

Does Additional Mandatory Reporting Alter Charity or Donor Behavior? —Examining the 2006 Pension Protection Act

Jonathan Oxley*

PRELIMINARY AND INCOMPLETE DRAFT. DO NOT CITE OR CIRCULATE.

Abstract

The 2006 Pension Protection Act (PPA) mandated that charities earning unrelated business income (UBI) to make their Form 990-T tax filings public. Using this policy change, I use a difference-in-differences approach, comparing organizations filing a Form 990-T prior to passage to those who did not in order to see how charities and donors respond to the increased transparency. I find that approximately one in four organizations filing a Form 990-T at least once in the three years prior to the passage of the PPA create a subsidiary in the following two filing years. Subsidiary tax filings are not subject to disclosure; therefore, this finding indicates that non-profits can restructure their organizations in a manner allowing them to keep UBI generating activity private. While charities alter their organizational structure, I find no evidence of net changes in donor behavior towards charities, as total contributions and government grants received do not change in aggregate.

*Department of Economics, Florida State University. Email: joxley@fsu.edu
Acknowledgements: I would like to thank Mark Isaac, Carl Kitchens, Luke Rodgers, Jens Grosser, participants at the 2019 and 2020 Science of Philanthropy Initiative annual conference, the 2019 and 2020 Association for Research on Nonprofit Organizations and Voluntary Action annual conference, the 2020 Southern Economic Association annual conference, and the Florida State University Quantitative Analysis Workshop for their helpful comments in the formative stages of this paper.

1 Introduction and Literature Review

How do firms and their financial contributors respond to mandatory financial disclosure requirements?¹ To answer this question in the context of non-profit organizations, I examine a change in disclosure laws contained within the 2006 Pension Protection Act (PPA). Annually, charity organizations must make their Form 990 available for public inspection, detailing the financial activities of a charity in a given year including both gross and net unrelated business income (UBI) (IRS, 2017b). With the intention of increasing transparency of financial information for donors, the PPA mandated tax returns on UBI, filed on a Form 990-T, be publicly disclosed (United States Congress, 2006a).

The Form 990-T disclosure requirement appears to be in line with the literature on donor preferences, as research shows that donors care about the activities that charities undertake. Much of the charitable giving literature shows that donors want their donations to go towards program services instead of management expenses or fund raising (Bowman, 2006; Gneezy et. al., 2014; Meer, 2014). Additionally, donors reward charities rated highly by third party rating services such as Charity Navigator with higher levels in donations (Gordon et. al., 2009).² Furthermore, charities have also been shown to change their behavior in response to mandated disclosure requirements and to the criteria of third party rating services.³ However, there is a potential limitation to the effectiveness of mandatory information disclosure changing donor behavior, as survey analysis finds only 35% of donors research a charity before donating (Hope Consulting, 2010).

Therefore, it is unclear as to whether or not mandatory Form 990-T disclosure would affect

¹ The economics and accounting literatures have both shown that financial disclosure can positively impact firm efficiency and environmental impact (Mobus, 2005; Doshi et. al., 2013, Li and Yang, 2016; Ioannou and Serafeim, 2019). However, the majority of these were the initial disclosure requirements on the topic at hand, making it impossible to detail response to disclosure laws in an environment with high disclosure requirements already.

² This reward; however, is less significant for larger charities, more known than smaller, lesser known charities (Yörük, 2016). Additionally, Frumkin and Kim (2001) show that donors reward charity reputation and positioning more than efficiency.

³Duff and Portillo (2017), show that being listed on the third-party rater "Charity Navigator" will result in a decrease in a charity's fund raising ratio by 0.43%, while program expense ratios increase by 1.02%. This is not surprising, as Charity Navigator looks at how funds are allocated in assigning ratings, rewarding program expenses and punishing other expenses (Charity Navigator, 2016). However, Charity Navigator (2016) does not use information from the Form 990-T in their evaluations of charities.

donor behavior or lead to a change a charity's organizational structure. I use the disclosure requirement in the PPA as a natural experiment to answer how mandatory financial disclosure of additional financial documents impacted donors and charities. I do so through a difference-in-differences analysis and an event study analysis using the National Center for Charitable Statistics IRS Statement of Income files data.

Mandatory disclosure of the Form 990-T appears to have altered charity organizational structure. Sec 1225 of the PPA only addresses Form 990-T filings, and not the filings of charity taxable subsidiary organizations (Yetman and Yetman 2008; Brody, 2012). As such, Yetman and Yetman (2008) and Brody (2012) both hypothesized that subsidiary activity would increase, as Form 990-T filing organisations would have incentive to take on the cost of subsidiary creation in order to circumvent the PPA's disclosure requirements. Incorporating this hypotheses into an economic model, I predict that charities will create subsidiary organizations if the expected loss of donations is greater than the cost of creating a subsidiary organization. I find evidence supporting these hypotheses. In comparing organizations who filed a Form 990-T at least once in the three years prior to the passage of the PPA compared to those who never file a Form 990-T in the three years prior to the passage of the PPA, I find that for the next two years after passage, nearly one out of every four charities who filed a Form 990-T at least once prior to the PPA created a new subsidiary organization.

Conversely, donors, in aggregate, do not appear to respond over the long-run to the new information provided by the disclosed Form 990-T. I find no meaningful changes in total contributions or receipt of government grants seven filing years after passage, with the exception of total contributions briefly increasing in 2007. Furthermore, I do not find any evidence supporting a change in donor behavior after controlling for the number of subsidiary organizations a charity has.

While I do not find evidence of a change in donor behavior in aggregate, I do find some evidence of donors response for those charities at the margin in deciding to create a new subsidiary or not. Using probit analysis, I determine that higher levels of assets correspond to a higher likelihood of creating a new subsidiary organization at the mean. After restricting my data to charities with

logged assets near the means of subsidiary creators and charities who did not create a subsidiary, I find evidence that contributions are negatively correlated with creating a subsidiary organization after filing year 2005 for charities who filed a Form 990-T at least once before the passage. This relationship primarily appears to be driven by charities who created a subsidiary organization in filing year 2007. I do not find a correlation between contributions and subsidiary creation for charities who did not file a Form 990-T prior to the passage of the PPA.

A large literature shows that non-profits will shift expenses to avoid taxation (Yetman, 2001; Omer and Yetman, 2003; Hoffman, 2007; Omer and Yetman, 2007). Additionally, the philanthropy, public economics, and taxation literatures demonstrate the charities will manipulate their income and net assets to appeal more to donors, to file a Form 990-EZ instead of a Form 990, and to avoid audits mandated by certain states (Hoffman and McSwain, 2013; St. Clair, 2016; Marx, 2018; Homonoff et. al., 2020). My results contribute to the philanthropy, public economics, and accounting literatures by demonstrating a different way that charities change their organizational structure in response to regulation, the creation of taxable subsidiary organizations in response to mandatory Form 990-T disclosure. Additionally, my research provides the first data analysis on the charity reforms included in the PPA. In doing so, I further advance hypotheses put forward in the accounting literature that the structure of the PPA would result in the increase of charity subsidiary organization usage.

2 Charity Reforms of the 2000s

The Pension Protection Act (PPA) was the first of two major changes to charity filing standards in the mid 2000s.⁴ Sec 1225 of the PPA was included to ensure that charities could not hide financial information that their donors may find harmful (Joint Committee on Taxation, 2006). To better understand the charity reforms of the 2000s, specifically the legislation of interest Sec 1225

⁴ The other major change being Form 990 redesign (IRS, 2008a). Form 990 reform was pursued in an effort to build more charity transparency (Coffman, 2007). Included in the changes was a differing schedule for disclosure of related organizations, which was compared to public disclosure of the Form 990-T (Coffman, 2007).

of the PPA, I describe the Form 990, Form 990-T, and unrelated business income (UBI) below.

Annually, charities must file their business activities with the IRS by submitting a Form 990 (IRS, 2017b).⁵ All charities filing a Form 990 (including a Form 990-EZ or a Form 990-N) must make the document available for public inspection. Some charities earn additional income from sources that are not directly related to their charitable mission, referred to as UBI by the IRS, which the federal government taxes at normal business income rates (IRS, 2019b). In order to be considered UBI, an activity must meet three specific criteria. The activity must be: a trade or business,⁶ regularly conducted,⁷ and not substantially related to the charity's tax exempt purpose⁸ If the activity does not meet one these definitions, it is not considered UBI.¹⁰ Activities exempted from being considered UBI include volunteer labor, activities conducted for the convenience of members (such as a school cafeteria), the selling of donated merchandise, and bingo (IRS, 2019d).¹¹

Organizations earning UBI can either file a Form 990-T tax return, or form a taxable subsidiary organization to perform all business generating UBI (Yetman and Yetman, 2008). The accounting literature has shown that substantial expense shifting occurs, moving expenses to the unrelated taxable income generating activities or to the taxable subsidiaries to reduce the charity's tax burden (Yetman, 2001; Omer and Yetman, 2003; Hoffman, 2007; Yetman and Yetman, 2008).¹² The

⁵The specific form filed between the Form 990, Form 990-EZ and Form 990-N depend upon organization size. For the purposes of this paper, I will be focusing on charities large enough to file the Form 990 outright.

⁶"Trade or business" refers to any activity conducted with the purpose of generating income. This can include selling goods or services, but is also broad enough to include any type of activity performed with the intent to make a profit (IRS, 2019e). Because of how broad this definition is, most organization activities meet this first requirement.

⁷"Regularly conducted" refers to activities that are frequently and continually conducted in a manner similar to other activities done commercially by enterprises subject to business taxes (IRS, 2019e). The activity must meet both parts of this definition to be considered regularly conducted.

⁸"Not substantially related" to the tax exempt purpose of the charity. This means that the activity does not contribute substantially to accomplishment of the reasoning why an organization is tax exempt in the first place, excluding fund raising (IRS, 2019e).⁹ As an example, a gift shop at an art museum is not substantially related to the tax exempt purposes of that museum.

¹⁰The IRS offers an interactive instructional video demonstrating, among other things, how the same activity can be considered UBI in some situations but not others. Additionally, IRS has acknowledged that the process of determining what activities are considered income is difficult in Congressional testimony (McDowell, 2008).

¹¹Additional exemptions for public inspection exist, including a specific series of documents ranging from the return by a U.S. transferor of property to a foreign corporation to a report of employer-owned life insurance contracts (IRS, 2019c).

¹²Additionally, studies such as Brickley and Van Horn (2002) showed that for-profit and non-profit hospitals faced the same incentive scheme, despite non-profits paying less tax due to their exempt status and ability to cost shift driving their net UBI down.

PPA does not address subsidiary filings, meaning subsidiary filings are not required to be publicly disclosed (Yetman and Yetman 2008; Brody, 2012). Given the cost shifting findings and the difference in disclosure requirements, multiple authors expected the number of subsidiary organizations to increase after PPA passage (Yetman and Yetman 2008; Brody, 2012).

3 Theoretical Framework

I assume that charities j , are donation maximizing organizations who can choose to partake in UBI generating activities and use taxable subsidiary organizations. I also assume there are a continuum of donors i who have individualized preferences on UBI generation by charities, with each individual experiencing an individualized level of disutility from UBI generation. Donations and charitable activities are carried out, with the donors being able to the activities conducted by charities including gross and net UBI generation but not the activities generating those numbers. Additionally, donors cannot see total revenues received by the subsidiary organizations or expenses generated by the subsidiary organizations, but merely the revenue paid back to the charity in the form of UBI.

While charities partake in a variety of activities, to simplify the model, I assume all activities undertaken are to best attract donors and to lower the price for seeking donations. For example, while museum gift shop may sell unrelated items generating UBI, I assume that the net income from this transaction is going back into the museum to help finance its mission related activities, lessening the need to spend resources on other outside contributions. As such, I assume the charity faces the following donation maximization problem:

$$\text{Max } \Lambda(D_j) - p_j * D_j$$

where $\Lambda_j()$ represents a concave charity good production, $D_j = \Sigma_j(d_{j,i})$ represents donations to charity j which are the sum total of all individual i donations ($d_{j,i}$) to charity j , and p represents the cost to the charity in seeking further donations. As UBI decreases the price for acquiring

donations, I assume that $p_j(UBI_j, F_j)$ where F_j represents fundraising costs and UBI_j represents an organization's UBI. I assume the following characteristics about p_j

$$\frac{\partial p}{\partial F} > 0 \text{ and } \frac{\partial P}{\partial UBI} < 0$$

Therefore, charities select their activities generating charitable activity, fundraising costs F^* and UBI generation UBI^* in a manner to maximize their contributions such that:

$$\Lambda'_j(D_j) = p_j$$

Conversely, for the donors, I assume they face the following utility maximization problem:

$$\text{Max } U_i(X_i, C_i) \text{ subject to } X_i + C_i \leq W_i$$

where $U_i()$ represents a convex utility function, X_i represents consumer goods, C_i represents donations to charities and W_i represents the individual's income. I assume that donor's utility from charitable giving is a function $C_i(A_j, UBI_j)$ where A_j represents the charitable activity of charity j and UBI_j represents the UBI generated by charity j . To ensure donors receive utility from charitable activity and disutility from UBI generation, I assume the following:

$$\frac{\partial U}{\partial C} \frac{\partial C}{\partial A_j} > 0 \text{ and } \frac{\partial U}{\partial C} \frac{\partial C}{\partial UBI_j} < 0$$

The donor's utility maximization problem will be maximized with charitable contributions C^* and private consumption X^* when the marginal utilities of donating to charity and private consumption:

$$U'_C = U'_X$$

I assume donors update their information by using charity operational statements to adjust their donation behavior, and I assume that the charities operate with this knowledge. Therefore, charities operate with the knowledge that increasing UBI generating activities will lower the cost of acquiring donations; however, doing so will also decrease the utility donors receive from charitable contributions causing donors to decrease charitable contributions and increase private consumption. Finally, I assume that charitable activities, the number of subsidiary organizations, and

donation patterns by both private and public sector donors are at an equilibrium level before the PPA is passed.

The passage of the PPA changes the information set for the donors by allowing them to see activities and expenses generating gross and net UBI, but not subsidiary activity. Beginning with donor response, an increase in information on UBI generation should provide greater disutility as the newly publicly available UBI information will specifically call attention to activities donors dislike. Therefore my model predicts:

$$\text{After PPA: } \frac{\partial U}{\partial C} \frac{\partial C}{\partial UBI_j} < \text{Before PPA: } \frac{\partial U}{\partial C} \frac{\partial C}{\partial UBI_j} < 0$$

Aware of this, donation maximizing charities face a choice. They could decrease UBI generating activities; however, while this would help keep total contributions at similar levels, it would still lead to an increase in the price of acquiring charitable donations, leading to a decrease in total contributions received at the donation maximizing threshold. However, charities earning UBI can pay $S > 0$ to establish a subsidiary organization, which will allow for the charity to move activities generating UBI to the subsidiary, increasing the subsidiary count but otherwise keeping the information set constant for donors. As such, a risk neutral charity will be willing to pay this cost S if their optimal level of UBI^* is at a level such that:

$$\left| \frac{\partial P}{\partial UBI^*} \right| \geq |S|$$

or more plainly, if the loss in donations through an increased price in acquiring donations from either not partaking in UBI generating activities or being forced to disclose details in UBI generating activities is higher than the cost of establishing a subsidiary.¹³

¹³Furthermore, supposing that charities are risk adverse, wanting to avoid any potential scandal, the willingness to pay S decreases to the certainty equivalence for $\frac{\partial P}{\partial UBI^*}$.

4 Data

For my analysis, I use data from the National Center for Charitable Statistics (NCCS)'s database of IRS Statistics of Income (SOI) Division Exempt Organizations Sample Files. This data is an archive all the Form 990 tax data collected from 501(c)(3) organizations with \$50 million in assets in a given tax year, along with a sample of smaller non-profit organizations, with sample weights varying by asset size (NCCS, 2013). The original dataset consists of 143,756 total observations; however, only 96,382 of these observations have operations information as some of the charity observations represented are charities filing a Form 990-N, which simply confirms that the organization exists and meets the criteria of a Form 990-N filing organization. As two of my outcomes are financial in nature, I drop all charities not using accrual accounting, charities who do not have their financial statements audited, and organizations marked as out of scope by the NCCS per recommendations in the literature and by the NCCS (Bowman et. al., 2012; Hoffman and McSwain, 2013; NCCS, 2013). Dropping these observations is necessary in order to accurately compare financial reporting across charitable organizations.

The sampling categories do not change over the course of my sample, meaning that some organizations may be present in my sample more or less frequently after the PPA passed as asset values change over time. These organizations may organize themselves differently depending upon their growth patters in relation to when the legislation passed. Finally, due to the heterogeneity in the nonprofit sector, it is possible that comparing observations between smaller organizations (for example, a local animal shelter) and a large organization (for example, a university hospital system) would produce results unhelpful for analyzing the impact of mandatory disclosure on donors and charities. Therefore, in order to create a balanced panel and compare organizations of similar size across the panel, I drop all charities not found in the NCCS data over 2003-2012 that did not originally meet the \$50 million dollar threshold and those who are not present in the dataset over the entirety of the panel. This leaves me with 10 years of 3,807 charity observations, or 38,070 total observations.¹⁴

¹⁴Despite my concern of comparing organizations of different size and scopes, one could argue that it is equally

These data restrictions restrict my results to be representative only of larger charities. While this implies that my analysis will not be representative of the whole of non-profit organizations, or even the majority of organizations, they are still instructive for two different reasons. First, large non-profit organizations make up the majority of charitable activity measured by expenses. Despite only representing 5.3% of public charities filing a Form 990, organizations with over \$10,000,000 in expenses represent 87.7% of all charitable expenses in the sector (McKeever, 2018) Within my sample, 88.7% of all observations are over this threshold. Secondly, large organizations are those most likely to generate UBI, making my subsample of large charitable organizations of greatest interest when evaluating the mandated disclosure of the Form 990-T (Hines, 1999; Teasdale et. al., 2013).

My outcome variables of interest are number of subsidiary organizations to measure charity organization structure, along with log of total contributions, and log of government grants to measure donor behavior. The change in subsidiary level demonstrates any additional subsidiaries created as a result of the PPA's differing treatment of taxable subsidiary filings and filings for UBI. Due to changes in how subsidiary data was collected after the 2008 Form 990 redesign, I am only able to compare the number of subsidiary organizations through filing year 2007.¹⁵ As the PPA immediately went into effect after signed into law, this gives me two filing years of outcomes for the number of subsidiary organizations. In measuring donor behavior, total contributions give an idea on how support for charities as a whole changed as a result of the mandatory disclosure of their Form 990-T, while government grants breaks down how much of the total contribution response specifically stems from government funding.

To explore the possibility of comparing charities filing a Form 990-T at least once in the three problematic to throw out this much data. To ease this concern, I run all of the analysis discussed in this paper over the full dataset using the probability weighting provided by the NCCS. As organization size changes over time, but the NCCS sampling brackets do not change, some organizations change weighting over time. In order to run panel data analysis, I weight organizations by their modal probability weight. Results are listed in Appendix C, and are quantitatively similar to the main results listed in the paper.

¹⁵The way in which the IRS counts subsidiary organizations changes after 2007, with new data categories on number of total taxable partnerships, number of total taxable corporations or trusts and number of disregarded entities (IRS, 2008 b,c,d; IRS, 2019a). These had previously been under a single variable prior to 2008 (IRS, 2007a,b). As the count spikes dramatically after filing year 2008 for both Form 990-T always filers and never filers, I restrict my analysis on number of subsidiary organizations to filing year 2007.

years prior to PPA passage compared those who never file a Form 990-T in the same time frame, I construct a balance table for control variables, which can be found in Table 1. For any zero values before the log transformation, I assign a zero for the log transformed variable. A quick examination of Table 1 shows that organizations who do not file a Form 990-T prior to the PPA are on average smaller on every organizational financial category examined in this paper, matching the findings of Hines (1999) and Teasdale et. al. (2013). This continues after the PPA passage in 2006. However, Table 1 also shows that with the exception of fundraising expenses and end of year assets, no major financial operation variables significantly change in a difference in differences framework. Furthermore, the change in fundraising can likely be explained by the shifting of accounting expenses, as total expenses in aggregate do not change between the control and treatment group before and after PPA passage. As such, I do not find evidence in the raw data that non-filing charities cannot be a counterfactual to charities who filed a Form 990-T at least once prior to PPA passage.

5 Empirical Strategy

5.1 Difference-in-Differences Specification

Traditional OLS regression of number of subsidiary organizations, total contributions and government grants on PPA passage would likely yield biased estimates from either simultaneity or omitted-variable bias. As an example, charitable giving tends to be pro-cyclical with stock market growth, eliminating the ability to make causal claims on contributions before and after the passage of the PPA (List, 2011; List and Peysakhovich, 2011). Therefore, to understand how the mandatory Form 990-T disclosure causally impacted charity organizational structure, as well as donor behavior, I use a difference-in-differences framework.

In order for this strategy to be valid, two assumptions must be met. The first assumption requires that PPA passage and impact be plausibly exogenous to the specific charities in my dataset, as well as their donors. Disclosure of Form 990-T filings was first proposed in a Senate Finance

Committee investigation into charity malpractice in 2004 (Nonprofit Quarterly, 2004). However, this recommended policy was tabled and not proposed in legislation for the remainder of this iteration of Congress. Due to the lack of Congressional action after the hearings concluded, and the lack of discussion of how subsidiary organizations would be treated in any potential future legislation, it seems reasonably unlikely that charities would be able to expect a new law mandating Form 990-T disclosure, or the different treatment it would provide subsidiary organizations.

The PPA itself appears to have plausibly exogenous timing, as it was proposed on July 28th and signed into law on August 17th (United States Congress, 2006). Charity reforms were originally not considered in the initial drafting process of the PPA; however, on July 21st, Chairman Grassley, Ranking Member Baucus and IRS Commission Everson successfully campaigned President Bush in a letter to support including charity reforms in the PPA (Senate Finance Committee, 2006). The passage of the PPA resulted in the immediate enactment of Form 990-T reporting laws, requiring Form 990-T disclosure for filing year 2006 after the August 17th signing (United States Congress, 2006; IRS, 2017a,b). Therefore, the first assumption appears to be met.

The second assumption requires that filing and non-filing organizations must be on parallel trends with a reasonable assumption that the trends would remain parallel without PPA passage. Figure 1 plots the trends of both filing and non-filing organizations for my outcome variables of interest: number of charity subsidiary organizations, total contributions and government grants. Organizations in the treatment group filing a Form 990-T at least once before PPA passage have a larger number of subsidiary organizations, and receive more contributions and grants than organizations who never file a Form 990-T before PPA passage. However, in filing years 2003-2005, each of these variables appear to be on a similar trend between the control and treatment group. Additionally, it appears that the trend line remains similar for the control group in each of my outcome variables of interest. Finally, the parallel trend assumption will later be shown to not be violated in an event study framework. Therefore, given the timing of the PPA's path to passage and the lack of trend violations prior to passage, it appears that the assumptions are met for valid causal inference using a difference-in-differences framework.

Based on the structure of Sec 1225 of the PPA, I assign a treatment group of charities filing a Form 990-T in one of the three years prior to PPA passage with a control group for charities who never file a Form 990-T prior to PPA passage. In examining charity organizational structure, I analyze the pre and post PPA number of subsidiary organizations belonging to a charity filing a Form 990-T prior to the PPA passage relative to the control group of charities not filing a Form 990-T prior to the PPA. For the donor response measure, I analyze the log of total contributions and log of government grants received by a Form 990-T filing charity before and after PPA passage relative to the control group of non-filers. My difference-in-differences model takes the following form:

$$y_{it} = \alpha_i + \gamma_t + \delta PPA_{it} + X_{it}\beta + \epsilon_{it}$$

Here, y_{it} represents the outcome variables of interest; α_i represents individual charity fixed effects; and γ_t represents year fixed effects. Additionally, the matrix X_{it} represents control variables such as logged program service revenue, logged assets and liabilities at the beginning and end of year, as well as logged expenses including total and fundraising expenses. These organizational controls are necessary inclusions as they are directly correlated with my outcome variables, particularly contributions and fundraising. The variable PPA_{it} represents an interaction between charities filing a Form 990-T prior to the passage of the PPA and filing years 2006-2012, the treatment period of mandatory Form 990-T disclosure. For number of subsidiary organizations, the PPA_{it} interaction term only represents filing years 2006 and 2007, due to the changes in the Form 990 outlined in the data section. Finally, ϵ_{it} represent standard errors robust to heteroskedasticity and clustered at the charity level.¹⁶ The coefficient of interest in all regressions is δ , as this shows the average treatment effect of the PPA.

¹⁶As recommended by Bertrand et. al. (2004).

5.2 Event Study Specification

The differences-in-differences strategy outlined above provides an average treatment effect for the seven filing years following the PPA passage.¹⁷ However, as the effect is an average over seven years, this specification renders it impossible to determine immediate actions that were undertaken by donors or charities after PPA passage. Additionally, my difference-in-differences specification does not allow me to determine the persistence of the immediate changes over time. To rectify these problems, I modify my difference-in-differences estimation framework to an event study framework of the following form:

$$y_{it} = \alpha_i + \gamma_t + \sum_{p \neq 1} \delta_p 1(t - PPA = p) + X_{it}\beta + \epsilon_{it}$$

where PPA refers to the 2006 passage of the PPA, and $1(t - PPA = p)$ refers to an indicator variable indicating when charity i is p years away from the mandatory disclosure treatment. As 2005, the year before PPA passage, is my base year for all treatments, I omit this year from treatment. In addition to providing insights on behavioral changes by the charities and donors, the event study specification allows me to test if individual years are violating the parallel trend assumptions directly.

6 Results

6.1 Charity Organizational Structure Results

Beginning with my results from the difference-in-differences analysis in Table 2, I find that charities change their behavior in terms of number of subsidiary organizations. Over the 2006 and 2007 filing years, Form 990-T filing organizations increased their number of subsidiaries by an average of 0.226 subsidiary organizations compared to organizations who do not earn UBI. As the

¹⁷The exception outcome for this is number of subsidiary organizations, in which the difference-in-differences strategy provides the average treatment effect over the next two filing years.

pre-existing trend difference prior to filing year 2006 is roughly 0.805 subsidiary organizations, this increase represents an approximate 28.1% increase in number of subsidiary organizations, or approximately one out of every four Form 990-T filing organizations creating a new subsidiary organization per year in the two years after PPA passage. Unfortunately, due to differences in how subsidiary data was collected after the 2008 filing year redesign of the Form 990 (IRS, 2008a), it is impossible to tell if this magnitude difference was a temporary impact or if this difference continued to change over time.

My event study analysis graphed in Figure 2 demonstrates that estimates for 2003 (t-3) and 2004 (t-2) are statistically insignificant for number of subsidiary organizations. As such, I fail to identify violations of parallel pre-trends in organizational structure in my control and treatment groups. Furthermore, event study analysis demonstrates that Form 990-T filing organizations immediately began creating more subsidiaries after PPA passage and increased their number of subsidiary organizations at an increasing rate in the following year. In 2006 Form 990-T filing organizations increased their average number of subsidiaries by 0.162 over baseline, representing a 20.1% increase compared to pre-trend differences. New subsidiary creation increased in filing year 2007, as Form 990-T filing organizations increased their average number of subsidiaries by 0.336, representing a 41.7% increase in subsidiary organizations compared to pre-trend differences.

6.2 Donor Behavior Results

Starting again with the difference-in-differences results reported in Table 2, I find that revealing activities listed on the Form 990-T does not appear to have altered donor decisions in aggregate. Total contributions to Form 990-T filing charities have a near zero magnitude effect and are not statistically different from no change after PPA passage. Additionally, I do not find any statistical difference in government grants received by Form 990-T filing charities. Therefore, seven filing years after passage, there is a lack of evidence for a donor response to charities making their Form 990-T public.

The increase in number of subsidiary organizations could be a plausible explanation as to why

donors do not change their donation behaviors, as operation information that would have been reported on a new public Form 990-T could have been shifted over to a subsidiary organization. I test this by adding a control for number of subsidiary organizations to my difference-in-differences equation. Due to data restrictions, the treatment effect years are restricted to filing years 2006 and 2007. These results are reported in Table 3. The addition of controls does not change the donor outcomes in any meaningful way, indicating that there was no change in donor behavior after controlling for the number of subsidiary organizations.

Turning to the results of my event study specification in Figure 2, I again fail to identify violations of parallel pre-trends for total contributions or government grants. The results from donors in total contributions and government grants show no statistical change in any time period after the PPA passed, with the exception of total contributions in 2007. As the latest financial information available to donors in 2007 would be the filing year 2006 Form 990 and Form 990-T, this finding indicates that donors initially increased their levels of contributions to UBI generating charities after PPA passage. However, the donors subsequently return their donation behavior to pre-PPA levels the following year and remain there throughout the duration of the sample.

7 Robustness Checks

7.1 Event Study Coefficient Sensitivity Testing

My event study analysis shows that the parallel trends assumption is not violated at the 5% level for any of my outcome variables; however, as discussed in Rabachan and Roth (2019), this does not mean that the assumption of perfectly parallel trends are met. As such, there is potential concern that my results demonstrating an increase in number of subsidiary organizations is a result of incorrectly assumed linearly parallel trends. Rabachan and Roth (2019) develop a test examining how sensitive the results of an event study analysis are to deviations from linear parallel trends by identifying a deviation from linearity where the null hypotheses can be rejected. The authors label the described deviation M . In my case, the value of M where I use filing year 2007 plotting the

Rabachan and Roth (2019) sensitivity analysis in Figure 3. The estimates become statistically indistinguishable from zero at a level near $M = 0.05$. In the context of my estimate, where I find a 41.7% increase in subsidiary usage, this estimate would require a deviation from parallel trend not picked up in the data equal to nearly 12% of the effect to render my estimates statistically indistinguishable from zero.

7.2 Average Treatment Effect Coefficient Sensitivity Testing

A further related concern are that my observed result exist simply due to omitted variable bias. To check this, I run the a test on coefficients with and without controls, similar to Altonji et. al. (2005) and Bellows and Miguel (2009) in order to determine the robustness of my estimates to omitted variable bias. Using the results reported in Table 2, with my results without operation controls representing the uncontrolled regression and my results with operation controls representing my controlled regression. The ratio of coefficients described in Altonji et. al. (2005) and Bellows and Miguel (2009) equals 34.835, indicating that covariance between number of subsidiaries and unobserved variation in charity operations would need to nearly 35 times the magnitude of the covariation between number of subsidiaries and observed variation to render my average treatment effect statistically indistinguishable from zero.¹⁸

¹⁸The measure of coefficient sensitivity I use is less commonly used in economics now in favor of the Oster (2019) coefficient sensitivity test. This test is built upon the Altonji et. al. (2005) and Bellows and Miguel (2009) measures by empirically determining the explained variance through the R^2 statistic, compared to the minimum of a maximum R^2 level or one. The reliance on the R^2 statistic in analysis using Form 990 data is one of the main drivers of my preference for the Altonji et. al. (2005) and Bellows and Miguel (2009) statistic for this analysis. Oster (2019) discusses situations where R_{max} would be less than one, specifically mentioning situations with measurement error. This type of error has been well documented in Form 990 data (Gordon et. al., 2007; Yetman et. al., 2007). Furthermore, as shown in Table 1 my charity operation controls are relatively time invariant. While helpful in demonstrating that charities were not undergoing significant changes to the overall organizational structure while increasing subsidiary organizations, this contributes to a low within R^2 in my estimates. As such, the R_{Max} level is likely less than one. To avoid assigning an arbitrary R_{Max} , I estimate a model using a large mix of revenue, expenses, assets and liabilities controls to explain as much variation as humanly possible with the data available from the pre-2008 version of the Form 990. Under this model, I estimate a maximum within variation $R^2 = 0.0502$. The treatment effect in this model is still positive and statistically different from zero. Using the estimated R^2 level as my R_{Max} , I find an Oster (2019) δ coefficient equal to 0.963, indicating that variation in the unobservables would have to be nearly the same, but slightly less importance as the observed data to render my average treatment effect zero. Therefore, while I cannot rule out that the Oster (2019) test is picking up on omitted variable bias that the Bellows and Miguel (2009) / Altonji et. al. (2005) ratio is missing, I demonstrate that unobservable operation characteristics at minimum would have to be nearly the strength of my observed variation to render my results statistically insignificant.

7.3 Placebo Estimates

A potential concern with my observed result of Form 990-T filing organizations increasing their number of subsidiary organizations is simply a spurious correlation driven by serial correlation in charity observations, as discussed in Bertrand et. al. (2004). A further concern is that the increased number of subsidiary organizations finding is a result due incorrectly specified treatment and control groups on differing trends. While my main results cluster standard errors at the charity level to control for serial correlation, and parallel trend assumptions for a valid difference-in-differences design appear to be met, to further ensure that my results are not driven either of these concerns, I perform a 500 placebo regression analysis similar to Chetty et. al. (2009). In doing so, I construct randomly assign a placebo “treatment group” from my control observations and use the placebo treatment group to estimate my difference-in-differences model. The results are shown in Figure 4, with the actual estimated coefficient well to the right of the empirical cdf of my placebo estimates, with an estimated p-value of zero. Therefore, I find no evidence that serial correlation or incorrectly specified treatment and control groups drive my result of increased numbers of subsidiary organizations in Form 990-T filing organizations after PPA Passage.

7.4 Clustering by Charity Type

A further concern on clustering is that my analysis should be clustered by charity type, rather than individual charities. This concern is understandable, as charities within the same sector are potentially correlated and could be correlated in such a manner that increases my results. To control for this concern, I change my clustering level from individual charities to a charity sector code, the National Taxonomy of Exempt Entities Core Code (NTEE-CC). This system is used by the IRS and NCCS to classify nonprofit organizations based on 26 major core groups before being further broken down into logical divisions known as decile codes (Jones, 2019). As a charity’s operations can change over time, so too can their NTEE-CC classification. Therefore, I use the modal NTEE-CC as a clustering level while rerunning my difference-in-differences analysis on the outcome variable number of subsidiary organizations, and run my event study analysis on the

outcome variables number of subsidiary organizations and log of total contributions. These results are reported in Table 4 and Figure 5 respectively. I find no change in the average treatment effect's level of statistical significance for number of subsidiary organizations when clustering at the NTEE-CC level, nor do I find a change in significance for filing year 2007 in the event study on this variable. I do find that clustering at this level renders the effect for the 2006 filing year statistically insignificant in the event study on number of subsidiary organizations. Additionally, I find that clustering at the NTEE-CC level renders the 2007 filing year effect statistically insignificant in analyzing the log of total contributions.

7.5 Removal of Partial Compilers

The number of organizations filing a Form 990-T increases annually in my analysis with the exception of filing year 2011 to filing year 2012. This includes some charities previously filing a Form 990-T in the treatment group moving out of UBI generating activity and some organizations who were not generating UBI in the control group moving into UBI generating activity.¹⁹ I will discuss these dynamics in greater detail in the next section; however, to ensure that my results are not driven by organizations changing their business practices surrounding UBI generation, I rerun my analysis with organizations who either always file a Form 990-T or never file a Form 990-T in my data. These results are reported in Appendix A in Figures 17 - 8 and Tables 8 - 10. Overall, my results in analyzing always filers and never filers are consistent with those that I found in analyzing the full data sample.

¹⁹While their charity operations may have changed, I do not change control / treatment group classification for any charity.

8 Changes in Total Contributions for Marginal Subsidiary Creators

The increase in usage of subsidiary organizations and lack of change in total contributions by donors presents a behavioral conundrum. To try and better understand this conundrum, I examine charities who are roughly equal in likelihood of creating new subsidiary organizations at the margin. In order to analyze marginal subsidiary creators, I first must see what organizational characteristics are associated with creating a new subsidiary. To do this, I run the following probit equation:

$$newsub_i = \Phi(\alpha_i + \delta 990T_i + X_i\beta)$$

where $newsub_i$ is an indicator that a charity i created a new subsidiary in the time period analyzed, $990T_i$ represents organizations filing a Form 990-T before PPA passage, and X_i represent the charity operation variables used throughout my analysis. I run the analysis looking at organizations who created a new subsidiary after filing year 2005 first before looking at those who created specifically in filing year 2006 and those who created specifically in filing year 2007.

Probit marginal effects are listed in Table 5. I find that filing a Form 990-T prior to the passage of the PPA, log of assets, log of gross UBI, log of total expenses and log of fundraising expenses to be related with creating a new subsidiary organization after filing year 2005. These relationships hold for both filing year 2006 and filing year 2007, with the exception of log of gross UBI in filing year 2006 and prior Form 990-T filers in filing year 2007. For the purposes of this analysis, I plan on focusing on two variables, log of assets and log of gross UBI. The later I choose to focus on due to its relevance in the legal changes in the PPA, and the former I choose to focus on due to their overall stability in my data and lower likelihood of being subject to changes in charity operation strategy.²⁰

Next, to analyze marginal subsidiary creators, I perform t-tests on log of assets and log of gross

²⁰Specifically, while choices in asset holdings are certainly up to charity executives, they have less control over the valuation of those assets in a given year.

UBI comparing subsidiary creators to organizations who did not create subsidiaries in order to determine the cutoff range for organizations on the margin of creating a subsidiary organization. I find that subsidiary creating organizations average a log of assets between 19.602 and 19.801 depending upon the year analyzed for subsidiary creation. Conversely, I find that non-subsidiary creating organizations average a log of assets between 18.975 and 19.065. Therefore, I restrict my analysis on marginal creators in respect to asset holdings between a logged asset level of 18 and a logged asset level of 20. In analyzing log gross UBI, I exclude organizations who do not earn UBI in order to get a more accurate marginal creator group for my treatment group of interest. Subsidiary creating organizations average a logged gross UBI size between 13.508 and 13.626, while charities who do not create subsidiary organizations average between 12.536 and 12.670. As such, when examining marginal subsidiary creators in respect to gross UBI I restrict my analysis to charities with logged gross UBI levels between 12 and 14.

In each restricted data case, in order to identify a relationship between total contributions and subsidiary creation, I run the following regression:

$$\ln(Cont.)_i = \alpha_i + \delta newsub_i + X_i\beta + \epsilon_i$$

where $\ln(Contr.)_i$ represents the log of total contributions, $newsub_i$ is an indicator for charity i creating a new subsidiary organization, X_i represents organizational controls, and ϵ_i represents standard errors robust to heteroskedasticity. As specified, this estimation equation produces corollary rather than causal estimates, and should be thought of as exploratory in nature to help demonstrate a relationship between total contributions and the creation of a new subsidiary. In all cases, the coefficient of interest is δ . I run my analysis three separate times to analyze all charity subsidiary creators, those specifically in 2006 and those specifically in 2007 in a similar manner to my probit analysis.

Results for my restricted analysis are listed in Tables 6 and 7. Beginning with marginal creators based on asset size in Table 6, specifically the analysis on charities who filed a Form 990-

T prior to the passage of the PPA, I find that creating a subsidiary organization is significantly and negatively correlated with in total contributions at a rate of 0.572 lower log of total contributions received at the mean. This relationship appears to be primarily driven by subsidiary creators in filing year 2007, with a relationship indicating subsidiary creators received 1.027 less logged total contributions at the mean. Conversely, I see no such relationship between subsidiary creation and total contributions for charities who did not file a Form 990-T prior to PPA passage. When looking at all charities in the sub sample, I find a negative relationship between subsidiary creation and total contributions received in 2007, which appears to be driven by charities filing a Form 990-T prior to PPA passage.

Next, I look at marginal creators restricted on gross UBI in Table 7. I find no relationship between total contributions and subsidiary creation. All charities in this subset of my data filed a Form 990-T prior the passage of the PPA. Combined, these results indicate that donors are responding to subsidiary creation in certain circumstances, specifically when looking at marginal creators based on organization size measured in assets.

9 PPA & Unrelated Business Income

Discussion of the PPA is incomplete without discussing unrelated business income (UBI) generating activities, as this area is most impacted by the requirement of public disclosure of Form 990-T filings.²¹ My analysis on UBI is reported in Appendix B. Beginning with the plot of average charity UBI on the left-hand side in Figure 11, it appears that there is some underlying market trend in charities earning UBI prior to PPA passage, compared to those who did not. This is both driven by an increased number of charities filing a Form 990-T in 2004 and 2005, as well as market trends compared to a control group that has zero UBI by legal definition. Therefore, my difference-in-differences strategy will not produce valid causal estimates, rendering the rest

²¹Given my results on increased subsidiary organization usage, it is important to highlight how subsidiary income is treated in terms of UBI. Any gross subsidiary income paid back to the charity in the form of royalties, etc. is treated as UBI and taxed as such. However, subsidiary income not returned to the charity is taxed as income by the subsidiary organization and is not considered UBI (Woll, 2018).

of this section a discussion of descriptive results rather than causal ones. However, as argued in Rambachan and Roth (2019), there still can be insights gleamed in comparing groups violating parallel trend assumptions.

Plotting the raw data in Figure 11 demonstrates that average UBI earned by organizations in my treatment group²² increases up until PPA passage, where average UBI appears to plateau if not outright decline. Some of this decline in the raw data is attributable to a decrease in number of charities within the treatment group filing a Form 990-T, with 1,819 charities filing a Form 990-T in filing year 2006 and only 1,687 charities filing a Form 990-T in filing year 2012. Conversely, average UBI generated by charities who did not previously file a Form 990-T increases annually after PPA passage. This appears to be driven by an increasing number of organizations who previously never filed a Form 990-T entering into unrelated business income generating market spaces, with the number of new filers increasing from 107 to 489 over filing years 2006 to 2012.

I apply my difference-in-differences framework to the log of gross UBI and report the results in the first two columns of Table 14. In analyzing all charities, levels of UBI decrease by 161% compared to baseline averages for Form 990-T filing organizations. Furthermore, my event study analysis plotted in Figure 12 further bolsters these findings, showing a dramatic decrease compared to non-filers in average UBI earned by charities who filed a Form 990-T at least once prior to PPA passage. Finally, as I have a monotonically decreasing violation of parallel trends, I conduct a Rambachan and Roth (2019) sensitivity analysis, similar to the analysis described in my robustness section to see how much my results are driven by the underlying pre-trend. The sensitivity analysis for filing year 2007 is plotted on the left-hand side of Figure 13. In analyzing all charities, I find that no further deviation from monotonically decreasing parallel trend violations returns filing year 2007 to statistically equivalent average UBI received compared to the 2005 baseline.

To determine if changes in UBI generating activities is driven largely by the entry and exit of charities from UBI generating markets, I restrict my sample to charities either always or never filing a Form 990-T. Examining the raw data plot of always filers compared to never filers on

²²Organizations filing a Form 990-T at least once in the three filing years before PPA passage

the right-hand side of Figure 11, it appears that UBI generation essentially plateaus after PPA passage, with the exception of the years of the Financial Crisis in 2008 and 2009. Never filers, by legal definition, have near zero gross unrelated business income reported across the sample. As mentioned previously, the number of charities filing a Form 990-T increases annually in my dataset up until 2011. Therefore, the data suggests any changes to average UBI levels for the control and treatment group are driven by a change in organizations partaking in UBI generating activities, with organizations who had previously filed a Form 990-T some years prior to the passage of the PPA exiting UBI generating activities and those who previously were not filers entering into UBI generating activities.

Applying my difference-in-differences and event study frameworks to the dataset on always filing and never filing charities provide correlations supporting this hypothesis. Again examining the difference-in-differences specification in the second two columns of Table 14, I find no change in levels of UBI generated. This provides further evidence that average levels of UBI are not changing; however, the firms who are competing in this market space are. Furthermore, event study analysis on always filers and never filers plotted on the right hand side of Figure 12, the only years showing a statistical change in UBI are in 2008 and 2009, in the midst of the Financial Crisis. Finally, examining the Rambachan and Roth (2019) sensitivity analysis on the right-hand side of Figure 13, I find no statistical difference in UBI earned compared to the 2005 baseline at any level deviation from monotonically decreasing parallel trend violations. Therefore, while I cannot conclude that the passage of the PPA causally changed the revenue strategies of some charities by pushing some charities out of UBI generating activities and encouraging others to engage in UBI generating activities, I can conclude that the PPA passage at least coincided with a fundamental change in the composition of charities generating UBI.

10 Discussion

My results demonstrate that charities earning UBI prior to the passage of the PPA responded to mandatory Form 990-T disclosure by creating new taxable subsidiary organizations. My analysis indicates a robust finding of an approximate 28.1% increase in number of subsidiary organizations in the 2006 and 2007 filing years from Form 990-T filers. This translates into roughly one-in-four Form 990-T filing organization creating a new taxable subsidiary per year in the two years after the PPA passed. These results provide a mechanism for the hypothesis put forward in Yetman and Yetman (2008) and Brody (2012) that Form 990-T filing organizations would shift their activities generating unrelated taxable income onto taxable subsidiary organization after the passage of the PPA. As I do not have specific data on the composition of charity gross UBI, testing this hypothesis is left to future research. Additionally, I find evidence that PPA passage coincides with charities previously filing a Form 990-T ceasing UBI generating operations and charities not previously filing a Form 990-T beginning operations generating UBI. As my identifying assumptions are not met for UBI generation, this evidence is not causal.

Conversely, my results indicate that, in aggregate, any alteration to donor decisions based on the public availability of the Form 990-T were temporary. In the seven filing years after passage, there is no statistical difference in total contributions, or government grants. Furthermore, the only change observed in donor behavior stems from a 2007 increase total contributions after including charities who do not file a Form 990-T annually, which returns back to baseline levels the year after and remain there throughout the sample. I am unable to determine if the increased number of subsidiaries caused a lack of change in donation behavior; however, in controlling for the number of subsidiaries through filing year 2007, I find no change in contribution levels or in government grants. The results looking at aggregate contributions do not tell the entire story. In analyzing charities with asset holdings on the margin of creating a new subsidiary organizations, I find that the creation of a new subsidiary organization after PPA passage is correlated with lower total contributions received, particularly in filing year 2007.

Combined, I find evidence of a short term increase in donations to Form 990-T filing orga-

nizations after the PPA, but no evidence of long-term changes to donor behavior, potentially due to charities circumventing disclosure requirements through creating a subsidiary organization. If the goal of Sec 1225 of the PPA was to make UBI more transparent, my results indicate that annually, one-in-four charity organizations filing a Form 990-T prior to PPA passage found it worth the legal cost to establish subsidiary organizations that could potentially allow the parent charity to circumvent Form 990-T reporting requirements. This tactic appears to have worked in aggregate as donations to charities earning UBI prior to the passage of the PPA do not decrease in my analysis.

However, for organizations at the margin of creating a subsidiary, I find a negative correlation between total contributions and organizations establishing a subsidiary organization. It is possible that this is because donors see the establishment of subsidiary organizations should have acted as an imperfect signal to donors to change their behavior in a similar manner. Yet, even with decreased contributions for marginal subsidiary creators, subsidiary creation may have still been rational for charities filing a Form 990-T prior to PPA passage, including those on the margin as total contributions may have been even lower without the subsidiary organization.

11 Conclusion

In this paper, I analyze how charities and donors respond to increased tax filing transparency requirements to obtain a better understanding of how organizations respond to mandatory financial disclosure. In addition to providing the data analysis of Sec 1225 of the PPA, my findings add to the charitable giving literature for both donor response and charity response to mandatory disclosure. The Pension Protection Act (PPA) of 2006 required charities earning unrelated business income (UBI) to publicly disclose these tax returns (Johnson, 2006). Furthermore, the US Congress Joint Committee on Taxation (2006) justified this measure's inclusion in order to ensure charities could not hide financial information that they would find harmful. However, I demonstrate through a difference-in-differences analysis that approximately one in four charities who had generated generate UBI in the three years prior to the passage of the PPA created new taxable subsidiary

organizations each year for the next two filing years.

Taxable subsidiary organization filings are exempt from the disclosure requirements from the PPA; therefore, the newly created subsidiary organizations offer a potential way to undermine the intention of public Form 990-T disclosure. As the data does not appear to be comparable before and after the Form 990 redesign in 2008, it is impossible to state if this was a one time effect or an ongoing phenomenon. Therefore, my findings provide evidence that charities established the mechanisms necessary to shifting UBI generating activities to taxable subsidiaries, as hypothesized by Yetman and Yetman (2008) and Brody (2012). However, due to data limitations, I cannot confirm that the hypothesized shifting of activities is occurring. This question is left to future research.

Nevertheless, I find that neither donors, nor government grant agencies decreased donations in aggregate to Form 990-T filing organizations after they disclosed their UBI tax returns. These findings are robust to controlling for number of subsidiary organizations. Any changes to aggregate contributions found within my data are shown to be transitory in nature and not fully robust. The lack of relationship between total contributions and subsidiary creation does not hold true for marginal donor behavior. In examining charities likely to create a new subsidiary organization, I found a positive relationship between asset holdings and subsidiary organizations. In looking at charities near the mean of assets for subsidiary creators and non-creators, I find a negative relationship between total contributions and creating a new subsidiary among organizations who filed a Form 990-T prior to the passage of the PPA. This relationship is not present for organizations who did not file a Form 990-T in the same time frame.

Combined the results show that charity organizations are willing to alter their structure in a manner allowing them to continue operations similar to how they operated before the disclosure requirement was set into motion. Furthermore, while donor behavior may not change in aggregate, donor behavior will change at the margin. It is not clear how the results will differ in an environment outside of the non-profit sector. In the for-profit sector, contributors are rarely donors, but are instead generally bondholders or stockholders, with a financial interest in company. As such, more

research is needed to determine the impacts of additional financial disclosure in different sectors.

References

- [1] Altonji, J. G., Elder, T. E., & Taber, C. R. (2005). Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools. *Journal of political economy*, 113(1), 151-184.
- [2] Ascher, M. L. (2014). Federalization of the Law of Charity. *Vand. L. Rev.*, 67, 1581.
- [3] Bellows, J., & Miguel, E. (2009). War and local collective action in Sierra Leone. *Journal of public Economics*, 93(11-12), 1144-1157.
- [4] Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates?. *The Quarterly journal of economics*, 119(1), 249-275.
- [5] Bowman, W. (2006). Should donors care about overhead costs? Do they care?. *Nonprofit and Voluntary Sector Quarterly*, 35(2), 288-310.
- [6] Bowman, W., Tuckman, H. P., and Young, D. R. (2012). Issues in nonprofit finance research: Surplus, endowment, and endowment portfolios. *Nonprofit and Voluntary Sector Quarterly*, 41(4), 560-579.
- [7] Brickley, J., and Van Horn, R. (2002). Managerial Incentives in Nonprofit Organizations: Evidence from Hospitals. *The Journal of Law and Economics*, 45(1), 227-249.
- [8] Brody, E. (2012). Sunshine and shadows on charity governance: Public disclosure as a regulatory tool. *Fla. Tax Rev.*, 12, 183.
- [9] Charity Navigator. (2016). How Do We Rate Charities' Financial Health?
- [10] Chetty, R., Looney, A., & Kroft, K. (2009). Salience and taxation: Theory and evidence. *American economic review*, 99(4), 1145-77.

- [11] Doshi, A. R., Dowell, G. W., and Toffel, M. W. (2013). How firms respond to mandatory information disclosure. *Strategic Management Journal*, 34(10), 1209-1231.
- [12] Coffman, S. (2007). Charity Reform Update, June 2007: Senate Finance Committee Leaders Advocate Form 990 Revision. GuideStar.
- [13] Duff, J. and Portillo J. E. (2017). Information Disclosure and Expenditure Allocation Decisions in Non-Profits. Unpublished Manuscript, Florida State University.
- [14] Frumkin, P., and Kim, M. T. (2001). Strategic positioning and the financing of nonprofit organizations: Is efficiency rewarded in the contributions marketplace?. *Public administration review*, 61(3), 266-275.
- [15] Gneezy, U., Keenan, E. A., and Gneezy, A. (2014). Avoiding overhead aversion in charity. *Science*, 346(6209), 632-635.
- [16] Gordon, T., Khumawala, S. B., Kraut, M. A., & Meade, J. A. (2007). The quality and reliability of Form 990 data: Are users being misled. *Academy of Accounting and Financial Studies Journal*, 11, 27.
- [17] Gordon, T. P., Knock, C. L., and Neely, D. G. (2009). The role of rating agencies in the market for charitable contributions: An empirical test. *Journal of accounting and public policy*, 28(6), 469-484.
- [18] Homonoff, T., Spreen, T. L., & Clair, T. S. (2020). Balance sheet insolvency and contribution revenue in public charities. *Journal of Public Economics*, 186, 104177.
- [19] Hines Jr, J. R. (1999). Non-profit business activity and the unrelated business income tax. *Tax policy and the economy*, 13, 57-84.
- [20] Hofmann, M. A. (2007). Tax-motivated expense shifting by tax-exempt associations. *Journal of the American Taxation Association*, 29(1), 43-60.

- [21] Hofmann, M. A., & McSwain, D. (2013). Financial disclosure management in the non-profit sector: A framework for past and future research. *Journal of accounting literature*, 32(1), 61-87.
- [22] Hope Consulting, 2010. Money for good: the us market for impact investments and charitable gifts from individual donors and investors, May.
- [23] Ioannou, I., & Serafeim, G. (2019). The consequences of mandatory corporate sustainability reporting. In *The Oxford Handbook of Corporate Social Responsibility*.
- [24] Internal Revenue Service (IRS). (2007a). 2007 Form 990.
- [25] IRS. (2007b). 2007 Instructions for Form 990 and Form 990-EZ.
- [26] IRS. (2008a). Background paper summary of Form 990 redesign process.
- [27] IRS. (2008). 2008 Form 990.
- [28] IRS. (2008c). 2008 Schedule R-1, Form 990.
- [29] IRS. (2008d). Instructions for Schedule R (Form 990).
- [30] Internal Revenue Service (IRS). (2017a). Public Disclosure and Availability of Exempt Organizations Returns and Applications: Documents Subject to Public Disclosure.
- [31] IRS. (2017b). Form 990 Series Which Forms Do Exempt Organizations File Filing Phase In
- [32] IRS. (2019a). Exempt Organizations Annual Reporting Requires - Form 990, Schedule R: Related Organization Activities Reported as Filing Organization Activities.
- [33] IRS. (2019b). About Form 990-T, Exempt Organization Business Income Tax Return (and proxy tax under section 6033(e)).

- [34] IRS. (2019c). Public Inspection of Attachments to a 501(c)(3) Organization's Form 990-T, Exempt Organization Business Income Tax Return.
- [35] IRS. (2019d). Unrelated Business Income Tax Exceptions and Exclusions.
- [36] IRS. (2019e). Tax on Unrelated Business Income of Exempt Organizations.
- [37] Johnson, E. M. (2006). The Pension Protection Act of 2006 and Nonprofit Reforms. Whiteford, Taylor & Preston LLC.
- [38] Joint Committee on Taxation. (2006). Technical Explanation of H.R.4, The “Pension Protection Act of 2006” As Passed by the House on July 28, 2006, and As Considered by the Senate on August 3, 2006. United States Congress.
- [39] Jones, D. (2019). National Taxonomy of Exempt Entities (NTEE) Codes. National Center for Charitable Statistics. Urban Institute.
- [40] Li, X., & Yang, H. I. (2016). Mandatory financial reporting and voluntary disclosure: The effect of mandatory IFRS adoption on management forecasts. *The Accounting Review*, 91(3), 933-953.
- [41] List, J. A. (2011). The market for charitable giving. *Journal of Economic Perspectives*, 25(2), 157-80.
- [42] List, J. A., & Peysakhovich, Y. (2011). Charitable donations are more responsive to stock market booms than busts. *Economics Letters*, 110(2), 166-169.
- [43] Marx, B. M. (2018). The Cost of Requiring Charities to Report Financial Information. Working Paper.
- [44] McDowell, S. R. (2008). Unrelated Business Income Tax. Steptoe & Johnson LLP.
- [45] McKeever, B. S. (2018). The Nonprofit Sector in Brief 2018: Public Charities, Giving, and Volunteering. National Center for Charitable Statistics. Urban Institute.

- [46] Meer, J. (2014). Effects of the price of charitable giving: Evidence from an online crowd-funding platform. *Journal of Economic Behavior and Organization*, 103, 113-124.
- [47] Mobus, J. L. (2005). Mandatory environmental disclosures in a legitimacy theory context. *Accounting, Auditing & Accountability Journal*.
- [48] NonProfit Quarterly Editors. (2004). Congressional Oversight of Nonprofits (August 04). *NonProfit Quarterly*.
- [49] National Center for Charitable Statistics. (2013). IRS SOI Division Exempt Organizations Sample Files.
- [50] National Center for Charitable Statistics. (2013). Guide to Using NCCS Data.
- [51] Omer, T. C., & Yetman, R. J. (2003). Near zero taxable income reporting by nonprofit organizations. *Journal of the American Taxation Association*, 25(2), 19-34.
- [52] Omer, T. C., & Yetman, R. J. (2007). Tax misreporting and avoidance by nonprofit organizations. *Journal of the American Taxation Association*, 29(1), 61-86.
- [53] Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business Economic Statistics*, 37(2), 187-204.
- [54] Rambachan, A. & Roth, A. R. J. (2019). An Honest Approach to Parallel Trends. Harvard Working Paper. bibitemSenateFC Senate Finance Committee. (2006). Grassley, Baukus Urge President's Support for Reforms to Boost Charitable Work.
- [55] St. Clair, T. (2016). How do nonprofits respond to regulatory thresholds: Evidence from New York's audit requirements. *Journal of Policy Analysis and Management*, 35(4), 772-790.
- [56] Teasdale, S., Kerlin, J., Young, D., & In Soh, J. (2013). Oil and water rarely mix: Exploring the relative stability of nonprofit revenue mixes over time. *Journal of Social Entrepreneurship*, 4(1), 69-87.

- [57] United States Congress. (2006). H.R.4 - Pension Protection Act of 2006.
- [58] United States Congress. (2006a). Public Law 109-208-August 17, 2006. Pension Protection Act of 2006.
- [59] Woll, R. J. (2018). Unrelated Business Income: Two Common Examples for Nonprofits. RKL CPA.
- [60] Yetman, R. (2001). Tax-Motivated Expense Allocations by Nonprofit Organizations. *The Accounting Review*, 76(3), 297-311.
- [61] Yetman, M. H., & Yetman, R. J. (2008). Why do nonprofits have taxable subsidiaries?. *National Tax Journal*, 675-698.
- [62] Yetman, M. H., Yetman, R. J., & Badertscher, B. (2009). Calibrating the reliability of publicly available nonprofit taxable activity disclosures: Comparing IRS 990 and IRS 990-T data. *Nonprofit and voluntary sector quarterly*, 38(1), 95-116.
- [63] Yörük, B. K. (2016). Charity ratings. *Journal of Economics and Management Strategy*, 25(1), 195-219.

12 Figures

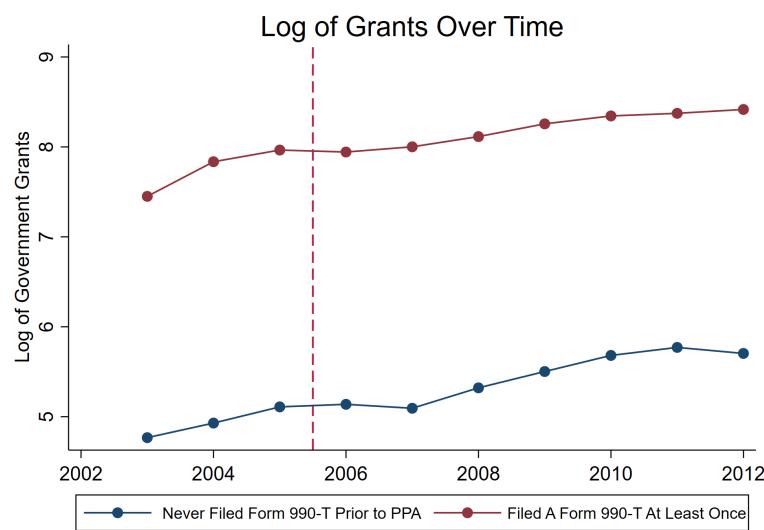
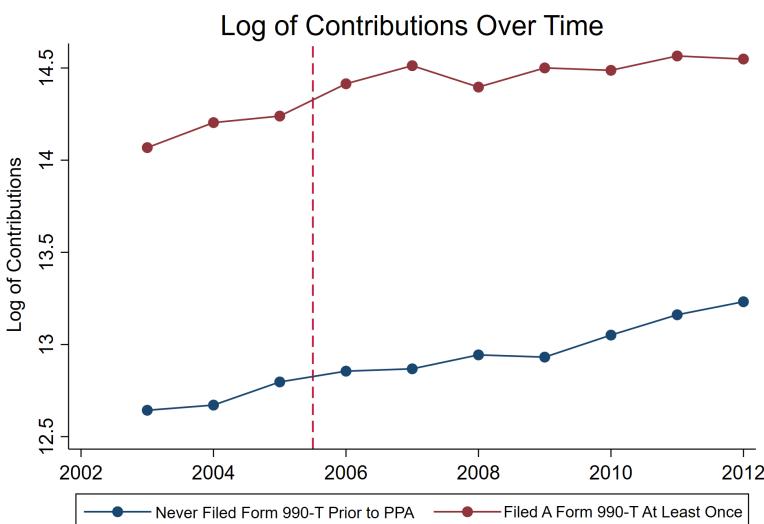
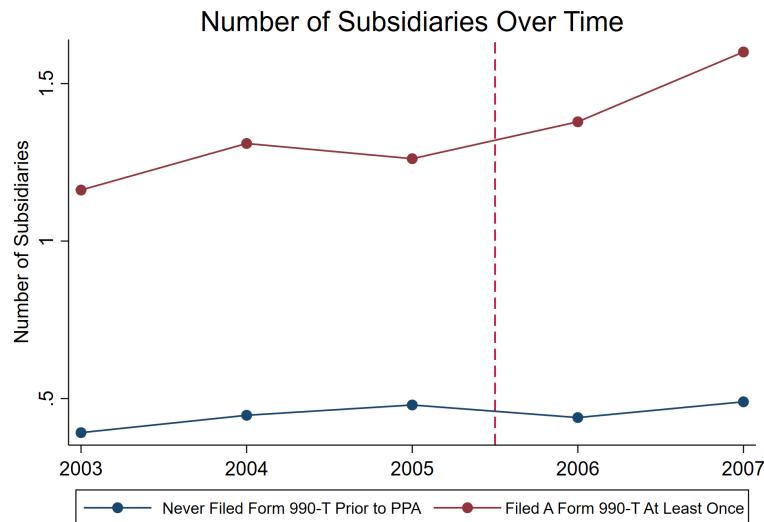


Figure 1: Mean Plots of Outcome Variables, 2004-2012 [Subsidiaries 2004-2007]

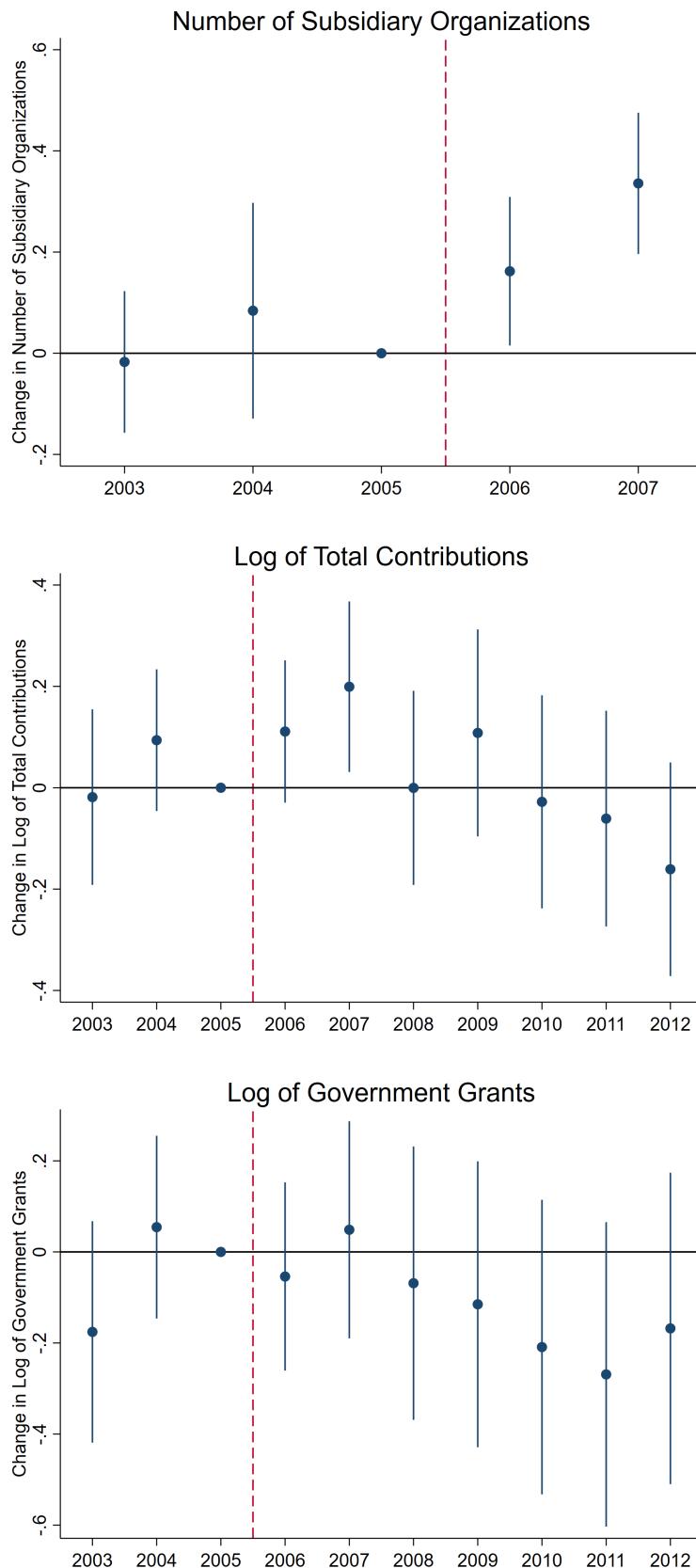


Figure 2: Event Study Diagrams

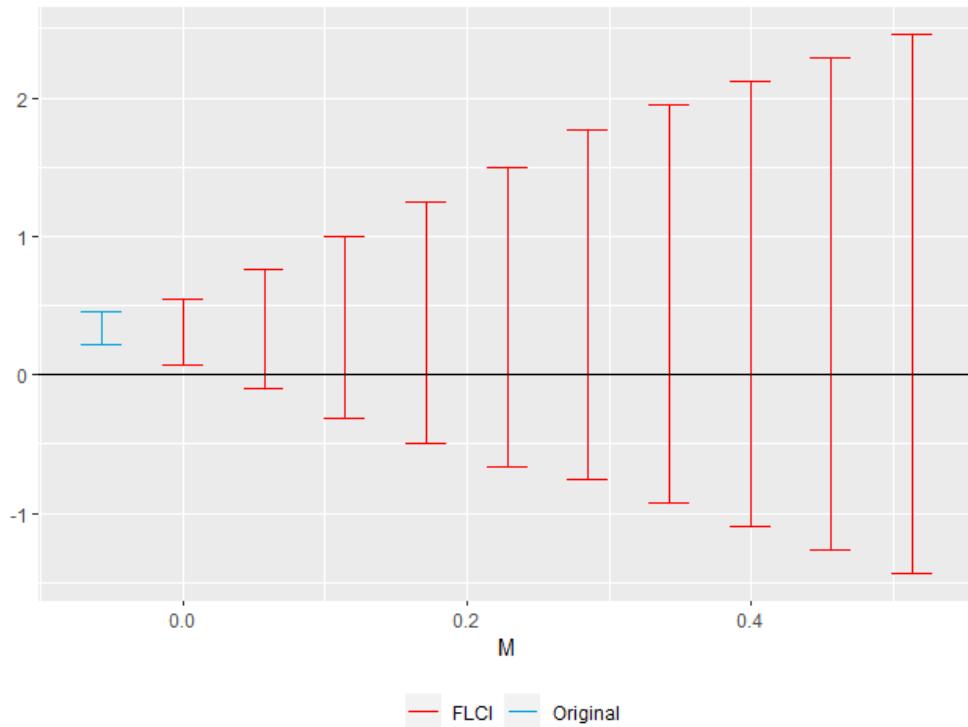


Figure 3: Rambachan and Roth (2019) Coefficient Sensitivity Test: Number of Subsidiaries

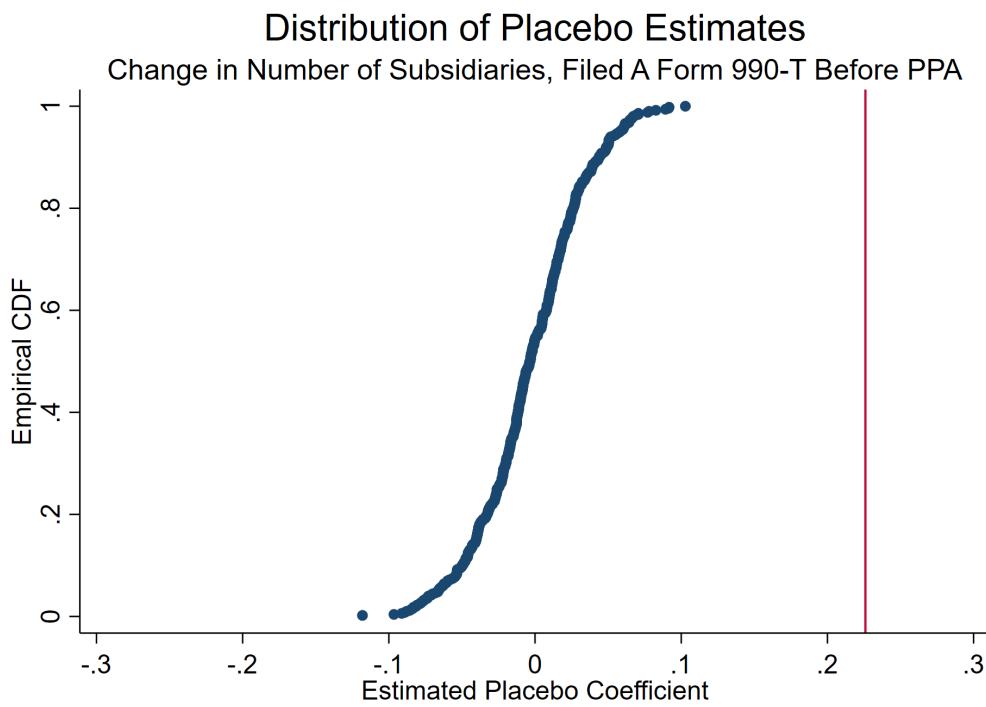
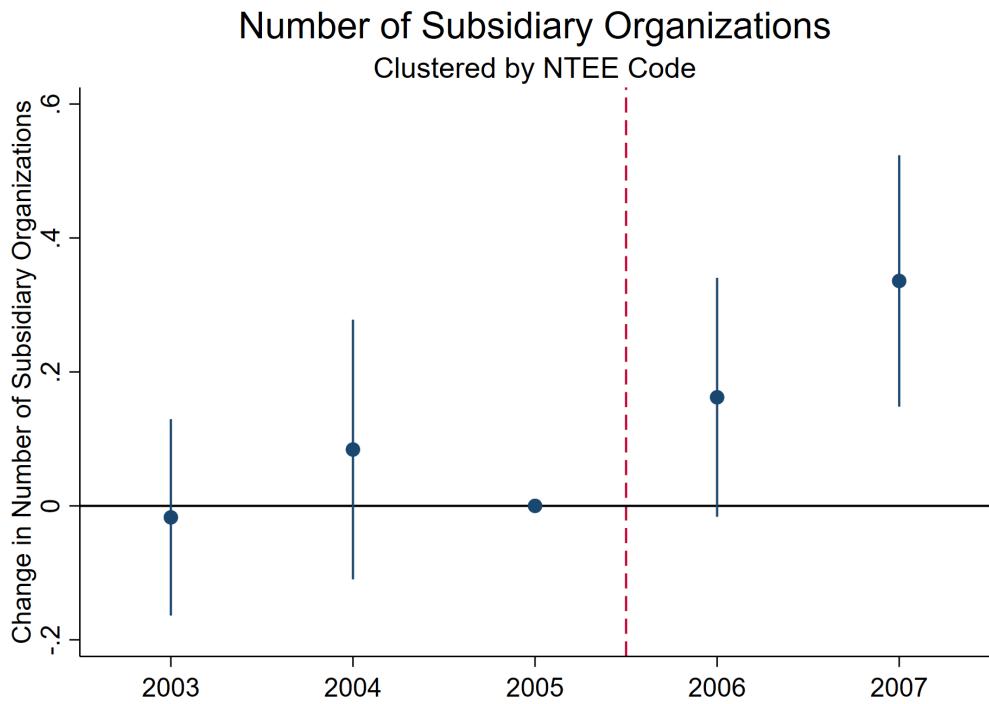
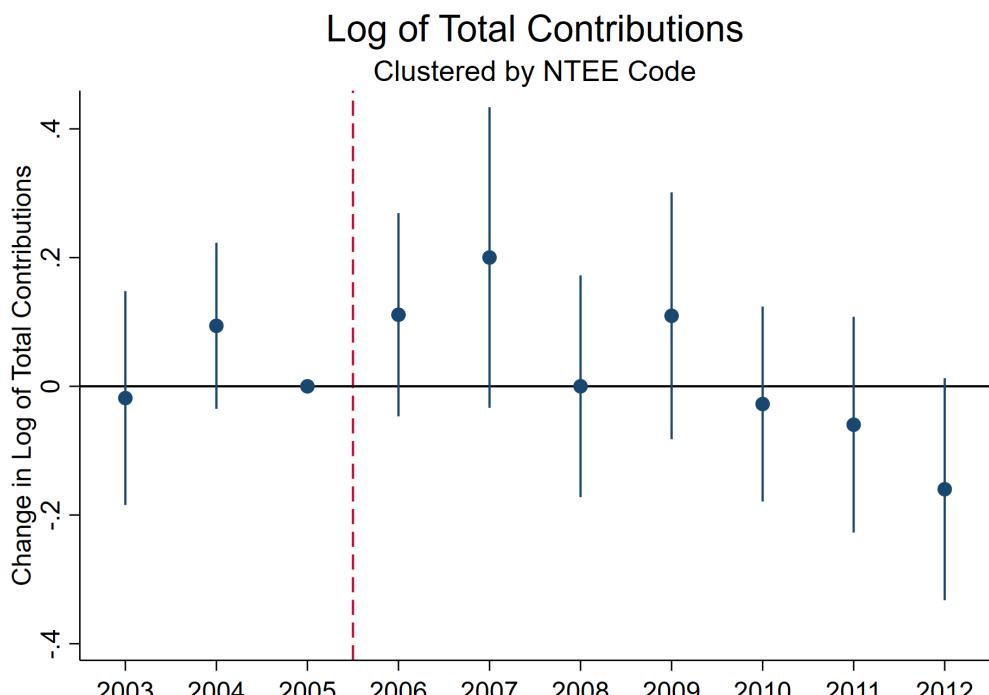


Figure 4: Distribution of Placebo Estimates, Number of Subsidiary Organizations.

Note: P-Value = 0.000, actual value of $\hat{\beta}$ represented by the red line on the graph.



(a) Number of Subsidiary Organizations



(b) Log of Total Contributions

Figure 5: Event Study Diagrams – Clustered by NTEECC Code

13 Tables

Table 1: Balance Table: 2003-2012 Charities

	Years Before PPA Passage			Years after PPA Passage			Diff in Diff		
	All Charities	Non-Filer	File 990-T	Difference	All Charities	Pre PPA	Non-Filer	File 990-T	Difference
Log Assets BOY	18.851 (1.055)	18.520 (0.941)	19.140 (1.065)	0.620*** (1.055)	19.155 (0.985)	18.816 (0.774)	19.453 (1.052)	0.637*** (0.011)	0.017 (0.021)
Log Assets EOY	18.951 (0.938)	18.629 (0.721)	19.232 (1.012)	0.603*** (0.017)	19.195 (1.011)	18.848 (0.822)	19.499 (1.063)	0.650*** (0.012)	0.047* (0.021)
Log Liabilities BOY	17.102 (2.800)	16.360 (3.343)	17.752 (2.004)	1.392*** (0.051)	17.466 (2.669)	16.731 (3.178)	18.109 (1.905)	1.378*** (0.032)	-0.013 (0.059)
Log Liabilities EOY	17.201 (2.722)	16.472 (3.268)	17.840 (1.196)	1.369*** (0.049)	17.509 (2.669)	16.773 (3.166)	18.154 (1.923)	1.381*** (0.032)	0.012 (0.058)
Log Total Expenses	17.726 (1.707)	17.050 (1.736)	18.317 (1.440)	1.267*** (0.030)	18.027 (1.596)	17.370 (1.580)	18.603 (1.371)	1.233*** (0.018)	-0.034 (0.034)
Log Fundraising Expenses	7.681 (6.840)	7.258 (6.657)	8.052 (6.975)	0.793*** (0.128)	5.133 (6.261)	4.871 (6.122)	5.363 (6.372)	0.492*** (0.077)	-0.302* (0.144)
Log Program Service Revenue	14.896 (6.419)	12.936 (7.194)	16.611 (5.065)	3.675*** (0.115)	15.366 (6.259)	13.541 (7.011)	16.964 (4.995)	3.423*** (0.074)	-0.252 (0.136)
N	3,807	1,777	2,030	3,807	3,807	1,777	2,030	3,807	3,807

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Columns 1-3, 5-7 standard deviations in parentheses. Columns 4, 8 and 9 standard errors in parentheses. N represents number of charities in the panel.

† Data on number of subsidiaries after 2008 not included in this table as the way the Form 990 counted number of subsidiaries change with the new Form 990 creation in 2008.

Table 2: Difference-in-Differences: All Charities Filing in 2003-2012

990-T Filers * PPA	# Subsidiaries †		ln(Tot. Contr.)		ln(Grants)	
	0.220*** (0.058)	0.226*** (0.060)	0.017 (0.076)	-0.000 (0.076)	-0.066 (0.116)	-0.078 (0.116)
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓	✓	✓
Operation Controls		✓		✓		✓
N	3,807	3,807	3,807	3,807	3,807	3,807

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents number of charities in a 10 year panel.

† Number of Subsidiaries only measured through 2007 as data collection changed after the 2008 Form 990 redesign.

Table 3: Difference-in-Differences: 2003-2007 Donor Outcomes Controlling for Charity Number of Subsidiaries

990-T Filers * PPA	ln(Tot. Contr.)		ln(Grants)	
	0.124 (0.070)	0.121 (0.070)	0.041 (0.095)	0.036 (0.101)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls	✓	✓	✓	✓
Subsidiary Control		✓		✓
N	3,807	3,807	3,807	3,807

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents number of charities in a 5 year panel.

Table 4: Difference-in-Differences: 2003-2007 Number of Subsidiaries

990-T Filers * PPA	# Subsidiaries	
	0.220*** (0.080)	0.226*** (0.082)
Year Fixed Effects	✓	✓
Charity Fixed Effects	✓	✓
Operation Controls		✓
<i>N</i>	3,805	3,805
Clusters	323	323

Standard errors, clustered by NTEECC code and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents number of charities in a 5 year panel.

Table 5: Probit Marginal Effects: Subsidiary Creators

	New Subsidiary After 2005	New Subsidiary in 2006	New Subsidiary in 2007
990-T Filers	0.030* (0.015)	0.041*** (0.012)	0.009 (0.011)
Log GUBI	0.002* (0.001)	0.000 (0.001)	0.002* (0.001)
Log Contributions	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Log Grants	-0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)
Log Assets (BOY)	0.033*** (0.006)	0.022*** (0.005)	0.024*** (0.005)
Log Liabilities (BOY)	0.001 (0.001)	0.000 (0.002)	-0.000 (0.002)
Log Total Exps.	0.027*** (0.006)	0.013*** (0.004)	0.021*** (0.005)
Log Fund Exps.	-0.003*** (0.001)	-0.003*** (0.001)	-0.001* (0.001)
<i>N</i>	3,807	3,807	3,807

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Change in Total Contributions for Marginal Subsidiary Creators, $\ln(\text{Assets}) \in 18, 20$

	Filed Form 990-T Before PPA	Did Not File Before PPA	Log of Total Contributions All Charities
Created New Subsidiary After 2005	-0.572* (0.289)	-0.151 (0.467)	-0.295 (0.256)
Created New Subsidiary in 2007	-1.027** (0.376)	-0.379 (0.580)	-0.703* (0.323)
Created New Subsidiary in 2006	-0.556 (0.356)	0.126 (0.590)	-0.213 (0.311)
Charity Operation Controls	✓	✓	✓
N	1436	1436	2957
	1436	1436	2957

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Change in Total Contributions for Marginal Subsidiary Creators, $\ln(\text{Gross UBI}) \in 12, 14$

Log of Total Contributions			
Created Subsidiary After 2005	-0.203 (0.359)		
Created New Subsidiary in 2007		-0.945 (0.535)	
Created New Subsidiary in 2006			0.185 (0.388)
Charity Operation Controls	✓	✓	✓
<i>N</i>	593	593	593

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

14 Appendix

14.1 Appendix A — Analysis Over Charities who Always File or Never File Form 990-T

14.1.1 Figures

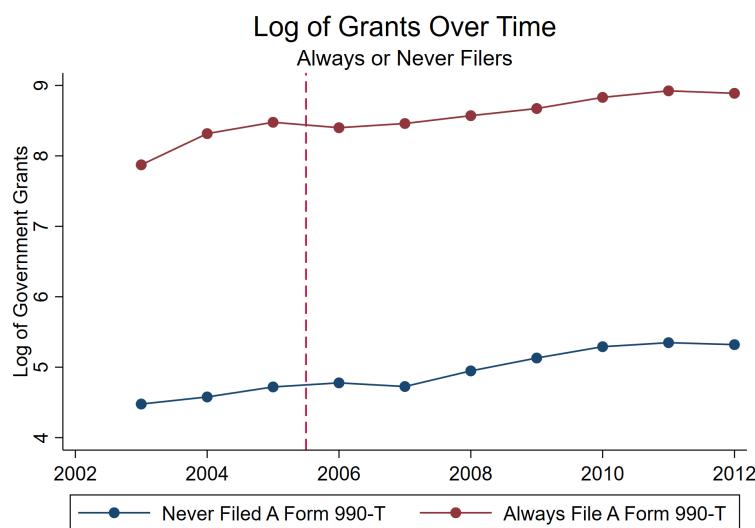
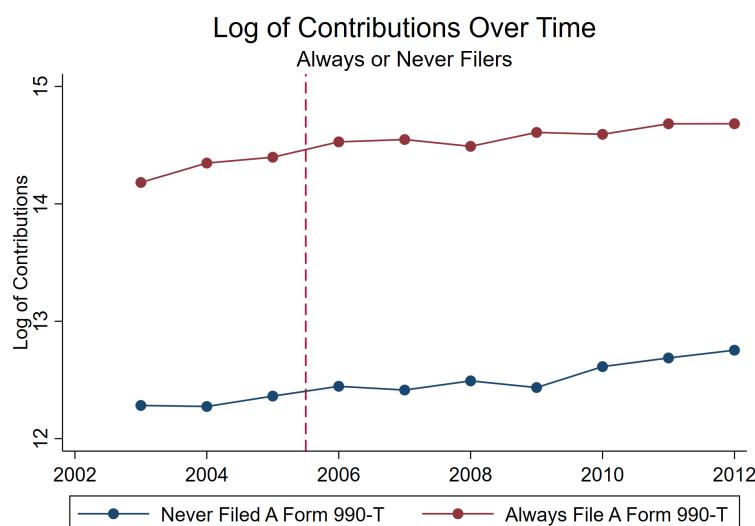
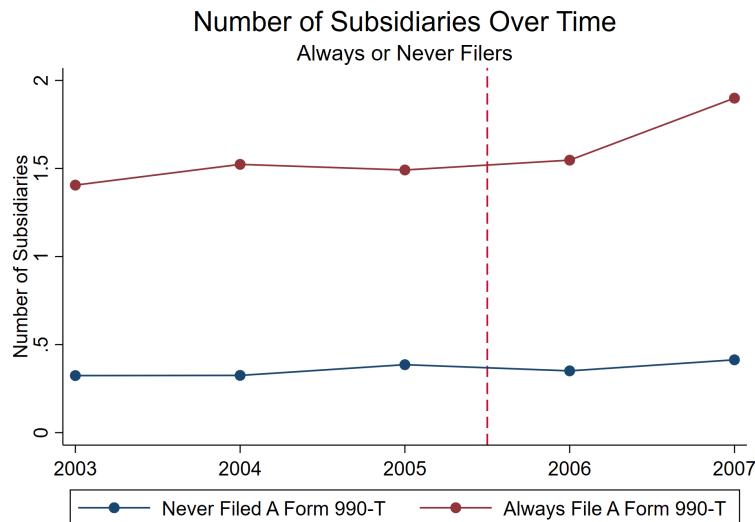


Figure 6: Mean Plots of Outcome Variables, 2004-2012 [Subsidiaries 2004-2007]

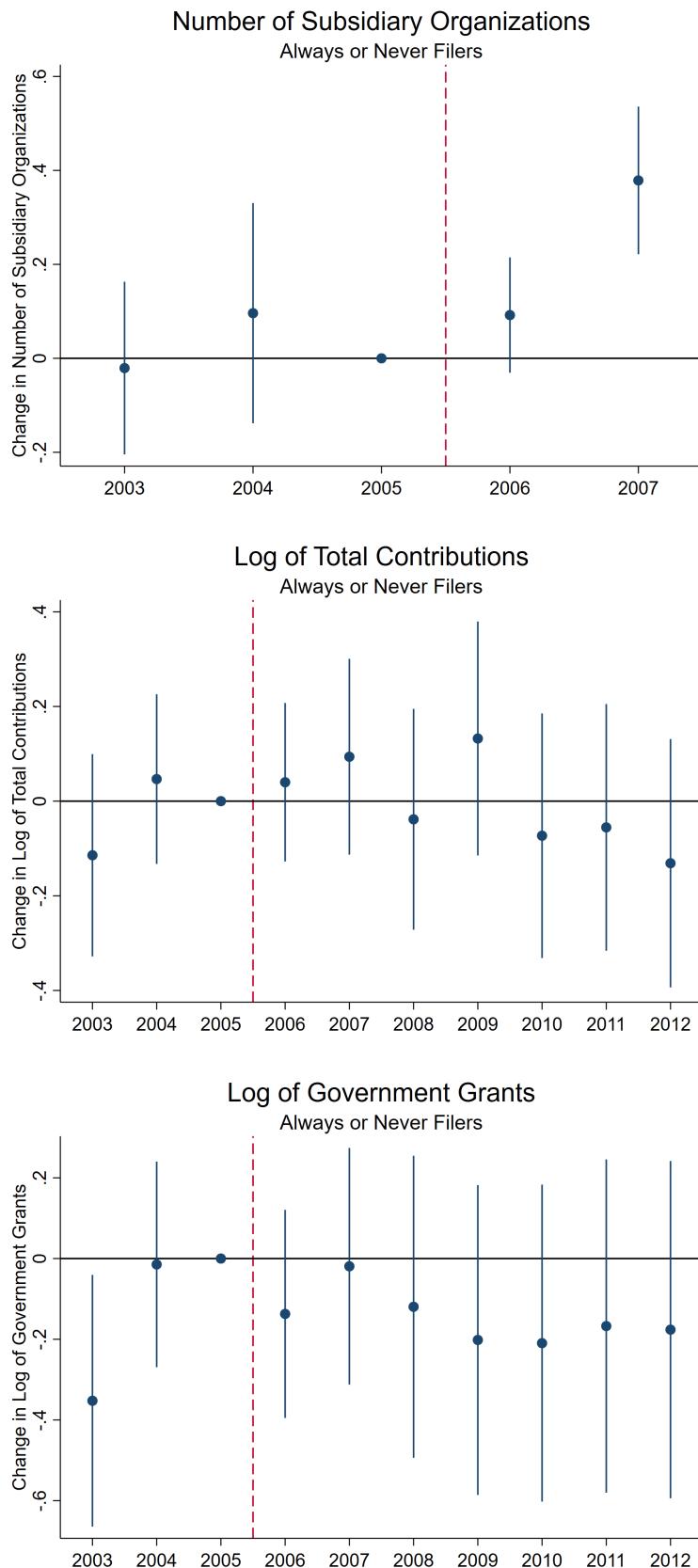


Figure 7: Event Study Diagrams

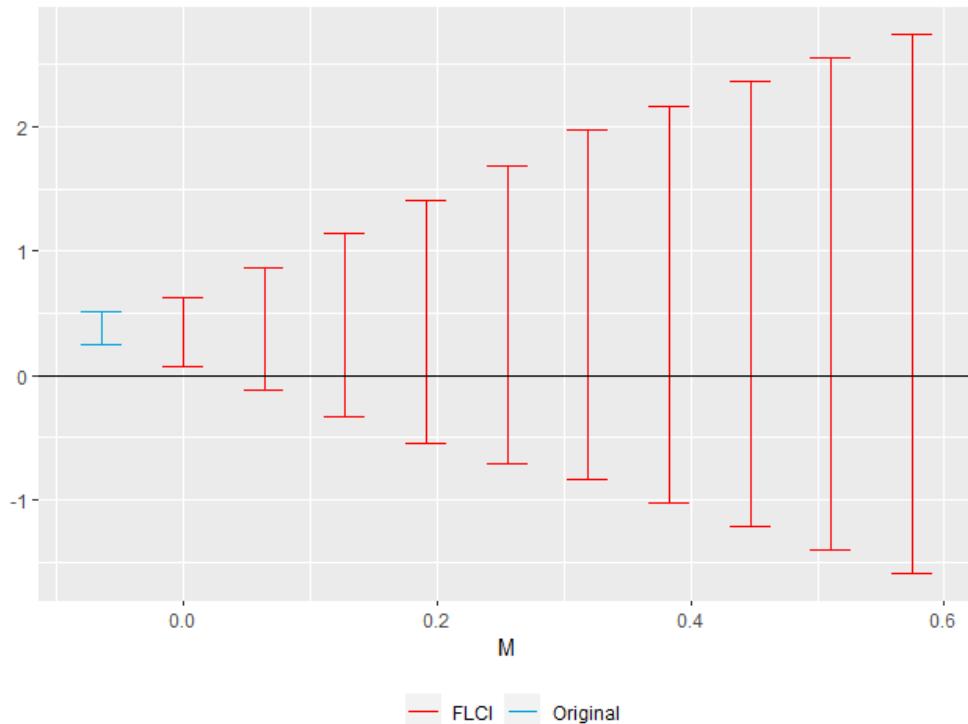


Figure 8: Rambachan and Roth (2019) Coefficient Sensitivity Test

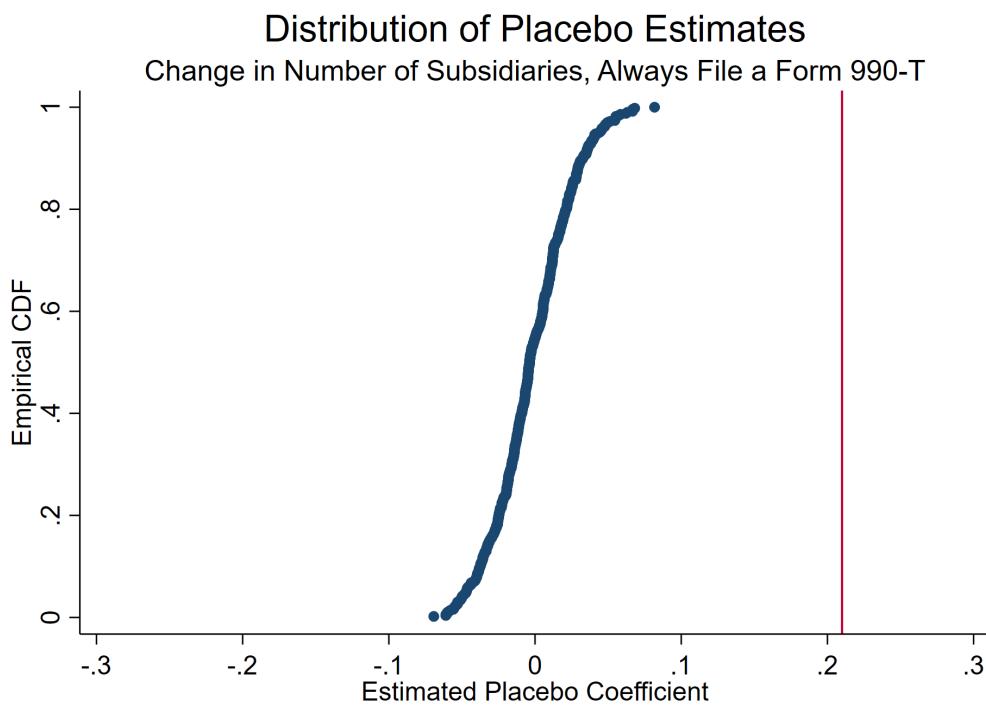


Figure 9: Distribution of Placebo Estimates

Note: P-Value = 0.000 for # of Subsidiaries.
Actual value of $\hat{\beta}$ represented by the red line on the graph.

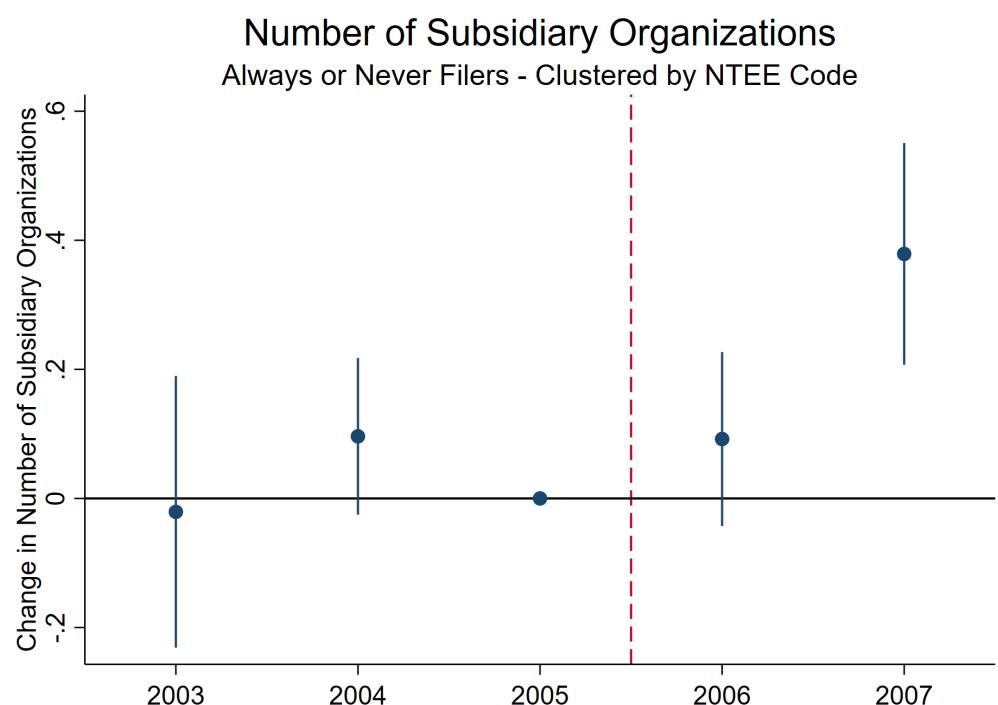


Figure 10: Number of Subsidiaries Event Study Diagram Clustered by NTEECC Code

14.1.2 Tables

Table 8: Balance Table: 2003-2012 Charities, Always or Never File Form 990-T

	All Charities	Years Before PPA Passage			Years after PPA Passage			Diff in Diff
		Never File	Always File	Difference	All Charities	Never File	Always File	
Log Assets BOY	18.872 (1.100)	18.435 (0.896)	19.276 (1.117)	0.841*** (0.024)	19.164 (1.040)	18.714 (0.725)	19.581 (1.112)	0.867*** (0.015)
Log Assets EOY	18.968 (0.995)	18.540 (0.675)	19.364 (1.076)	0.825*** (0.0231)	19.202 (1.061)	18.744 (0.763)	19.627 (1.121)	0.883*** (0.015)
Log Liabilities BOY	17.135 (2.921)	16.165 (3.610)	18.033 (1.641)	1.868*** (0.065)	17.474 (2.824)	16.520 (3.456)	18.359 (1.636)	1.839*** (0.041)
Log Liabilities EOY	17.224 (2.857)	16.271 (3.538)	18.108 (1.584)	1.837*** (0.064)	17.517 (2.832)	16.557 (3.454)	18.406 (1.658)	1.849*** (0.041)
Log Total Expenses	17.743 (1.796)	16.887 (1.783)	18.536 (1.401)	1.649*** (0.038)	18.045 (1.689)	17.208 (1.623)	18.820 (1.344)	1.612*** (0.023)
Log Fundraising Expenses	7.532 (6.853)	6.765 (6.493)	8.242 (7.013)	1.477*** (0.160)	4.978 (6.229)	4.483 (5.992)	5.437 (6.408)	0.954*** (0.096)
Log Program Service Revenue	15.516 (6.238)	12.646 (7.246)	17.494 (3.875)	-4.847*** (0.135)	15.637 (7.096)	13.261 (3.781)	17.840 (6.072)	-4.579*** (0.087)
N	2,418	1,163	1,255	2,481	2,481	1,163	1,255	2,481

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Columns 1-3, 5-7 standard deviations in parentheses. Columns 4, 8 and 9 standard errors in parentheses. N represents number of charities in the panel.

† Data on number of subsidiaries after 2008 not included in this table as the way the Form 990 counted number of subsidiaries change with the new Form 990 creation in 2008.

Table 9: Difference-in-Differences: 2003-2012, Always File or Never File Form 990-T

990-T Filers * PPA	# Subsidiaries †		ln(Tot. Contr.)		ln(Grants)	
	0.213*** (0.064)	0.210*** (0.063)	0.039 (0.091)	0.019 (0.092)	-0.030 (0.142)	-0.025 (0.142)
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓	✓	✓
Operation Controls		✓		✓		✓
N	2,481	2,481	2,481	2,481	2,481	2,481

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents number of charities in a 10 year panel.

† Number of Subsidiaries only measured through 2007 as data collection changed after the 2008 Form 990 redesign.

Table 10: Difference-in-Differences: 2003-2007 Donor Outcomes Controlling for Charity Number of Subsidiaries

990-T Filers * PPA	ln(Tot. Contr.)		ln(Grants)	
	0.080 (0.084)	0.080 (0.085)	0.040 (0.125)	0.040 (0.125)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls	✓	✓	✓	✓
Subsidiary Control		✓		✓
N	2,418	2,418	2,418	2,418

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents number of charities in a 5 year panel.

Table 11: Difference-in-Differences: 2003-2007 Number of Subsidiaries

	# Subsidiaries	
990-T Filers * PPA	0.213*** (0.066)	0.210*** (0.067)
Year Fixed Effects	✓	✓
Charity Fixed Effects	✓	✓
Operation Controls		✓
<i>N</i>	2,416	2,416
Clusters	263	263

Standard errors, clustered by NTEECC code and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents number of charities in a 5 year panel.

Table 12: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Assets}) \in 18, 20$

		Log of Total Contributions		All Charities
	Filed Form 990-T Before PPA	Did Not File Before PPA		
Created New Subsidiary After 2005	-0.398 (0.362)	-0.175 (0.652)	-0.138 (0.776)	-0.153 (0.330)
Created New Subsidiary in 2007	-0.976* (0.469)			-0.600 (0.411)
Created New Subsidiary in 2006	-0.183 (0.398)		0.390 (0.886)	0.128 (0.373)
Charity Operation Controls	✓	✓	✓	✓
N	840	840	840	1836
		996	996	1836
			996	1836
				1836

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Gross UBI}) \in 12, 14$

Log of Total Contributions			
Created Subsidiary After 2005	0.169 (0.364)		
Created New Subsidiary in 2007	-0.465 (0.521)		
Created New Subsidiary in 2006		0.075 (0.455)	
Charity Operation Controls	✓	✓	✓
<i>N</i>	463	463	463

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

14.2 Appendix B - Log Gross Unrelated Business Income

14.2.1 Figures

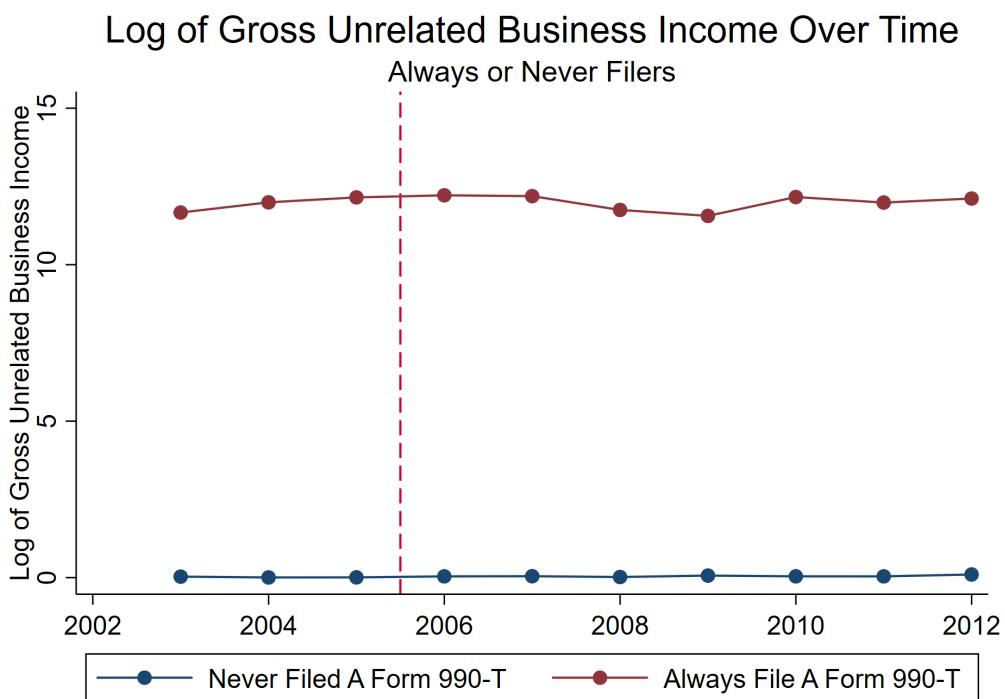
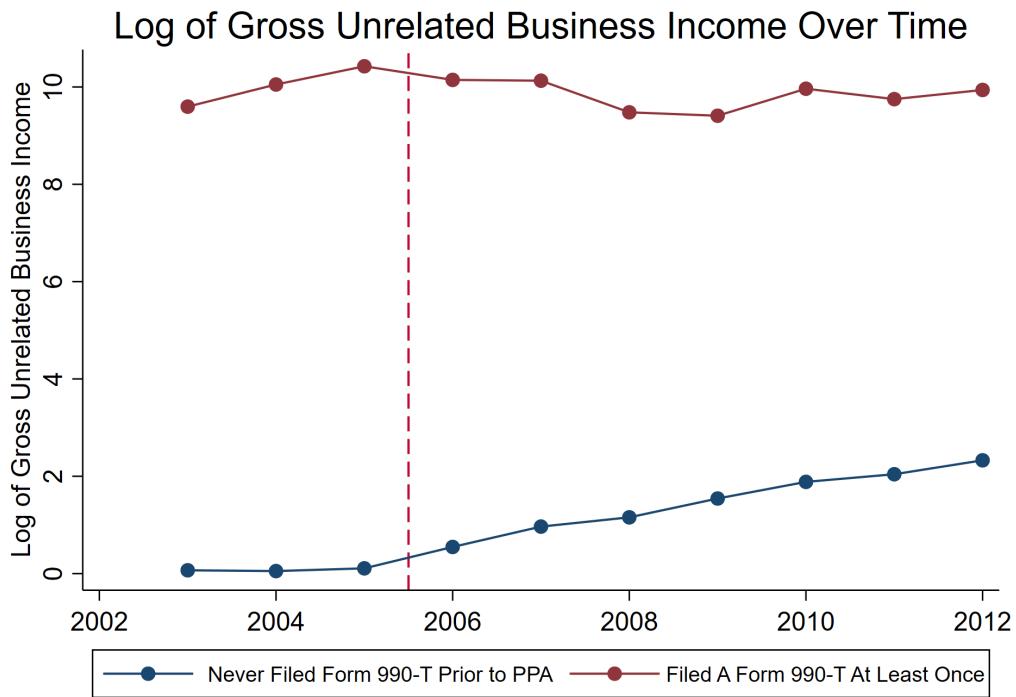


Figure 11: Mean Plot of Log Gross Unrelated Business Income

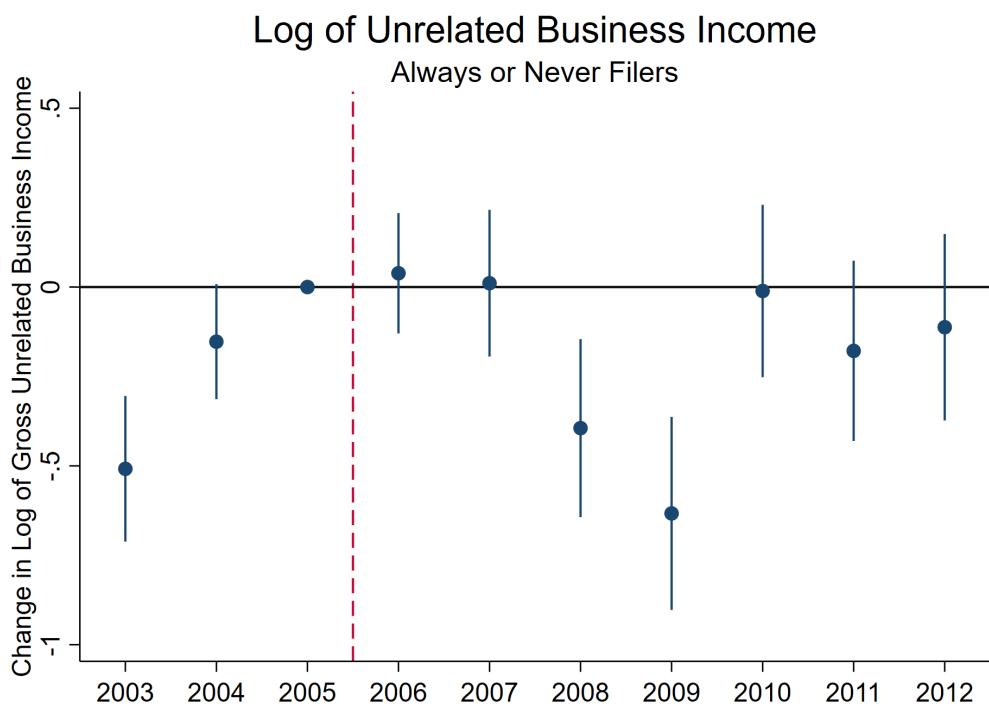
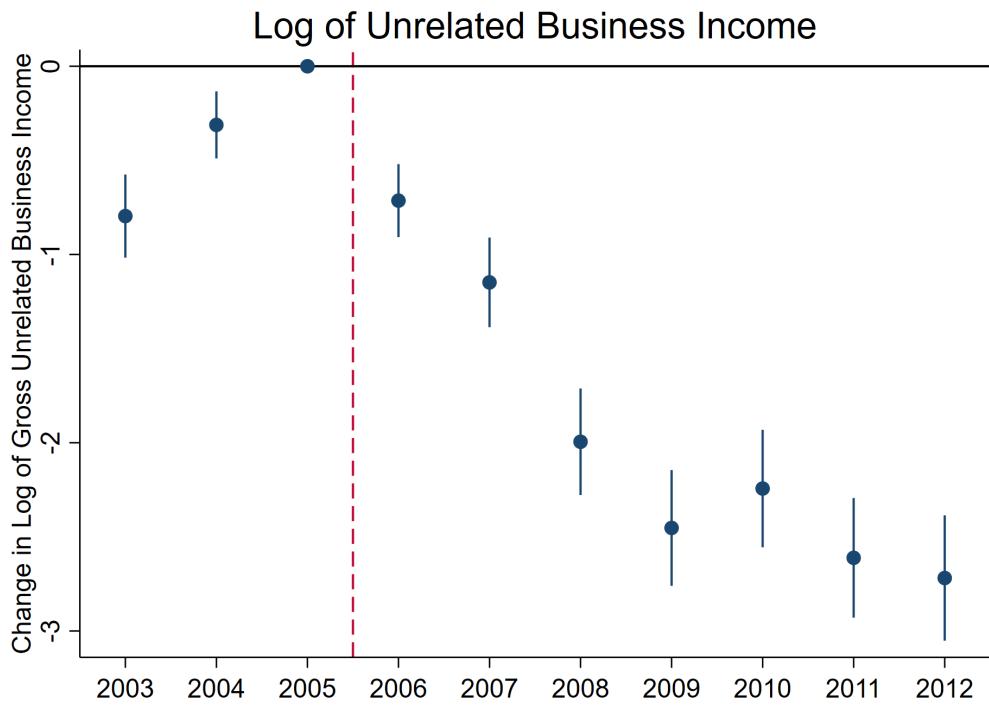
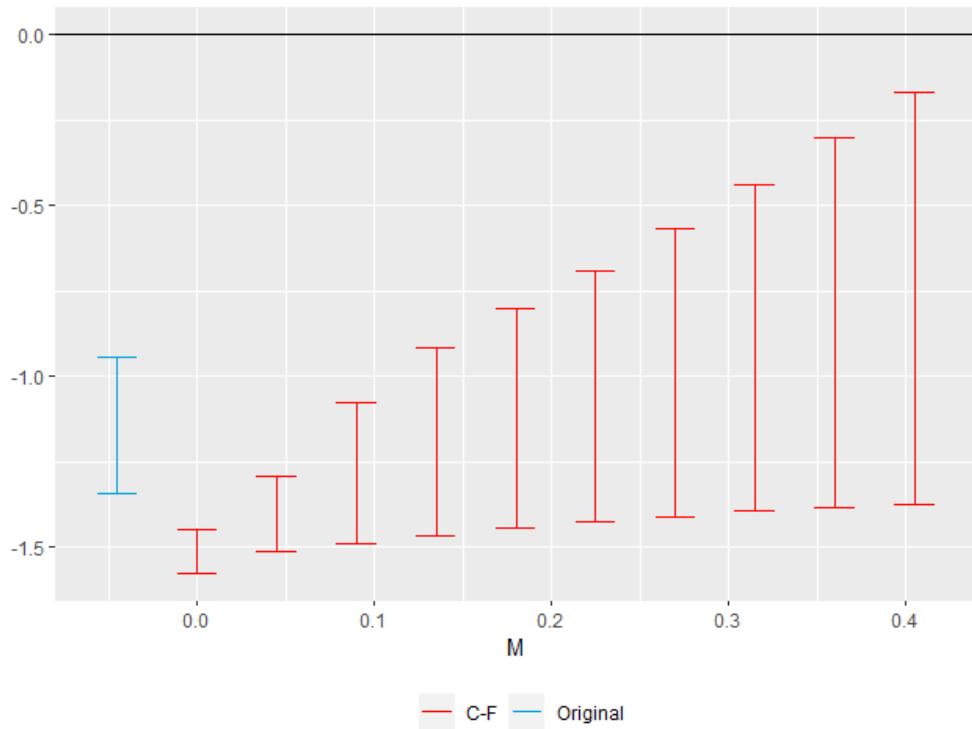
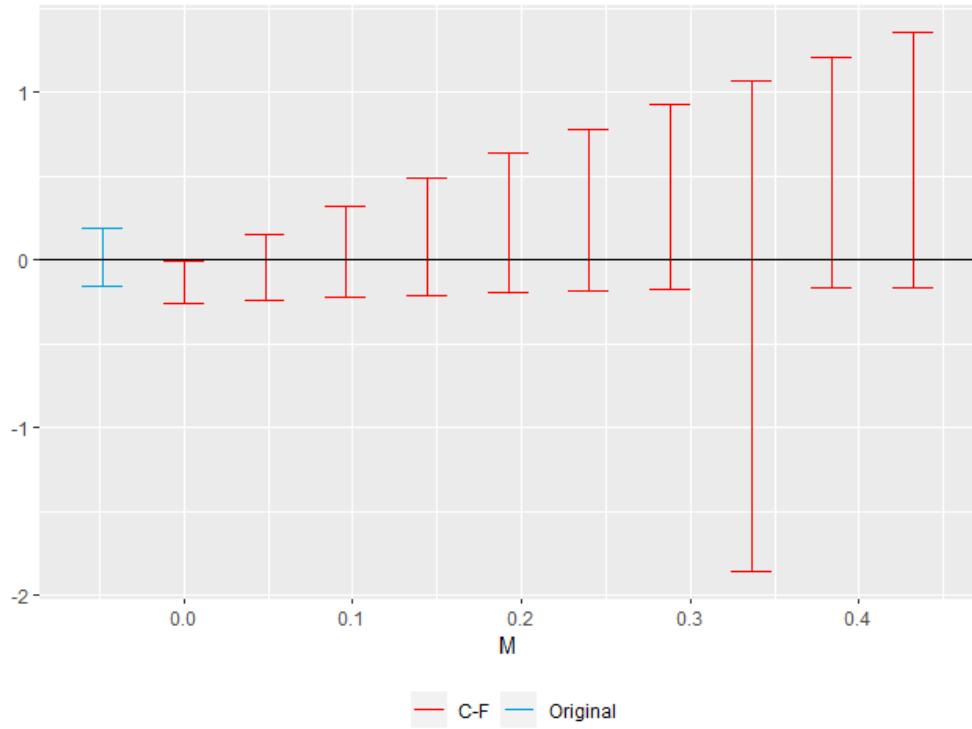


Figure 12: Event Study Log Unrelated Business Income



(a) All Charities



(b) Always File or Never File

Figure 13: Rambachan and Roth (2019) Coefficient Sensitivity Tests

14.2.2 Tables

Table 14: Difference-in-Differences: Log Gross Unrelated Business Income

	<u>All Charities</u>		Always or Never Filers	
990-T Filers * PPA	-1.613*** (0.110)	-1.610*** (0.110)	0.026 (0.084)	0.052 (0.081)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls		✓		✓
<i>N</i>	3,807	3,807	2,481	2,481

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents number of charities in a 10 year panel.

14.3 Appendix C - Analysis on Full NCCS Dataset

14.3.1 Main Analysis – Figures

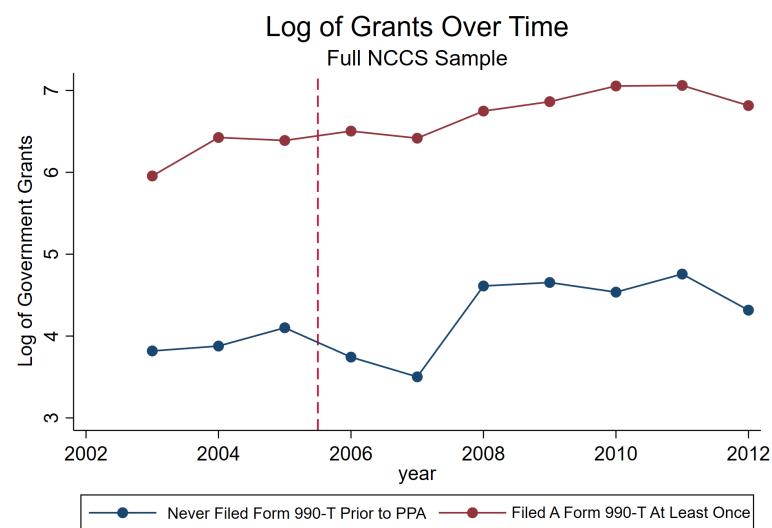
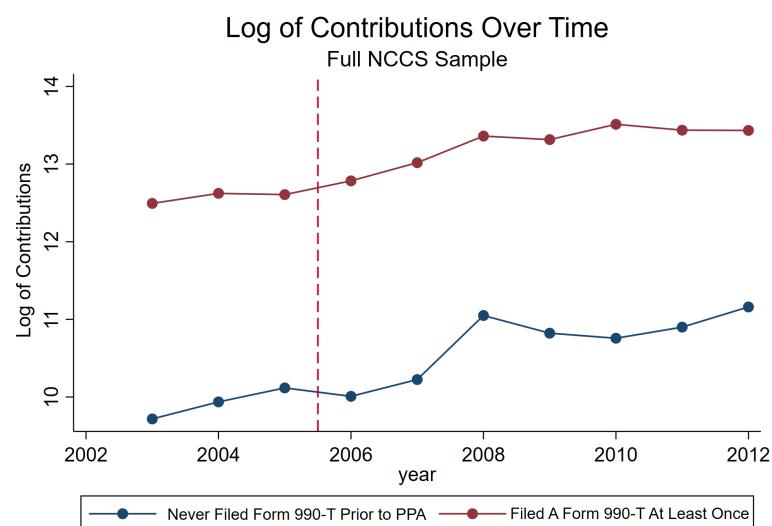
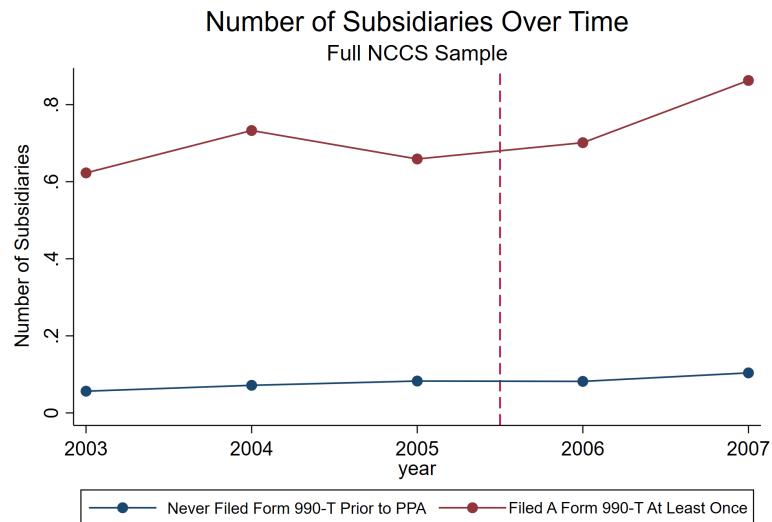


Figure 14: Mean Plots of Outcome Variables, 2004-2012 [Subsidiaries 2004-2007]

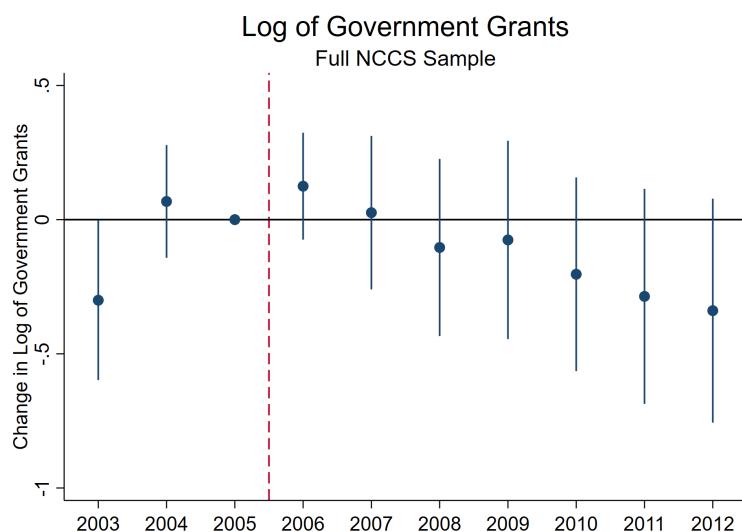
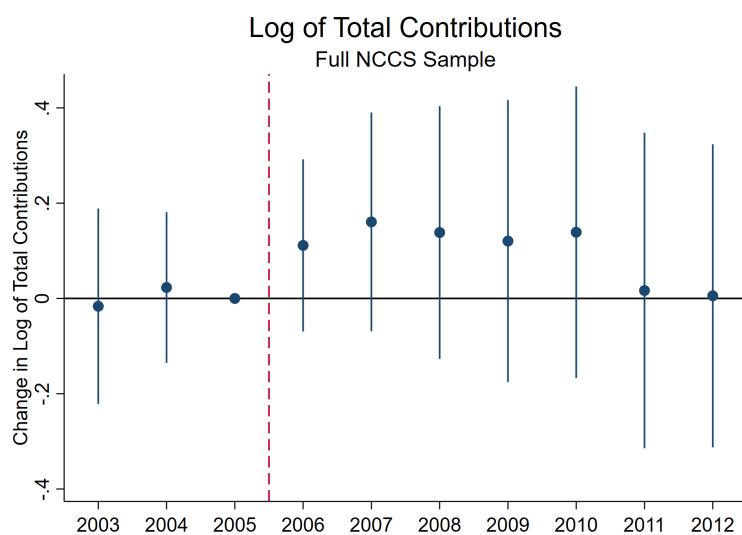
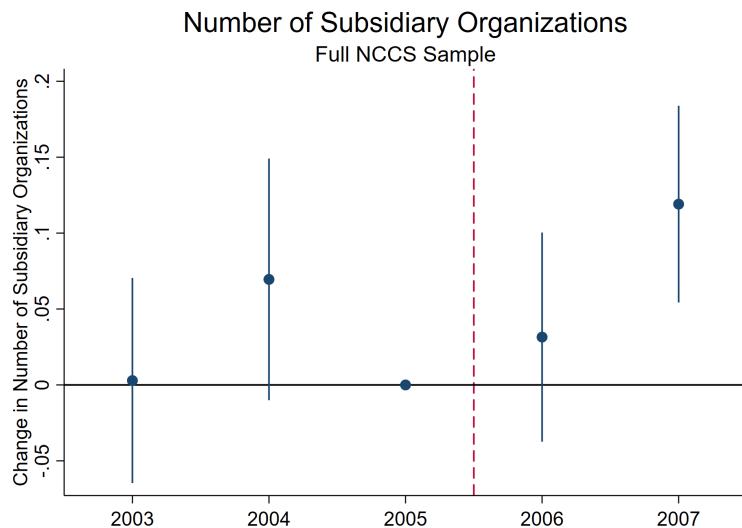
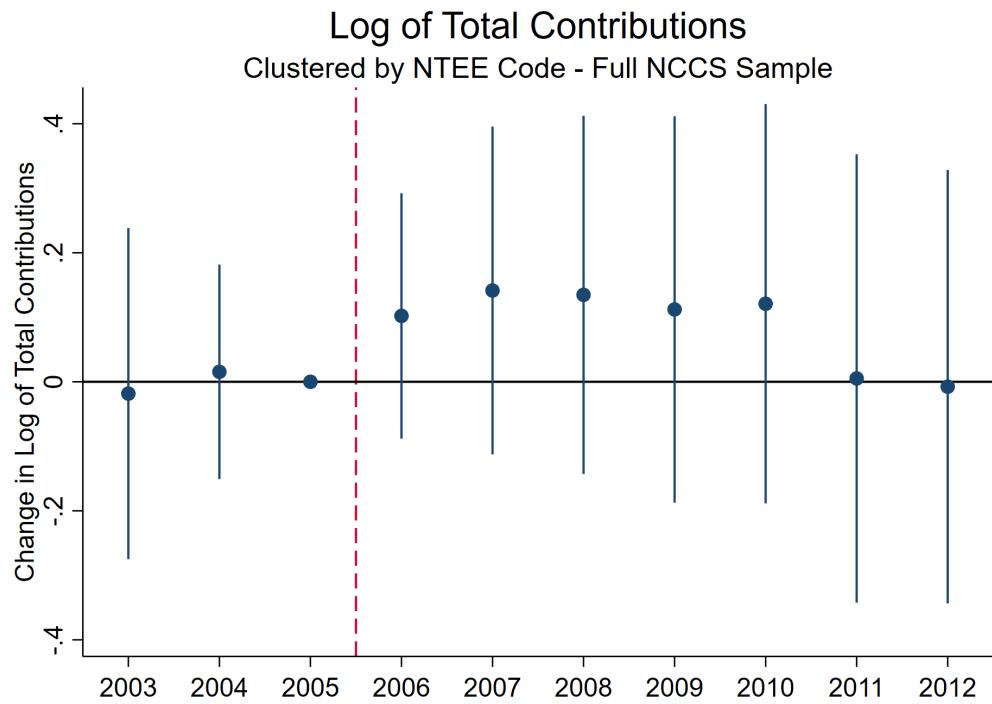
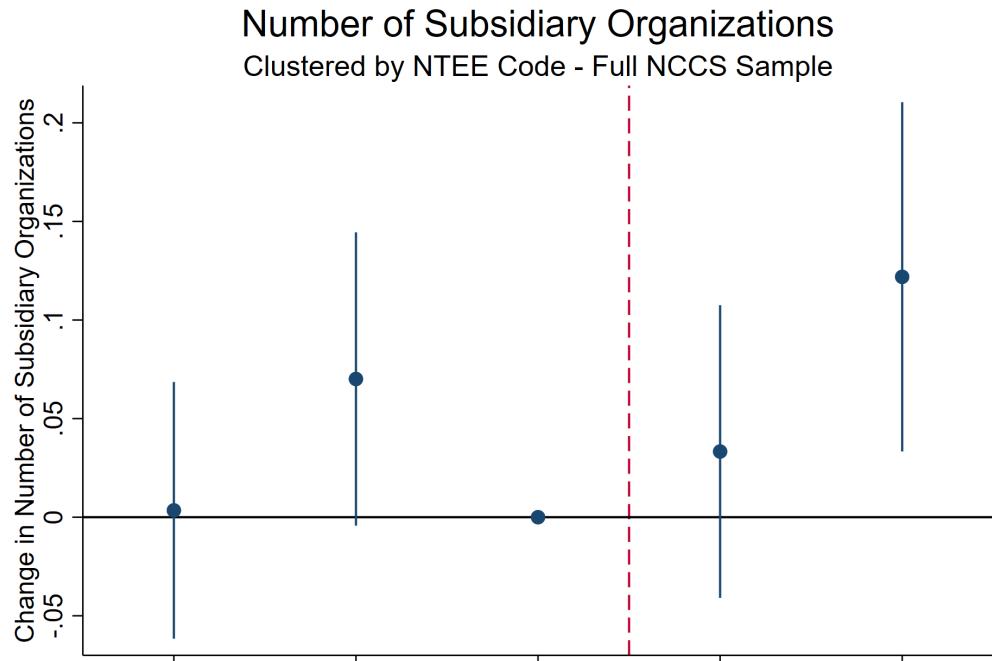


Figure 15: Event Study Diagrams



(a) Log of Total Contributions



(b) Number of Subsidiary Organizations

Figure 16: Event Study Diagrams – Clustered by NTEEECC Code

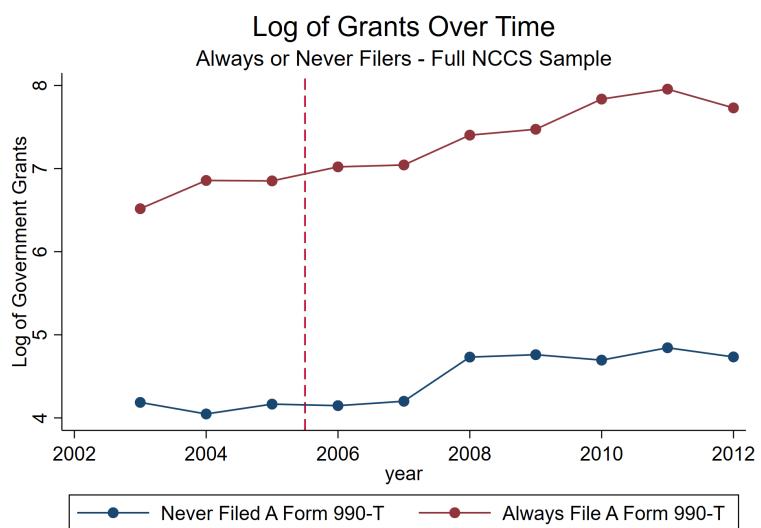
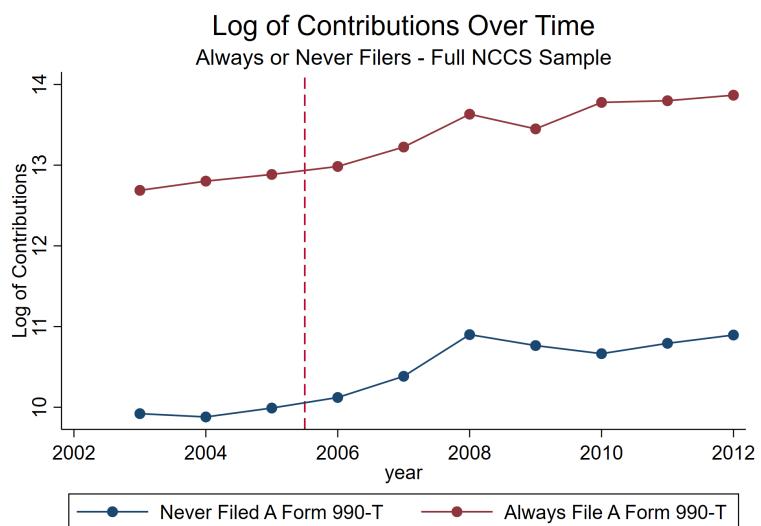
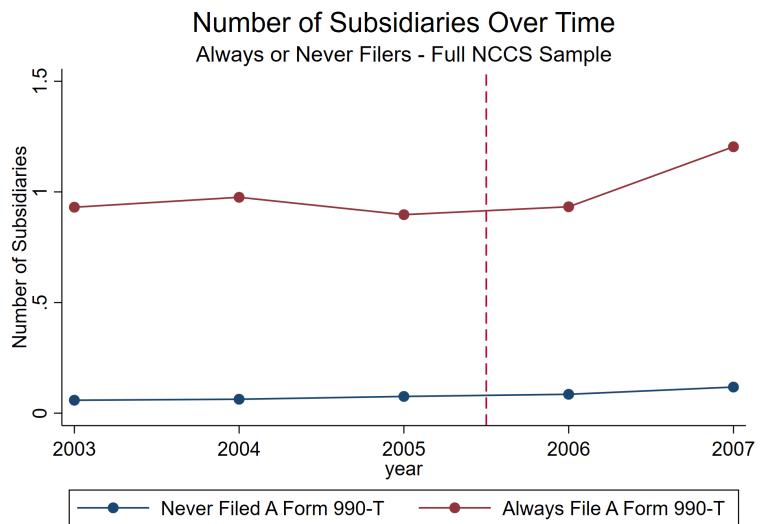


Figure 17: Mean Plots of Outcome Variables, 2004-2012 [Subsidiaries 2004-2007]

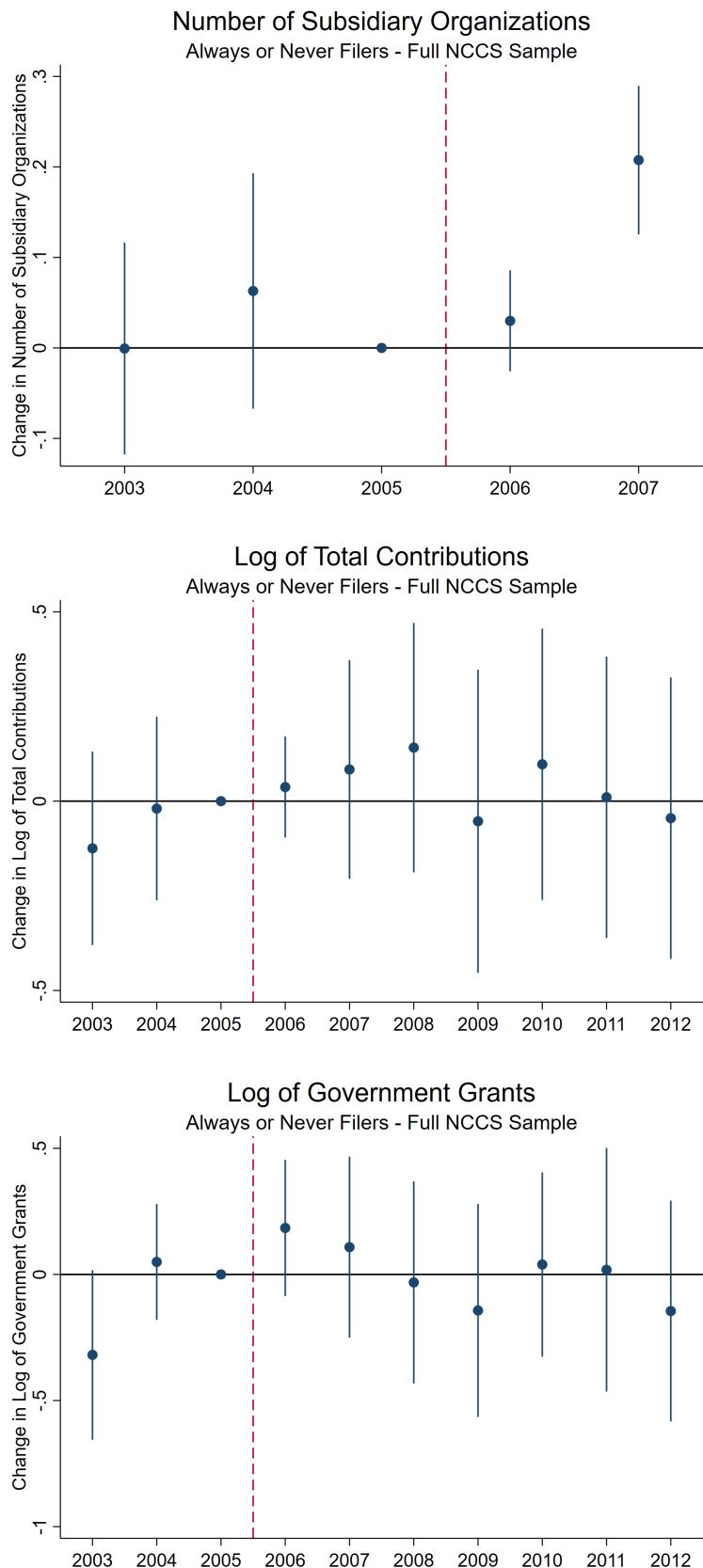


Figure 18: Event Study Diagrams

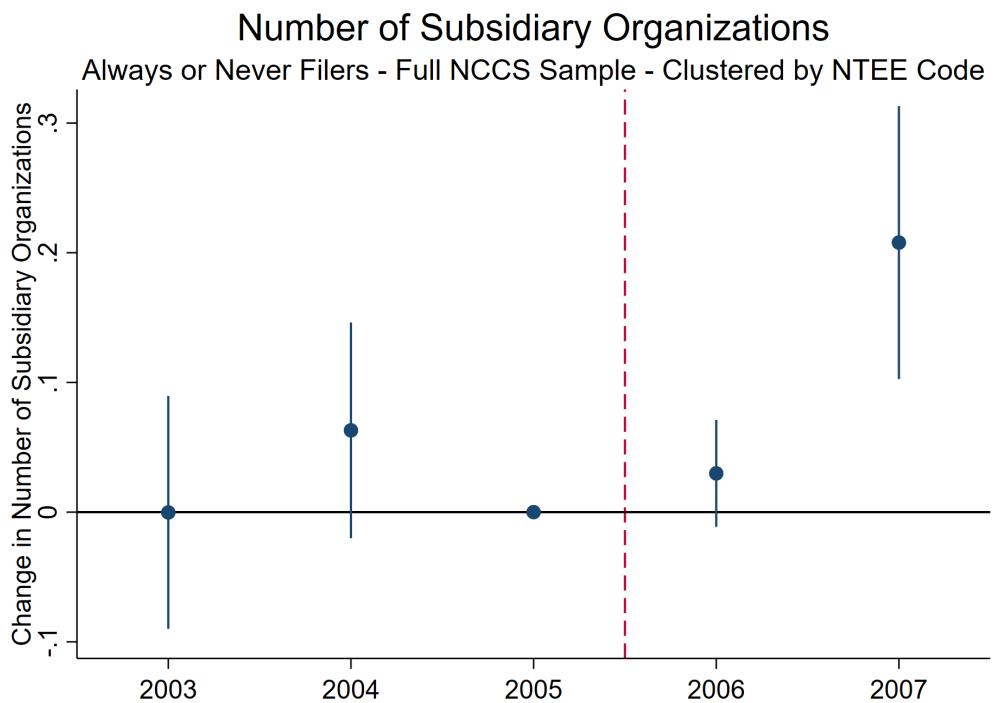


Figure 19: Number of Subsidiaries Event Study Diagram Clustered by NTEECC Code

14.3.2 Main Analysis – Tables

Table 15: Balance Table: 2003-2012 Charities – Full NCCS Sample

	ln(Assets BOY)	ln(Assets EOY)	ln(Liabilities BOY)	ln(Liab. EOY)	ln(Tot. Expn.)	ln(Fund.)	ln(PSR)
(990-T Filers * PPA)	0.467*** (0.135)	0.152 (0.105)	0.322 (0.192)	0.0434 (0.190)	0.118 (0.091)	-0.910*** (0.179)	0.205 (0.206)
Filing Years After PPA	0.247** (0.080)	0.422*** (0.066)	0.588*** (0.119)	0.742*** (0.120)	0.474*** (0.046)	-0.744*** (0.083)	0.693*** (0.118)
Filed Form 990-T Before PPA	2.684*** (0.115)	2.611*** (0.085)	4.411*** (0.162)	4.470*** (0.161)	2.859*** (0.075)	2.463*** (0.153)	5.345*** (0.174)
_cons	14,210*** (0.056)	14,430*** (0.051)	10,480*** (0.091)	10,560*** (0.094)	13,420*** (0.036)	4,181*** (0.069)	8,459*** (0.093)
<i>N</i>	96,382	96,382	96,382	96,382	96,382	96,382	96,382

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents a charity observation in a given year.

Table 16: Difference-in-Differences: All Charities Filing in 2003-2012 – Full NCCS Sample

990-T Filers * PPA	# Subsidiaries †		ln(Tot. Contr.)		ln(Grants)	
	0.048	0.048	0.090	0.100	-0.028	-0.026
	(0.031)	(0.031)	(0.113)	(0.110)	(0.127)	(0.127)
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓	✓	✓
Operation Controls		✓		✓		✓
<i>N</i>	46,410	46,410	96,382	96,382	96,382	96,382
Clusters	11,663	11,663	14,609	14,609	14,609	14,609

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents individual charity observation

† Number of Subsidiaries only measured through 2007 as data collection changed after the 2008 Form 990 redesign.

Table 17: Difference-in-Differences: 2003-2007 Donor Outcomes Controlling for Charity Number of Subsidiaries – Full NCCS Sample

990-T Filers * PPA	ln(Tot. Contr.)		ln(Grants)	
	0.189*	0.188*	0.183	0.183
	(0.085)	(0.085)	(0.098)	(0.098)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls	✓	✓	✓	✓
Subsidiary Control		✓		✓
<i>N</i>	46,410	46,410	46,410	46,410
Clusters	11,663	11,663	11,663	11,663

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents individual charity observation

Table 18: Difference-in-Differences: 2003-2007 Number of Subsidiaries – Full NCCS Sample

	<u># Subsidiaries</u>	
990-T Filers * PPA	0.049 (0.034)	0.050 (0.034)
Year Fixed Effects	✓	✓
Charity Fixed Effects	✓	✓
Operation Controls		✓
<i>N</i>	45,984	45,948
Clusters	691	691

Standard errors, clustered by NTEECC code and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19: Probit Marginal Effects: Subsidiary Creators – Full NCCS Sample

	New Subsidiary After 2005	New Subsidiary in 2006	New Subsidiary in 2007
990-T Filers	0.000 (0.001)	-0.000 (0.001)	0.002 (0.001)
Log GUBI	0.000* (0.000)	0.000 (0.000)	0.000 (0.000)
Log Contributions	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Log Grants	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Log Assets (BOY)	0.003*** (0.001)	0.001*** (0.000)	0.002*** (0.000)
Log Liabilities (BOY)	0.001*** (0.000)	0.000* (0.000)	0.000 (0.000)
Log Total Exps.	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Log Fund Exps.	-0.000 * (0.000)	-0.000 (0.000)	-0.000 (0.000)
<i>N</i>	9,967	9,967	9,996

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 20: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Assets}) \in 18, 20$ – Full NCCS Sample

		Log of Total Contributions		
		Filed Form 990-T Before PPA	Did Not File Before PPA	All Charities
Created New Subsidiary After 2005	-0.131 (0.264)	0.332 (0.381)	-0.150 (0.479)	0.211 (0.225)
Created New Subsidiary in 2007	-0.707* (0.341)	-0.398 (0.342)	0.636 (0.481)	-0.366 (0.287)
Created New Subsidiary in 2006				0.139 (0.283)
Charity Operation Controls	✓	✓	✓	✓
N	1750	1750	1733	2207 2207 2162 3957 3957 3895

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 21: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Gross UBI}) \in 12, 14 -$
Full NCCS Sample

	Log of Total Contributions		
Created Subsidiary After 2005	0.150 (0.374)		
Created New Subsidiary in 2007		-0.493 (0.515)	
Created New Subsidiary in 2006			-0.159 (0.442)
Charity Operation Controls	✓	✓	✓
<i>N</i>	593	593	593

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 22: Balance Table: 2003-2012 Charities – Always File or Never File Form 990-T, Full NCCS Sample

	ln(Assets BOY)	ln(Assets EOY)	ln(Liabilities BOY)	ln(Liab. EOY)	ln(Tot. Expn.)	ln(Fund.)	ln(PSR)
(990-T Filers * PPA)	0.014 (0.107)	0.047 (0.106)	-0.179 (0.194)	-0.184 (0.189)	-0.026 (0.110)	-1.003*** (0.217)	-0.293 (0.198)
Filing Years After PPA	0.587*** (0.022)	0.511*** (0.014)	1.026*** (0.0782)	0.955*** (0.0773)	0.611*** (0.031)	-0.681*** (0.083)	0.969*** (0.101)
Filed Form 990-T Before PPA	2.810*** (0.089)	2.705*** (0.088)	4.636*** (0.170)	4.579*** (0.164)	3.290*** (0.092)	2.351*** (0.187)	6.483*** (0.161)
_cons	14.770*** (0.018)	14.950*** (0.011)	11.200*** (0.0663)	11.370*** (0.0656)	13.640*** (0.026)	4.258*** (0.069)	8.952*** (0.084)
<i>N</i>	69,476	69,476	69,476	69,476	69,476	69,476	69,476

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in *N* represents a charity observation in a given year.

Table 23: Difference-in-Differences: All Charities Filing in 2003-2012 – Always File or Never File Form 990-T, Full NCCS Sample

	# Subsidiaries †		ln(Tot. Contr.)		ln(Grants)	
990-T Filers * PPA	0.094*	0.093*	0.109	0.087	0.134	0.103
	(0.037)	(0.037)	(0.145)	(0.140)	(0.128)	(0.131)
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓	✓	✓
Operation Controls		✓		✓		✓
N	33,497	33,497	69,476	69,476	69,476	69,476
Clusters	8,072	8,072	9,472	9,472	9,472	9,472

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents individual charity observation

† Number of Subsidiaries only measured through 2007 as data collection changed after the 2008 Form 990 redesign.

Table 24: Difference-in-Differences: 2003-2007 Donor Outcomes Controlling for Charity Number of Subsidiaries – Always File or Never File Form 990-T, Full NCCS Sample

	ln(Tot. Contr.)		ln(Grants)	
990-T Filers * PPA	0.139	0.138	0.281*	0.281*
	(0.090)	(0.090)	(0.117)	(0.117)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls	✓	✓	✓	✓
Subsidiary Control		✓		✓
N	33,497	33,497	33,497	33,497
Clusters	8,072	8,072	8,072	8,072

Standard errors, clustered by charity and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Each number in N represents individual charity observation

Table 25: Difference-in-Differences: 2003-2007 Number of Subsidiaries – Always File or Never File Form 990-T, Full NCCS Sample

		# Subsidiaries
990-T Filers * PPA	0.094* (0.037)	0.092* (0.037)
Year Fixed Effects	✓	✓
Charity Fixed Effects	✓	✓
Operation Controls		✓
<i>N</i>	33,154	33,154
Clusters	589	589

Standard errors, clustered by NTEECC code and robust to heteroskedasticity

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 26: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Assets}) \in 18, 20 - \text{Always File or Never File Form 990-T}$,
Full NCCS Sample

	Log of Total Contributions			
	Filed Form 990-T Before PPA	Did Not File Before PPA		All Charities
Created New Subsidiary After 2005	-0.056 (0.324)	0.562 (0.519)		0.434 (0.292)
Created New Subsidiary in 2007	-0.782 (0.420)	0.451 (0.647)		-0.162 (0.368)
Created New Subsidiary in 2006	-0.782 (0.420)	0.451 (0.647)		-0.162 (0.368)
Charity Operation Controls	✓	✓	✓	✓
N	997	997	989	1519
				1483
				2516
				2516
				2472

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 27: Change in Total Contributions for Marginal Charity Creators, $\ln(\text{Gross UBI}) \in 12, 14 -$
Always File or Never File Form 990-T, Full NCCS Sample

Log of Total Contributions			
Created Subsidiary After 2005	0.336		
	(0.390)		
Created New Subsidiary in 2007	-0.417		
	(0.555)		
Created New Subsidiary in 2006	0.023		
	(0.487)		
Charity Operation Controls	✓	✓	✓
<i>N</i>	609	609	605

Standard errors in parentheses robust to heteroskedasticity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

14.3.3 Unrelated Business Income – Figures

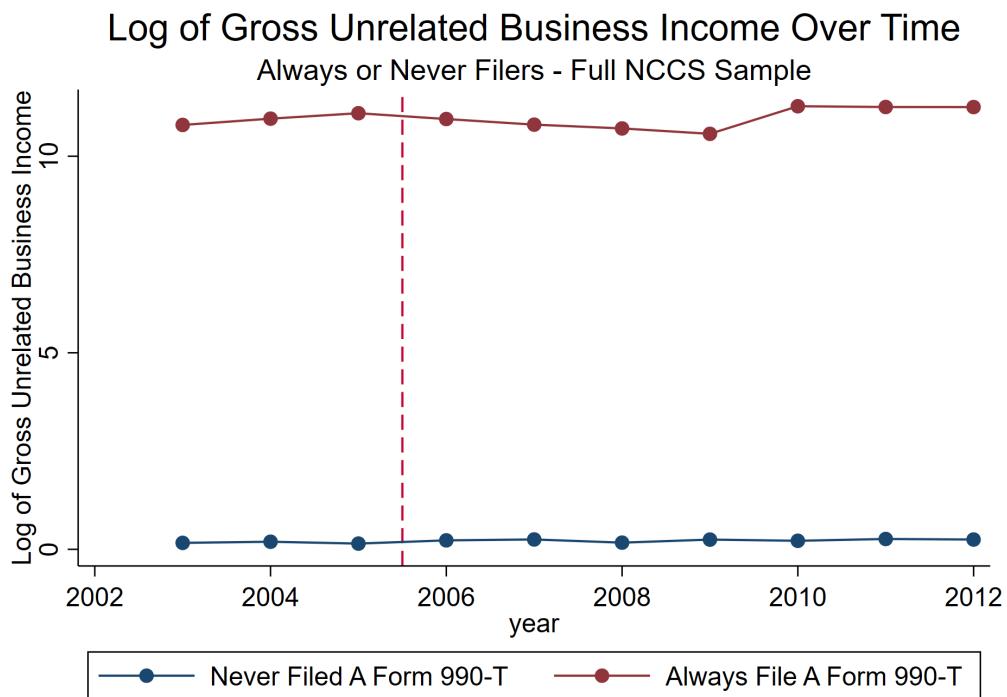
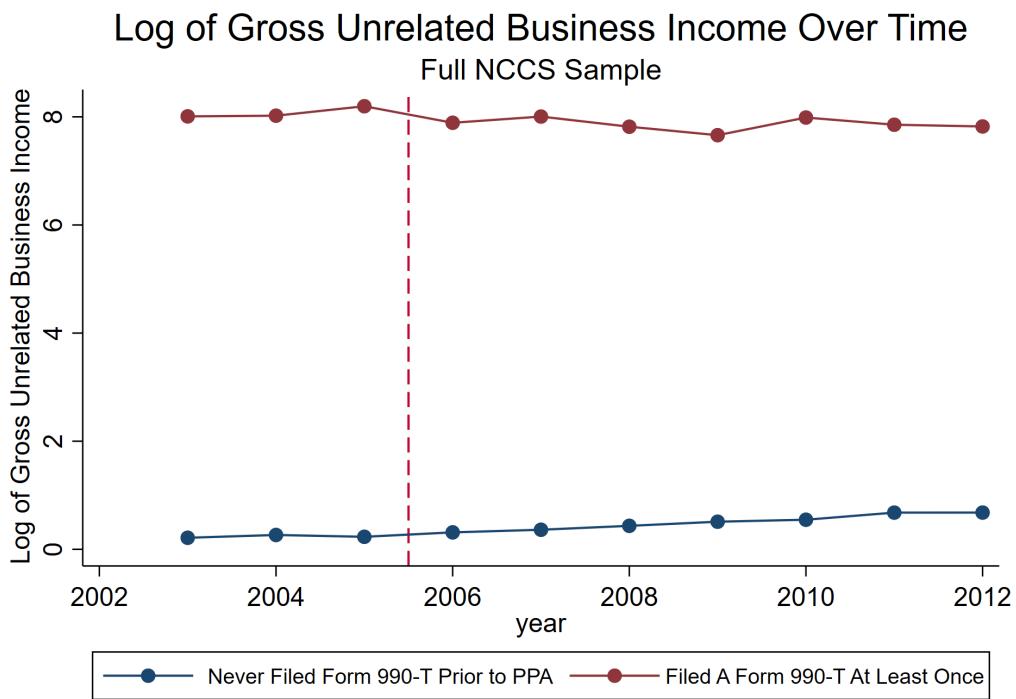


Figure 20: Mean Plot of Log Gross Unrelated Business Income

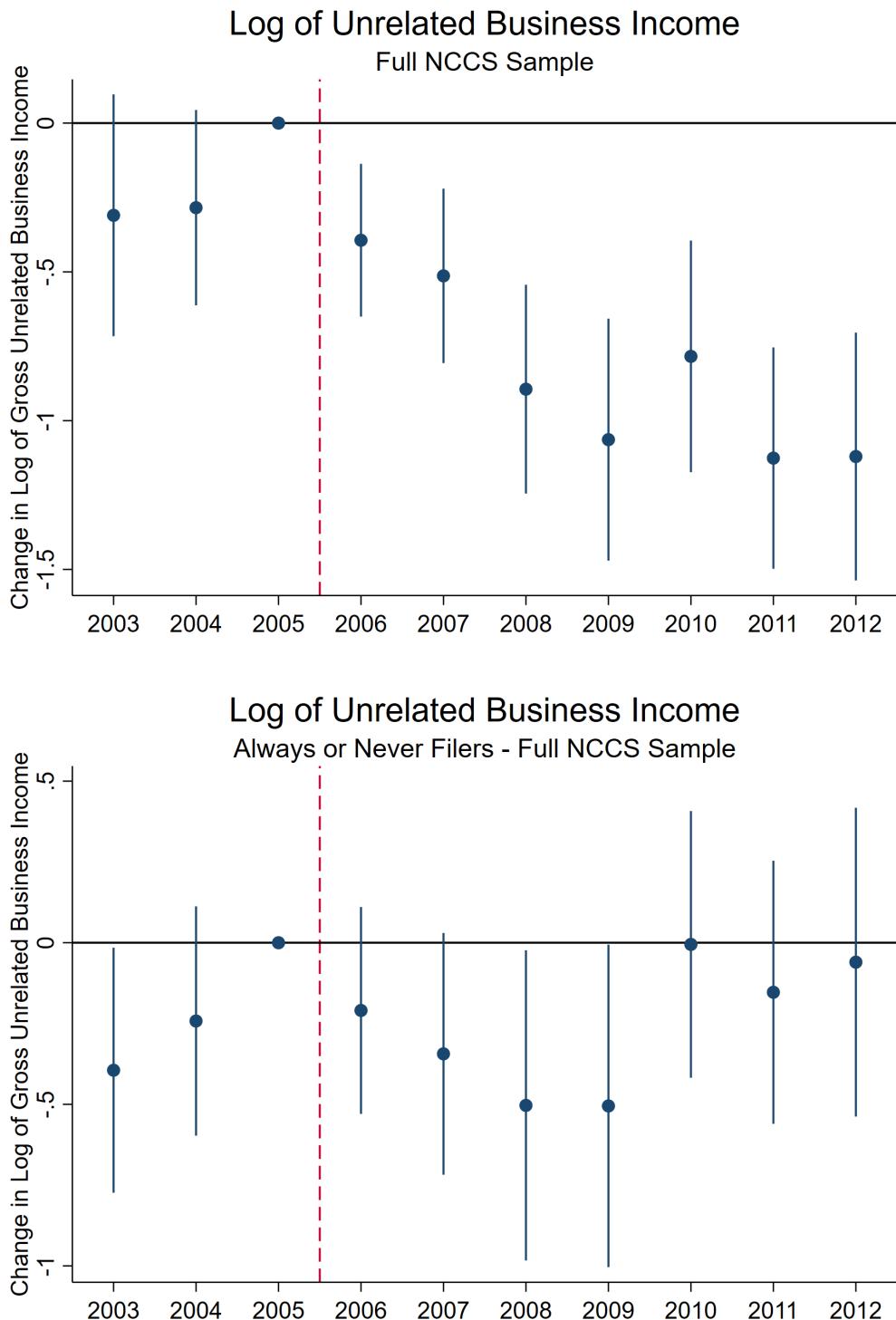


Figure 21: Event Study Log Unrelated Business Income

14.3.4 Unrelated Business Income – Tables

Table 28: Difference-in-Differences: Log Gross Unrelated Business Income – Full NCCS Sample

	<u>All Charities</u>		Always or Never Filers	
990-T Filers * PPA	-0.604*** (0.151)	-0.609*** (0.152)	-0.051 (0.156)	-0.089 (0.157)
Year Fixed Effects	✓	✓	✓	✓
Charity Fixed Effects	✓	✓	✓	✓
Operation Controls		✓		✓
<i>N</i>	96,382	96,382	69,476	69,476
Clusters	14,609	14,609	9,472	9,472

Standard errors, clustered by charity and robust to heteroskedasticity, in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$