Effects of Regulation on Donations to Charitable Foundations

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Abstract

To curb tax avoidance and evasion through charitable foundations, the Tax Reform Act of 1969 imposed regulatory requirements similar to those that would be included in the Sarbanes-Oxley Act over 30 years later. I have compiled the first longitudinal data set spanning the introduction of the new regulations by digitizing directories that included both affected and unaffected foundations. The reform halved the number of foundations receiving gifts, and entry dropped precipitously. Declines were much greater for foundations funded by individuals than for company foundations, especially for donors who managed their own foundations, consistent with a deterrent effect. At the same time, about 40% of the decline in giving can be explained by the increased cost of running a foundation. I isolate the effect of financial reporting requirements using pre-existing state-level variation in such laws and find this component of the law explains little of the response by donors.

1 Introduction

U.S. tax law allows donors to claim deductions from their taxable income when they donate to a charitable organization. Internal Revenue Code section 501(c)3 defines two types of tax-exempt charitable organizations: public charities, such as the Red Cross and many universities, and private foundations. Public charities engage in continual fundraising to cover the costs of providing charitable goods or services, whereas foundations earn income from invested endowments. Most U.S. foundations are "private," i.e. they are funded by a small number of individuals or companies, and "non-operating" in that they primarily make grants to public charities rather than providing services directly. Wealthy families and companies give a large share of their donations to foundations, and their close control of these organizations provides an opportunity to estimate their preferences. This paper presents evidence that tax enforcement legislation reduced gifts to private non-operating foundations because donors were sensitive to the administrative expenses imposed by the law.

Statistics from the nonprofit Foundation Center describe the foundation sector in 2010 as comprising roughly 76,000 foundations holding $622 billion in assets and making $46 billion in grants to individuals and charitable organizations (Lawrence and Mukai, 2011). These foundations accounted for over 15% of the $291 billion in U.S. charitable giving in that year (Bond, 2009). Private foundations make up an even larger percentage of charitable bequests. Tabulations from 1995 IRS Statistics of Income data put giving to charitable foundations at 36% of charitable bequests, 60% among bequests of married men and close to 75% among estates worth $20 million or more (Auten et al., 2000). In tax returns from 1996-1998 the percentage of bequests going to foundations is over 60% for estates worth more than $10 million and close to 95% for estates worth over $50 million (Joulfaian, 2000).[1]

Donors' ability to tightly control their private foundations raises concerns for tax enforcement. Managers of public charities that misuse one donor's gift will have difficulty attracting other donors, but the management of a private foundation is generally determined by the only donors it will ever have.[2] Foundations therefore largely avoid agency problems, at least while the donor is alive, but the donor/manager has little incentive to put funds to the charitable uses for which the federal tax subsidy was provided. In the past a donor was able to give corporate stock to his foundation, claim a tax deduction, then instruct the foundation to hold the stock in perpetuity and vote according to his preferences. To prevent such abuse of the charitable deduction, the Tax Reform Act of 1969 (TRA69) established new rules for the operation of and gifts to private non-operating foundations. TRA69's numerous provisions included prohibition of certain types of transactions, documentation and reporting requirements, a tax on investment returns, and the requirement to spend a minimum percentage of the foundation's assets each year. Following TRA69 donations by the wealthy fell by an estimated 30% (Fack and Landais, 2009).

TRA69 may have deterred some foundations from abusing their tax-exempt status, but it imposed considerable costs on all foundations. Among foundations in the Foundation Center's Foundation Directory the average ratio of administrative expenses to grants never exceeded 9.9% in periods before 1970 but was never below 14.9% thereafter (Margo, 1992). Foundations surveyed after TRA69 reported average legal and accounting fees more than 50% greater than those reported for 1968, and the share of respondents with such fees totaling less than $2000 for the fiscal year fell from 52% to 29%. 46 of 350 respondents added their first executive after 1968, and reported staffing increased by 25% (Council on Foundations, 1977). The Tax Reform Act of 1969 therefore provides a natural experiment for studying the determinants of foundation donations.

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[1] Descriptive statistics on charitable foundations are provided in Clotfelter (1985), Margo (1992), Meckstroth and Arnsberger (1996), and Whitten (2001).

[2] Warren Buffet's gift to the Bill and Melinda Gates Foundation garnered attention in part because such gifts to others' foundations are rare.

To analyze foundations and their donors I have compiled a new electronic data set that spans three decades of active tax reform. To my knowledge this is the first panel of charitable foundations that includes multiple years prior to Tax Reform Act of 1969. I have produced this database from hard copies of the Foundation Directory, a regular publication of the Foundation Center that provides financial and grantmaking data on the foundations large enough to account for over 80% of U.S. foundation assets.

I first estimate the total effect of TRA69 on foundation donations. I find that after TRA69 a private non-operating foundation is about 50% (30 percentage points) less likely to receive a gift from donors. Responses were strongest on the extensive margin; conditional on giving, there was no significant change in the size of gifts.

Next I analyze how donors respond to administrative expenses. Donor choices can influence the level of administrative expenses, making such expenses endogenous to donation decisions. Expenses are endogenous to donor choices and generally increase with gifts and assets. To obtain causal estimates of the effects of compliance costs on gifts to foundations I instrument for a foundation's expense ratio using the level of administrative expenses before the reform. Foundations with low expenses before the law saw the largest percentage increases their administrative expenses. A 1% increase in the administrative expense ratio lowers the probability of donation by .18-.22%.

The rest of the paper is organized as follows. Section 2 describes research on the price elasticity of charitable giving, the legal reforms affecting private non-operating foundations, and the data compiled for the analysis. Section 3 provides estimates of the overall effect of TRA69 that compare regulated foundations to community foundations and operating foundations. Section 4 shows the main result of the paper, which is that multiple instruments provide consistent estimates that a 100% increase in the administrative expense ratio decreases the probability of a donation by about 20 percentage points. Section 5 presents the use of variation in state laws and foundation spending patterns to estimate effects of components of TRA69. Section 6 provides robustness checks for all of these results, and section 7 concludes.

2   Related Research, Policy Background, and Data

This section describes the price elasticity of charitable giving, the regulations facing private non-operating foundations, and the Foundation Directory data that was compiled for this analysis.

2.1   The Price Elasticity of Charitable Giving

Past research on charitable giving has estimated the elasticity of gifts with respect to the tax price. Since donations can be deducted from income and estate taxes, the cost of providing a dollar of support to charity

is decreasing in the donor's marginal tax rate. Particular emphasis has been given to the question of whether the tax price elasticity is less than -1, which would indicate that a dollar of subsidy produces more than a dollar of donations (Andreoni, 2006). Randolph (1995) found large temporary effects and small permanent effects, but subsequent research has found permanent elasticities less than -1 (Auten et al. 2002, (Bakija and Heim, 2011)). The tax price elasticity admits a natural interpretation, but it may not be a sufficient statistic for the welfare effects of charitable tax policy. In particular, optimal policy will depend on whether donors care more about the amount of their gift or the utility it provides others, i.e. the degree to which they are driven by "warm glow" or altruism (Diamond, 2006). The tax price affects both the amount given and the amount received and hence does not allow us to recover the nature of donor preferences. In contrast, a foundation's administrative expenses create a wedge between a donor's gifts and the amount that is passed along to recipients. As the model in Appendix A demonstrates, administrative expenses will not affect the choices of donors driven purely by warm glow but will reduce the generosity of donors who care about the amount granted out to charitable recipients. The cost elasticity of donation will therefore exclude the portion of the tax price elasticity that is driven by warm glow.

Several studies have included both the marginal tax rate and the recipient organization's administrative expense ratio in the donor's price of giving (for example Khanna et al. (1995) and Okten and Weisbrod (2000)). In such studies the tax price is typically calculated as $\frac{1-t}{1-a}$, where t is the marginal tax rate and a is the percentage of assets spent on administrative expenses. This formulation captures the principle that the share of a donor's gift that is spent on programs is reduced by the administrative expense ratio, which may vary considerably between organizations. If donors value the output of the organization then the level of administrative expenses is likely to influence donor behavior. However, donors' responses to public charities' expense ratios present several difficulties for interpretation. Public charities by definition have multiple donors, and hence the use of the marginal donor's gift will likely differ from the average use of all donors' gifts. Most donors have little direct control over management, creating the potential for agency problems such as excessive use of organizational resources by management, and donations will represent the outcome of a fundraising game between managers and donors. If expense ratios signal organizational quality then estimates of the cost elasticity of donations will exceed donors' true level of concern about administrative costs. On the other hand, if donors' preferred outcomes are more costly to administer, or if donors prefer to help young organizations achieve greater economies of scale, then estimates will be biased towards zero. Private foundations and the degree of control they offer donors provide a unique setting in which donations can be taken to reveal preferences rather than strategy.

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2.2 Private Foundations and the Tax Reform Act of 1969

The desirability of charitable tax deductions decreases if individuals can abuse them to obtain subsidies for non-charitable activity, and privately-controlled foundations may offer particularly good opportunities for such abuse. CEOs' gifts of company stock to their private foundations often occur just before declines in share prices, suggesting CEOs use insider information or even illegal backdating to maximize their tax deductions (Yermack, 2009). Moreover, assets within foundations have not always been used for charitable purposes. Congressional investigations in the 1950s and 1960s discovered donors enriching themselves by having their foundations purchase their assets or extend them loans on favorable terms (Smith and Chiechi, 1974).Early commissions argued that foundations represented a small network accumulating wealth and power that interfered with markets and politics, and their numerous recommendations included prohibiting certain foundation activities and limiting the life of a foundation to 25 years (Liles and Blum, 1975). A 1965 report by the Treasury Department concluded that fears of accumulating influence were unfounded but that malfeasance had occurred. The report also concluded that while the 1950 Revenue Act contained vague admonitions against accumulating too much income before making grants to charities it had not prevented some foundations from doing so, leading to lengthy delays between the granting of tax deductions and the benefits to charities (Smith and Chiechi, 1974).

Congressional efforts to prevent misuse of foundations culminated in the Tax Reform Act of 1969. TRA69 has been described as "the most far-reaching legislation affecting private philanthropy in our two hundred year history" (Worthy, 1975). Many of its provisions placed restrictions on private non-operating foundations. TRA69 prohibited political activity and "self-dealing" transactions that would benefit "related parties" including the donor, managers, and directors. It placed a 4% tax on the investment returns of private non-operating foundations.[3] It required them to document due diligence in confirming that grants went towards charitable purposes, including showing that all grants to individuals were allocated according to a competitive application process. It capped foundations' voting shares of companies' stock and taxed holdings above the permitted amount. It required all charitable organizations to file more informative returns with the IRS and make annual reports publicly available. It raised the maximum deduction an individual could claim for charitable contributions to public charities from 30% to 50% of the individual's income but kept the limit at 20% of income for gifts to private foundations. It reduced the allowable deduction for gifts of appreciated property by half the value of the appreciation. Finally, it required foundations to spend a minimum percentage of assets on non-investment expenses each year, with the minimum initially set at 6%. These provisions gave the government new authority to regulate and fine charitable organizations beyond

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[3]In 1978 the tax rate was lowered to 2%, and starting in 1984 a foundation could qualify for a 1% rate in a particular year if its spending rate in that year was high relative to its spending rate in the 5 preceding years.

the previously available blunt tool of rescinding nonprofit, tax-exempt status.[4]

Empirical analysis suggests TRA69 had a massive impact. Charitable deductions claimed by individuals in the 99.9th percentile of the income distribution, those most likely to give to foundations, declined by roughly 30% relative to those of the 90th percentile Fack and Landais (2009). The reform may have effectively deterred noncharitable behavior, but it may have also discouraged the truly charitable by imposing heavy compliance costs, and the absence of comprehensive microdata on foundations and their donors has obstructed more detailed analysis. Only a few reports have even been able to compare foundations before and after TRA69. These reports document reductions in foundation births and gifts received as well as dissolution of a large number of foundations through liquidation or merger with public charities. They provide some evidence that foundations' administrative expenses increased, that they granted fewer scholarships in order to avoid the new monitoring burdens, and that they increased their spending rates despite reduced investment returns. However, in each case there was limited data that could be analyzed. Labovitz (1974) compares the traits of 388 foundations in 1967 to the traits in 1970 of the 275 of those who remained in existence and whose data could be obtained. The Council on Foundations (1977) sent a questionnaire to 2248 foundations and received 566 responses, of which 433 reported expenses in the most recent year and 360 reported expenses in 1968. Margo (1992) also reports increased administrative expenses in aggregated data from the Foundation Directory, but selection criteria used to construct these aggregates changed over time, particularly in the 1960s, and until now there as been no electronic data that could be used to measure within-foundation changes.

2.3   Data

For this analysis I have compiled foundation-year data from the Foundation Directory (Foundation Center, The, 1960-1986). The Directory allows grant seekers to find likely funders and provides information about the foundations' grants and other finances. The Foundation Center has published an edition of the Foundation Directory at least once every three years since 1960. Each edition samples the largest foundations, capturing those that make up an estimated 80-90% of all foundation assets. Foundations are included if grants or assets exceed a time-varying truncation point.

The Foundation Center collected the data from a combination of surveys and public records. The Center contacted each foundation multiple times to complete its survey, then provided IRS data for non-respondents. Much of the data was publicly available because the Revenue Act of 1950 required foundations to file annual information returns that include the financial variables of interest (Liles and Blum, 1975). Observations from

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[4]For a comprehensive history of the tax treatment of charity up to 1969 see Liles and Blum (1975). For details on the foundation-related sections of TRA69 see Smith and Chiechi (1974), and for subsequent adjustments to the regulation of foundations see Deep and Frumkin (2001) and Gravelle (2003).

1974 and after report whether data were retrieved from public records. The foreword to the first edition of the Directory aptly described foundations' incentives for providing information:

> We recognized that some foundations would prefer anonymity, and would not supply any information. For this position they may have cogent reasons, including the fear that listing will increase the flood of appeals, which they are ill-equipped to handle. However, the fact is that anonymity is already impossible; by federal law the information returns of all tax-exempt foundations are open to public inspection, and address lists are on sale by commercial organizations. Under these circumstance an adequate description, including geographical and other limitation, may reduce–though it will not eliminate–the inappropriate appeals foundations receive (Foundation Center, The, 1960).

The Foundation Center published several editions of the Directory before TRA69, but their contents were never compiled electronically. Research on foundations has therefore relied heavily on the IRS Form 990-PF that foundations have been required to file annually since TRA69 was passed. To overcome the absence of data spanning TRA69 I created a panel database from printed editions of the Foundation Directory. I scanned hard copies of the first 15 editions of the Foundation Directory, converted the images to text using ABBYY FineReader optical character recognition software, wrote Python code with Regular Expressions to organize the text by variable name and extract a data table, and merged editions in Stata. Further details of this process are provided in Appendix B.

The database includes a wealth of information about foundations. Key financial variables include gifts received by the foundation during the fiscal year, assets accumulated, and expenses incurred. Expenses are broken down into several categories, including grants made to charitable organizations, grants made to individuals, scholarships awarded, loans made, in-kind gifts, matching gifts, and programs. The Directory does not explicitly list administrative expenses but does provide total expenses. I define "charitable spending" as the sum of outlays in the aforementioned charitable categories and "administrative expenses" as the difference between this amount and the amount of total spending. The Foundation Center, The (1975) uses the same formulation but cautions that accounting practices differ between foundations, a source of measurement error that should be mitigated by using foundation fixed effects and a control for whether the observation reports the market value or ledger value of the foundation's assets. Donors are listed throughout, and all editions but the first indicate if a donor is deceased. I am able to identify company donors by the existence of terms such as "Company," "Companies," "Ltd.," "Inc.," "Corp" and major industries among donor names.

I make three major sample restrictions for this study. First I drop observations that are duplicates of

those in a prior edition, which mostly occurred in 1991 when the Foundation Center first began publishing the Directory on an annual basis. Second I use only the first eight editions, thus centering the sample around the 1969 reforms and excluding years after the major tax reforms of 1981. Third I remove unusually small foundations. The Directory includes foundations that have enough assets *or* enough grants, but I exclude foundations that qualify only based on grants so that the sample is determined entirely by asset size and spending ratios are not biased upwards.

3 Total Effect of TRA69: Private Non-Operating vs. Other Foundations

3.1 Empirical Strategy

Impacts of TRA69 should be visible among affected private non-operating foundations but not among community foundations or operating foundations. To estimate the impact on existing foundations that continued operations I estimate the equation

$$y_{it} = \beta * post_t * T_i + X_{it} + \mu_i + \theta_t + \epsilon_{it},$$

where the outcomes y_{it} are log gifts and $agift$ (a dummy for receiving any donation), $post_t$ is equal to 1 after 1969,[5] T_i signifies the treatment group of private non-operating foundations,[6] and the μ_i and θ_t are fixed effects for foundations and editions of the Directory, respectively. The time-varying characteristics X_{it} include lagged log assets, lagged log administrative expenses, lagged log charitable spending, and dummies for 1 or more deceased donors, 2 or more deceased donors, and unknown deceased donors. Only foundations that appear both before and after the policy are included in the regressions.

TRA69 may have also increased the exit rates and decreased the entry rates of private non-operating foundations. I estimate several equations to explore this possibility. First, for all foundations with over $1 million in assets in Edition 3 of the Directory (the last complete edition prior to the reform) I estimate $exit69_i = \beta * T_i + X_{it} + \mu_i + \epsilon_i$, where $exit69_i$ is a dummy indicating that the foundation does not appear in the sample in editions 5 through 8. Second, I estimate $T_i = \beta * post_t + f(t) + \epsilon_i$ on foundations first appearing with $1 million in assets to estimate whether there was a discrete drop in the share of private

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[5]Edition 4 includes observations from 1970 as well as prior years. In section 6 I test for nonrandom differences between the two groups and show the robustness of the results to different ways of treating this edition.

[6]The Foundation Directory did not include a "Foundation Type" field until the 6th edition, after the passage of TRA69. Results in this section are based on searches for the words "Community foundation" and "Operating Foundation" in the name and purpose fields. In section 6 these results are shown to be robust to the alternative use of information from later editions to assign the value of the treatment variable T_i.

non-operating foundations among new entrants.

3.2   Results

I first show results for the effect of TRA69 on gifts to foundations. Figure 1 shows the share of foundations receiving a gift in each edition of the Foundation Directory for which gifts were reported. Private non-operating foundations, which were subject to the new regulations in the Tax Reform Act of 1969, are nearly 40% less likely to receive a gift in years after the reform. In contrast, community and operating foundations maintain a steady upward trend.

Table 1 shows regression results for gifts to foundations. In the most basic specification, the probability of receiving a gift dropped by nearly 37 percentage points when TRA69 was passed. The effect shrinks slightly when including controls for deceased donors and lagged values of financial variables, but the coefficient remains highly significant and never falls below 31.5 percent.

The second outcome I examine is log administrative expenses. In Figure 2 one can see that while these expenses rose at a steady rate for community and operating foundations, private non-operating foundations experience a large and rapid increase in administrative expenses when TRA69 was passed. The regression results in Table 2 confirm this visual evidence. Average administrative expenses increased by .8 to .9 log points, a 123 to 146 percent increase. Whether or not we control for deaths of donors, the administrative expenses of private non-operating foundations more than doubled relative to those of community and operating foundations.

Effects on entry and exit will be described in a future draft. The most striking effect was a decline in entry.

The evidence strongly suggests that TRA69 had a negative impact on the foundations it affected. The question, then, is whether the decline among private non-operating foundations should be interpreted positively or negatively. If donors were mostly turned off by the increased cost of administration then the reforms introduced socially costly distortions. On the other hand, we would consider the reforms a success if they mostly prevented claims for "donations" that were not going towards charitable purposes. I next estimate the extent to which donors were turned off by the costs imposed by TRA69.

4 Donor Responses to Administrative Expenses

4.1 Empirical Strategy

The estimation strategy for identifying what drove donors' responses uses instrumental variables for expenses imposed by TRA69. Four components of the law increased administrative duties: the public reporting requirement, the grantee due diligence requirement, the investment tax, and the need to calculate and meet the minimum spending ratio. These provisions demanded additional staff time, and since non-charitable expenses are endogenous to donor generosity I will use several instruments for growth in administrative expenses. Estimating equations are of the following form:

$$y_{it} = \beta * \hat{cost}_{it} + post_t * T_i + X_{it} + \mu_i + \theta_t + \epsilon_{it}$$

$$\hat{cost}_{it} = \alpha * post_t * Z_i + post_t * T_i + X_{it} + \mu_i + \theta_t + \epsilon_{it}$$

In the first stage regressions, the instrument Z_i predicts greater cost growth among certain foundations when TRA69 is imposed. For example, if compliance with the new regulation required a minimum amount of infrastructure then having low administrative costs prior to the reform would predict a greater increase. In the second stage regressions, the coefficient on predicted cost growth will show the impact of imposed costs on giving.

4.2 Results

Results will be provided in the next draft. Figures 3 and 4 foreshadow the results. Figure 3 compares current administrative expenses to the level in Edition 1 of the Foundation Directory, many years before the reform. When TRA69 was passed, administrative expenses grew the most among foundations that were previously low-expense, such that these foundations nearly caught up to the level of the highest-expense foundations. Figure 4 shows giving before and after the reform as a function of the same Edition-1 administrative expenses. The decline in gifts was greatest among the low-expense foundations that experienced the greatest increase in their administrative expenses. Controlling for assets and charitable expenses does not alter this finding. The growth of administrative expenses among previously-low-cost foundations can explain a robust 30 to 40 percent of the decline in gifts.

5   Heterogeneous Responses By Donor Type and State Law

Heterogeneity in responses across different regulatory environments and foundation types provides evidence of donor preferences and effects of particular components of the law. In this section I perform triple-difference regressions to analyze heterogeneity in the reduction of gifts to private foundations.

One observable form of heterogeneity is the characteristics of donors. Foundations may be formed by companies or by individuals, and the reform had differential impacts on these two types. Assuming only individuals would have a preference for their foundation to exist in perpetuity, the mandated increase in spending rates would have disproportionately affected foundations started by individuals. Among individual donors, matching donor names to management names reveals if a foundation is managed by any of its donors or their kin, offering proxies for the type of "self-dealing" transactions for which the law strengthened enforcement. In addition, some foundations did not list any donors, suggesting a donor preference for anonymity. Donor characteristics provide some clues to the decomposition of channels through which the law affected giving.

A second set of observable differences can be found in state laws governing foundations, a few of which were comparable to provisions of TRA69. Some states already required adherence to the "prudent man" rule that foundation investments should not carry excessive risk, and some required that foundations file financial reports (Fremont-Smith, 1965). The federal rules for reporting and investing were only new to foundations in states that had no comparable rules, allowing the effects of these particular provisions to be partialled out using differences in differences across states.

This empirical strategy and its results will be described in a future draft.

6   Conclusion

I study how regulations in the Tax Reform Act of 1969 affected private foundations and their donors. At the time of the reform, gifts to private foundations dropped precipitously, and the administrative expenses of foundations rose just as quickly. The analysis suggests that these simultaneous responses were not coincidental: Donors are highly responsive to the cost of running a foundation. The result suggests that giving to foundations is not purely driven by warm glow. While enforcement is undoubtedly necessary to prevent misuse to foundations for specious tax benefits, simplifying the rules could reduce the cost of running a foundation and increase charitable donations.

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Appendix A - Subsidy and Enforcement of Charitable Gifts

Following notation of Fack and Landais (2009), individuals and companies make charitable gifts g as well as cheating gifts g^c. Since the two cannot be distinguished, both are subsidized at rate τ, which in the U.S. is currently equal to the marginal tax rate. I introduce a level of enforcement e, conducted by the government at cost $C(e)$, which could represent for example the probability or amount of a fine for cheating gifts or the amount of information that organizations are required to report publicly. Enforcement may deter or encourage true contributions. The government maximizes true gifts net of the costs of subsidy and enforcement:

$$\max_{\tau,e} W = g(\tau,e) - \tau g(\tau,e) - \tau g^c(\tau,e) - C(e)$$

The first-order conditions can be written as:

$$(1) \qquad \frac{dW}{d\tau} = -(g + g^c) - (1-\tau)\frac{\partial g}{\partial(1-\tau)} + \tau\frac{\partial g^c}{\partial(1-\tau)}$$

$$(2) \qquad \frac{dW}{de} = (1-\tau)\frac{\partial g}{\partial e} - \tau\frac{\partial g^c}{\partial e} - \frac{\partial C}{\partial e}$$

Equation 1 is the same as that in Fack and Landais. When $g^c = 0$ it reduces to the well-known unit elasticity rule $\frac{dW}{d\tau} \geq 0 \Leftrightarrow 1 \leq |\varepsilon_{g,1-\tau}| = |\frac{(1-\tau)}{g}\frac{\partial g}{\partial(1-\tau)}|$.

By equation 2, $\frac{dW}{de} \geq 0 \Leftrightarrow \tau\frac{\partial g^c}{\partial(1-e)} \geq \frac{\partial C}{\partial e} + (1-\tau)\frac{\partial g}{\partial(1-e)}$, which is written such that the expected sign of each term is positive. An increase in enforcement directly improves welfare if the savings from subsidizing fewer cheating contributions is greater than the sum of direct expenses and lost net charitable gifts. In the case of the Tax Reform Act of 1969, the direct cost of increased auditing was passed on to foundations through the investment tax, so essentially $\frac{\partial C}{\partial e} = 0$. Blank donors and expenses can together explain more than half the decrease in gifts, suggesting that on average (over what was clearly a large change in e), $\frac{\partial g^c}{\partial(1-e)} \leq \frac{\partial g}{\partial(1-e)}$. Plugging these in, $\tau \leq .5 \Rightarrow \frac{dW}{de} < 0$. Unfortunately, we do not know donors' marginal tax rates. The top rates at the time exceeded 70%, and gifts were probably more likely during periods when income and hence marginal tax rates were high, suggesting the effect on W might have been either positive or negative. What is clear is that continued enforcement would not pass a direct cost-benefit analysis at today's lower rates unless current gifts are much less responsive to enforcement or current cheating is much more responsive.

Even if enforcement is not set optimally it may allow social welfare to become closer to its maximum than it could be in the absence of enforcement. This is because the optimal subsidy rate will in general

depend on the level of enforcement, and enforcement that is excessive may at least have the benefit that it enables the government to further subsidize and promote truly charitable gifts. Differentiating equation (1) gives

$$\frac{d^2W}{d\tau de} = \frac{\partial g}{\partial\left(1-e\right)} + \frac{\partial g^c}{\partial\left(1-e\right)} - \left(1-\tau\right)\frac{\partial^2 g}{\partial\left(1-\tau\right)\partial e} + \tau\frac{\partial^2 g^c}{\partial\left(1-\tau\right)\partial e}.$$

As stated above, we expect the first two terms to be positive. These terms reflect the fact that raising the subsidy rate increases the cost of subsidizing either type of gift, and this cost is reduced when enforcement reduces either type. The cross partial derivative terms reflect the effects of enforcement on the tax price elasticity of each type of gift. Increasing the subsidy rate is good if it has a large effect on charitable gifts and a small effect on cheating ones, and enforcement may increase the extent to which this is true. If, for example, enforcement completely prevents all cheating (making it completely inelastic, so that the cross partial is zero) while imposing a fixed cost on true gifts that lowers their level but makes them more price sensitive, then enforcement would increase the marginal benefit of subsidy. In general, enforcement will increase the optimal subsidy rate so long as it does not make cheating gifts much more price-elastic than charitable gifts. The lack of income and tax data on the donors to foundations prevents estimation of these cross-partial derivatives, but perhaps I could set up the consumer's problem and give conditions on the utility function for which this would be true.

Appendix B - Data Collection

Data were collected from the Foundation Directory, a publication of the nonprofit Foundation Center. All files, editing procedures, and code used in the collection process are available by request. I have verified the accuracy of the extraction by reconciling the data with state-by-state tabulations in the Directory.

To begin the data collection process I purchased hard copies of Editions 1-15 (actually named Editions 1-12 and Editions 1991-1993) of the Foundation Directory, removed all pages, and scanned them at 400dpi using ABBYY FineReader 7.0. I then used ABBYY's optical character recognition software to convert these image files to Rich Text format. Images were recognized as text using ABBYY FineReader 9.0, which has the highest recognition accuracy of the FineReader products available (but was not used for scanning on the advice of a frequent user who suggested version 9.0 "over-thinks" basic scanning). The user can train FineReader to recognize unusual characters, which allowed me to capture the Directory's symbols for deceased donors, publicly supplied information, and initial appearance in the Directory.

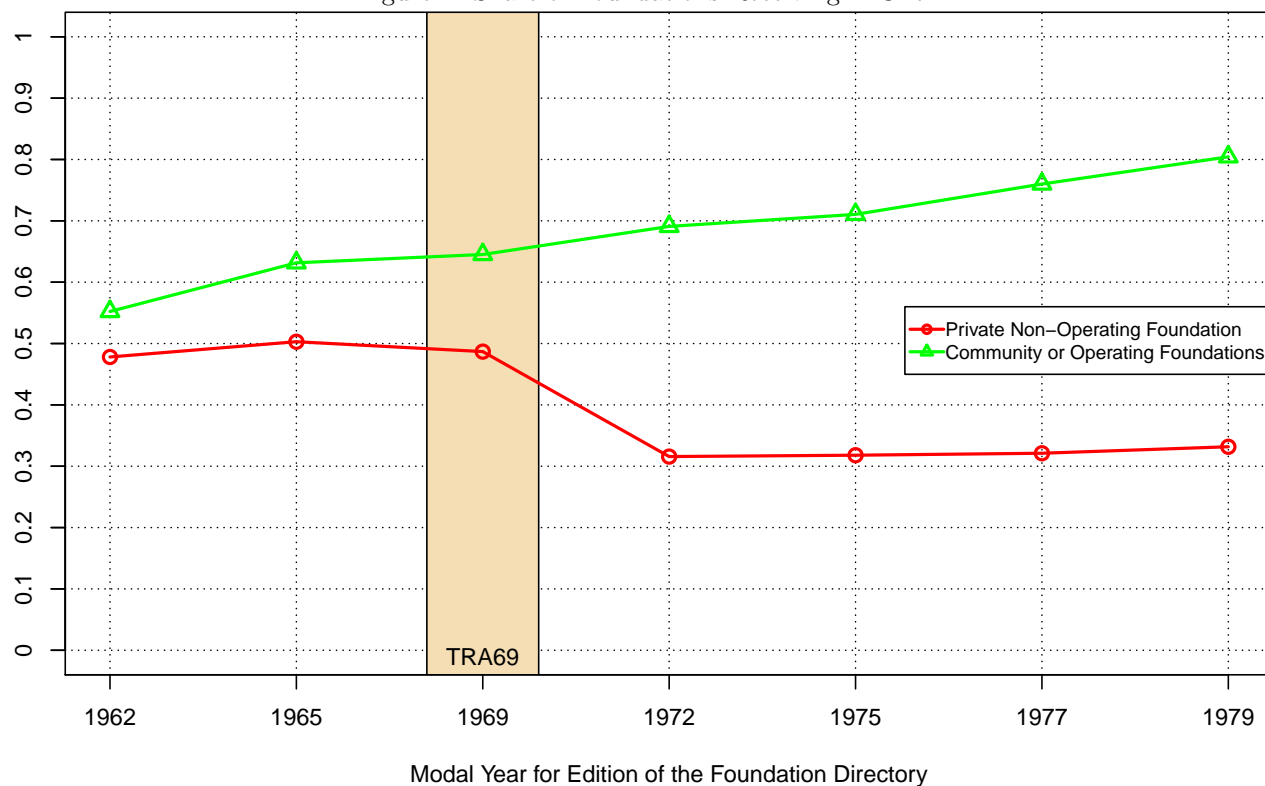Text recognition was generally accurate, but a number of errors were made on a regular basis. For

example, FineReader often used the wrong case for the letters i and j, misread parentheses as the letter j and slashes as the number 1, converted "E" into "£", and failed to recognize roman numerals and the trained symbols. Moreover, FineReader failed to replicate the lines between paragraphs that separated foundations in the Directory, combined separate lines of text onto one line, and inserted line breaks into the text at seemingly random locations. The rich text files therefore demanded assiduous cleaning and reformatting. I was able to automate a number of tasks using Visual Basic macros. For example, I used the bolding of foundation names to recreate the spaces between each foundation's entry so that a blank line of text would mark the end of one observation and beginning of another. I manually performed wildcard searches that could not be made sufficiently specific to isolate errors without finding some legitimate text, such as the searches for adjoining text and numbers that I used to remove headings and page numbers that had been combined with surrounding text. This work was obviously time-consuming, and I strongly encourage researchers planning to use optical character recognition software to test multiple programs on their source material to find the option that minimizes the length of this cleaning phase.

After cleaning the Rich Text files I saved them as plain text to be manipulated by Python script. The Python language allows the use of a Regular Expressions module that enables the complex matching needed to convert text into data. I wrote one Python script that reorganized the text to facilitate line-by-line reading and another Python script to convert each line of text into data for a database. The first script deals with FineReader's poor recognition of line breaks by starting new lines when markers such as "**Donor**: " or "**Donors**: " appear, and it combines subsequent lines until the next marker is found. This ensures that each line of text corresponds to exactly one of the data fields supplied in the Directory. The second script uses more advanced Regular Expressions to search each data field for text patterns that correspond to desired variables. For instance, a search for "\$([0-9,]+) in ([0-9]+)*grants" would capture the phrases "$10,000 in grants" or "$10,000 in 15 grants" and use the numbers in parentheses to populate the grant-amount and grant-number variables for that observation. The flexibility of Regular Expressions was necessary for such work because wording and formatting were not consistent throughout the text. I incorporated extensive error reporting in the code to point out when such inconsistencies were found and to reveal recognition flaws that escaped detection during file cleaning.

Data extracted from each edition of the Directory were written to a tab-delimited file that could be uploaded in Stata. I was able to check asset, gift, grant, and expense totals for each state using summary tables provided in each edition. I have documented discrepancies from these tables, such as my choice to exclude from gifts the transfer in Edition 11 of the $447 million Buck Trust from the San Francisco Foundation to Marin Community Foundation. Having obtained 15 cross sections, I then used time-invariant foundation characteristics to construct a panel with unique foundation ID numbers using Johannes Schmieder's sequen-

tial merge Stata code seqmerge.ado (available at http://sites.google.com/site/johannesschmieder/stata).

Figure 1: Share of Foundations Receiving A Gift

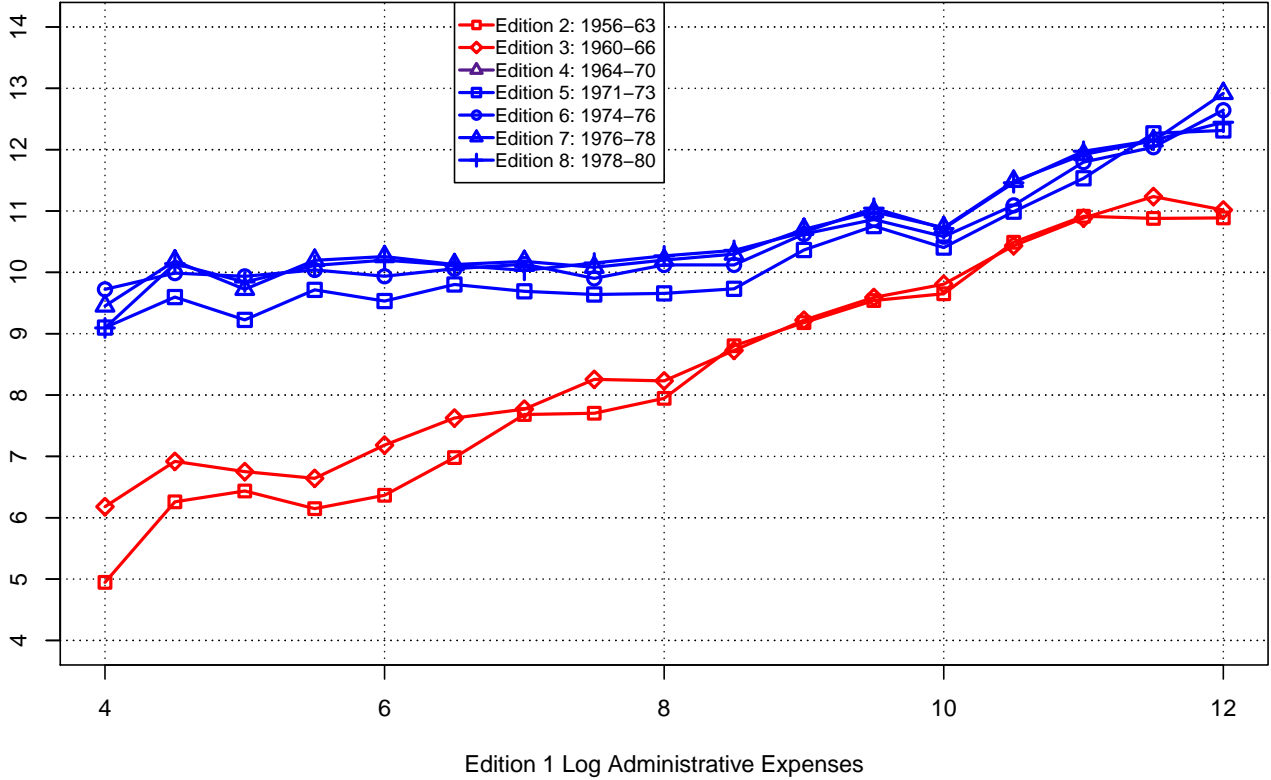Modal Year for Edition of the Foundation Directory

Notes: The figure shows the share of foundations receiving a gift in each edition of the Foundation Directory for which gifts were reported. Private non-operating foundations, which were subject to the new regulations in the Tax Reform Act of 1969, are nearly 40% less likely to receive a gift in years after the reform. In contrast, community and operating foundations maintain a steady upward trend.

Figure 2: Mean Log Administrative Expenses
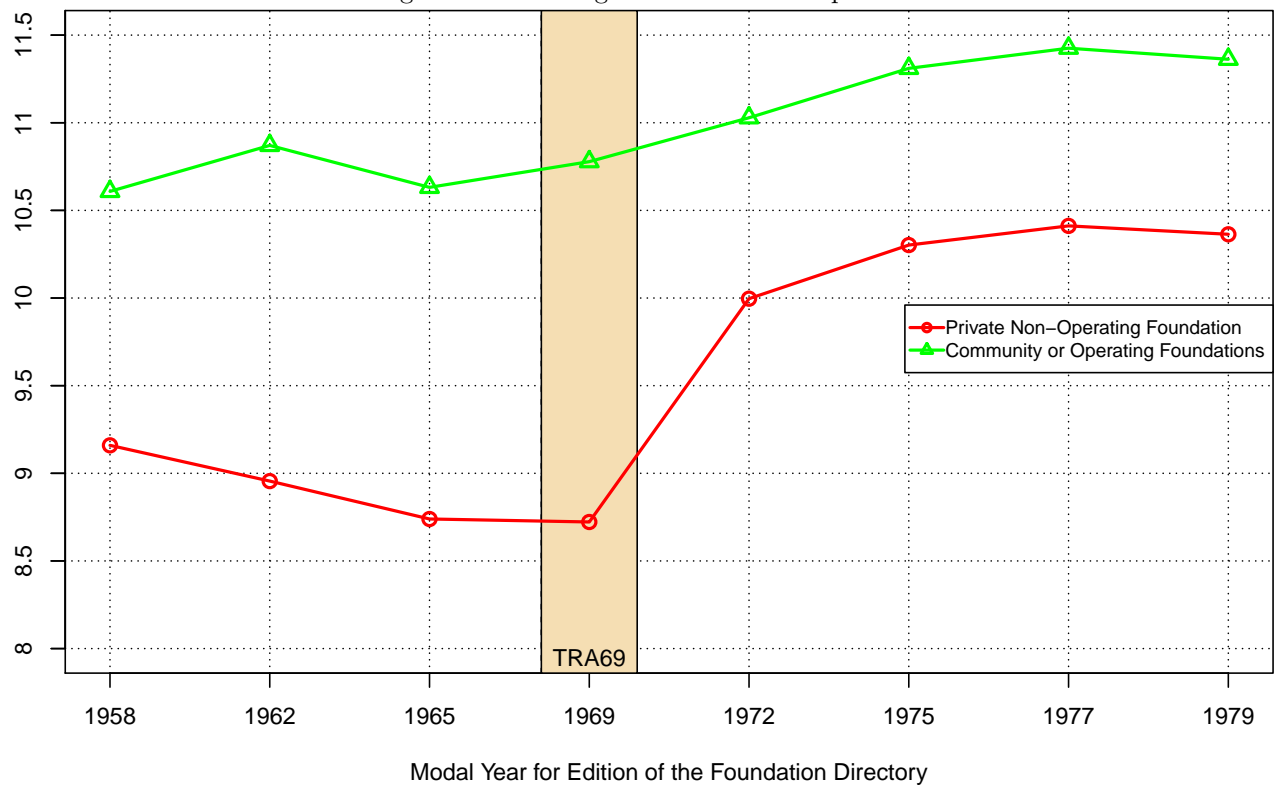
Notes: The figure shows the mean log expenses of foundations in each edition of the Foundation Directory. Administrative expenses are defined as the difference between total expenses and grants or other named outlays, as detailed in the text. While community and operating foundations followed a smooth upward trend, the administrative expenses of private non-operating foundations increased by a full log point (a level increase of about 172%) at the time of Tax Reform Act of 1969.

Figure 3: Mean Current Log Administrative Expenses

Legend:
- Edition 2: 1956–63
- Edition 3: 1960–66
- Edition 4: 1964–70
- Edition 5: 1971–73
- Edition 6: 1974–76
- Edition 7: 1976–78
- Edition 8: 1978–80

Edition 1 Log Administrative Expenses

Notes: Private, non-operating foundations are grouped in bins according to their log expenses in Edition 1 of the Foundation Directory, and the figure plots the means of each group's current log administrative expenses in subsequent editions, with one line for each edition. The vertical distance between lines for early editions and those for later editions shows expense growth over time. Administrative expenses are defined as the difference between total expenses and grants or other named outlays, as detailed in the text. Expense growth is greatest between editions 3 and 5, when TRA69 was enacted. The rise in administrative expenses at the time of TRA69 is greater among foundations whose expenses were lower before the reform.

Figure 4: Share of Foundations Receiving A Gift
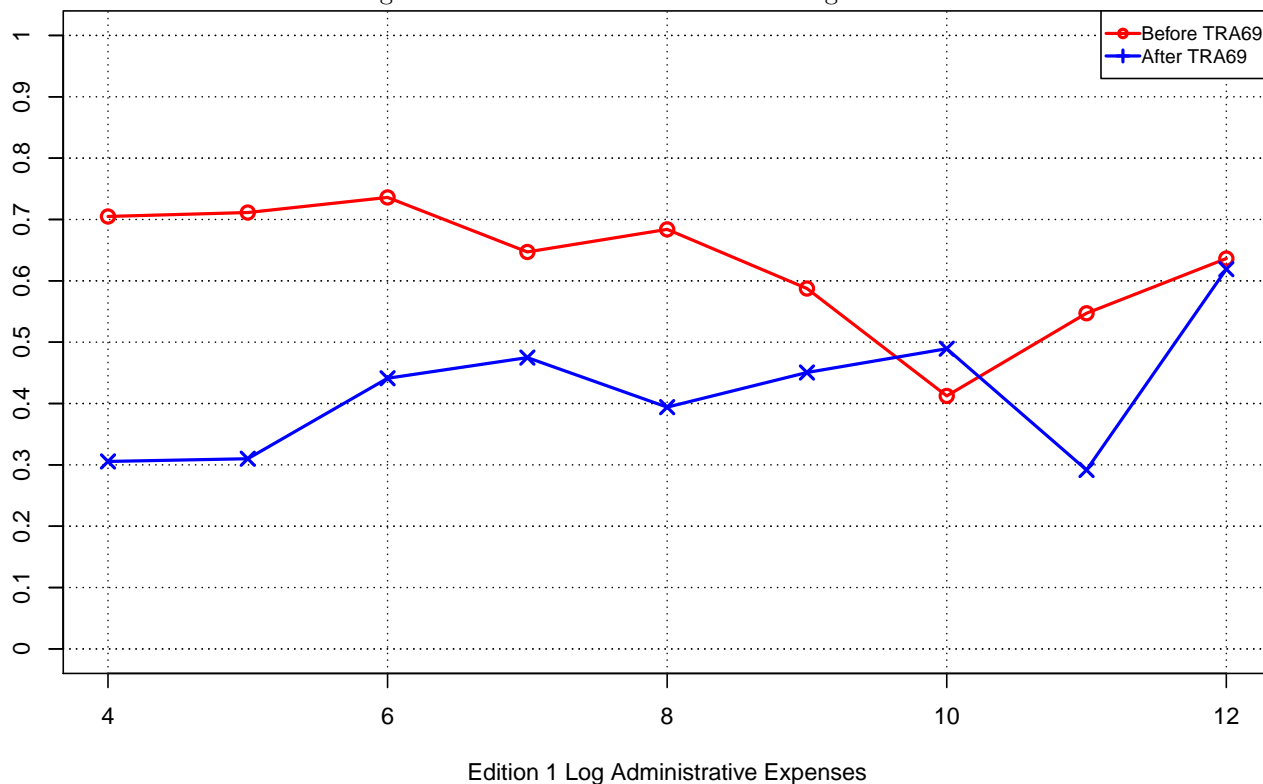
Notes: Private, non-operating foundations are grouped in bins according to their log expenses in Edition 1 of the Foundation Directory, and the figure plots each bin's share of foundations receiving a gift in years before and after the reform. The previously-low-cost foundations that experienced the largest growth in administrative expenses (Figure 3) showed the greatest decline in the probability of receiving a new gift from donors.

Table 1: Share of Foundations Receiving A Gift

	(1)	(2)	(3)	(4)
postXprivate	-0.368***	-0.347***	-0.324***	-0.315***
	(0.068)	(0.070)	(0.082)	(0.084)
N	2,560	2,560	1,901	1,901
Adj. R-Squared	0.456	0.458	0.491	0.491
Edition Dummies	X	X	X	X
Foundation Fixed Effects	X	X	X	X
Dummies for Deceased Donors		X	X	X
Lagged Logs of Assets, Charitable Expenses, and Admin Expenses			X	X
Interactions of Lagged Log Financials				X

Notes: The table shows the results of regressing a dummy for receiving a gift from donors on the interaction of a dummy for periods after TRA69 ("post"), a dummy for private non-operating foundations ("private"), and various controls. The interaction term shows the change among treated foundations relative to untreated community and operating foundations. Standard errors are clustered by foundation.

Table 2: Log Administrative Expenses

	(1)	(2)
postXprivate	0.896***	0.800***
	(0.231)	(0.241)
N	2,899	2,899
Adj. R-Squared	0.670	0.674
Edition Dummies	X	X
Foundation Fixed Effects	X	X
Dummies for Deceased Donors		X

Notes: The table shows the results of regressing log administrative expenses on the interaction of a dummy for periods after TRA69 ("post"), a dummy for private non-operating foundations ("private"), and various controls. The interaction term shows the change among treated foundations relative to untreated community and operating foundations. Standard errors are clustered by foundation.