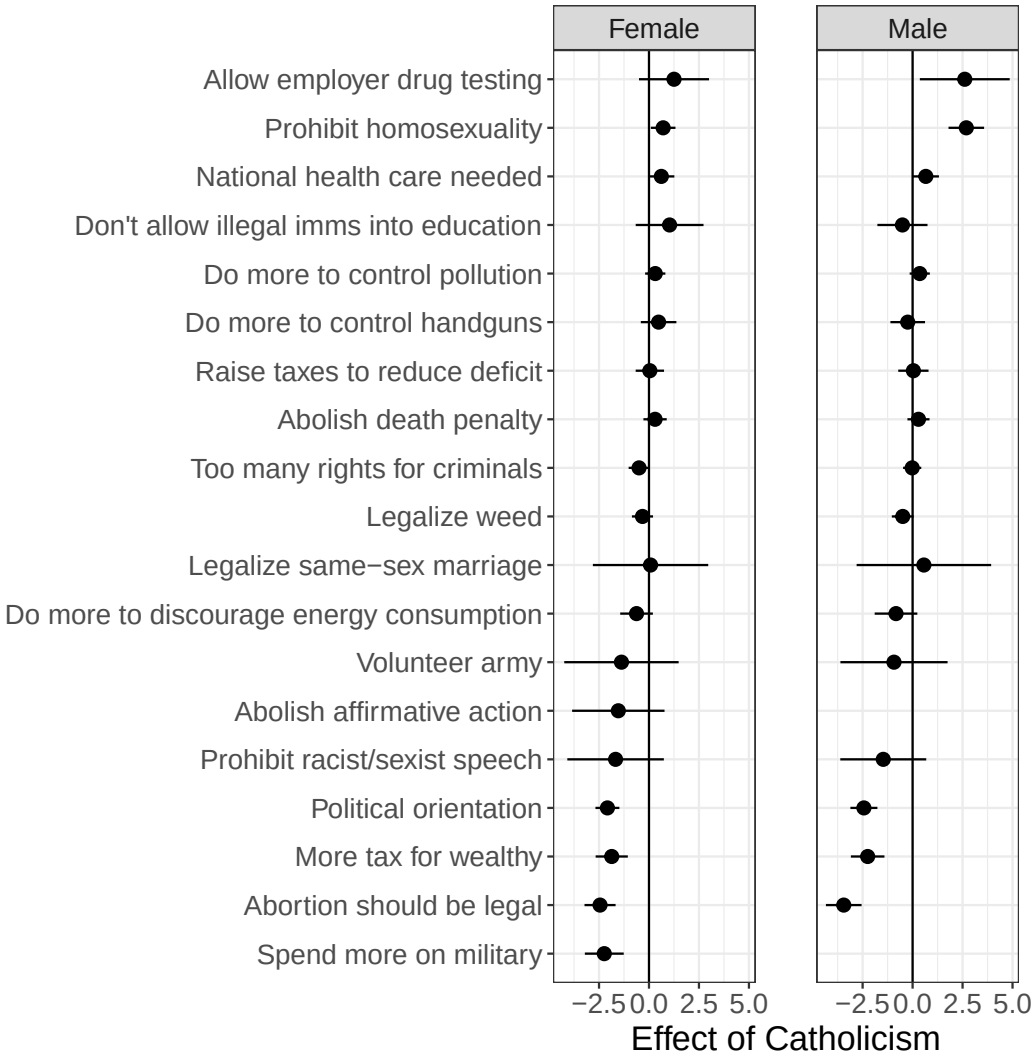
Notes: The table shows heterogeneous treatment effects of clergy scandals on Catholic identification and church attendance. The outcome variables are whether the respondent identifies as Catholic (column 1), whether their father identifies as Catholic (column 2), whether their mother identifies as Catholic (column 3), and whether they attended church last year (column 4). Each panel represents a different subgroup: Panel A shows effects for females, Panel B for males, Panel C for White respondents, Panel D for Black respondents, Panel E for respondents whose mothers did not attend college, Panel F for respondents whose mothers attended college, Panel G for respondents from below-median-income families, and Panel H for respondents from above-median-income families. All regressions include zip code fixed effects, year fixed effects, and individual-level controls. Other definitions are as in Table 2.

Table A20: Baseline results for effect of scandals on Catholicism, county-level heterogeneity

	Catholic adherents	Catholic schools	Catholic students
Panel A: Democrat counties			
Scandal	−0.010	−0.005***	−1.309***
	(0.008)	(0.001)	(0.223)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	2,936	7,364	7,364
Adjusted R-squared	0.002	0.017	0.029
Panel B: Republican counties			
Scandal	−0.008*	−0.003***	−0.899***
	(0.005)	(0.001)	(0.175)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	5,033	11,807	11,807
Adjusted R-squared	0.001	0.004	0.008
Panel C: Rich counties			
Scandal	−0.007	−0.004***	−1.022***
	(0.004)	(0.001)	(0.159)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	3,646	10,301	10,301
Adjusted R-squared	0.001	0.014	0.02
Panel D: Poor counties			
Scandal	−0.020*	−0.003**	−0.859***
	(0.011)	(0.001)	(0.249)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	4,356	8,972	8,972
Adjusted R-squared	0.004	0.002	0.004
Panel E: High density counties			
Scandal	−0.007*	−0.004***	−1.245***
	(0.004)	(0.001)	(0.146)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	3,649	11,775	11,775
Adjusted R-squared	0.004	0.027	0.046
Panel F: Low density counties			
Scandal	−0.013	−0.002	−0.280
	(0.011)	(0.001)	(0.212)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	4,353	7,498	7,498
Adjusted R-squared	0.001	0	0

Notes: This table shows heterogeneous treatment effects of clergy scandals on county-level measures of Catholicism. The outcome variables are the fraction of county residents identifying as Catholic (column 1), the number of Catholic schools per capita (column 2), and the number of students in Catholic schools per capita (column 3). Each panel represents a different subgroup of counties: Panel A shows effects for Democrat-leaning counties, Panel B for Republican-leaning counties (based on 1980 presidential election results), Panel C for counties with above-median income per capita in 1980, Panel D for counties with below-median income per capita in 1980, Panel E for counties with above-median population density in 1980, and Panel F for counties with below-median population density in 1980. Other definitions are as in Table 3.

Figure A48: Effect of Catholicism on policy preferences, heterogeneity by gender

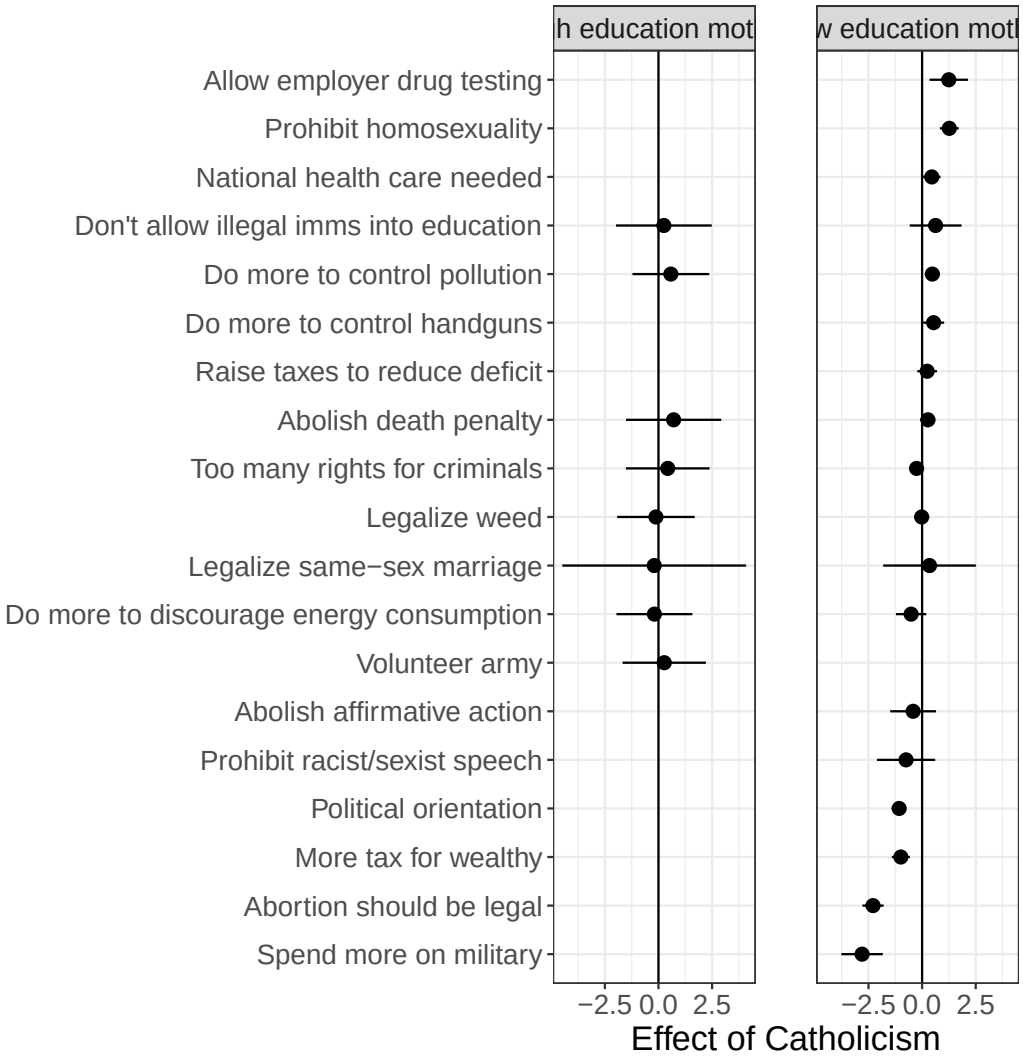


Notes: The figure shows the estimated effect of Catholicism on policy preferences, separated by gender. The left and right windows show the effects for females and males, respectively. All other definitions are as in Figure 2.

Figure A49: Effect of Catholicism on policy preferences, heterogeneity by race

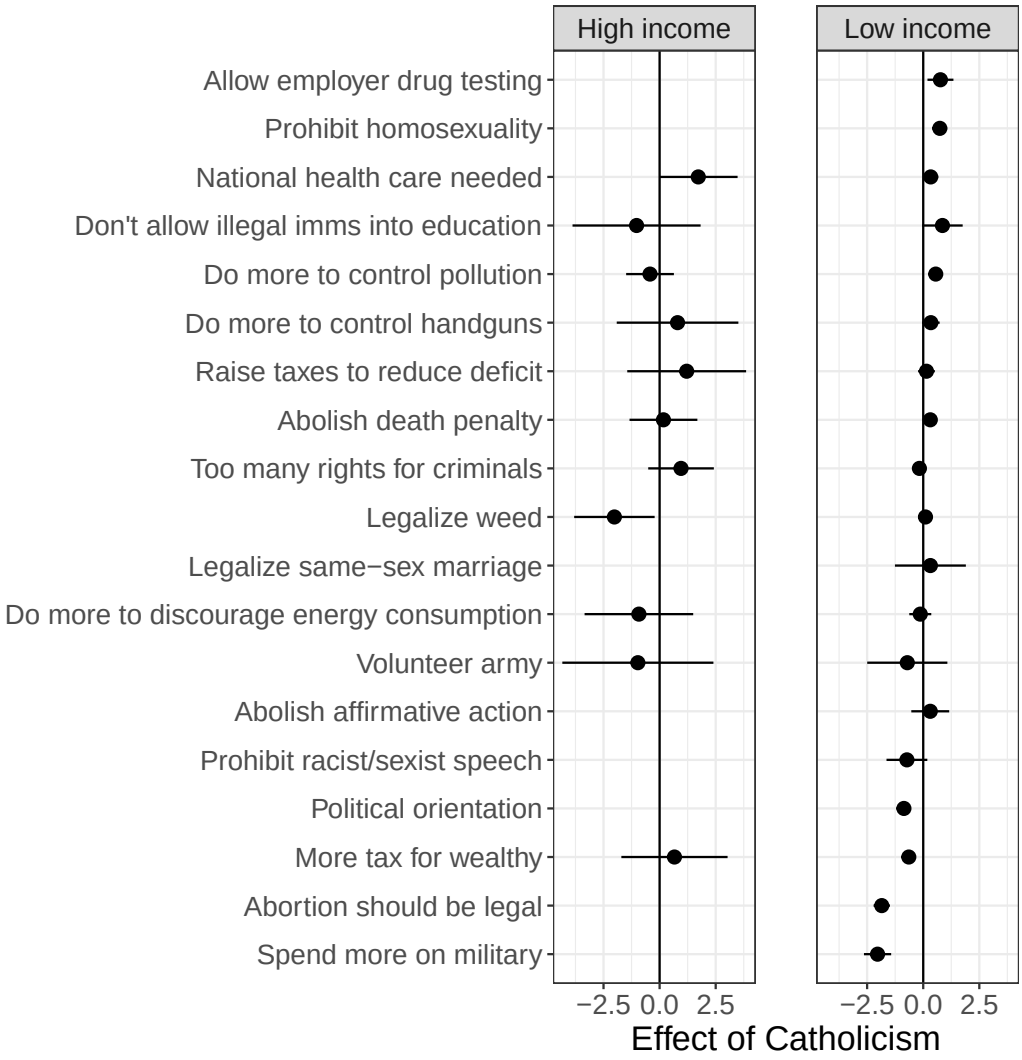
Notes: The figure shows the estimated effect of Catholicism on policy preferences, separated by race. The left and right windows show the effects for Blacks and Whites, respectively. All other definitions are as in Figure 2.

Figure A50: Effect of Catholicism on policy preferences, heterogeneity by mother's education



Notes: The figure shows the estimated effect of Catholicism on policy preferences, separated by the mother's education level. The left window shows the effects for individuals with college educated mothers, and the right window for individuals whose mothers do not have a college degree. All other definitions are as in Figure 2.

Figure A51: Effect of Catholicism on policy preferences, heterogeneity by parents' income



Notes: The figure shows the estimated effect of Catholicism on policy preferences, separated by the parental income. The left and right windows show the effects for individuals with above-median income parents, and the right window for those from below-median income families. All other definitions are as in Figure 2.

Table A21: Baseline results for effect of scandals on voting, county-level heterogeneity

	Dem. vote share (pres.)	Dem. vote share (Senate)	Dem. vote share (House)
Panel A: Democrat counties			
Scandal	0.055***	0.043***	0.048***
	(0.005)	(0.008)	(0.011)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	5,120	6,963	10,026
Adjusted R-squared	0.086	0.011	0.007
Panel B: Republican counties			
Scandal	0.016***	0.032***	0.016**
	(0.003)	(0.006)	(0.007)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	8,485	11,322	16,711
Adjusted R-squared	0.014	0.006	0.001
Panel C: Rich counties			
Scandal	0.026***	0.027***	0.027***
	(0.003)	(0.005)	(0.007)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	6,370	8,406	12,504
Adjusted R-squared	0.05	0.007	0.005
Panel D: Poor counties			
Scandal	0.020***	0.048***	0.027*
	(0.005)	(0.010)	(0.015)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	7,232	9,875	14,227
Adjusted R-squared	0.007	0.006	0.001
Panel E: High density counties			
Scandal	0.036***	0.044***	0.035***
	(0.003)	(0.005)	(0.007)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	6,584	8,813	12,852
Adjusted R-squared	0.081	0.017	0.007
Panel F: Low density counties			
Scandal	0.015**	0.026**	0.009
	(0.006)	(0.011)	(0.015)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	7,018	9,468	13,879
Adjusted R-squared	0.003	0.002	0

Notes: This table shows heterogeneous treatment effects of clergy scandals on county-level election results. The outcome variables are Democrat vote share in presidential elections (column 1), Senate elections (column 2), and House of Representatives elections (column 3). Each panel represents a different subgroup of counties: Panel A shows effects for Democrat-leaning counties, Panel B for Republican-leaning counties (based on 1980 presidential election results), Panel C for counties with above-median income per capita in 1980, Panel D for counties with below-median income per capita in 1980, Panel E for counties with above-median population density in 1980, and Panel F for counties with below-median population density in 1980. Other definitions are as in Table 5.

Table A22: Baseline results for effect of scandals on turnout, county-level heterogeneity

	Turnout (pres.)	Turnout (Senate)	Turnout (House)
Panel A: Democrat counties			
Scandal	−0.005**	−0.002	−0.003
	(0.002)	(0.003)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	5,120	6,963	10,155
Adjusted R-squared	0.003	0	0
Panel B: Republican counties			
Scandal	0.003**	0.004**	0.001
	(0.002)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	8,485	11,322	16,820
Adjusted R-squared	0.002	0.001	0
Panel C: Rich counties			
Scandal	0.002	0.003*	−0.001
	(0.002)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	6,370	8,406	12,565
Adjusted R-squared	0.001	0.001	0
Panel D: Poor counties			
Scandal	−0.002	0.002	0.005
	(0.003)	(0.003)	(0.003)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	7,230	9,875	14,404
Adjusted R-squared	0	0	0
Panel E: High density counties			
Scandal	−0.002*	0.0003	−0.003
	(0.001)	(0.002)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	6,582	8,813	12,970
Adjusted R-squared	0.002	0	0
Panel F: Low density counties			
Scandal	0.002	0.004	0.004
	(0.003)	(0.003)	(0.002)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	7,018	9,468	13,999
Adjusted R-squared	0	0	0

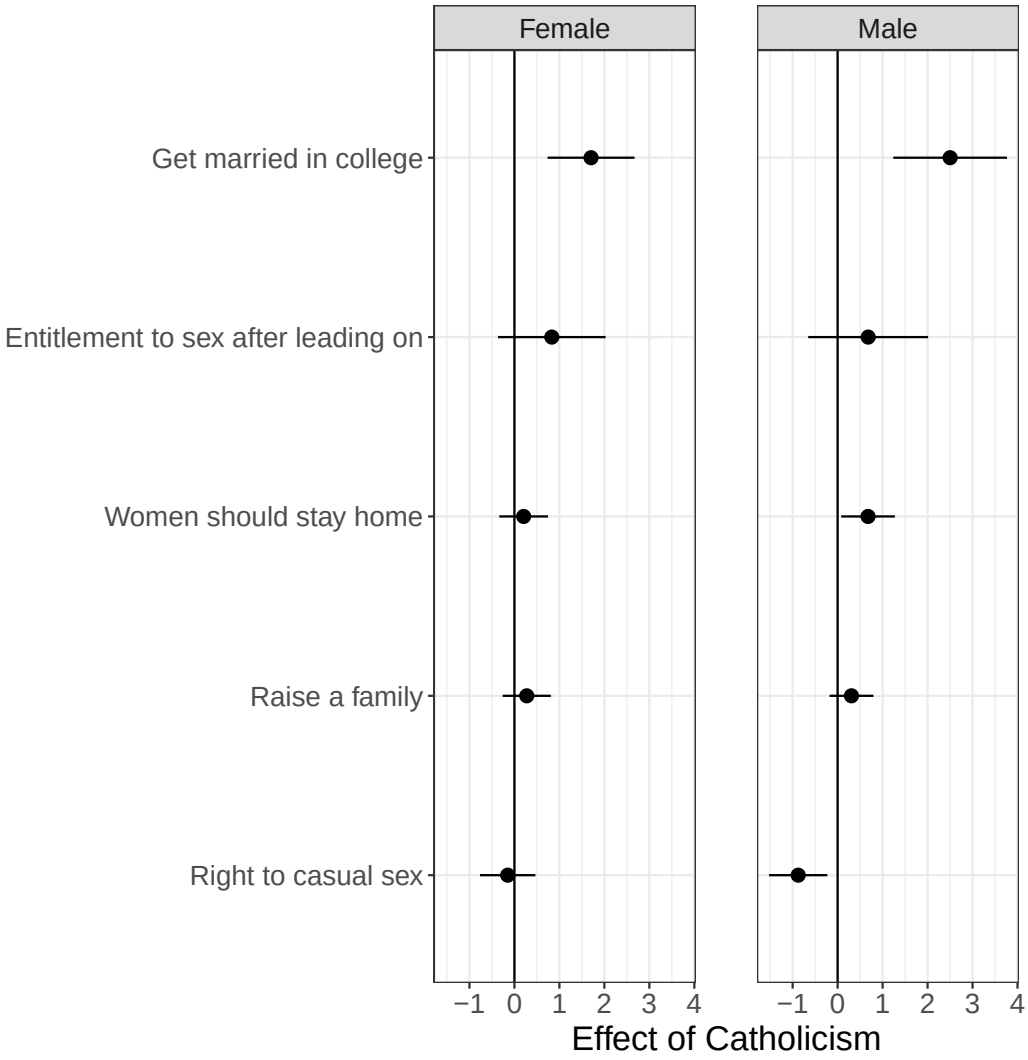
Notes: This table shows heterogeneous treatment effects of clergy scandals on county-level turnout rates. The outcome variables are turnout rates in presidential elections (column 1), Senate elections (column 2), and House of Representatives elections (column 3). Each panel represents a different subgroup of counties: Panel A shows effects for Democrat-leaning counties, Panel B for Republican-leaning counties (based on 1980 presidential election results), Panel C for counties with above-median income per capita in 1980, Panel D for counties with below-median income per capita in 1980, Panel E for counties with above-median population density in 1980, and Panel F for counties with below-median population density in 1980. Other definitions are as in Table 5.

Table A23: Baseline results for effect of scandals on political donations, county-level heterogeneity

	Political donations to Dem. (log)	Political donations to Rep. (log)	Political donations total (log)
Panel A: Democrat counties			
Scandal	0.145^{***}	-0.111^{**}	-0.040
	(0.051)	(0.050)	(0.036)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	19,482	19,628	21,007
Adjusted R-squared	0.002	0.001	0
Panel B: Republican counties			
Scandal	0.084^{*}	-0.056^{*}	-0.048^{*}
	(0.044)	(0.033)	(0.026)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	30,146	32,532	34,449
Adjusted R-squared	0.001	0	0
Panel C: Rich counties			
Scandal	0.034	-0.103^{***}	-0.074^{***}
	(0.035)	(0.029)	(0.022)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	24,209	25,630	26,526
Adjusted R-squared	0	0.002	0.002
Panel D: Poor counties			
Scandal	0.361^{***}	0.115^{*}	0.148^{***}
	(0.078)	(0.060)	(0.048)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	25,674	26,789	29,198
Adjusted R-squared	0.004	0.001	0.001
Panel E: High density counties			
Scandal	0.062^{*}	-0.094^{***}	-0.045^{**}
	(0.034)	(0.029)	(0.022)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	26,296	26,645	27,361
Adjusted R-squared	0.001	0.002	0.001
Panel F: Low density counties			
Scandal	0.282^{***}	-0.039	0.040
	(0.082)	(0.060)	(0.056)
County fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	23,587	25,774	28,363
Adjusted R-squared	0.002	0	0

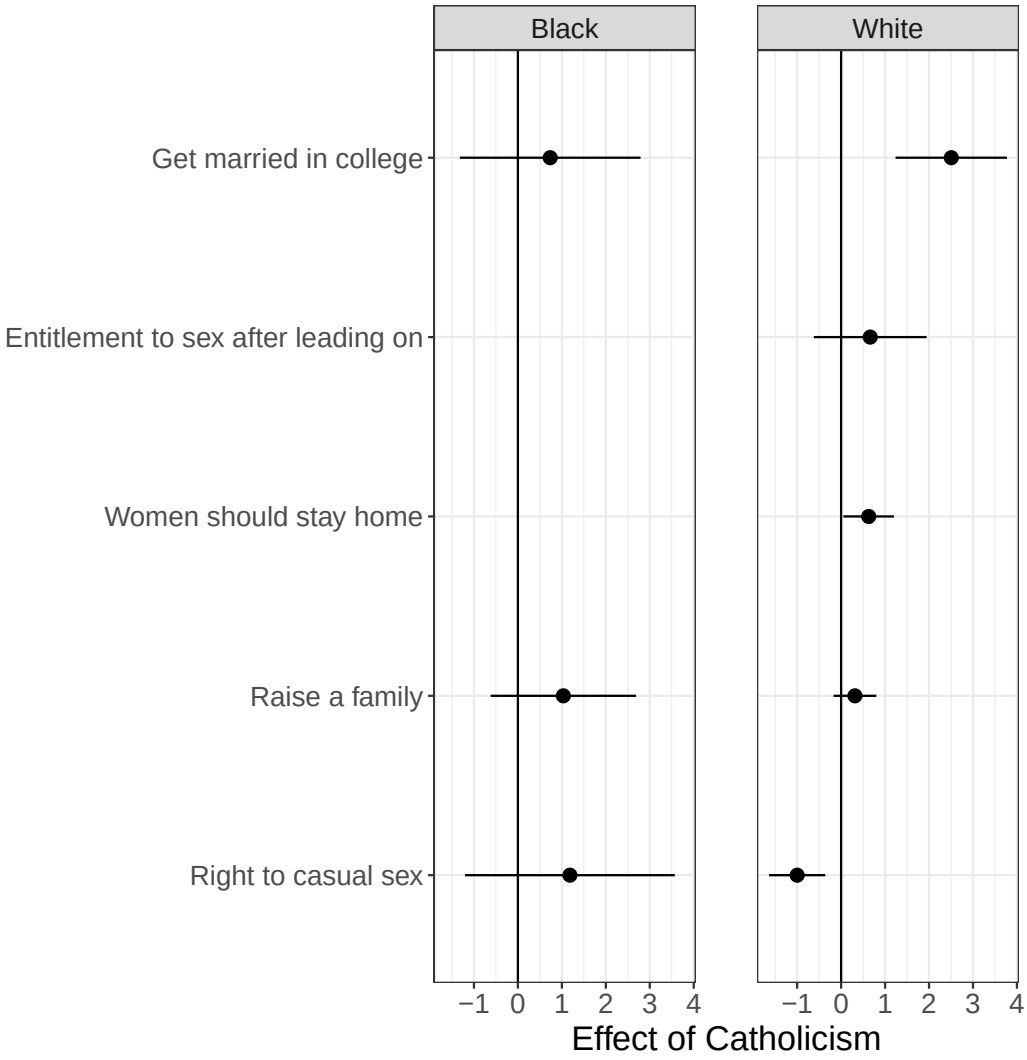
Notes: This table shows heterogeneous treatment effects of clergy scandals on county-level political donations. The outcome variables are the natural logarithm of political donations to Democrat candidates (column 1), Republican candidates (column 2), and all candidates combined (column 3). Each panel represents a different subgroup of counties: Panel A shows effects for Democrat-leaning counties, Panel B for Republican-leaning counties (based on 1980 presidential election results), Panel C for counties with above-median income per capita in 1980, Panel D for counties with below-median income per capita in 1980, Panel E for counties with above-median population density in 1980, and Panel F for counties with below-median population density in 1980. Other definitions are as in Table 5.

Figure A52: Effect of Catholicism on gender norms, heterogeneity by gender



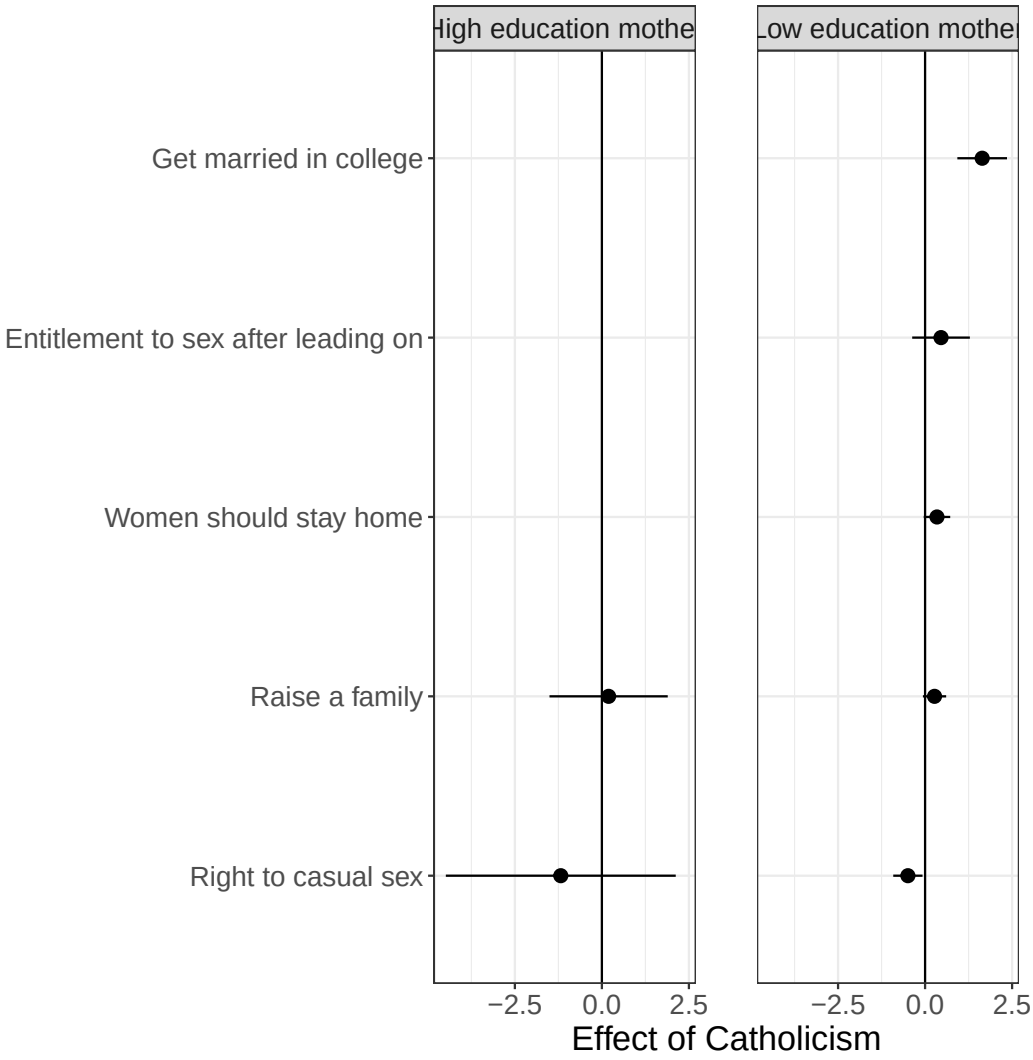
Notes: The figure shows the estimated effect of Catholicism on gender norms, separated by gender. The left and right windows show the effects for females and males, respectively. All other definitions are as in Figure 2.

Figure A53: Effect of Catholicism on gender norms, heterogeneity by race



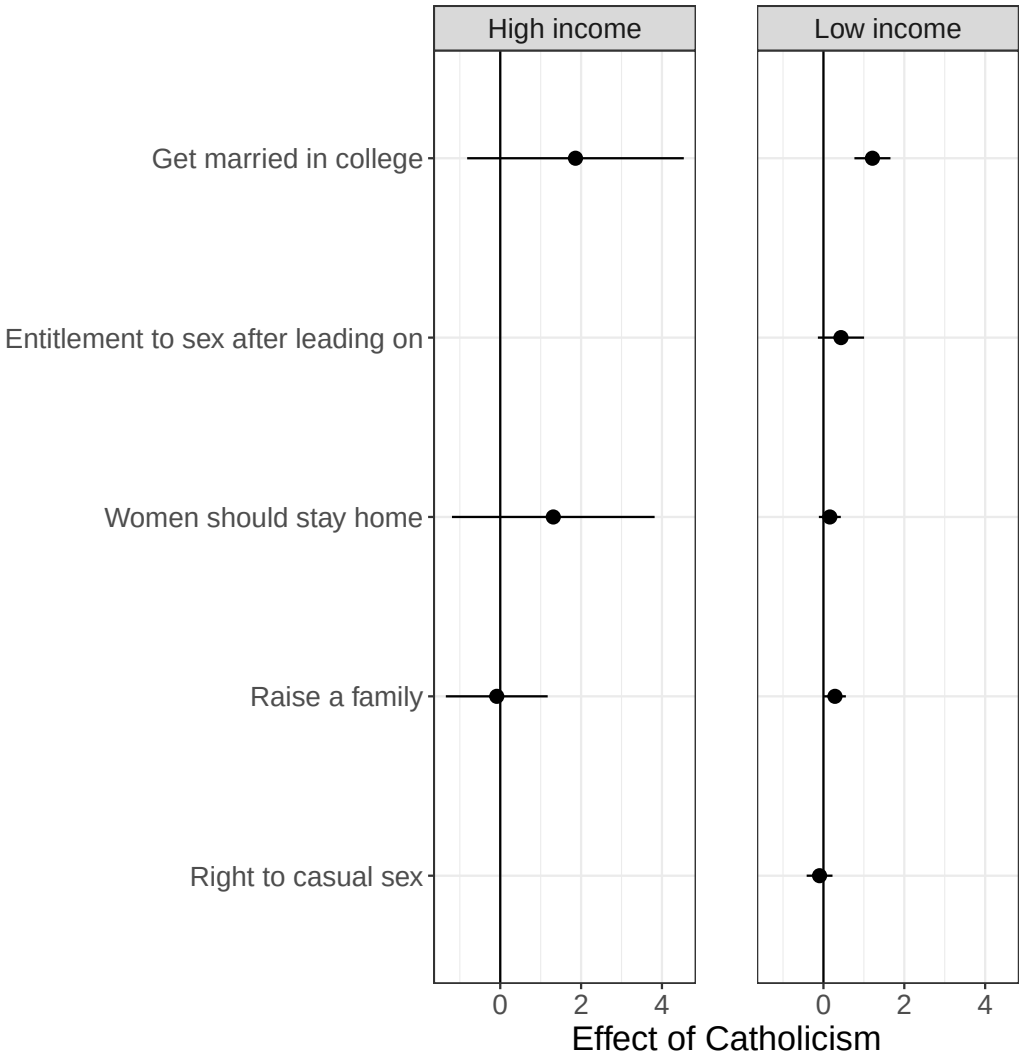
Notes: The figure shows the estimated effect of Catholicism on gender norms, separated by race. The left and right windows show the effects for Blacks and Whites, respectively. All other definitions are as in Figure 2.

Figure A54: Effect of Catholicism on gender norms, heterogeneity by mother's education



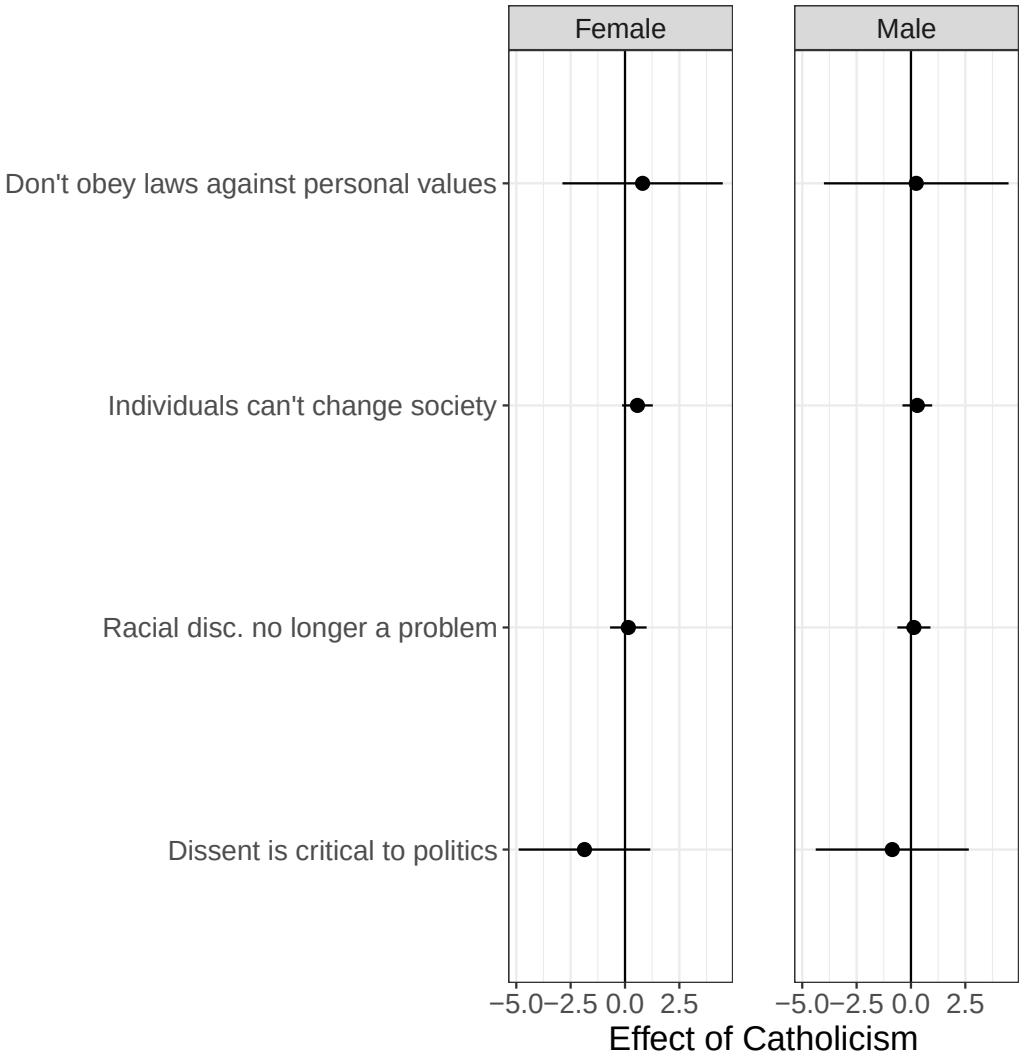
Notes: The figure shows the estimated effect of Catholicism on gender norms, separated by the mother's education level. The left window shows the effects for individuals with college educated mothers, and the right window for individuals whose mothers do not have a college degree. All other definitions are as in Figure 2.

Figure A55: Effect of Catholicism on gender norms, heterogeneity by parents' income



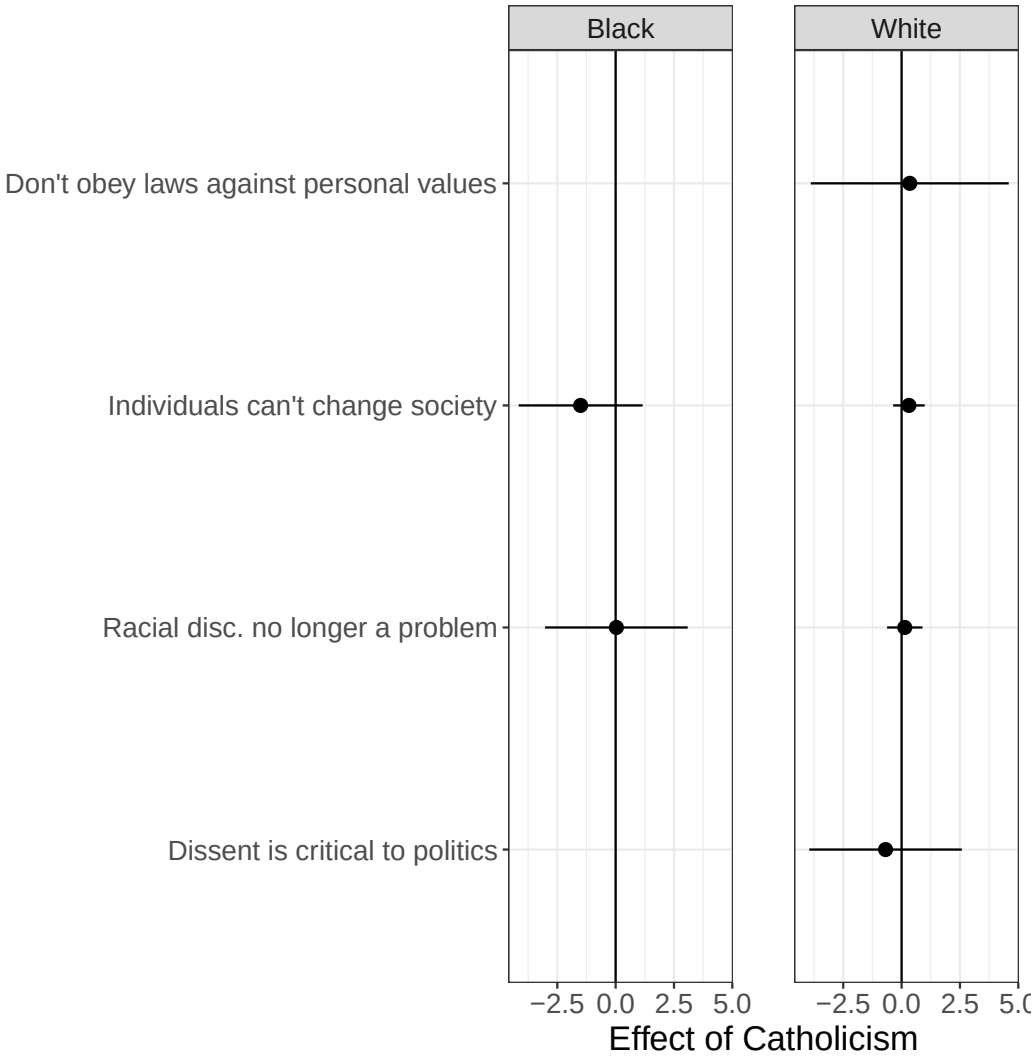
Notes: The figure shows the estimated effect of Catholicism on gender norms, separated by the parental income. The left and right windows show the effects for individuals with above-median income parents, and the right window for those from below-median income families. All other definitions are as in Figure 2.

Figure A56: Effect of Catholicism on social norms, heterogeneity by gender



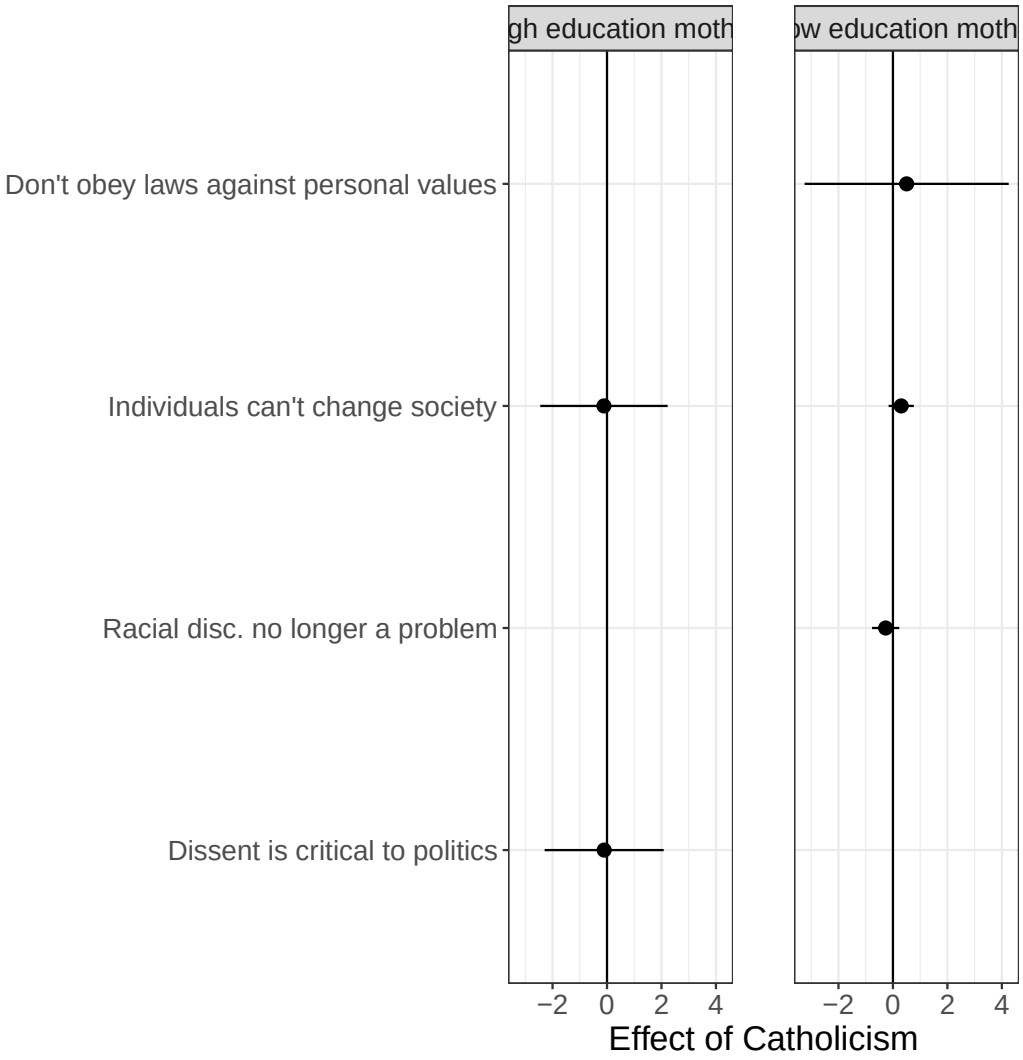
Notes: The figure shows the estimated effect of Catholicism on social norms, separated by gender. The left and right windows show the effects for females and males, respectively. All other definitions are as in Figure 2.

Figure A57: Effect of Catholicism on social norms, heterogeneity by race



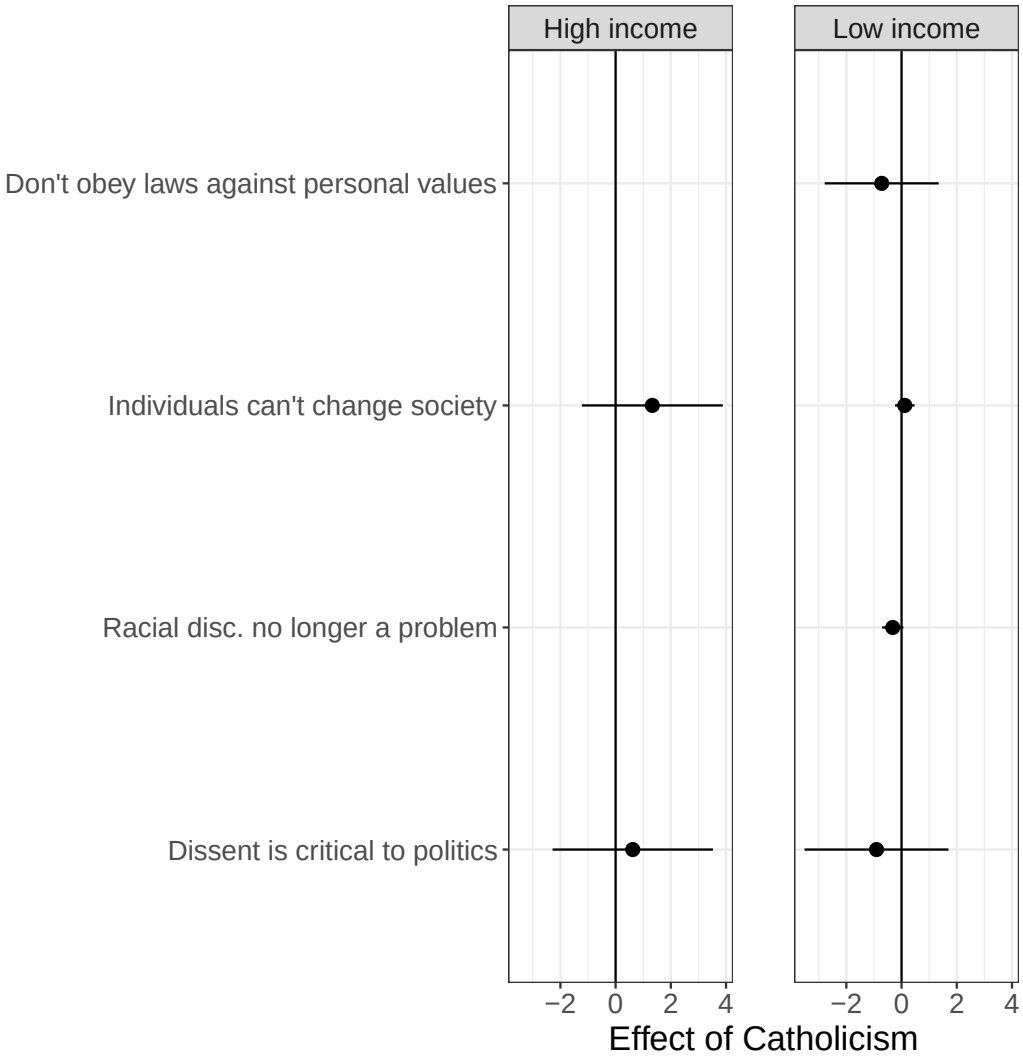
Notes: The figure shows the estimated effect of Catholicism on social norms, separated by race. The left and right windows show the effects for Blacks and Whites, respectively. All other definitions are as in Figure 2.

Figure A58: Effect of Catholicism on social norms, heterogeneity by mother's education



Notes: The figure shows the estimated effect of Catholicism on social norms, separated by the mother's education level. The left window shows the effects for individuals with college educated mothers, and the right window for individuals whose mothers do not have a college degree. All other definitions are as in Figure 2.

Figure A59: Effect of Catholicism on social norms, heterogeneity by parents' income



Notes: The figure shows the estimated effect of Catholicism on social norms, separated by the parental income. The left and right windows show the effects for individuals with above-median income parents, and the right window for those from below-median income families. All other definitions are as in Figure 2.