Faith and Philanthropy: Megachurch Scandals and Charitable Giving

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Abstract

Religious institutions receive the plurality of U.S. charitable contributions, but do their actions affect the total size of the charitable sector or simply the allocation of donations? I examine the impact of religious shocks on giving using a newly constructed database of megachurch scandals linked to itemized contributions data from the Internal Revenue Service. A scandal reduces local itemized contributions by 1.9 percent ($10 million) per year for at least three years. Contributions to non-church local charities are largely unaffected, indicating limited substitution between religious and secular philanthropy. However, declines in funds received by crisis pregnancy centers reveal close ties between megachurches and the anti-abortion/pro-life movement in the United States. Scandals also reduce religious service attendance, indicating that religious disengagement is an important channel through which scandals affect contributions.

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1 Introduction

What causes people to give more (or less) to charity, and how do the actions of one organization affect giving to others? The U.S. charitable sector is large, constituting roughly two percent of GDP, but the factors motivating giving remain an open area of research. Religious institutions, which historically received over 50 percent of household donations, are of particular interest (List, 2011). However, there is little causal evidence on the impact of religious institutions, and Evangelical institutions in particular, on total household giving. In this paper, I present the first evidence on the causal impact of U.S. religious institutions on total giving since the early 2000s. I also provide the first evidence on the causal impact of megachurches, large and predominantly Evangelical Protestant congregations increasingly prevalent in the U.S. religious sector, on both total giving and contributions directed toward the closely linked anti-abortion/pro-life movement in the United States.

Estimating the role of religious institutions on giving is difficult, as factors such as gender and pro-social orientation may affect both churchgoing and charitable contributions. I overcome this challenge by focusing on quasi-random variation in the timing of sex scandals at the largest Protestant megachurches. Given their size, shocks to megachurches can conceivably affect religious practice and aggregate giving patterns in the local area. I geocode each megachurch and then collect a novel dataset detailing employee sex scandals at these churches. I focus on sex-related scandals as they constitute the majority of megachurch scandals (Wellman, Corcoran, and Stockly, 2020) and enable a more straightforward interpretation than other types (e.g., financial) given most churches' clear guidelines for appropriate sexual behavior and consequences for violations. I merge information on scandals with data on itemized contributions by zip code from 2004-2017 taken from the IRS Statistics of Income. Itemized contributions provide a good proxy for overall giving because, while only about one-quarter of taxpayers itemized their returns as of 2017, itemized giving comprised 80 percent of total dollar value of contributions (Rosenberg, Steuerle, Ovalle, and Stallworth, 2016; Andreoni and Durnford, 2019). I also use data from IRS 990 forms on total gifts and grants to examine spillovers to

other local charities, with a particular focus on local crisis pregnancy centers (CPCs), anti-abortion organizations that provide services to pregnant women and are often closely tied to churches. I use a difference-in-differences framework, comparing zip codes within 20 kilometers of a scandal megachurch to zip codes within 20 kilometers of a non-scandal megachurch. I present the results using a traditional event study specification (OLS) as well as the estimator developed by Sun and Abraham (2021). Finally, I use data from the Cooperative Election Study (CES) to explore the mechanism of religious practice.

Identification requires that scandal timing is exogenous to other factors changing charitable behavior in the zip code such as economic conditions or changes in attitudes. I address this in several ways. First, since the presence of more/larger churches may be associated with more scandals and differential cultural evolution, I always include fixed effects for year x number of churches (e.g., 2 churches x 2008, 2 churches x 2009) and year indicators interacted with initial AGI, zip code size, and average/largest church size. Second, I perform placebo tests and show that scandals are generally unrelated to economic conditions as reflected in adjusted gross income (AGI) or the number of tax returns or to demographic characteristics of the area. Finally, I perform event studies showing that contributions in scandal and non-scandal areas are trending similarly up to four years before the scandal becomes public. There are suggestive, small anticipation effects in year -1, but anecdotes from some churches indicate members' awareness of rumors a few months before a news article/press release makes a scandal public. Because year -1 can be considered partially treated, I consider year -2 to be the base year and exclude year -1 in the main difference-in-differences specification. However, I show robustness of the results to treating year -1 as fully treated or as untreated.

I find that a megachurch scandal decreases itemized contributions in zip codes within 20 kilometers by about 1.9 percent per year. The effect lasts at least three years and corresponds to roughly $10 million per church per year. The results are robust to changes in specification and the radius around the church. While declines are likely concentrated on the affected church, there may be spillovers to other charities. Using data from 990 forms, I find that scandals do not impact contributions to other local charities as a

whole, demonstrating limited substitution between religious and secular causes. However, contributions to local CPCs, which are closely aligned to the Evangelical movement, do experience substantial declines. I then explore mechanisms and find significant declines in religious attendance that are concentrated among Protestants.

This paper contributes to the literature examining whether individuals' altruism budgets are fixed or variable (Gee and Meer, 2020). While laboratory evidence on this question is mixed (e.g., Deck and Murphy (2019); Filiz-Ozbay and Uler (2019)), studies outside the lab point to substitution between political and other types of giving (Yildirim, Simonov, Petrova, and Perez-Truglia, 2024; Karol, 2022).[1] Exogenous shocks to the desirability of giving such as fundraising appeals and natural disasters demonstrate that individuals' charitable budgets do vary. For example, Deryugina and Marx (2021) show that the deadly tornadoes increase itemized contributions in the same state by about $2 million per fatality and do not crowd out giving to other charities. Scharf, Smith, and Ottoni-Wilhelm (2022) show that fundraising appeals for humanitarian crises and natural disasters increase donations to the target charities *and* other types of organizations, with the latter driven by intertemporal substitution from later periods.[2] However, other evidence focused on negative shocks shows more substitution between charities: Xu (2022) finds that negative reputational shocks to major charities in the UK increase donations to charities with similar missions, though the substitution fades after one year. I add to this literature by providing more evidence on negative shocks and focusing on the religious sector.

This paper also adds to the literature on the relationship between religion and charitable activities. Individual religious practice is positively associated with giving, even after controlling for observable differences such as gender and income (Vaidyanathan, Hill, and Smith, 2011). However, national trends suggest a negative correlation: total giving grew in the late 1990s and early 2000s, even as religious affiliation fell (Andreoni, 2006; Giles, Hungerman, and Oostrom, 2023). The few papers examining causal effects of

[1] Hungerman, Rinz, Weninger, and Yoon (2018) shows that political campaign stops increase donations to Catholic parishes.

[2] Meer (2017) also shows that fundraising increases total giving.

religion on total giving have relied on exogenous shocks from legal changes in the 1970s-1980s (Gruber and Hungerman, 2008) or the Catholic sex abuse scandal of the early 2000s (Hungerman, 2013; Bottan and Perez-Truglia, 2015), periods before the widespread adoption of online giving. The most closely related paper is Bottan and Perez-Truglia (2015), which shows that Catholic allegations decreased local religious participation and itemized contributions in the early 2000s; there is suggestive evidence of positive effects on donations to non-Catholic charities.[3]

Relative to Bottan and Perez-Truglia (2015), this paper's focus on megachurches provides identification advantages. Catholic accusations were heavily clustered in 2002-2003 and, although the intensity of local exposure differed, almost all areas received news coverage about scandals and had an institutional connection between their local congregations and implicated members of the church hierarchy; thus, there was greater potential for spillovers.[4] In contrast, megachurch scandals are temporally dispersed and most megachurches are independent or have weak denominational ties (Thumma and Travis, 2007). Congregants in "non-scandal" zip codes may hear about scandals at other churches but are less likely to have obvious institutional connections to affected congregations, providing a cleaner comparison group.

Relative to Bottan and Perez-Truglia (2015), I also use improved data to examine mechanisms of religious attendance and spread of scandals. Specifically, the Cooperative Election Study (CES) provides data on religious participation since the mid-2000s, with a sample of 20,000-60,000 per year and geographic information at the zip code level. This is in contrast to the General Social Survey used in previous studies, which has around 2,000-3,000 observations every other year and often requires analysis at the county level. To examine relevance and spread of scandal information, I am also able to make use of Google Trends data (available since 2004), providing detailed geographic information on interest in a particular scandal.

Finally, relative to previous work, this paper focuses on the role of religion on giving

[3]See also the impacts of the sex abuse scandal on Catholic schools (Dills and Hernández-Julián, 2012; Bottan and Perez-Truglia, 2015) and deaths of despair (Esparza, 2020).

[4]Since all areas were affected, studies of the Catholic sex abuse scandal also focus on the intensive margin of treatment rather than the extensive margin.

in a new context. First, it focuses on an underexplored segment of the U.S. population: Evangelical Christians. Megachurch attendees are an important subset of Evangelicals and are a prominent force in American social and political life. They have received growing attention for (among other factors) the large size and budget of some of their churches; Evangelicals' involvement in the anti-abortion/pro-life movement has also been well documented (e.g., Hoffmann and Johnson (2005); Du Mez (2020)).[5] However, there remains a limited understanding of the causal role of religion on both the financial behavior and anti-abortion activism of megachurch attendees, despite evidence that their giving patterns may differ from previously studied groups such as Catholics. For example, relative to Catholics, Protestants as a whole give about 50% more to charity ($1749 vs $1142) and direct a greater fraction of their contributions toward religious causes (68% vs 49%) (Giving USA, 2017). In the lab, increasing the salience of religious identity increases public goods contributions among Protestants but decreases them among Catholics (Benjamin, Choi, and Fisher, 2016), suggesting that Catholics and Protestants may respond differently to factors affecting their identity and/or religious participation such as scandals among church leaders.

Additionally, this paper's focus on the past two decades is valuable. There is a limited understanding of the role of religion on giving in recent decades, despite substantial changes in religious and charitable landscape. Since the early 2000s, membership in religious organizations has fallen from 70 to 47 percent (Jones, 2021). Online giving and associated automatic withdrawals are much more prevalent (e.g., the fraction of charitable fundraising from online sources grew from 6.4% in 2013 to 12% in 2021 (Blackbaud Institute, 2019, 2022)). If individuals using automatic withdrawals no longer re-evaluate giving each week, shocks to the desirability of giving may have less impact. Alternatively, if finding and giving to substitute charities is easier online, there may be greater substitution from churches to other organizations. Megachurches, which received 52% of giving from online sources in 2020 (Bird and Thumma, 2020), are even more reliant on online giving than the average church and thus can provide insight into the impact of shocks across

[5]See Section 2 for a discussion on classification of Evangelicals.

religious groups in the future.

This paper also contributes a novel examination of the causal relationship between religious organizations and the anti-abortion/pro-life movement by examining how religious institutions impact financial resources of Crisis Pregnancy Centers (CPCs). CPCs, which are often faith-based in the Evangelical tradition, provide counseling and sometimes prenatal services or maternity/baby resources with the goal of lowering abortion rates; they also sometimes engage in religious proselytization (Rosen, 2012). CPCs were three times more prevalent than abortion clinics even prior to 2022, and have been criticized for misrepresenting their services (with the goal of attracting people who are looking for abortion providers), providing false medical information to discourage abortion, delaying or impeding abortion care, and eliciting private medical information without being bound by federal privacy laws (The American College of Obstetricians and Gynecologists, 2002; Montoya, Judge-Golden, and Swartz, 2022). Understanding the impact of megachurches on these organizations' funding is important given their prevalence as well as their impacts on women's health.[6] Documenting this relationship can also provide insight into the broader links between megachurches and the anti-abortion/pro-life political movement in the United States.

Finally, this paper adds to the growing literature on the economic impacts of sexual indiscretions, harassment, and abuse. Cline, Walkling, and Yore (2018) show that executives' sexual and other indiscretions decrease their firms' wealth, operating margins, and number of business partners and Borelli-Kjaer, Schack, and Nielsson (2021) find that sexual harassment scandals decrease firms' market value. Focusing on the labor market, Folke and Rickne (2022) show that sexual harassment increases the gender wage gap by causing women to depart from (higher paying) male-dominated workplaces.[7] This paper adds to the literature by showing further evidence on the large economic costs of leaders' indiscretions and the economic impacts of sexual abuse.

The paper proceeds as follows. I first provide an overview of megachurches and discuss

[6] A 2023 letter from 16 state attorneys general highlighted the negative impacts of CPCs on healthcare (State of California Office of the Attorney General, 2023).

[7] Fitzgerald and Cortina (2018) (among others) discuss the widespread nature of sexual harassment at work.

the data used in the analysis. Next, I detail the empirical strategy and examine the impact of scandals on itemized charitable contributions. I then explore giving to local secular charities. Finally, I explore the mechanism of religious attendance and conclude.

2 Data

This section discusses the database of megachurches, the creation of a novel dataset on sex-related scandals, and the IRS statistics of income data. It then presents summary statistics for the main variables used in the analysis.

2.1 Megachurches and Scandals

Megachurches are an increasingly prominent part of the U.S. religious landscape. They are officially defined as Protestant congregations with attendance of at least 2000 per week, and their number has grown from about 50 in 1970 to over 1700 by 2020 (Bird and Thumma, 2020). Theologically, most megachurches are Evangelical, viewing the Bible as an ultimate authority and focusing on born again experiences, individual spiritual practice, and evangelism.[8] Attendees are more likely to be young, single, and college-educated than other churchgoers and over 70% of attendees are white (Bird and Thumma, 2015; Thumma and Travis, 2007; Thumma and Bird, 2009). While the majority of megachurches serve predominately white or multiracial congregations, there are several large, predominately African American megachurches.[9]

[8]According to the National Association for Evangelicals, "Evangelical" theology consists of four criteria originally articulated by historian David Bebbington: Conversionism ("the belief that lives need to be transformed through a "born-again" experience and a life long process of following Jesus"), Biblicalism ("a high regard for and obedience to the Bible as the ultimate authority"), activism ("the expression and demonstration of the gospel in missionary and social reform efforts"), and Crucicentrism ("a stress on the sacrifice of Jesus Christ on the cross as making possible the redemption of humanity") See `https://www.nae.org/what-is-an-evangelical/`. However, as discussed by Du Mez (2018), the term "Evangelical" also has a political/cultural meaning. Many Black Protestants affirm the theological points listed above but do not self-identify as Evangelicals. Others, often white conservatives, may identify as Evangelical but not align with the theological points. In 2015, over 70% of megachurches identified their "theological outlook" as "Evangelical" and 10% identified as Pentecostal or Charismatic, while only 0.5% identified it as "Liberal" (Bird and Thumma, 2015). Notable exceptions to Evangelical theology and/or culture at megachurches include Black megachurches and liberal white megachurches.

[9]Based on denominations and Google searches, I estimate that about 92 of the 441 churches examined (21%) are black megachurches. See Tucker-Worgs (2011) for a discussion of black megachurches.

The most comprehensive list of megachurches in the United States is available from the Hartford Institute for Religion Research (Thumma, 2007). I use the internet archive (WayBack Machine) to obtain the list of megachurches at one of the earliest dates available, May 2007, since the addition or removal of megachurches during the sample period may be endogenous to scandals. I restrict the sample to large megachurches, which I define as those reporting over 3000 attendees as of 2007, as larger churches are more likely to have scandals reported and to impact contributions in the overall area.[10] There are 441 megachurches fitting this description; based on the 2007 size listings in the Hartford database, these churches comprise over 50% of total megachurch attendance. Using the address listed in a Google search, megachurches are then geocoded using the Tidygeocoder R package (Cambon, Hernangómez, Belanger, and Possenriede, 2021).

To obtain information on scandals, Google searches are performed using the church name, the church city, and each of the keywords: sex, sexual, molestation, abuse, affair, infidelity, adultery, immorality, scandal, and allegations. Any news articles or church statements from the first page of results listing accusations against or resignation of church employees for sexual misconduct are examined, and the earliest date an accusation became public is recorded. Further details on the data collection process for scandals are provided in Appendix B.

I focus on sex related scandals, as most churches' clear standards around sexual morality make the definition of a scandal explicit. I exclude other types such as financial scandals that are less straightforward: for example, there are many reports of pastors having large houses or incomes, but these do not necessarily violate church standards of behavior and thus may have more limited repercussions.[11] Financial scandals are also more likely to be endogenous if payment to a pastor is related to the financial status of the church.

Between 2000 and 2019, 49 megachurch scandals are found. Examples are sexual

[10] Churches below this attendance threshold rarely have reported scandals. The 2008-2015 unique scandal rates by church attendance are as follows: 0.071 (attendance 6001+), 0.042 (attendance 4001–6000), 0.037 (attendance 3401–4000), 0.043 (attendance 3001–3400), 0.006 (attendance 2601–3000), and 0.008 (attendance 2499–2600).

[11] See, e.g., Kuruvilla (2013) Graham (2014), and Graziosi (2021).

infidelity by the senior pastor or employees failing to report volunteer abuse. Figure A1 in the Appendix shows that megachurch scandals are relatively evenly spaced across the 2000s. All years except 2000, 2004, and 2016 had at least one scandal. 2012 had the most scandals (6), followed by 2018 (5). Since itemized contributions data covers 2004-2017, I focus the contributions analysis on scandals between 2008 and 2015 to achieve balanced panels (- 4 to +2 years from the scandal). If a church has more than one scandal, I use the first as the treatment date.

Of the 49 total scandals, 22 are between 2008 and 2015; descriptions of these are provided in Table A1 in the Appendix. Of these 22 scandals, 18 are used for the primary analysis. Two scandals (Heritage Christian Church in 2008 and Prestonwood Baptist in 2011) are omitted because of a previous scandal at the same church;[12] another (Hope Presbyterian) adds no additional zip codes for analysis due to close geographic proximity to a church with a 2006 scandal (Bellevue Baptist Church). I also omit Covenant Life's sex-related scandal; while it officially "broke" in 2011, (relatively) public accusations had been made on a popular blog for several years and thus it is difficult to pinpoint the precise date of treatment (Stanley, 2016).[13]

The scandals vary in the individual accused/charged and the matter involved, but all are of a serious nature. Of the 18 scandals used in the main analysis, half (9) involve the senior pastor, with 4 of these 9 representing legal infidelity and the other 5 representing sexual misconduct or abuse with children or other adults. The other 9 scandals involve other pastors or church employees and include illegal actions (with 7 involving children).[14]

Figure 1 shows the geographic distribution of large megachurches (Panel A) and scandals from 2008 - 2015 (Panel B). Megachurches are clustered in metropolitan areas in the South and on the West coast. Conditional on the distribution of megachurches, Panel B shows that scandals are relatively dispersed. As can be seen in the map and

[12]There was a 2007 scandal at Heritage Christian Church and a 2008 scandal at Prestonwood Baptist

[13]From the control group, I omit Mars Hill Church in Seattle. Mars Hill had widespread non-sex scandal related to bullying, plagiarism, and financial misdeeds that resulted in the church closure, and thus is not a good control (Welch, 2015). Figure 4 shows that the results are robust to the inclusion of Mars Hill and Covenant Life churches.

[14]There are no scandals involving legal infidelity for other pastors or employees; although these occur, it is unlikely that they would be raised to the level of a scandal found in news reports and there would likely be less widespread disruption than the departure of the senior pastor or legal action at the church.

in Table A1, there is a cluster of three scandals in the Fort Lauderdale, Florida area. However, Figure 4 shows robustness to omitting the state of Florida, indicating that the results are not driven by this cluster. As there are few megachurches and no scandals over the relevant time period in the Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont), I focus the analysis on the other three regions.

A possible concern is that megachurch scandals may affect national audiences, especially given that some pastors have large platforms through books, television or radio programs; in this case, non-scandal areas in the United States would not necessarily provide a good control group. To address this concern and examine the spread of scandals across the nation, I use information on search frequencies from Google Trends. Google Trends provides information on the relative searches for a particular term over time and across geographic areas; data is drawn from a sample of all searches, aggregated, and normalized by total search volume in the relevant area. Google searches have been shown to display high correlations with interest and behavior across space and over time, and Google Trends has been used in analyses of economic conditions (Choi and Varian, 2012), public health (Walker, Hopkins, and Surda, 2020), religious preferences (Adamczyk, Scott, and Hitlin, 2022), and prayer habits during the Covid-19 pandemic (Bentzen, 2021) (among many other topics). Searches do not perfectly mirror being impacted by the scandal, and those who search for scandal related terms may be a broader group than those directly affected. (For instance, individuals may search for scandal-related terms after reading about the event in a local newspaper, even if they do not attend the church or give money to charitable organizations.) However, low search intensity likely signals limited awareness or engagement with the event, indicating a valid control group.

I use Google Trends data to construct a measure of the relative search intensity for each scandal by state and month. This is obtained by multiplying trends from the scandal state (where the maximum month takes a value of 100) by the cross sectional relative search frequency in each state in each month.[15] For each scandal, the state-month pair

[15]No data on absolute search numbers is provided.

with the greatest frequency then takes a value of 100. Additional information on Google Trends data is provided in Appendix B.

Figure 2 displays average search frequencies across scandals from 2008-2018.[16] Trends are compared across scandal states, neighboring states (those with a common border), and all other states. Scandal, neighboring, and "other" states are defined separately in each case (e.g., for the New Birth Missionary Baptist, the scandal state is Georgia and adjacent states are North Carolina, South Carolina, Florida, Alabama, and Tennessee).[17]

Google Trends suppresses data with low search volume; thus states with small populations or low search volumes for particular scandals/churches cannot be included. Each scandal included in Figure 2 has sufficient data for the scandal state and at least five other states.[18] Since states with low interest in the scandal are more likely to be excluded, the values for neighboring and other states are likely to be an upper bound. There are even five churches excluded from the analysis because searches are very locally concentrated and data is only available from the scandal state.

As shown in the figure, search interest in scandal-related terms spikes sharply in the month the scandal becomes public, signaling the awareness of the event. Importantly, the uptick is geographically concentrated. Scandal states more than triple their already elevated search volumes, while neighboring and other states exhibit much smaller increases. Interestingly, there are not large differences between neighboring and other states, indicating limited geographic spillovers outside of a small radius. This mitigates concerns that national or regional audiences are affected by the scandals and reinforces the validity of using other areas as controls.

[16]Appendix Figure A2 shows that the figure is similar if only 2008-2015 scandals, as used in the contributions analysis, are included.

[17]For Washington and California, Alaska and Hawaii are considered to be neighboring states, respectively. Trends results omit the Northeast as these are excluded from the analysis; results are similar if the Northeast states are included.

[18]As described in the Appendix, this leaves 17 scandals for the Google Trends analysis. In Figure A2 in the Appendix, I show that results are similar when only scandals with at least 10 states of data are included.

2.2 Charitable Contributions

Data on itemized charitable contributions, adjusted gross income, and the number of returns are available by zip code in the IRS statistics of income (SOI) for 2002 and 2004-2017. I do not use years after 2017 since the Tax Cuts and Jobs Act (taking effect in 2018) increased the standard deduction and led to substantial reductions in the fraction of taxpayers itemizing deductions (Andreoni and Durnford, 2019).[19]

I follow Deryugina and Marx (2021) and omit any cells with fewer than 250 returns (the maximum threshold for data suppression over the period), omit zip codes with zero contributions in any year (since true zeros in contributions cannot be differentiated from suppressed values), and require that each remaining zip code has at least two years of data. The Consumer Price Index is used to adjust income and contributions data into 2015 dollars.

To obtain geographic coordinates for each zip code, I match zip codes to Census-defined geographic areas known as Zip Code Tabulation Areas (ZCTAs) using the crosswalk provided by the UDS.[20] Using geographic coordinates of the 2010 ZCTA centroids provided by the NBER, I then calculate the distance between each ZCTA centroid and megachurch. A zip code is classified as "having" a megachurch if its centroid is within 20 kilometers of at least one megachurch and is classified as having a scandal if any these megachurches has had a scandal to date. The 20-kilometer threshold is chosen to capture the majority of church attendees, as over 90% of those in cities or suburbs report traveling 30 minutes or less to church.[21] Using Boscoe, Henry, and Zdeb (2012)'s estimate of 1.501 minutes to 1 straight-line kilometer, 30 minutes equates to about $\frac{30}{1.501} = 19.99$ straight-line kilometers.[22]

The SOI data are not adjusted for the zip code changes made by the Postal Service each year. I pull the 1,664 Postal Code Changes between 2001 and 2018 reported in the

[19] I restrict the analysis to the 2004-2017 and use 2002 data to construct linear time trends in initial period income and returns.

[20] See the UDS Mapper at `https://udsmapper.org/zip-code-to-zcta-crosswalk/`. For the 50 out of 40,000 zip codes not included in the crosswalk, I use the latitude and longitude from a random location in the zip code to match it to the ZCTA with the closest centroid.

[21] See American Values, Mental Health, and Using Technology in the Age of Trump: Findings from the Baylor Religion Survey, Wave 5 (2017).

[22] Boscoe et al. (2012) finds a correlation between straight-line distance and travel time of 0.91. Figure 4 shows the results are not sensitive to the choice of geographic radius.

Postal Bulletins.[23] This equates to 64.7 changes per year (0.16 percent of the over 40,000 zip codes). Following Deryugina and Marx (2021), I create "super-zips" encompassing all zip codes linked over the period. For example, if zip code A splits into B and C, and C later splits into D and E, zip codes A through E are all part of the same "super-zip." I sum contributions, income, and returns data and take the mean of latitude and longitude across different zips in the same super-zips to obtain one observation at the year x super-zip level. Super-zips are henceforth referred to as zip codes.

Table 1 provides summary statistics from 2004-2006 on adjusted gross income, contributions, and the number of returns, as well as the number of megachurches, average megachurch size, and number of scandals. The sample is split into those without a (large) megachurch (column (1)), those with a megachurch but no scandal (column (2)) and those with a megachurch and scandal (column (3)). Relative to those without megachurches, zip codes near megachurches are larger and have higher average income, higher average contributions, and a greater fraction of returns with itemized contributions. Given these differences, I focus on comparing megachurch zip codes with versus without scandals (columns (2) and (3)). These locations are similar in terms of average income and likelihood of itemizing contributions, though places with scandals are slightly bigger. This is expected given that more populous zip codes have more and larger churches, increasing staff size and thus opportunities for scandals. However, differences between columns (2) and (3) are small in magnitude. To account for baseline differences, all regressions include zip code fixed effects as well year-specific effects of number of churches and church size. Therefore, identification only requires that the timing of the scandal (not the location) be exogenous to deviations in other factors affecting contributions, an assumption that will be supported with an event study and placebo test. The base of Table 1 shows the number of churches captured in the analysis (with sufficient surrounding zip code data and no pre-treatment period scandals); 18 scandal churches (as discussed above) and 404 controls.

Finally, to allow for spatial correlation of errors, I group megachurch zip codes into

[23] See `https://postalpro.usps.com/postal-bulletin-changes`.

two larger levels of geography: domains and super domains. Domains consist of all zip codes with the exact same set of churches. Super domains are sets of zip codes with any churches in common.[24] For example, let zip codes A and B be near Church 1, zip code C be near churches 1 and 2, and zip code D be near church 2. These zip codes form three domains (A and B; C; and D) and one super domain. Super domains are generally larger than counties (94% of counties fully contained within one super domain and the other 6% split between two super domains). To ensure that estimates are conservative, I cluster standard errors at the super domain level.

3 Megachurch Scandals and Charitable Contributions

To estimate the effect of scandals, I use a difference-in-differences event study framework comparing the evolution of contributions in zip codes with versus without a scandal. I first use a traditional two-way fixed effects (OLS) specification:

$$ln(contrib_{z,t}) = \sum_{s \in S} \beta_s d^s_{z,t} + \sum_{j=1}^{k} \theta^j x^j_{z,t} + \gamma_{n,t} + \eta_{r,t} + \delta_z + year\zeta_s + \epsilon_{z,t} \quad (1)$$

where $ln(contrib_{z,t})$ is the log of total itemized contributions in zip code z. s represents time periods before/after the scandal, with -2 years (i.e. two years prior to the scandal) as the omitted category. I do not use year -1 as the reference period to account for the possibility of anticipation effects a few months in advance of the scandal becoming public.[25] $d^s_{z,t}$ is a dummy variable taking a value of 1 if the (first) scandal appeared s years ago and 0 otherwise. $x^j_{z,t}$ represents zip code time-varying characteristics including the log adjusted gross income (in 2015 dollars) and the log of the number of returns, as well as interactions of year dummies with linear terms for 2002 log AGI, 2002 number of returns, 2007 average church size, and 2007 largest church size to account for differential evolution by initial characteristics.[26] Zip code fixed effects (δ_z), number of churches by year fixed

[24] I allow domains to cross county but not state borders.

[25] For example, a scandal at St. Luke Community United Methodist Church in Dallas became public in February 2012 when a suit was filed against the church's senior pastor, who had resigned in January due to related accusations. It is likely that information about the scandal had been circulating for a month or more before the resignation, impacting 2011 year-end donations.

[26] If the 2002 number of returns or AGI is missing, it is replaced with the value in the earliest year

effects ($\gamma_{n,t}$), region by year fixed effects ($\eta_{r,t}$), and state linear time trends ($year\zeta_s$) are included and $\epsilon_{z,t}$ is an error term. All regressions are weighted by number of returns in 2002 to reflect the behavior of the average filer, rather than the average zip code, in the results. Standard errors are clustered at the super domain level.[27] I also compute a traditional difference-in-differences estimator comparing the pre- and post-periods; year -1 is omitted in the main specification.[28]

To balance the panel in event time, I keep treated observations with relative event time between -4 (4 years before the scandal) and +2 (2 years after the scandal).[29] To ensure that all scandal years have at least 4 pre-treatment and 3 post-treatment periods, I drop zip codes with scandals before 2008 or in 2017.[30] I also omit the three zip codes with missing data over any event year.

Sun and Abraham (2021) show that, in the presence of treatment heterogeneity, event study coefficients from OLS may be contaminated by effects from other periods.[31] They propose an interaction-weighted estimator to obtain uncontaminated estimates. This estimator obtains cohort-specific treatment effects from an OLS model that interacts each treatment cohort with event time. The effects are then aggregated based on each cohort's sample share. Results are shown using this interaction-weighted estimator with controls as specified in equation 1 above.

Figure 3 plots the coefficients and 95 percent confidence intervals from estimating Equation 1 using a traditional two-way fixed effects (OLS) event study and Sun-Abraham's

available.

[27]Super domains are sets of zip codes with any churches in common, as described in Section 2. As shown in Appendix Table A4, results are robust to clustering at the domain level, the county level, and the state level.

[28]Alternative treatments of year -1 are shown in Figure 4.

[29]Appendix Figure 4 shows that the results are robust to "binning" the observations (i.e. placing all years before -3 and all years after +2 in the -3 and +2 bins, respectively).

[30]Zip codes with scandals after 2017 (the last year of SOI data) are considered "never treated." Figure 4 shows the results are similar when including 2006-2007 scandals, which have at least two pre-treatment and two post-treatment periods.

[31]See also De Chaisemartin and d'Haultfoeuille (2020); Goodman-Bacon (2021); Callaway and Sant'Anna (2021), among others. As discussed by De Chaisemartin and d'Haultfoeuille (2020), OLS estimates may give some treatment effects negative weights in computation of the final estimate. Using the $twowayfeweights$ command developed by De Chaisemartin and d'Haultfoeuille (2020), I find that none of the ATTs receive negative weights; this indicates that OLS estimates represent a convex combination of the treatment effects. However, given its straightforward interpretation of the estimates, I present the Sun-Abraham effects first and rely on OLS for robustness.

estimator. Sun-Abraham point estimates and standard errors are displayed on the figure. Results are also shown in Table 2 (Sun-Abraham) and Appendix Table A3 (OLS). From four to two years prior to the scandal, treatment and control zip codes experience similar trends in contributions, supporting the parallel trends assumption. There is a slight (though statistically insignificant) drop in contributions in year -1; this may reflect earlier knowledge of the scandal in some areas.

In the year a scandal breaks, there is a 2.1 percent drop in contributions in nearby zip codes; the effect persists for at least two years. The overall differences-in-differences estimate is -1.9 percent per year in each zip code, or $369,000 on a mean of $19.4 million. Since the average church is surrounded by 27 zip codes, one scandal decreases contributions by about $10 million per year ($30 million in the first three years).[32] Thus, with the conservative estimate that effects only last three years, the effect of 18 megachurch scandals between 2008 and 2015 can be estimated to be about $538 million ($179 million per year).[33] Given that itemized contributions constitute about 80% of total contributions, and assuming that non-itemized contributions respond in the same manner, the total effect could be scaled up by $\frac{1}{0.8} = 1.25$ to give an estimate of about $224 million per year.[34] These results indicate that churches substantially affect the size of the charitable budget: when people are less inclined to give to churches, overall giving declines precipitously. The magnitude is relatively large compared to other shocks. For example, decreasing the number of scandals by one would increase itemize contributions as much as a nearby deadly tornado with five fatalities (Deryugina and Marx, 2021).

The temporal pattern is substantially different from responses to the Catholic sex abuse scandals. Bottan and Perez-Truglia (2015) document no immediate effect of Catholic scandals on itemized contributions; effects begin to appear 1-2 years after and grow over

[32]For comparison, in the year senior pastor Bill Hybels resigned from Willow Creek Community Church due to scandal, the Church's revenue fell from $89 million to $60 million (Perry, 2020). This suggests that an average decrease of about $10 million is reasonable.

[33]If there is intertemporal substitution to later years, this could be an overestimate. However, the event study shows no improvement in giving 1-2 years after the scandal and, as shown in Figure 4, binned estimates including all years before/after the scandal are similar to the trimmed estimates.

[34]As documented by Meer and Priday (2020), the fraction of giving going to religious causes is relatively constant across the wealth distribution, with the exception of slightly higher fractions in the lowest 5% of wealth. This suggests that non-itemizers (who have lower income on average) may have similar giving responses.

time. The pooled effect 4+ years after a Catholic scandal is 1.3 percent in the scandal zip code. The more immediate effects with megachurch scandals are in line with increased salience including immediate changes in weekly services (e.g., a new pastor). Given that there are many fewer megachurch scandals, the total annual effect on contributions is less than one-fifth of the magnitude Catholic sex abuse scandal ($1.8 billion per year in Bottan and Perez-Truglia (2015)).

As shown in Figure 4, the difference-in-differences estimates are robust several changes in specification including changing the treatment status of year -1, varying the geographic radius around megachurches, adding a control for volunteer scandals, including scandals involving former employees,[35] omitting the Great Recession years and their associated declines in contributions, "binning" (rather than "trimming") the endpoints to include all years before -4 or after +2 in the estimates, omitting state linear time trends, adding Mars Hill and Covenant Life Churches, and including 2006-2007 scandals (which do not have data for the full pre-period). Results are also robust to using the imputation estimator proposed by Borusyak, Jaravel, and Spiess (2024), or using OLS with alternative independent variables including the total number of scandals or fraction of nearby megachurches with a scandal. Figure A3 in the Appendix also shows separate regressions for different types of scandals (e.g., abuse versus infidelity), indicating that no one type of scandal is driving the results.

Identification requires that scandal timing be exogenous to other factors affecting giving such as economic growth or population changes. To examine this, I perform placebo tests using Equation 1 with the dependent variables of adjusted gross income and number of returns (while excluding AGI and number of returns controls). The difference-in-differences estimates shown in Table 2 indicate no changes in AGI or number of returns associated with the emergence of scandals, supporting the identification strategy. Only one of the event study coefficients across the two regressions significant, and there is no indication of overall trends associated with scandals; for example, years -4, 0, and 1 have positive values that are similar in magnitude.[36]

[35]These are omitted from the main analysis unless a current employee is also involved.

[36]Section 5 also provides placebo tests on demographics based on data from the Cooperative Election

I also perform randomization-based inference (see (Athey and Imbens, 2017)) for the main difference-in-differences estimate. Since larger churches are more likely to have scandals, I divide churches into three groups based on size (10,000 and over, 5,000-9,999, and less than 5000). I randomly allocate scandal "treatment" to churches and years based on the likelihood of a scandal in each size group and compute the main difference-in-differences estimate. Appendix Figure A4 shows the distribution of coefficients when repeating this procedure 1000 times. This paper's main estimates are in the tails of the distribution, indicating estimates this large are unlikely to be obtained by chance. In Appendix Figure A5, I also show the distribution of results dropping one scandal at a time. All coefficients remain meaningfully large and statistically significant, showing that the results are not driven by one specific scandal.

4 Contributions to Local Charities

The prior section shows that scandals decrease total giving; this is likely to be concentrated on the affected church. However, church scandals may affect other local charities: there may be negative spillovers given churches' direct interactions with or solicitations for these groups, or positive spillovers if individuals choose to substitute their giving from churches to these organizations.

All tax-exempt nonprofit organizations (excluding religious congregations) with gross receipts of at least $50,000 ($25,000 before 2011) are required to file a 990 form, in which they detail total contributions from individuals and other organizations as well as government grants. I compile the 2004-2017 records for organizations with over $50,000 in receipts using data from the National Center for Charitable Statistics (NCCS) at The Urban Institute and the same zip code to super-zip mapping procedure outlined in Section 3.[37] Each year's core file contains the most recent return for each organization (from the past 3 years) and may include late filings. In the case of multiple returns, I keep the

Study (see Table A8).

[37] See `http://nccs-data.urban.org`. Since organizations with receipts between $25,000-$49,999 are not required to file 990 forms after 2010, for consistency I omit all observations with receipts under $50,000 in any year.

earliest observation for each fiscal year. I also require that each charity has at least two years of data after these restrictions.

Since organizations' fiscal years do not always correspond to calendar years, I assign year based on the end of the organization's fiscal year.[38] I use the Consumer Price Index to adjust contributions data into 2015 dollars. Following Duquette (2016), I omit three groups of organizations with characteristics indicating that they more likely to serve or pull donations from national/regional rather than local audiences. First, I drop organizations with names indicating they are national/global based on the presence of the following words in their names: America, International, National, USA, Global and United States. Second, I omit the 25 largest organizations in each sector.[39] Third, I omit groups that change filing states over the sample period as this indicates they likely serve and collect contributions from a regional or national audience. (I allow one year of a different state of filing given the possibility of errors in the reporting zip code.)

I separate charities into the following categories: religion, arts, education, health, human services, and other.[40] I also separate out four smaller types of charities closely linked to churches: housing charities, food programs, and CPCs.[41] I focus on these organizations because, unlike many local nonprofits, they are closely tied to churches. In a 2000 survey of megachurches, 78% of churches reported a program related to housing or shelter (Thumma and Travis, 2007).[42] Many churches also work closely with local food banks or operate their own food pantries.[43] While many of these food organizations (and some housing programs) operate under larger regional or state groups and do not file

[38]This ensures that "Year -1" is not when the scandal becomes public. I continue to exclude year -1 from the difference-in-differences estimate.

[39]I consider sectors as groups with separate National TEE classifications: arts, education, environment/animals, health, human services, international, public benefit, religion, other. If organizations are listed in different categories in different years, I use the modal category or, if there are multiple modes, the type from the earliest mode available.

[40]Religious groups include non-congregation entities such as religious media or student groups.

[41]Details on the classification of these organizations are provided in Appendix B.

[42]Many churches also have prison ministries (91% reported these Thumma and Travis (2007)). However, there are less than 1000 prison organizations that file forms, and many of these represent larger organizations (e.g., "Prison Fellowship" that file from a central location but run programs (with or without churches) across the country.

[43]Examples of direct church solicitations for other local charities include Rock Church's collection and donation of 32,500 pounds of food to a San Diego Food Bank `https://www.christianpost.com/news/calif-megachurch-looks-to-donate-32500-pounds-of-food-in-1-month.html`. Tucker-Worgs (2011) reports that over 90 percent of black megachurches examined has a food pantry.

their own Form 990, I filter out common phrases (such as the word "regional" or state names) to focus on those whose individual filings are more likely to capture changes in donations from nearby residents (see Appendix B for details). The presence of these regional organizations does limit the ability to draw firm conclusions on the spillovers of church scandals; however, there are still over 2500 remaining local food programs and over 4000 remaining housing programs in the data.

CPCs are also closely connected to churches. For example, in a recent survey of Protestants, 30% of churchgoers reported that their churches provide direct financial support to CPCs or encourage church members to give to them or volunteer; the fraction is higher at larger churches (Earls, 2024), and some megachurches even operate CPCs.[44] Most CPCs file their own 990 forms as opposed to larger national or regional organizations filing; this enables an improved examination of the effects of scandals on these organizations.

Table 3 reports summary statistics by zip code from 2004-2006. As shown, places with megachurches are very different (with much larger charities) than places without them. However, there is little difference between places with and without scandals (columns (2) and (3)), the focus on the analysis. On average, each zip code has about 14 charities reporting over $1 million in total revenue. The contributions received are somewhat higher in areas with scandals, likely due to the larger population size. The pattern for food programs is somewhat different, with larger charities being located in non-scandal areas. Interestingly, CPCs are less geographically concentrated in metropolitan areas than charities as a whole; the vast majority are in areas without a megachurch. However, there are still 229 zip codes with a CPC and megachurch in the 2004-2006 period. In the final 2004-2017 regression sample, there are 303 CPCs and 289 zip codes with a CPC; of these, 27 CPCs across 26 zip codes are treated. Overall, of the 18 scandals used for the main contributions analysis, 15 (83%) have a nearby CPC.

There are two key limitations of the 990 data. First, since contributions are compiled at the level of the receiving organization, changes in donations to national or regional organizations such as the Red Cross will not be reflected. This may be a particular issue

[44] See, e.g., `https://prestonwoodpregnancy.org/about-us/`.

in the case of food programs, in which individual pantries are part of larger regional organizations. However, if giving to local organizations is relatively large and/or national and local giving are correlated, this data can provide insight into the presence of complementarity/substitution between religious congregations and other charities. Second, the line item for "total contributions" on 990 forms reflects combined giving from individuals and other organizations, including churches, as well as government grants. Thus, a zero effect on local charities may reflect declines in direct donations from churches offset by some substitution of individual giving. However, direct donations from churches to charitable causes constitute only about 0.5 percent of large church budgets on average (Church Law & Tax, 2019); thus, meaningful individual substitution to local charities should increase their overall receipts.

Because not all zip codes have registered charities, I aggregate contributions at the level of domains, collections of zip codes within 20 kilometers of the same set of churches (as described in Section 2).[45] I use Equation 1 to examine the impacts of scandals on contributions received within 20 kilometers. The dependent variable is the log of contributions, gifts, and grants (henceforth referred to as "contributions"); for CPCs (which have several zeros), I also perform regressions in levels.[46] As before, regressions include neighborhood fixed effects, year by region fixed effects, year by church count fixed effects, and year dummies interacted with the average and largest church size. Given the limited number of neighborhoods in each state, particularly for CPCs, I use Census division rather than state linear time trends.[47] Regressions continue to be weighted by the number of individual tax returns in 2002 and standard errors are clustered at the county level.

The difference-in-differences estimates are shown in Table 4 (Sun-Abraham) and Appendix Table A5 (OLS), and show no significant impact of scandals on overall giving

[45]Results are similar at the zip code level or with alternative geographic thresholds.

[46]If organizations hit by scandals see a fall in gross receipts that pushes the total under $50,000, the log will underestimate the effects. However, I find no significant effect of scandals on the number of CPCs in the data. Results including zeros by using the inverse hyperbolic sine transformations and levels are shown in Appendix Table A7.

[47]Results with state time trends included for the largest states (California, Texas, and Florida) are shown in Table A6.

to other charities (column (1)) or non-religious giving (column (3)), providing suggestive evidence that religious and local secular giving are neither strong complements nor strong substitutes. A lack of substitution is consistent with the large overall declines in itemized contributions. Similarly, columns (9) and (10) show that scandals have no significant effect on the total contributions received by local food banks or housing charities, respectively. While individual donations may increase slightly, potentially offsetting reductions in direct church giving, there is not substantial individual substitution from churches to food banks or housing programs.

Consistent with close ties between megachurches and the anti-abortion movement, however, a megachurch scandal decreases contributions to local CPCs by close to 35 percent, or $189,000 on a mean of $523,000. As each church is surrounded by about 1.5 CPCs, this equates to about $284,000 per church. When including zeros for places that have other charities but never have a CPC, the estimate is smaller. This is expected as many of these neighborhoods would not have a CPC in any circumstances (perhaps because there is another one nearby) and thus have a treatment effect of zero. Relative to the $10 million decline in itemized contributions documented earlier, the decline in CPC contributions is small. However, the substantial spillovers from megachurch scandals highlight CPCs' reliance on churches for funding (either directly or through complementary individual giving), and highlight the strong ties between megachurches and the anti-abortion/pro-life movement. Notably, as with secular giving, there is also no evidence of substantial individual substitution to CPCs in the presence of a church scandal.

These results stand in interesting contrast to Xu (2022), who finds that negative reputation shocks at one charity lead to increases in giving to other charities with similar missions. One potential reason for this difference is that megachurch shocks may affect not just the desirability of giving to a particular charity, but may affect religious experiences that influence the desire to give at all. Thus, in the next section I turn to examining the impacts of scandals on religious participation.

5 Mechanisms: Religious Practice

Do scandals affect charitable giving by changing church attendance patterns, or do they simply decrease contributions conditional on religious practice? To examine this question, I turn to data from the Cooperative Election Study (CES).

The CES has been administered over the past two decades to about 50,000 respondents in midterm and presidential election years and 10,000-20,000 in other years. Since 2008, it has asked consistent questions about religious affiliation and attendance that allow the examination of overall patterns as well as sub-groups including Protestants. I construct variables for attendance based on the following question: "aside from weddings and funerals, how often do you attend religious services?" Possible answers are: more than once a week, once a week, once or twice a month, a few times a year, seldom, never, or don't know.[48] Following Gruber and Hungerman (2008), I use a linear index of the responses ranging from 0 to 5, where 0 is never and 5 is more than once per week. The mean of this variable is 2, corresponding to attendance "a few times a year." I also construct binary variables for attending church (i) weekly or more, (ii) once or twice a month or more, and (iii) occasionally (a few times a year) or more. I use the question, "Outside of attending religious services, how often do you pray?" to construct an indicator for whether an individual prays daily.[49] Finally, I use a question on religious affiliation to construct binary variables for affiliations of Protestant and Other/None.[50]

I use CES data from 2008-2019. To allow for more scandals to be analyzed while keeping a balanced panel, I focus on scandals between 2011 and 2018 and the time period 3 years before to 1 year following the scandal (-3 to +1). Questions about religious affiliation are asked in late September through late October (election years and the majority of responses) and "the fall" (non-election years). Thus, I consider any scandal prior to October to be a scandal for the corresponding year. Any scandal in October or earlier is

[48] I drop 1,462 observations (about one percent of the sample) in which individuals said they "don't know" or skipped the question.

[49] Possible answers are: several times a day, once a day, a few times a week, once a week, a few times a month, seldom, and never.

[50] The CES asks "What is your present religion, if any?" with possible answers: Protestant, Roman Catholic, Mormon, Eastern or Greek Orthodox, Jewish, Muslim, Buddhist, Hindu, Atheist, Agnostic, Nothing in Particular, or Something Else.

considered to be a scandal in the following year.[51] Geographic information on respondents is provided at the zip code level. Table 5 in the Appendix shows summary statistics for the CES data. As above, areas without vs with a scandal (columns (2) and (3), respectively) are relatively similar in religious and demographic characteristics. One notable difference is in racial composition, with scandal areas having a greater fraction of residents who are black. However, this is accounted for by the largest urban areas in the Midwest (the Chicago and Detroit areas), which have megachurch scandals associated with their large populations and also have a high African American share of the population. If Michigan and Detroit are excluded, the fraction black falls to 0.13 in the non-scandal megachurch zip codes and 0.14 in the scandal zip codes.[52] As shown in the base of the table, there are 20 scandals included in the treatment (relative to the 18 scandals in the contributions regressions, the 6 2008-2010 scandals are lost while 8 new scandals (exuding Heritage Christian Center give its previous scandal) are added).

While the CES has a very large sample size compared to other surveys such as the General Social Survey, there may be very few or no respondents in small zip codes. Therefore, as above, I map zip codes to megachurch domains. I then require there to be at least 20 observations in each domain over the sample period as well as at least four years of observations for the scandal domains, and am left with 792 domains.

I use the difference-in-differences estimation strategy outlined in Section 3. Regressions continue to include domain fixed effects, year by region fixed effects, year by church count fixed effects, year dummies interacted with the average and largest church size, and division linear time trends. Since data is at the individual level, I also include individual-level controls for gender, age and age squared, race (dummies for white, black, and Latinx), education (dummies for high school completion, any college, college completion, and post college education), marital status (married, separated, divorced, widowed, in a domestic partnership, and never married/single), employment status (full-time, part-time, temporarily laid off, unemployed, retired, disabled, homemaker, student, other), and an

[51] Results are similar dating scandals according to calendar year.

[52] All other statistics remain similar to those presented in Table 5. Figure 4 shows robustness of the main result to omitting Michigan and Illinois.

indicator for having any children under age 18. Cumulative survey weights are used, and standard errors are clustered at the super domain level.

Results from the Sun-Abraham estimation are shown in Table 6. Panel (a) shows the results for the entire sample, while Panel (b) splits the sample by religious group. As shown in Panel (a), scandals decrease overall attendance by about 0.14 index points, about 7 percent of the mean; all binary attendance variables have negative coefficients, but only declines in occasional+ attendance are statistically significant. If the entire effect on contributions came through religious attendance, these would suggest an elasticity of 0.27 (0.019/0.07). This is somewhat smaller than the estimate of 0.43 obtained by Bottan and Perez-Truglia (2015) for the Catholic sex abuse scandals, but still suggests a meaningful causal effect. If scandals affect contributions outside of their effects to attendance, however, this could be an overestimate.

Panel (b) shows that the effect is concentrated among Protestants. For this group, there is a 0.26 in index point (9 percent of the mean) decline in the continuous measure of attendance, a 4.8 percentage point (11 percent) decline in weekly attendance, a 5.1 percentage point (9 percent) decline in at least monthly attendance, and an 8 percentage point (11 percent) decline in at least occasional attendance.[53] This is consistent with everyone shifting down their attendance (e.g., weekly attenders becoming monthly attenders, monthly attenders becoming occasional attenders, and so on). Alternatively, it is also consistent with some weekly attenders and some occasional attenders no longer attending at all.

Among those not identifying as Protestant, there is no change in the attendance index or in weekly or monthly attendance; this supports the claim that changes to Protestant attendance are an effect of the megachurch scandal and not reflective of an overall decline in religiosity in the area. There are declines in occasional attendance among those reporting other/no religion; this may be a result of decreased outreach from scandal megachurches, especially around Christmas and Easter.[54]

[53]Unfortunately, the CES does not provide information on the religion in which someone is raised. Thus, results separated by affiliation could be biased by changes to affiliation. However, as discussed below and shown in columns (5)-(6) of panel (a), there is little evidence of changes to affiliation.

[54]For example, several Evangelical churches have days designated to "invite friends" to church and

The magnitude of attendance effects is similar to other types of religious shocks including the repeal of blue laws, which decreased the attendance index by 5 percent of the sample mean and weekly attendance by 15 percent (Gruber and Hungerman, 2008). It is somewhat smaller than the long-term effects of Catholic sex abuse scandals, which decreased more than monthly attendance by 20 percent for those raised Catholic.

Column (5) of panels (a), (b), and (c) report effects on daily prayer. Interestingly, daily prayer declines are not statistically significant among either group; while there is a small effect overall, megachurch scandals appear to affect public more than private religious actions.

Panel (d) shows no effects of scandals on reported affiliation. This stands in contrast to the Catholic sex abuse scandal's immediate and persistent declines in Catholic affiliation (Hungerman, 2013; Bottan and Perez-Truglia, 2015). One possible reason for the difference is the more "localized" nature of megachurch scandals: unlike the Catholic sex abuse scandal, often only one person or a few individuals were implicated. Thus, trust in the religion, as well as identification and participation, may be more likely to be retained.

Finally, I provide placebo tests similar to those in Table 2, using data on demographic characteristics in the CES. Using the same difference-in-differences estimation strategy, I examine the relationship between scandals and 10 different economic/demographic characteristics of the sample: education level (high school graduate, any college, college graduate), race (white or black), age, sex, marital status, presence of children, and whether the individual is employed.[55] In the case of random scandal timing, we would expect no underlying relationship between the scandal and (changes to) demographic or economic characteristics. This is supported by the results, shown in Table A8. Only one of the 10 coefficients is significant (with a p-value of 0.099), which is what would be expected by chance if there were no overall relationship between scandals and changes in demographic characteristics of the population. This supports the assumption that the timing of scandals

report high attendance on these days (Earls, 2024); several megachurches emphasize inviting people to church on important holidays such as Easter.

[55]Regressions no longer include demographic controls (as these are outcome variables) but continue to include domain fixed effects, year by region fixed effects, year by church count fixed effects, year dummies interacted with the average and largest church size, and division linear time trends.

is unrelated to the underlying population characteristics in the area.

6 Conclusion

This paper examines the impact of sex-related scandals at large megachurches on contributions and religious attendance. Scandals decrease total itemized contributions by about 1.9 percent per year for at least three years. Contributions to most local secular charities do not change, suggesting limited substitution between religious and secular giving. The exception is a large decline in funding for local CPCs, indicating close links between anti-abortion organizations and U.S. megachurches. There are also substantial declines in church attendance among Protestants, suggesting that this is an important mechanism of the effects.

This paper is the first to document the impact of U.S. Protestant churches and megachurches specifically on total charitable giving, and the first to examine the causal financial links between megachurches and the anti-abortion movement. These results indicate that churches in general and megachurches specifically play a substantial role in forming individual charitable budgets. Thus, declining rates of religious attendance in future decades may put downward pressure on charitable giving. While spillovers to secular charities may be limited, there may be substantial declines in funding for CPCs coming from churches. Future work could examine the effects of other types of shocks/churches on charitable budgets, as well as examine the effects of megachurches on other social outcomes such as health or crime.

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the author used ChatGPT in order to edit phasing and complete summaries, find common names for crisis pregnancy centers, and format tables. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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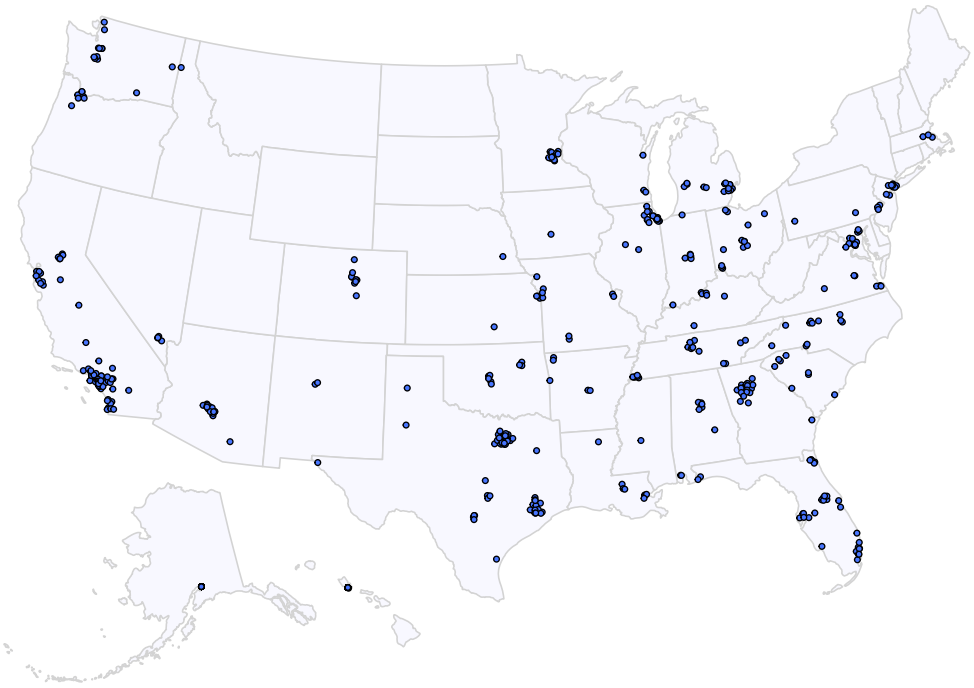
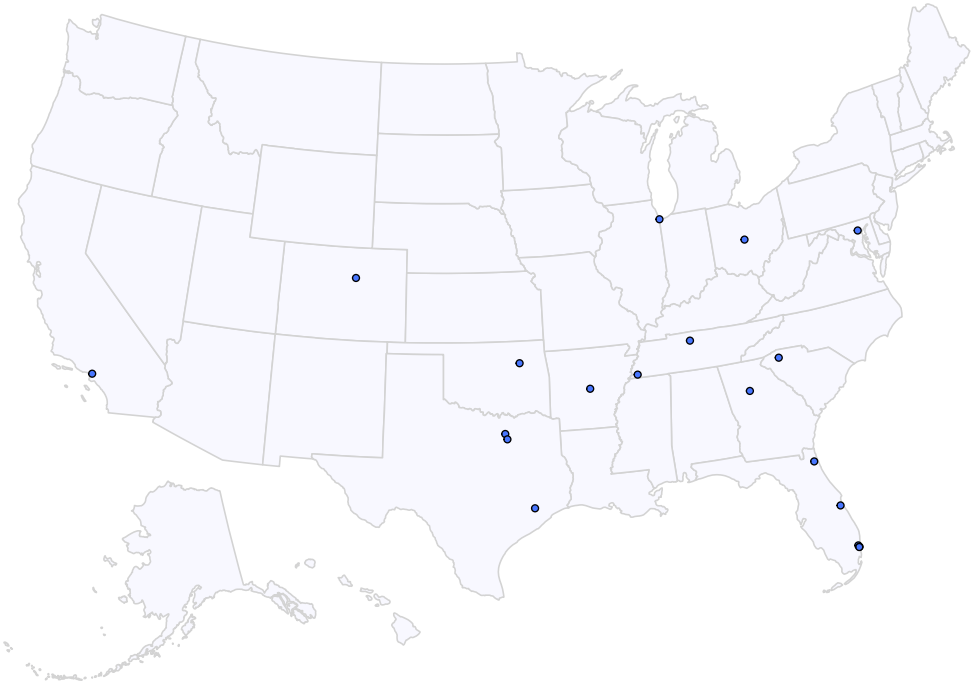
Tables and Figures

Figure 1: Geographic Distribution of Megachurches and Scandals

(a) All Megachurch Locations

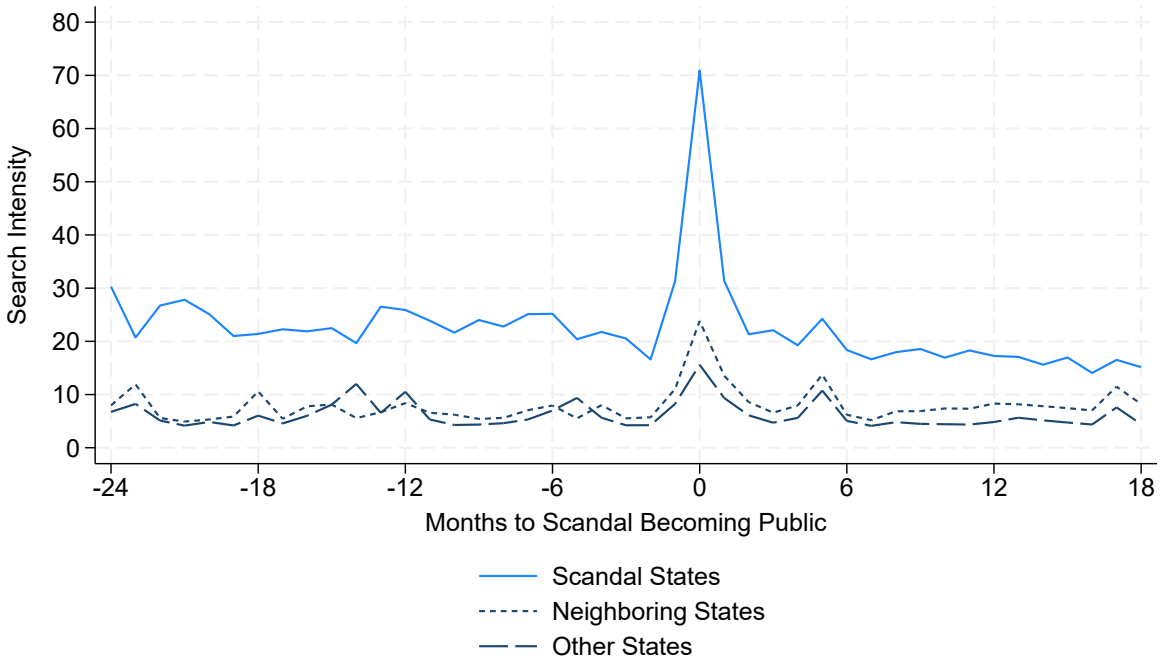


(b) Scandal Locations: 2008-2015



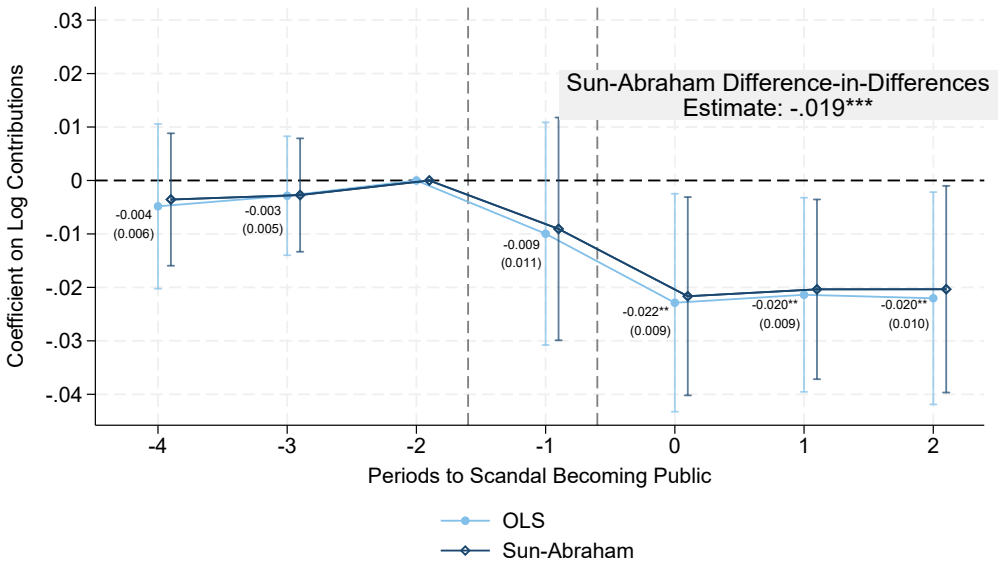
Note: These figures represent the geographic distribution of large megachurches and megachurch scandals in the United States. The list of megachurches was obtained from the Hartford Institute as of 2007 (Thumma, 2007) and the list of scandals was collected by the author.

Figure 2: Spread of Scandals: Results from Google Trends



Note: This figure plots the average Google search intensity across 17 scandals from 2008-2018. For each scandal, intensity represents searches for the name of the church or the name of employee(s) involved, and the month-location pair with the highest search volume is given a value of 100. Scandal states and neighboring states are defined separately for each scandal; neighboring states are those sharing a border with the scandal state.

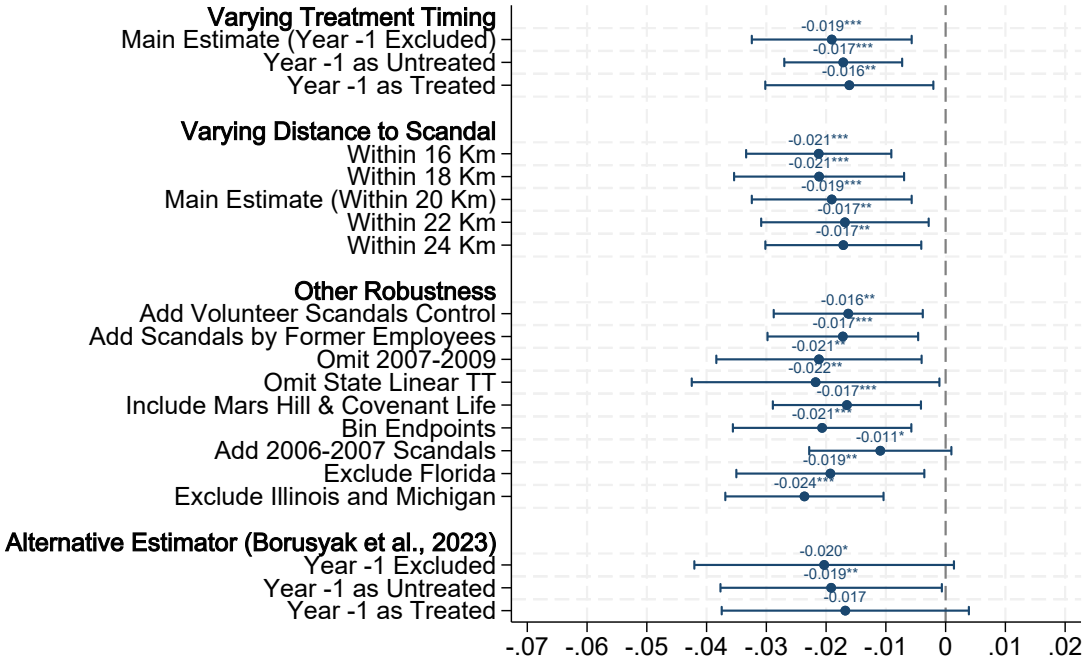
Figure 3: Scandals and Itemized Contributions



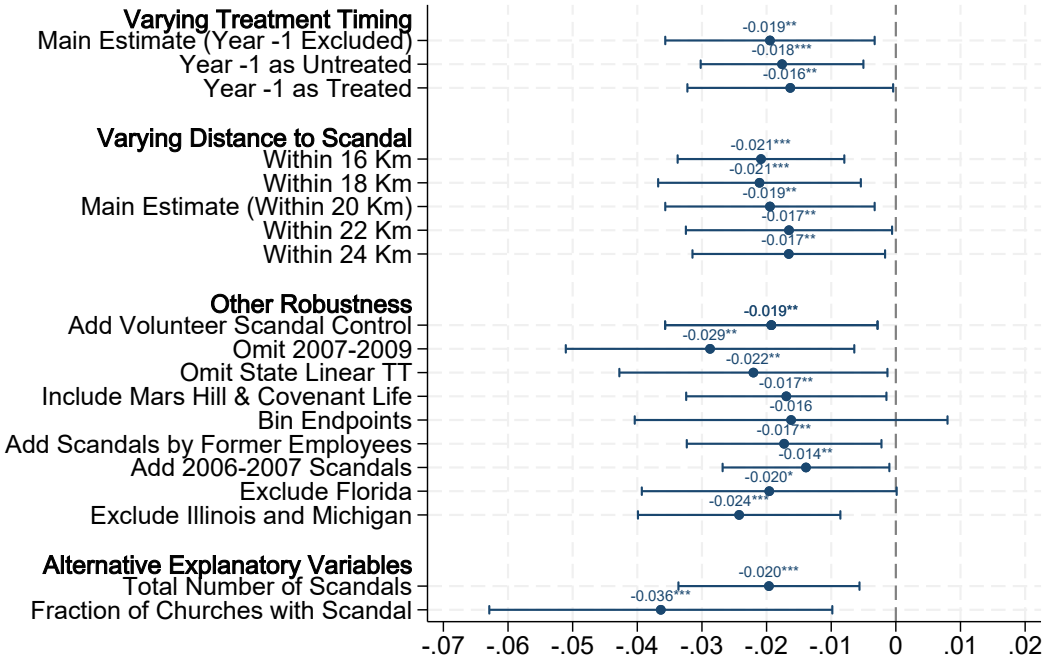
Note: This figure plots the coefficients (dots) and 95% confidence intervals (bars) on relative time interacted with an indicator for being within 20 kilometers of a megachurch scandal. The point estimates from the Sun-Abraham estimation are provided to the left of the dots. The dependent variable is the log of itemized charitable contributions in the zip code. All regressions include controls for yearly AGI and number of returns filed, zip code and year fixed effects, region by year fixed effects, church count by year fixed effects, state linear time trends, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. Year -1 is omitted from the Sun-Abraham difference-in-differences estimation. The final regression sample includes 49,583 observations from 3,787 zip codes. * p<0.1 ** p<0.05 *** p<0.01

Figure 4: Scandals and Itemized Contributions: Robustness

(a) Sun-Abraham



(b) OLS



These figures show differences-in-differences estimates (dots) and 95 percent confidence intervals (bars) using the Sun-Abraham estimator (top panel) or TWFE OLS (bottom panel). The dependent variable equals the log of itemized charitable contributions in the zip code, and the coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Unless otherwise specified, Year -1 is omitted and the regressions include zip code fixed effects, region by year and number of churches by year fixed effects, state linear time trends, controls for zip code log adjusted gross income (AGI) and log number of returns filed, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table 1: Summary Statistics

	Type of Zip Code		
	No Megachurch	Megachurch without Scandal	Megachurch with Scandal
	(1)	(2)	(3)
AGI per Return	56,045	73,971	71,075
	(43,140)	(60,415)	(51,261)
Contributions per Return	4,108	5,174	5,712
	(5,117)	(7,176)	(4,081)
Number of Returns	3,875	11,555	12,792
	(5,393)	(9,211)	(8,527)
Fraction of Returns with Contributions	0.24	0.33	0.31
	(0.12)	(0.14)	(0.13)
Number of Megachurches within 20 Km	0.00	2.52	4.42
	(0.00)	(1.77)	(2.42)
Average Attendance at Megachurches within 20 Km	.	5,319	6,283
	(.)	(1,881)	(2,281)
Number of Scandals within 20 Km (2008–2015)	0	0	1.07
	(0.00)	(0.00)	(0.25)
Number of Zips	19,936	3,360	423
Number of Churches	.	404	18

Note: This table shows means and standard deviations (in parentheses) for zip codes in the years 2004-2006, separated into zip codes with no megachurches (column (1)) those with a megachurch but no scandal (column (2)) and those with a megachurch and scandal between 2008 and 2015 (column (3)). Zip codes with a scandal between 2001 and 2007 or in 2017 are omitted from the regressions and also omitted from this table. The list of megachurches was obtained from the Hartford Institute as of 2007 (Thumma, 2007) and the list of scandals was collected by the author.

Table 2: Scandals and Itemized Contributions: Sun-Abraham

(a) Difference-in-Differences

	Main Estimate	Placebo Tests	
	(1) Log Contributions	(2) Log AGI	(3) Log # of Returns
Has Scandal	-0.019***	0.008	-0.002
	(0.007)	(0.010)	(0.007)
Observations	49,160	49,160	49,160
Number of Zips	3,787	3,787	3,787

(b) Event Study

	Main Estimate	Placebo Tests	
	(1) Log Contributions	(2) Log AGI	(3) Log # of Returns
Year -4	-0.004	0.016	0.008
	(0.006)	(0.012)	(0.008)
Year -3	-0.003	-0.003	0.005
	(0.005)	(0.004)	(0.005)
Year -2 (Omitted)	0.000	0.000	0.000
	(.)	(.)	(.)
Year -1	-0.009	0.006	0.007
	(0.011)	(0.004)	(0.005)
Year 0	-0.022**	0.012	0.005
	(0.009)	(0.008)	(0.007)
Year +1	-0.020**	0.015*	0.003
	(0.009)	(0.008)	(0.007)
Year +2	-0.020**	0.009	-0.003
	(0.010)	(0.010)	(0.008)
Observations	49,583	49,583	49,583
Number of Zips	3,787	3,787	3,787

Note: This table shows parameter estimates and standard errors (in parentheses) using the Sun-Abraham estimator. The dependent variable is displayed in the column heading. Coefficients are for an indicator for being in the scandal year or after (panel (a)) or relative time ((panel (b)) interacted with an indicator for being 20 kilometers from a megachurch scandal. In panel (a), year -1 is omitted. All regressions include zip code fixed effects, region by year fixed effects, church count by year fixed effects, state linear time trends, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Column (1) includes controls for yearly log adjusted gross income (AGI) and log number of returns filed. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table 3: Summary Statistics: IRS Form 990

	Type of Zip Code		
	No Megachurch	Megachurch without Scandal	Megachurch with Scandal
	(1)	(2)	(3)
Number of Charities	6.41	14.38	14.48
	(10.16)	(17.29)	(16.22)
Contributions per Charity	747,463	1,345,175	1,935,856
	(2,360,686)	(3,153,856)	(9,031,885)
Number of Food Programs	0.06	0.09	0.06
	(0.25)	(0.32)	(0.24)
Contributions per Food Program	1,353,902	3,611,746	1,121,339
	(3,886,433)	(8,651,348)	(1,320,173)
Number of Housing Programs	0.07	0.20	0.18
	(0.32)	(0.59)	(0.55)
Contributions per Housing Program	974,528	1,885,971	1,811,348
	(2,191,974)	(3,322,184)	(3,419,493)
Number of CPCs	0.05	0.06	0.05
	(0.21)	(0.24)	(0.21)
Contributions per CPC	195,257	401,581	437,514
	(198,280)	(470,545)	(419,508)
Number of Zips	10,522	3,168	419
Number of Churches	.	404	18
Number of Churches with CPCs	.	374	15

Note: This table shows means and standard deviations (in parentheses) for zip codes in the year 2004-2006 separated into zip codes with no megachurches (column (1)) those with a megachurch but no scandal (column (2)) and those with a megachurch and scandal between 2008 and 2015 (column (3)). Zip codes with a scandal between 2001 and 2007 are omitted and summary statistics are unweighted. The list of megachurches was obtained from the Hartford Institute as of 2007 (Thumma, 2007) and the list of scandals was collected by the author.

Table 4: Scandals and Contributions to Local Non-Congregation Charities: Sun-Abraham

	(1) All Log Cont.	(2) Religious Log Cont.	(3) All Non-Religious Log Cont.	(4) Arts Log Cont.	(5) Education Log Cont.	(6) Health Log Cont.	(7) Human Services Log Cont.	(8) Other Log Cont.	(9) Housing Log Cont.	(10) Food Log Cont.	(11) CPC Log Cont.	(12) CPC Tot Cont.	(13) CPC Tot Cont. (Incl. Zeros)
Has Scandal	-0.016	-0.059	-0.007	-0.069	-0.042	0.083	0.002	-0.038	-0.037	0.227	-0.284***	-186.717***	-76.192***
	(0.025)	(0.068)	(0.028)	(0.044)	(0.054)	(0.074)	(0.034)	(0.065)	(0.162)	(0.180)	(0.078)	(53.522)	(20.214)
Observations	12,125	9,178	12,061	8,663	10,920	9,125	11,352	10,388	4,026	3,219	2,424	3,007	12,125
Number of Domains	966	817	964	771	914	800	931	900	406	328	227	228	966

Note: This table shows parameter estimates and standard errors (in parentheses) using the Sun-Abraham estimator. The dependent variable is the log or total amount (in thousands) of contributions, gifts, and grants received by the type of charity listed in the column. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Year -1 is omitted. All regression include neighborhood (collection of zip codes within 20 kilometers of the same churches) and year fixed effects, region by year fixed effects, church count by year fixed effects, Census division linear time trends, and year dummies interacted 2007 average megachurch attendance and the 2007 size of the largest megachurch. Columns (1)-(11) include only domains with at least 2 years of positive contributions for the relevant charity. Column (12) includes only domains with at least 1 year of positive contributions. Column (13) includes all domains. Cells are weighted by the total number of individual tax returns in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table 5: Summary Statistics: Cooperative Election Study

	Type of Zip Code		
	No Megachurch	Megachurch without Scandal	Megachurch with Scandal
	(1)	(2)	(3)
Attendance Index	2.22	2.11	2.14
	(1.72)	(1.69)	(1.70)
Religious Attendance: Weekly+	0.32	0.29	0.29
	(0.47)	(0.45)	(0.45)
Religious Attendance: Biweekly+	0.41	0.39	0.39
	(0.49)	(0.49)	(0.49)
Religious Attendance: A Few Times a Year+	0.56	0.54	0.55
	(0.50)	(0.50)	(0.50)
Daily Prayer	0.52	0.47	0.50
	(0.50)	(0.50)	(0.50)
Protestant	0.44	0.37	0.34
	(0.50)	(0.48)	(0.47)
White	0.81	0.68	0.64
	(0.39)	(0.47)	(0.48)
Black	0.08	0.13	0.22
	(0.28)	(0.34)	(0.42)
Female	0.54	0.51	0.51
	(0.50)	(0.50)	(0.50)
Age	46.96	44.77	45.43
	(16.74)	(16.60)	(16.59)
Employed	0.47	0.53	0.51
	(0.50)	(0.50)	(0.50)
Has Child Under 18	0.31	0.30	0.30
	(0.46)	(0.46)	(0.46)
Married	0.60	0.52	0.50
	(0.49)	(0.50)	(0.50)
Number of Zips	9,615	2,897	439
Number of Churches	.	398	20

Note: This table shows means and standard deviations (in parentheses) for individuals from 2008-2010 separated into individuals living in zip codes with no megachurches (column (1)) those with a megachurch but no scandal (column (2)) and those with a megachurch and scandal between 2011 and 2018 (column (3)). Zip codes with a scandal between 2001 and 2010 or in 2019 are omitted and summary statistics are weighted using cumulative survey weights. The list of megachurches was obtained from the Hartford Institute as of 2007 (Thumma, 2007) and the list of scandals was collected by the author.

Table 6: Scandals, Religious Practice, and Affiliation: Sun-Abraham

(a) Religious Practice: All

	(1) Attendance Index	(2) Weekly+ Attendance	(3) Bi-Weekly+ Attendance	(4) Occasional+ Attendance	(5) Daily Prayer
Has Scandal	-0.142**	-0.022	-0.013	-0.057***	-0.024*
	(0.054)	(0.014)	(0.015)	(0.017)	(0.013)
Dep Variable Mean	2	.28	.37	.51	.46
Observations	125,208	125,208	125,208	125,208	123,744
Number of Domains	792	792	792	792	792

(b) Religious Practice: Protestants

	(1) Attendance Index	(2) Weekly+ Attendance	(3) Bi-Weekly+ Attendance	(4) Occasional+ Attendance	(5) Daily Prayer
Has Scandal	-0.260***	-0.048**	-0.051*	-0.080***	-0.026
	(0.073)	(0.020)	(0.029)	(0.023)	(0.031)
Dep Variable Mean	2.8	.45	.56	.72	.66
Observations	47,870	47,870	47,870	47,870	47,567
Number of Domains	790	790	790	790	790

(c) Religious Practice: Non-Protestants

	(1) Attendance Index	(2) Weekly+ Attendance	(3) Bi-Weekly+ Attendance	(4) Occasional+ Attendance	(5) Daily Prayer
Has Scandal	-0.054	0.002	0.005	-0.041*	-0.019
	(0.072)	(0.019)	(0.020)	(0.024)	(0.020)
Dep Variable Mean	1.5	.18	.25	.39	.33
Observations	77,170	77,170	77,170	77,170	76,028
Number of Domains	792	792	792	792	792

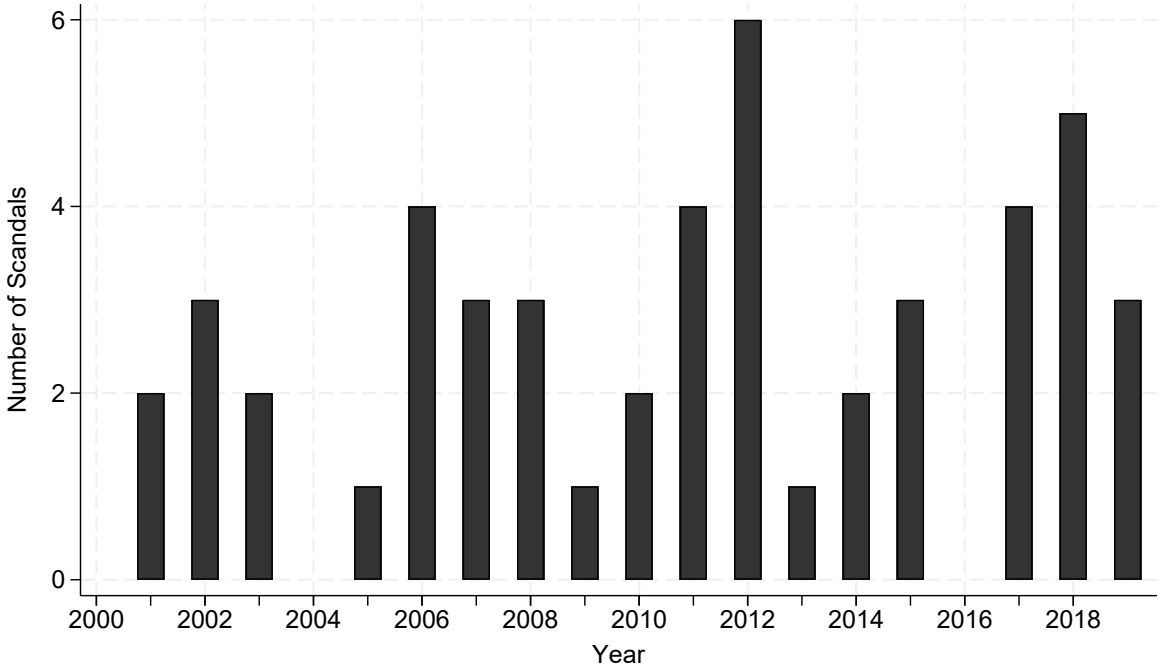
(d) Religious Affiliation

	(1) Protestant	(2) Other/ No Religion
Has Scandal	0.003	-0.003
	(0.014)	(0.014)
Dep Variable Mean	.37	.63
Observations	126,460	126,460
Number of Domains	792	792

Note: This table shows parameter estimates and standard errors (in parentheses) from a Sun-Abraham estimation. The dependent variables are indicators for religious practice or religious identification. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Year -1 is omitted. All regression include domain (collection of zip codes within 20 kilometers of the same churches) and year fixed effects, region by year fixed effects, church count by year fixed effects, Census division linear time trends, year dummies interacted with 2007 average megachurch attendance and the 2007 size of the largest megachurch, and individual-level controls for gender, age and age squared, race (indicators for white, black, and Latinx), education (indicators for high school completion, any college, college completion, and post college education), marital status (indicators for married, separated, divorced, widowed, in a domestic partnership, and never married/single), employment status (indicators for full-time, part-time, temporarily laid off, unemployed, retired, disabled, homemaker, student, and other), and an indicator for having any children under age 18. Cumulative survey weights used. Standard errors clustered at the super domain level. Religion data cover the years 2008-2019. Scandals are from 2011-2017. * p<0.1 ** p<0.05 *** p<0.01

Appendix A

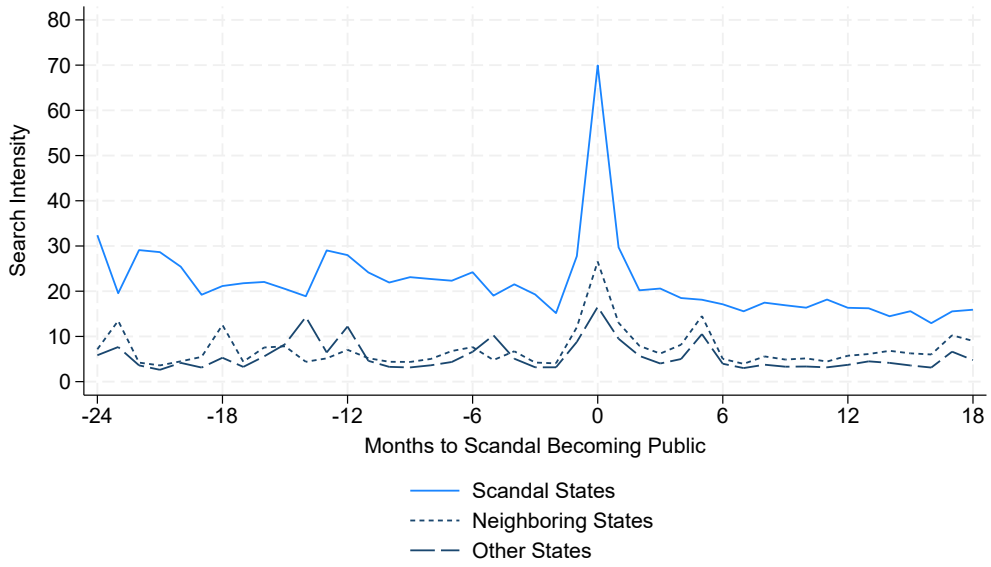
Figure A1: Scandals by Year



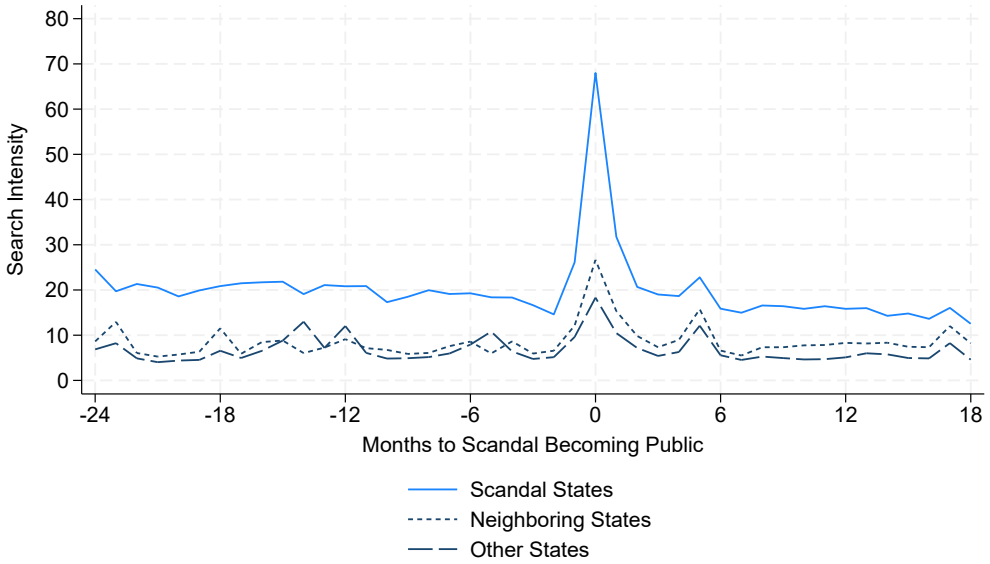
Note: This figure plots the distribution of scandals by year at large megachurches. The list of megachurches was obtained from the Hartford Institute as of 2007 (Thumma, 2007) and the list of scandals was collected by the author.

Figure A2: Spread of Scandals: Additional Results from Google Trends

(a) 2008-2015 Scandals Only

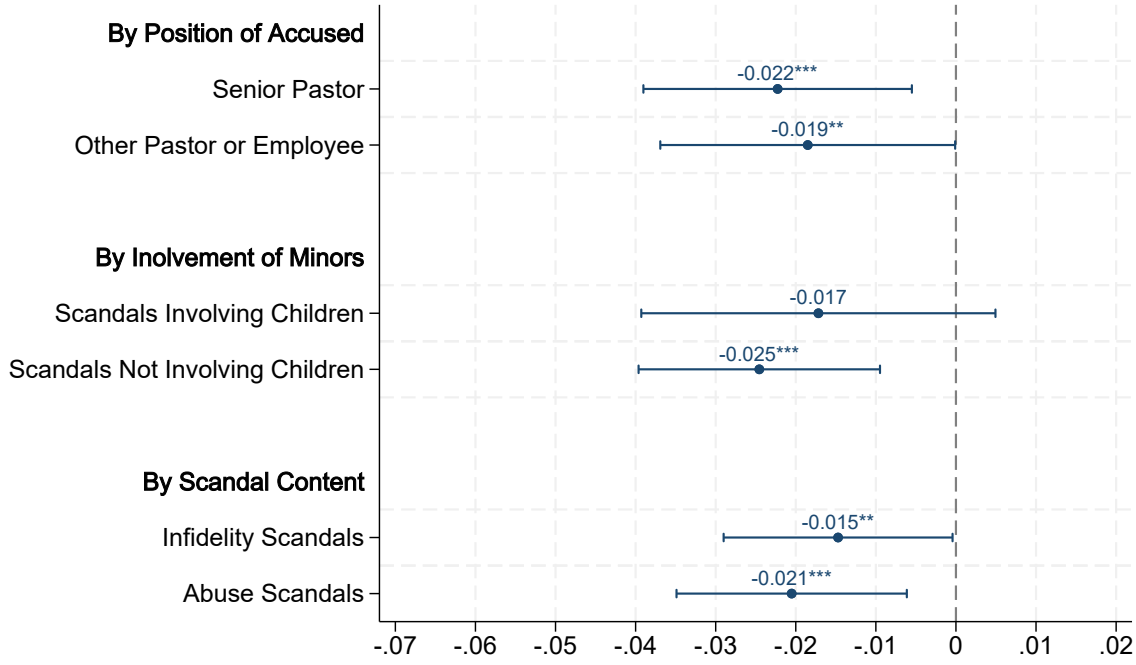


(b) Scandals with 6+ States of Data



Note: This figure plots the average Google search intensity across 13 scandals from 2008-2015 (panel (a)) and 14 scandals from 2008-2018 with at least 10 total states of data (panel (b)). For each scandal, intensity represents searches for the name of the church or the name of employee(s) involved, and the month-location pair with the highest search volume is given a value of 100. Scandal states and neighboring states are defined separately for each scandal; neighboring states are those sharing a border with the scandal state.

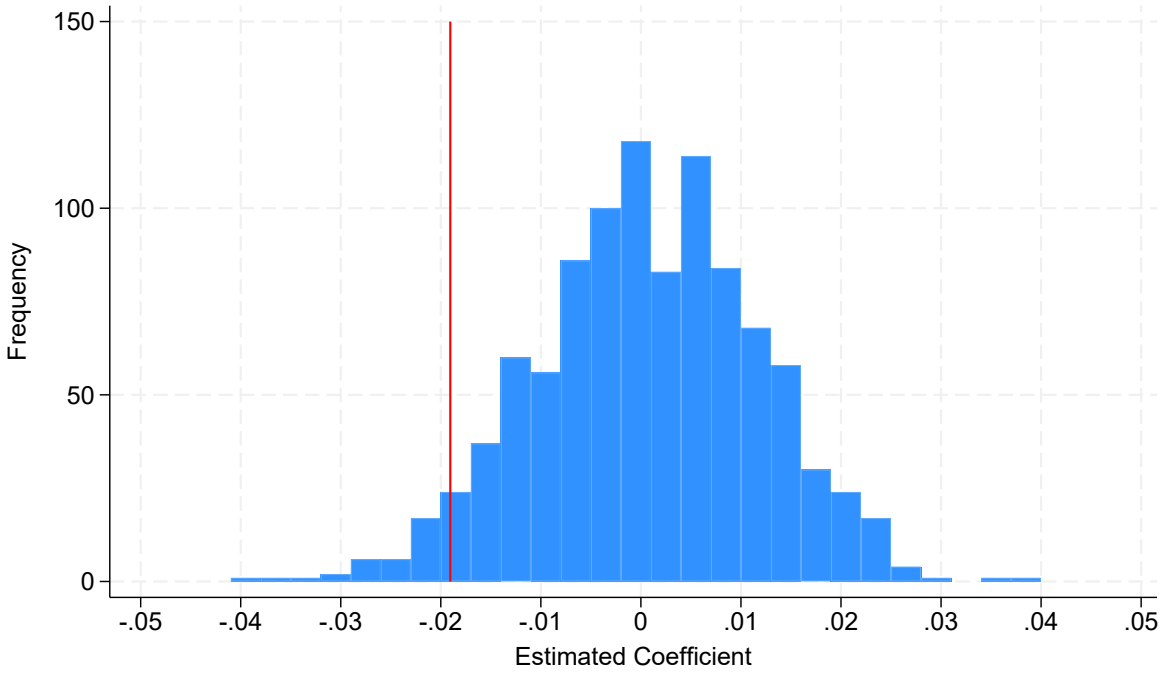
Figure A3: Scandals and Itemized Contributions Heterogeneity: Sun-Abraham



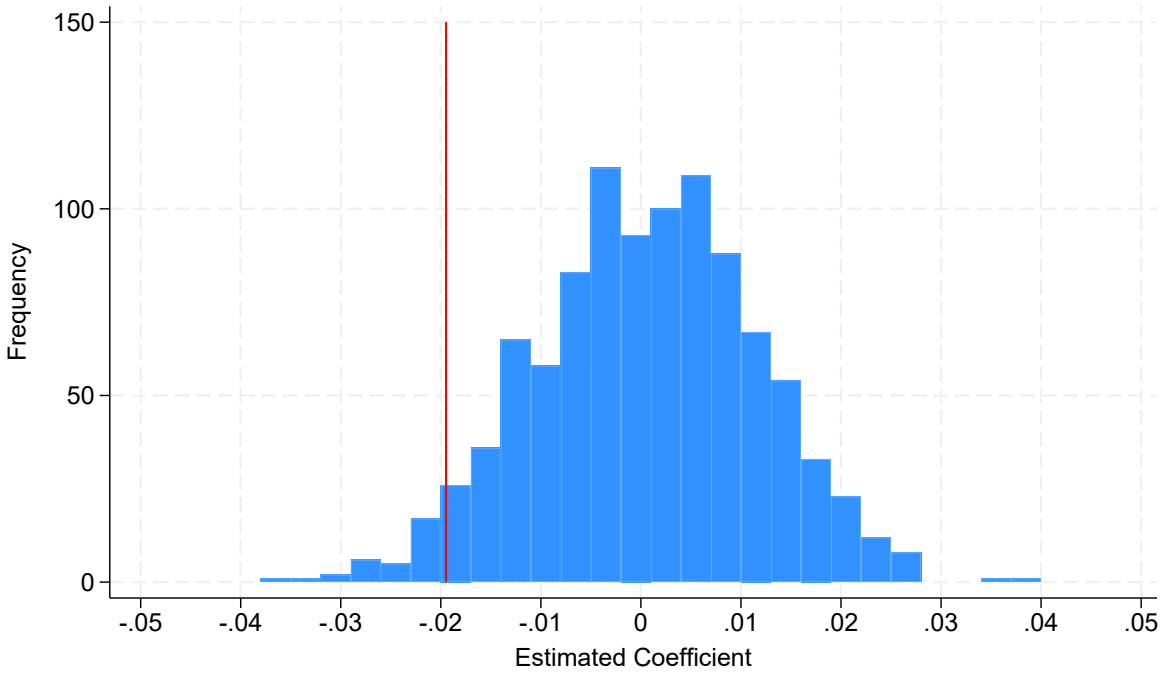
These figures show differences-in-differences estimates (dots) and 95 percent confidence intervals (bars) using the Sun-Abraham estimator, separated by the type of scandal. The dependent variable equals the log of itemized charitable contributions in the zip code, and the coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Unless otherwise specified, Year -1 is omitted and the regressions include zip code fixed effects, region by year and number of churches by year fixed effects, state linear time trends, controls for zip code log adjusted gross income (AGI) and log number of returns filed, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * $p<0.1$ ** $p<0.05$ *** $p<0.01$

Figure A4: Scandals and Itemized Contributions: Randomization-Based Inference

(a) Sun-Abraham



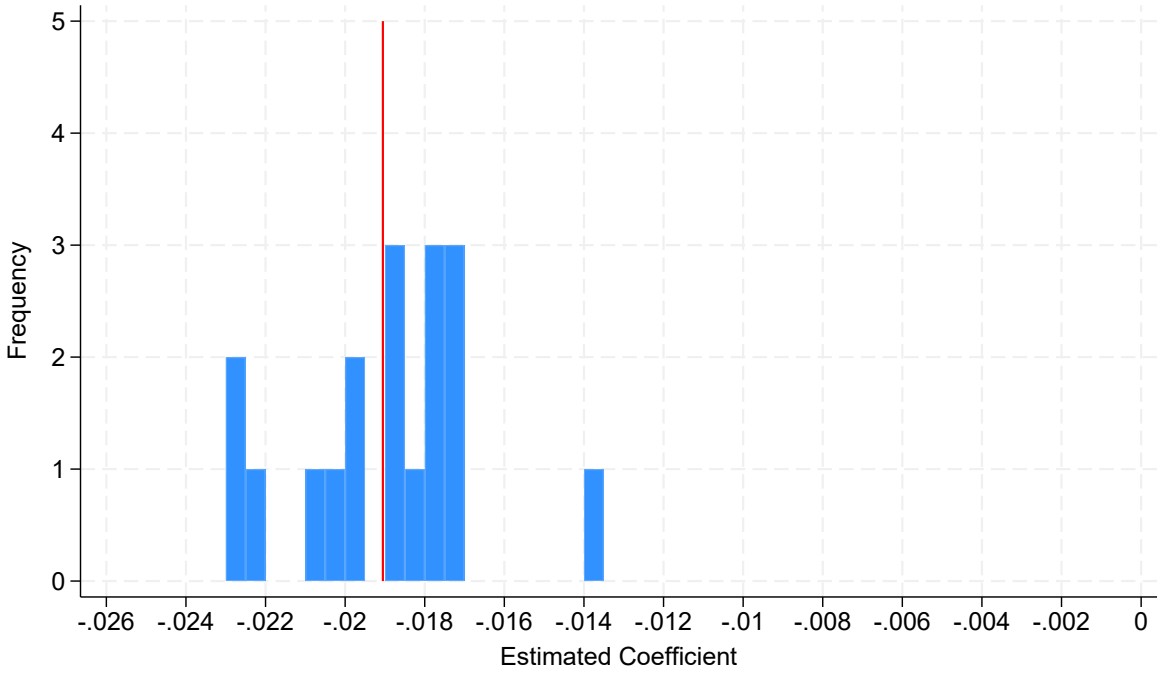
(b) OLS



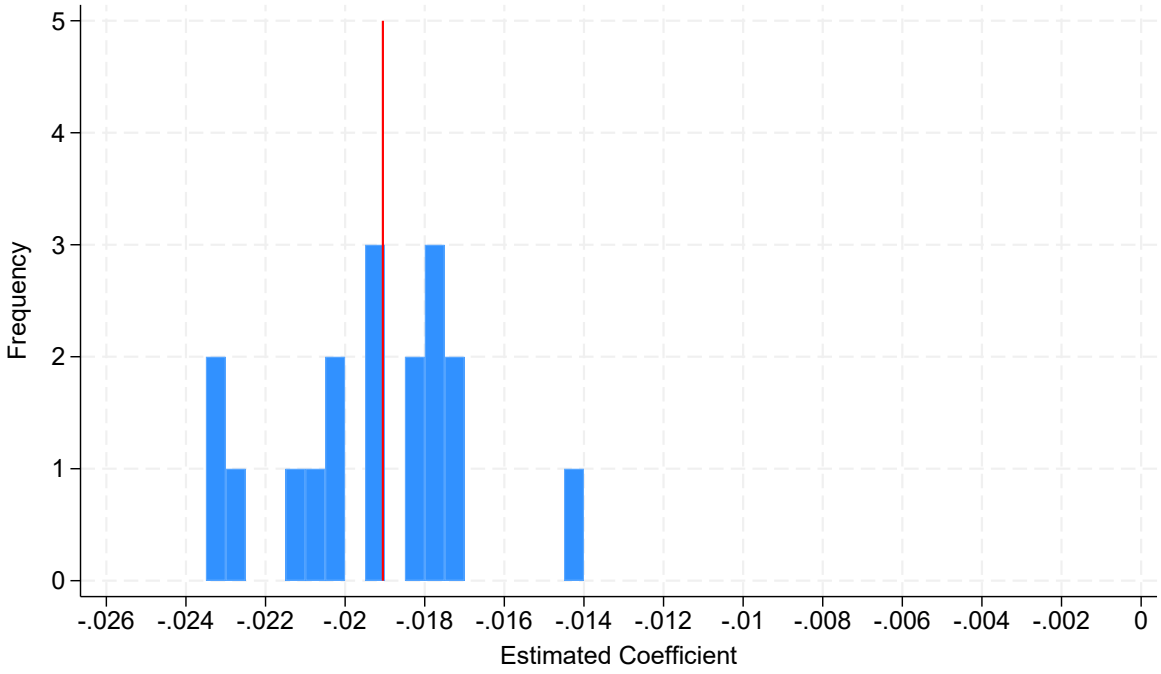
These figures show the distribution of coefficient estimates obtained when randomizing treatment across the sample of churches and running the Sun-Abraham estimator (panel (a)) or OLS (panel (b)) 1000 times. To randomize treatment, churches are divided into three groups based on size (10,000 and over, 5,000-9,999, and less than 5000), treatment is randomly assigned based on the actual number treated in each group, and the difference-in-differences estimates are computed. The actual estimate is shown with the red line.

Figure A5: Scandals and Itemized Contributions: Dropping One Scandal at a Time

(a) Sun-Abraham



(b) OLS



These figures show the distribution of coefficient estimates obtained when dropping one of the 2008-2015 scandals (and all zip codes within 20 kilometers) at a time from the analysis. All coefficients are statistically significant at at least the 10 percent level. The actual estimate is shown with the red line. The dependent variable equals the log of itemized charitable contributions in the zip code, and the coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Year -1 is omitted and the regressions include zip code fixed effects, region by year and number of churches by year fixed effects, state linear time trends, controls for zip code log adjusted gross income (AGI) and log number of returns filed, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Cells are weighted by the number of returns in the zip code in 2002.

Table A1: Description of Megachurch Sex Scandals: 2008-2015

Church Name	**Location**	**Year**	**Scandal Description**
Bethel AME Church	Baltimore, MD	2008	Music director charged for having sexual relations with young churchgoer.
Prestonwood Baptist Church	Plano, TX	2008	Associate minister arrested for solicitation of a minor.
Trinity Chapel Church of God	Powder Springs, GA	2008	Senior Pastor resigned after admitting to an extramarital affair.
First African Methodist Episcopal Church	Los Angeles, CA	2009	Lawsuit filed against Senior Pastor for sexual abuse. Senior Pastor then filed countersuit.
New Birth Missionary Baptist Church	Stonecrest, GA	2010	Senior Pastor faced lawsuits from four young men accusing him of sexual coercion during their teenage years.
Saint Mark Baptist Church	Little Rock, AR	2010	Senior pastor resigned due to "inappropriate relationship."
Mount Olive Baptist Church	Fort Lauderdale, FL	2011	Associate pastor charged with sexual battery.
Prestonwood Baptist Church	Plano, TX	2011	Church officials accused of mishandling reports of sexual abuse of child.
Second Baptist Church	Houston, TX	2011	Youth pastor arrested for sexually assaulting a 16-year-old and charged with online solicitation of a minor.
Vineyard Church of Columbus	Westerville, OH	2011	Associate Pastor accused of having a sexual relationship with a woman he was counseling; lawsuit filed.
Covenant Life Church	Gaithersburg, MD	2012	Former youth leader convicted of sexually abusing boys in the 1980s and 1990s; current church leaders criticized for mishandling reports and lawsuit filed.
First Baptist Church	Hammond, IN	2012	Senior Pastor pleaded guilty to transporting a minor across state lines for sexual activity.
Mount Zion Baptist Church	Nashville, TN	2012	Senior Pastor sued for sexual misconduct.
Redemption World Outreach Center	Greenville, SC	2012	Employee charged with lewd act on a minor.
Saint Luke "Community" United Methodist Church	Dallas, TX	2012	Lawsuit filed against senior pastor and church officials for sexual harassment/failure to respond to reported abuse.
Victory Christian Center	Tulsa, OK	2012	Employee charged with child sex abuse, other employees charged with failing to report abuse.
Mandarin Christian Church	Jacksonville, FL	2013	Youth pastor charged with sexual abuse of a minor.
Calvary Chapel Fort Lauderdale	Fort Lauderdale, FL	2014	Senior Pastor resigned after admitting to adultery and a pornography addiction.
Hope Presbyterian Church	Cordova, TN	2014	Church music teacher arrested on charges of sexual assault of a child.
Heritage Christian Center (Potter's House)	Aurora, CO	2015	Executive coordinator accused of sexual assault on child and arrested.
Calvary Chapel of Melbourne	Melbourne, FL	2015	Member of the church security team arrested on child pornography charges.
Coral Ridge Presbyterian Church	Fort Lauderdale, FL	2015	Senior Pastor resigned after admitting to infidelity.

Table A2: Description of Megachurch Sex Scandals: 2017-2018

Church Name	**Location**	**Year**	**Scandal Description**
Hales Corners Lutheran Church	Hales Corners, WI	2017	Employee charged with child sexual exploitation and downloading child pornography.
Heritage Christian Center (Potter's House)	Aurora, CO	2017	Senior Pastor accused of having an affair.
Mt. Olivet Lutheran Church	Minneapolis, MN	2017	Church choir leader charged with third-degree criminal sexual conduct and electronic solicitation of a child.
North Coast Calvary Chapel	Carlsbad, CA	2017	Assistant pastor arrested and charged with lewd and lascivious acts with a minor.
Champion Forest Baptist Church	Houston, TX	2018	Student minister charged with online solicitation of a minor.
Elmbrook Church	Brookfield, WI	2018	Senior Pastor resigned due to multiple marital infidelities and a serious addiction.
Greater Grace Temple	Detroit, MI	2018	Senior pastor accused of inappropriately touching a celebrity.
Life Center	Tacoma, WA	2018	Senior Pastor accused of sexual misconduct and fired.
Willow Creek Community Church	South Barrington, IL	2018	Senior Pastor resigned amid allegations of sexual misconduct involving multiple women, including inappropriate comments and unwanted advances.

Table A3: Scandals and Itemized Contributions: OLS

(a) Difference-in-Differences

	Main Estimate	Placebo Tests	
	(1) Log Contributions	(2) Log AGI	(3) Log # of Returns
Has Scandal	-0.019**	0.007	-0.003
	(0.008)	(0.010)	(0.009)
Observations	49,160	49,160	49,160
Number of Zips	3,787	3,787	3,787

(b) Event Study

	Main Estimate	Placebo Tests	
	(1) Log Contributions	(2) Log AGI	(3) Log # of Returns
Year -4	-0.005	0.017	0.009
	(0.008)	(0.011)	(0.007)
Year -3	-0.003	-0.002	0.006
	(0.006)	(0.005)	(0.004)
Year -2 (Omitted)	0.000	0.000	0.000
	(.)	(.)	(.)
Year -1	-0.010	0.006	0.007
	(0.011)	(0.004)	(0.005)
Year 0	-0.023**	0.013	0.005
	(0.010)	(0.008)	(0.008)
Year +1	-0.021**	0.015	0.003
	(0.009)	(0.009)	(0.007)
Year +2	-0.022**	0.008	-0.003
	(0.010)	(0.012)	(0.009)
Observations	49,583	49,583	49,583
Number of Zips	3,787	3,787	3,787

Note: This table shows parameter estimates and standard errors (in parentheses) using OLS TWFE. The dependent variable is displayed in the column heading. Coefficients are for an indicator for being in the scandal year or after (panel (a)) or relative time ((panel (b)) interacted with an indicator for being 20 kilometers from a megachurch scandal. In panel (a), year -1 is omitted. All regressions include zip code fixed effects, region by year fixed effects, church count by year fixed effects, state linear time trends, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Column (1) includes controls for yearly log adjusted gross income (AGI) and log number of returns filed. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table A4: Scandals and Itemized Contributions with Alternative Clustering of Standard Errors: Sun-Abraham

	Main Estimate (Log Contributions)		
	(1) Cluster SEs at Domain Level	(2) Cluster SEs at County Level	(3) Cluster SEs at State Level
Has Scandal	-0.019***	-0.019**	-0.019**
	(0.006)	(0.008)	(0.007)
Observations	49,160	49,160	49,160
Number of Zips	3,787	3,787	3,787

Note: This table shows parameter estimates and standard errors (in parentheses) using the Sun-Abraham estimator. The dependent variable is log itemized contributions. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 kilometers from a megachurch scandal. Year -1 is omitted. All regressions include controls for yearly log adjusted gross income (AGI) and log number of returns filed as well as zip code fixed effects, region by year fixed effects, church count by year fixed effects, state linear time trends, and year dummies interacted with the 2002 log AGI, 2002 log number of returns, 2007 average megachurch attendance, and the 2007 size of the largest megachurch. Cells are weighted by the number of returns in the zip code in 2002. Standard errors are clustered at the level described in the column heading; domains are sets of zip codes that are within 20 kilometers of the same set of churches. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table A5: Scandals and Contributions to Local Non-Congregation Charities: OLS

	(1) All Log Cont.	(2) Religious Log Cont.	(3) All Non-Religious Log Cont.	(4) Arts Log Cont.	(5) Education Log Cont.	(6) Health Log Cont.	(7) Human Services Log Cont.	(8) Other Log Cont.	(9) Housing Log Cont.	(10) Food Log Cont.	(11) CPC Log Cont.	(12) CPC Tot Cont.	(13) CPC Tot Cont. (Incl. Zeros)
Has Scandal	-0.020	-0.058	-0.011	-0.064	-0.052	0.072	-0.000	-0.038	-0.004	0.218	-0.276***	-189.113***	-74.944***
	(0.029)	(0.074)	(0.031)	(0.074)	(0.061)	(0.071)	(0.046)	(0.069)	(0.179)	(0.178)	(0.099)	(59.155)	(20.337)
Observations	12,125	9,178	12,061	8,663	10,920	9,125	11,352	10,388	4,026	3,219	2,424	3,007	12,125
Number of Domains	966	817	964	771	914	800	931	900	406	328	227	228	966

Note: This table shows parameter estimates and standard errors (in parentheses) using the OLS TWFE estimator. The dependent variable is the log or total amount (in thousands) of contributions, gifts, and grants received by the type of charity listed in the column. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 kilometers from a megachurch scandal. Year -1 is omitted. All regression include neighborhood and year fixed effects, region by year fixed effects, church count by year fixed effects, Census division linear time trends, and year dummies interacted with 2007 average megachurch attendance and size of the largest megachurch. Columns (1)-(11) include only domains with at least 2 years of positive contributions for the relevant charity. Column (12) includes only domains with at least 1 year of positive contributions. Column (13) includes all domains. Cells are weighted by the number of individual tax returns in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. * p<0.1 ** p<0.05 *** p<0.01

Table A6: Scandals and Contributions to Local Non-Church Charities: Sun-Abraham with California, Texas, and Florida State Linear Time Trends

	(1) All Log Cont.	(2) Religious Log Cont.	(3) All Non-Religious Log Cont.	(4) Arts Log Cont.	(5) Education Log Cont.	(6) Health Log Cont.	(7) Human Services Log Cont.	(8) Other Log Cont.	(9) Housing Log Cont.	(10) Food Log Cont.	(11) CPC Log Cont.	(12) CPC Tot Cont.	(13) CPC Tot Cont. (Incl. Zeros)
Has Scandal	-0.015	-0.058	-0.005	-0.068	-0.037	0.084	0.006	-0.035	-0.041	0.217	-0.237***	-173.059***	-73.173***
	(0.025)	(0.071)	(0.027)	(0.044)	(0.054)	(0.075)	(0.034)	(0.063)	(0.160)	(0.177)	(0.084)	(53.617)	(20.447)
Observations	12,125	9,178	12,061	8,663	10,920	9,125	11,352	10,388	4,026	3,219	2,424	3,007	12,125
Number of Domains	966	817	964	771	914	800	931	900	406	328	227	228	966

Note: This table shows parameter estimates and standard errors (in parentheses) using the Sun-Abraham estimator. The dependent variable is the log or total amount (in thousands) of congregations, gifts, and grants received by the type of charity listed in the column. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Year -1 is omitted. All regression include neighborhood (collection of zip codes within 20 kilometers of the same churches) and year fixed effects, region by year fixed effects, church count by year fixed effects, division linear time trends (with state time trends for California, Florida, and Texas), and year dummies interacted with the 2007 average megachurch attendance and the 2007 size of the largest megachurch. Columns (1)-(11) include only domains with at least 2 years of positive contributions for the relevant charity. Column (12) includes only domains with at least 1 year of positive contributions. Column (13) includes all domains. Cells are weighted by the total number of individual tax returns in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. Contributions data is trimmed to cover years -4 to +2 for the treatment sample. * p<0.1 ** p<0.05 *** p<0.01

Table A7: Scandals and Contributions to Local Non-Church Charities with Alternative Dependent Variables: Sun-Abraham

(a) IHS of Contributions

	(1) All IHS Cont.	(2) Religious IHS Cont.	(3) All Non-Religious IHS Cont.	(4) Arts IHS Cont.	(5) Education IHS Cont.	(6) Health IHS Cont.	(7) Human Services IHS Cont.	(8) Other IHS Cont.	(9) Housing IHS Cont.	(10) Food IHS Cont.	(11) CPC IHS Cont.
Has Scandal	-0.016	0.038	0.013	0.061	-0.012	0.113	-0.007	-0.034	-0.131	0.223	-0.591*
	(0.025)	(0.170)	(0.035)	(0.158)	(0.067)	(0.126)	(0.057)	(0.097)	(0.275)	(0.464)	(0.309)
Observations	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125
Number of Domains	966	966	966	966	966	966	966	966	966	966	966

(b) Linear Contributions (in Thousands)

	(1) All Tot Cont.	(2) Religious Tot Cont.	(3) All Non-Religious Tot Cont.	(4) Arts Tot Cont.	(5) Education Tot Cont.	(6) Health Tot Cont.	(7) Human Services Tot Cont.	(8) Other Tot Cont.	(9) Housing Tot Cont.	(10) Food Tot Cont.
Has Scandal	-2724.0	1.9	-2725.8	-5953.8**	-2080.6	-1101.9	-2287.9	8049.3***	963.8	-238.5
	(7158.5)	(267.6)	(7078.3)	(2721.4)	(4612.9)	(3104.6)	(2070.4)	(3043.4)	(610.5)	(336.4)
Dep Var Mean	93,551.0	2,539.5	92,113.9	7,251.6	21,787.8	26,001.7	27,715.1	21,616.9	3,394.9	5,680.7
Number of Domains	966	966	966	966	966	966	966	966	966	966
Observations	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125	12,125

Note: This table shows parameter estimates and standard errors (in parentheses) using the Sun-Abraham estimator. The dependent variable is the inverse hyperbolic sine of or total dollars (in thousands) of contributions, gifts, and grants received by the type of charity listed in the column. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 kilometers from a megachurch scandal. Year -1 is omitted. All regression include zip code and year fixed effects, region by year fixed effects, church count by year fixed effects, Census division linear time trends, and year dummies interacted with the 2007 average megachurch size and the 2007 size of the largest megachurch. Cells are weighted by the total number of individual tax returns in 2002. Standard errors are clustered at the super domain level. Contributions data cover the years 2004-2017. Scandals are from 2008-2015. * p<0.1 ** p<0.05 *** p<0.01

Table A8: Scandals and Demographic Characteristics: Sun-Abraham

	(1) Employed	(2) HS Graduate	(3) Any College	(4) College Graduate	(5) Has Child Under 18	(6) Married	(7) Female	(8) Age	(9) White	(10) Black
Has Scandal	0.014	0.010	0.007	0.004	-0.012	-0.022	0.032*	-0.194	0.009	0.003
	(0.014)	(0.016)	(0.022)	(0.019)	(0.011)	(0.017)	(0.019)	(0.601)	(0.014)	(0.011)
Dep Variable Mean	.51	.91	.63	.3	.27	.5	.51	46	.65	.14
Observations	126,958	126,981	126,981	126,981	126,749	126,891	126,981	126,981	126,981	126,981
Number of Domains	792	792	792	792	792	792	792	792	792	792

Note: This table shows parameter estimates and standard errors (in parentheses) from a Sun-Abraham estimation. The dependent variables are indicators for different demographic characteristics. Coefficients are for an indicator for being in the scandal year or after interacted with an indicator for being 20 km from the scandal church. Year -1 is omitted. All regression include domain (collection of zip codes within 20 kilometers of the same churches) fixed effects, region by year fixed effects, church count by year fixed effects, Census division linear time trends,and year dummies interacted with 2007 average megachurch attendance and the 2007 size of the largest megachurch. Cumulative survey weights used. Standard errors clustered at the super domain level. Data cover the years 2008-2019. Scandals are from 2011-2017. * p<0.1 ** p<0.05 *** p<0.01

Appendix B: Dataset Construction

6.1 Construction of Database of Megachurch Scandals

This section discusses the methodology used to obtain information on megachurch scandals, using the information from the Hartford Institute on megachurches in the U.S. as of 2007.

For each of the 441 churches reporting over 3000 in attendance as of 2007, ten Google searches are performed. The search terms include the church name, the church city, and one of the keywords: sex, sexual, molestation, abuse, affair, infidelity, adultery, immorality, scandal, and allegations. Using the first page of the search results, any news articles or church statements listing accusations against or resignation of church employees for sexual misconduct are examined. Blog posts with individual accusations against employees are not included, since these may involve accusations that were not widely known.

After articles are examined, the earliest date an accusation of misconduct became public is recorded. Accusations involving infidelity, sexual harassment, or sexual abuse are included. Divorce announcements or references to homosexuality are not included unless they also contain references to sexual infidelity. These delineations of scandals are largely consistent with Wellman et al. (2020), who classify four types of sex scandals: "(a) affairs or inappropriate sexual relationships; (b) criminal sexual relationship involving minors; (c) not informing the police of sexual abuse, attempting to cover it up, or facilitating it in some way; and (d) homosexuality" (p. 293). Accusations involving leaders or employees who left the church before the scandal are excluded. Accusations involving church employees are included; accusations involving volunteers or other attendees/members of the church who do not have an employment relationship are excluded. Those involving organizations affiliated with churches such as schools are only included if the church itself is accused of misconduct/failing to report/covering up the abuse, etc. Multiple accusations at a church in the same year are treated as a single scandal.

For churches that have changed names over the period, 20 searches are performed using both the original church's name and the new name. For churches with multiple

locations ("satellite campuses"), the main/original location of the church is used and only accusations at that location are recorded. For churches that sold their building to another church and then moved locations, scandals at both the future church (of the same name) at a different location and at the same church building (but different organization) are included. As a check, I cross reference this paper's list of scandals with the list of 2006-2017 scandals documented in Wellman et al. (2020). For the 441 included churches in my dataset, I find no additional scandals in Wellman et al. (2020).

A description of scandals reported between 2008 and 2015 is displayed in Table A1. Additional scandals found between 2016 and 2018 are described in Table A2.

6.2 Google Trends Data

Google trends provides access to a sample of searches made on the Google platform since 2004. The sample is anonymized, grouped by topic, and aggregated. Trends data is normalized according to the following steps. First, each data point is divided by the total searches in a given location and time period (to allow areas/times of different search amounts to be compared). Next, the data is re-scaled from 0 to 100, so that 100 represents the location/time with the highest frequency. Google Trends does not report searches made by few individuals (it gives a value of 0), duplicate searches, and those with special characters.

I begin with the 18 scandals used in the main analysis as well as 8 additional scandals from 2017-2018 used in the attendance regressions.[56] For each scandal, I compile searches for either the name of the church or involved employee(s). If a church has a common name, I also include the name of the city in the search term (e.g., First Baptist Church Hammond instead of just First Baptist Church). Trends data can be pulled for specific *search terms* or *topics*, which group similar terms together and correct for misspellings and acronyms (e.g., the search topic "London" includes phrases such as "Capital of the UK" and "Londres," ("London" in Spanish).)[57] Since not all churches/employees with scandals are grouped into topics by Google, I use search terms. When topics are available, however, they are

[56]Heritage Christian Center's 2017 scandal is not included due to a prior scandal at the same church.
[57]See `https://support.google.com/trends/answer/4359550#zippy=\%2Ccompare-terms-topics`.

highly correlated with search terms. For example, the Pearson correlation coefficient for the topic versus the search term "Calvary Chapel Fort Lauderdale" over the estimation period is 0.97.

Google Trends provides both time series and cross-sectional data, which I combine to estimate search interest by state over time. For each scandal-related term, I extract a monthly time series for the church's state from three years before to two years after the scandal, normalized so the peak month has a value of 100. I then pull cross sectional data that provides the relative search intensity by state in each month. To estimate relative search intensity by state and month, I then multiply each state's relative intensity in the cross-sectional data by the corresponding value in the time series.[58] For example, suppose Florida is the top state for searches related to Calvary Chapel Fort Lauderdale. In March 2008, if Florida has a cross-sectional value of 100 and Arizona has a value of 10, then Arizona's adjusted value would be 10% of the Florida time series value for that month. If in April, Florida again has a value of 100 and Arizona rises to 20, Arizona's adjusted value would then be 20% of the Florida time series value. If monthly cross sectional data is not available for a particular state, I first attempt to linearly interpolate the value using the closest months available among the prior and future three months.[59] If the cross section relative frequency monthly data is still missing, I use the annual value.[60] I then re-scale the values so that the maximum month-state pair has a value of 100 for each scandal. As in the regression analysis, I exclude Northeastern states.

Some churches have relatively few searches in certain states over the period; this can result in "low quality data" (Bentzen, 2021) in which samples are not precise and search values move wildly and have many zeros (suppressed values due to low volume). In this analysis, this will include states with small populations and/or low interest in the particular scandal or church. To ensure that these "low quality" samples are not driving

[58]Bentzen (2021) pulls a separate time series for every country and multiplies time series values by initial cross sections. This approach is not feasible in this context because many states do not have sufficient data to provide a time series for smaller churches/scandals.

[59]5.4 percent of the final data points are interpolated.

[60]This assumes relatively constant relative search frequency across states within a year. The data suggests limited variation by month within a state (the average standard deviation is less than 10 on the scale of 0 to 100).

the result, I omit state-by-scandal pairs in which over half of the cross sectional values are zero.[61] I am left with 17 churches with a scandal state and between 5 and 41 comparison states. Since states with high search volume relative to population are less likely to be suppressed, the search intensity for non-scandal states is likely to be an upper bound. To obtain Figures 2 and A2, I average search intensity first by church and then across churches.

6.3 Identification of Crisis Pregnancy Centers using 990 Tax Forms

I identify crisis pregnancy centers through organization names and addressess. In the first step, I identify centers through organization names. I include organizations containing the word "pregnancy" or acronym "CPC" excluding those indicating an organization focused on lowering teen/unplanned pregnancy rates ("teen pregnancy," "adolescent pregnancy," "prevent teen and unplanned pregnancy," "pregnancy prevention") or overall pregnancy wellness ("centering pregnancy"). Second, I include organizations with names related to the large CPC associations (Birthright, Heartbeat, Care Net, In Shifra's Arms, Sav-A-Life, Obria), excluding notable non-CPC organizations with similar names (e.g., "Birthright Israel"). Finally, I include organizations with common phrases used to name CPCs, obtained by i) asking Chat GPT for common names of CPCs and ii) browsing through lists of CPCs on the websites `https://crisispregnancycentermap.com/` and `https://www.exposefakeclinics.com/`. These include names such as "Women's Enrichment Center," "Abortion Alternatives," "Real Options for Women," and "Women's Care Center," among many others. Given that some organizations changed their names over the period to exclude terms such as "pregnancy," I classify an organization as a CPC if it fits the naming criteria in any year. Overall, 1,207 organizations are identified through keywords.

[61] For five churches (Calvary Chapel of Melbourne, Champion Forest Baptist, Hales Corner Lutheran, Mt Olivet Lutheran, and North Coast Calvary Chapel), searches are so locally focused that only the scandal state has a high quality sample over the period. I omit these churches from the analysis. I also omit four churches (Bethel AME Church, First Baptist Hammond, Saint Luke "Community" United Methodist Church, and Saint Mark Baptist Church) without sufficient trend data for the scandal state.

To identify organizations with less common names, I use the Anti-Abortion Pregnancy Center Database compiled by Reproaction (2025), which lists names, addresses, and tax identification numbers of 2,348 CPCs across the United States. I pull organizations without the keywords above from the Reprocation database, and use the reclink command in Stata to perform fuzzy matching based on organization name and address.[62] I include organizations that are in the same city and state and have nearly identical names to those in the Reproaction database (name match score above 0.995). To capture larger differences/changes in naming, I also include those in the same city and state with an address match score above 0.995 *and* name match score above 0.975. Finally, I include those with the same Tax ID (Employer Identification Number) across the two datasets and either an address match score or a name match score above 0.975.[63] Overall, 162 additional CPCs are identified through the Reproaction database for a total of 1369 CPCs.

As a check on the classifications, I randomly pull 20 of the 1369 organizations tagged in the data and manually check whether they are CPCs. Of the 20 examined, I find the precision is extremely high: all are either verified to be crisis pregnancy centers through Google searches or (if the exact organization can no longer be found) have names indicating they are CPCs. The specificity (false negative rate) is unknown; however, given that only organizations with gross receipts over $50,000 are included, the almost 1400 organizations here represent a sizable share of the estimated 2500-4000 in the United States and an even larger share of large CPCs. To the extent that larger CPCs, those with "conventional" names, and those matched through the Reproaction database behave similarly to others, these results should be representative.

[62]RECLINK uses a bigram string comparator, which computes a match score between 0 and 1 by dividing the number of common two-character strings by the average number of two-character strings (Blasnik, 2010).

[63]I exclude cases in which multiple organizations in the Reprocation dataset have the same tax ID listed; in these cases, there is usually one entry in the 990 data for the combined organization. I do not merge on tax IDs alone as they sometimes represent larger overall organizations (e.g., "Catholic charities" of an area) and may change with changes in mission or organizational structure/ownership.

6.4 Identification of Local Food and Housing Programs using 990 Tax Forms

I use the NTEE classification system to identify food programs. I first pull all organizations with NTEE classification codes K30 (food programs), K31 (food banks & pantries), K34 (congregate meals), K35 (soup kitchens), and K36 (meals on wheels). I omit those with the word "farm" in the organization name, as these generally represent farmers' markets or farmers' associations and not charitable food programs. To focus on local rather than regional food banks, I exclude those with names of states (excluding Meals on Wheels, which often includes the state name for local organizations, and those with city or county names). I also exclude those with the phrases "tri-state," "regional," "metrolina," "everywhere," or "worldwide" in their names (these are placed back into the "Human Services" category) and the 10 largest remaining organizations.

To identify housing programs, I use NTEE classification codes L21 (Low-Income & Subsidized Rental Housing), L24 (Independent Housing for People with Disabilities), L25 (Housing Rehabilitation), L30 (Housing Search Assistance), L40 (Temporary Housing), L41 (Homeless Shelters), and P85 (Homeless Centers). I exclude those with names of states (excluding those with city or county names). I also exclude those with the phrases "tri-state," "regional," "everywhere," or "worldwide" in their names (these are placed back into the "Human Services" category) and the 10 largest remaining organizations.