

Corporate Charitable Foundations, Executive Entrenchment, and Shareholder Distributions

Nicolas J. Duquette*

Eric C. Ohrn[†]

USC Price School of Public Policy

Grinnell College

April 10, 2018

Abstract

We show that firms with corporate charitable foundations increased shareholder distributions by less than one half as much as similar firms without foundations following the 2003 capital income tax cut, even after controlling for common explanatory factors such as executive shareholding. The findings are robust to alternative explanations and to common threats to causal identification. Further exploration reveals that our estimates capture a greater reluctance of foundation firms to initiate or rapidly increase shareholder payouts, but not a greater tendency to reduce or eliminate shareholder payouts. Additional analyses suggest managers direct funds that would have been paid out toward executive compensation and capital investment. In light of the fact that firms with foundations are more likely to exhibit a high degree of managerial entrenchment, we interpret these findings as evidence that foundations are both a sign of and vehicle for managerial self-dealing.

Keywords : Corporate foundations, capital income taxation, corporate governance,
institutional economics

JEL Classification : H25; H32; D64

Acknowledgements: This research was generously supported by the Center on Philanthropy and Public Policy, the Sol Price Center for Social Innovation, and the Office of Tax Policy Research. The authors are grateful for discussion and comments from Nicolas Bottan, Adam Cole, Brian Galle, Louis Kaplow, Eric Zwick, and to participants at the National Tax Association conference. We thank Boshen Wu for research assistance.

*nicolas.j.duquette@gmail.com

[†]ohrneric@grinnell.edu

Many large business corporations have charitable foundations; 203 of the S&P 500 publicly traded companies had such foundations as of 2013. The existence, let alone ordinariness, of such foundations is surprising. Charitable foundations are burdensome to create, costly to administer, may be constrained by payout requirements and excise taxes, and are not necessary for corporations to make charitable donations. That corporate foundations nevertheless persist for so many large firms suggests that despite these costs, foundations create substantial benefits for corporations or corporate managers.

We explore the role of corporate foundations in managerial decision-making by comparing firms with and without preexisting charitable foundations in the presence of a shock to the cost of shareholder distributions. More precisely, we use a difference-in-differences research design to compare the payout behaviors of firms with and without foundations before and after the 2003 Bush tax cuts to dividend and capital gains rates. We find that firms with foundations increased payouts by significantly less than firms without foundations after the tax cuts. While firms with foundations did not eliminate or reduce payouts after the reform, they were less likely to initiate or increase payouts. Following a developed literature that suggests increased payouts in response to the tax changes were in the best interest of shareholders, our analysis reveals that firms with foundations make very different, and less shareholder-friendly, financial decisions than firms that do not.

Critically, the magnitude of the difference in the payout response between foundation and non-foundation firms is an order of magnitude larger than the value of total corporate philanthropy. Therefore the vast majority of the estimated behavior cannot be explained by substitution between payouts and philanthropic activities.

This finding is, however, consistent with an agency theory of the firm in which corporate foundations enhance the value of “pet projects” for corporate managers, and indeed may be the visible tip of a larger, unobserved iceberg of managerial entrenchment in the firm’s culture and processes. In support of this interpretation, we demonstrate that firms with high

scores on the Bebchuk et al. (2009) index of managerial entrenchment are far more likely to have charitable foundations. This explanation is further supported by two other recent papers that explore corporate pro-social behavior around the same tax reform. These papers show that spending on corporate charity or social responsibility initiatives are negatively correlated with payout increases for firms with greater separation of ownership and control (Masulis and Reza 2014; Cheng et al. 2016).

While these studies buttress our conclusion that corporate foundations themselves are a signal of managerial entrenchment, our strategy, which focuses on the presence of the corporate foundation (as opposed to the level of giving or CSR), allows us to draw causal inferences based on plausibly exogenous variation.¹ Because corporate charitable foundations, once established, are seldom closed down, and because the 2002 Sarbanes-Oxley rules have made the establishment of new corporate foundations rare, the presence of foundations within the largest firms is not influenced by the 2003 tax change itself.

The key threat to our primary empirical design is that other time-varying shocks coinciding with the tax rate cuts may differentially affect firms that do and do not have charitable foundations. Throughout the paper we work to address this concern, providing several pieces of evidence that our findings are not driven by spurious inference or alternative channels. First, a semi-parametric implementation of our difference-in-differences design shows that payout behaviors of firms with and without foundations were similar in four years prior to 2003 but diverge sharply upon policy impact. Second, differential payout responses cannot be explained by executive ownership, firm age, prior payout behavior, differences in firm exit rates, nor potential determinants of corporate foundation establishment such as excess free cash flows or investment opportunities. Third, when the sample is balanced and treatment is redefined as firms with long-lived foundations, the significance and magnitude

¹Although there is some evidence that corporate charity is associated with agency monitoring problems, this evidence is found in case studies (Barnard 1997) or simply correlates charity with larger boards, lower leverage, or excess free cash flows (Seifert et al. 2004; Brown et al. 2006; Card et al. 2010).

of our results are unchanged, reinforcing the exogeneity of foundation status. Fourth, we show that foundation firms used the funds that would have been paid out to increase executive compensation and capital investment. These and other checks confirm the robustness of our main result; foundation firms are significantly less responsive to tax cuts, and likely suffer from principal-agent problems.

Our study contributes to two literatures. The first, initialized by Schwartz (1968), Clotfelter (1985), and Navarro (1988), studies the role and purpose of corporate charitable giving.² The second, on the separation of ownership and control within the firm, characterizes misaligned incentives between executives and shareholders, as in Jensen and Meckling (1976), Shleifer and Vishny (1986), and Myers (2001). More recently, Chetty and Saez (2010) propose a new agency model of the firm, in which managers who vary in the extent of their incentive alignment with shareholders and degree of positional entrenchment allocate resources to shareholder payouts, revenue-generating investments, and “pet projects.” Linking these literatures, we show that shareholder distribution decisions differ across firms with and without foundations, suggesting that foundations are an observable indicator of the potential for pet projects in the firm.

The remainder of the paper is organized as follows: section 1 explains our empirical strategy. Section 2 describes our data set. We present evidence that foundations are strongly associated with executive entrenchment in section 3, before testing our hypothesis following the 2003 capital income tax cuts in section 4. We test for threats to identification and alternative explanations in section 5, and explore the intensive and extensive margins of payout behavior in section 6. We extrapolate our framework to other uses of retained earnings to determine how foundation firms allocate funds which would counterfactually have been distributed to shareholders in section 7. We summarize and interpret our findings

²These early papers rejected empirically the possibility that corporate charity is a profit-maximizing behavior by showing giving responds to marginal tax rates. These studies are based on the logic that if corporate charitable contributions are a fully deductible production input then corporate tax rates should not affect giving.

in section 8 before concluding in section 9.

1 Understanding Corporate Charitable Foundations

Our goal is to better understand the role of corporate foundations in the firm. To do so, we generate a novel empirical strategy that tests alternative theories of foundations by comparing payout behaviors of firms with and without corporate foundations before and after a significant change in the tax cost of payouts. This section develops our strategy. First, we motivate our use of charitable foundations, rather than corporate giving flows, as a lens through which to understand corporate charity. We then detail the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA), a tax policy that changed the tax cost of corporate payouts. Finally, we discuss how the interaction of corporate foundation presence and the tax cost shock can deepen our understanding of the role of foundations in the firm and corporate charity more generally.

1.1 Corporate Charitable Giving and Corporate Foundations

Corporations can make charitable gifts through a corporate foundation or directly, without a foundation intermediary. The literature is divided on whether corporate charitable giving is a managerial perquisite, or is an input into a firm's production function, much like advertising. Schwartz (1968), Clotfelter (1985), Navarro (1988), and Boatsman and Gupta (1996) find that corporate giving increases with the corporate tax rate faced. These papers conclude that corporate giving must not be a business input – and is likely a managerial perquisite – because business inputs are fully deductible and should not be affected by corporate tax rates. A small, rapidly growing management literature contradicts this assessment, finding that corporate charity and, more broadly, corporate social responsibility (CSR) can in some cases benefit shareholders (Godfrey et al. 2009; Lev et al. 2010; Ballesteros et al. 2017). Brown et al. (2006) also argues against the perquisite theory, showing corporate

giving leads to more than token improvements in local communities. On the other hand, Card et al. (2010) observe that corporate philanthropy targets local communities where firms' executives live and work so even local giving may be a form of managerial perquisite.

In addition to potentially serving both legitimate shareholder interests and managerial self-aggrandizing aims, the *value* of corporate charitable giving to the firm and its shareholders may vary over time, further limiting the ability of researchers to draw conclusions from corporate charity flows. To highlight this point, consider an analogy to corporate jets. The literature to date on executive perqs and entrenchment has focused on private jet ownership as one observable factor that benefits top executives more than the firm generally. Yermack (2006) shows firms with private jets underperform firms that do not. Edgerton (2012) shows that private jet fleets are substantially reduced when firms go through leveraged buyouts. While these results are strongly suggestive of the importance of managerial perquisites for firm performance, neither identifies a causal effect of executive perqs on shareholders, since corporate jet fleets are endogenously bought and sold, and have legitimate uses which may be more or less important to firm performance as business conditions rise or fall. The dollars spent by any firm on charitable giving year to year may similarly vary in the value of corporate charity to the firm *even if*, like jets, charity is primarily an executive perquisite.

To avoid these concerns, we use the presence of corporate foundations to better understand the role of charity within in the firm. Studying how corporate foundations affect firm behaviors has one major advantage over giving flows: because the Sarbanes-Oxley Act significantly increased financial disclosure requirements for sponsoring firms, virtually no firms started foundations after 2002. Thus, the vestigial presence of a foundation is — unlike the amount and nature giving itself — plausibly exogenous with respect to changes in firms' business environments after 2002. As a result, examining differences in behavior between firms with and without foundations in the presence of such environmental changes can yield insights into the nature of corporate charitable foundations and, by extension,

corporate charity itself.

1.2 JGTRRA and Payout Behavior

The goal of the Jobs and Growth Tax Relief Reconciliation Act was to stimulate business investment following the 2001 recession in two ways: first, by encouraging additional saving on the part of households. Second, by decreasing the “lock in” effect of tax incentives, thereby encouraging a more efficient allocation of capital across firms.^{3,4} Despite lock-in concerns, in the years prior to JGTRRA both aggregate shareholder payouts and the fraction of firms making payouts as either dividends or share repurchases rose steadily (Farre-Mensa et al. 2014). These trends accelerated after 2003, with hundreds of firms initiating or substantially increasing payouts (Chetty and Saez 2005).

To reconcile observed payout responses to the JGTRRA tax shock with traditional theories of the firm, Chetty and Saez (2010) develop a new agency model of the firm, in which managers allocate resources to shareholder payouts, revenue-generating investments, and “pet projects.” For large firms, managers make revenue-generating investment until the payout from such investments generates the return demanded by investors. The manager then allocates the remaining funds among the pet project and shareholder payouts by setting

³According to the Joint Committee on Taxation, “The Congress believed that, by reducing the effective tax rates on capital gains, American households will respond by increasing savings. The Congress believed it is important to encourage risk-taking and believed that a reduction in the taxation of capital gains will have that effect. The Congress also believed that a reduction in the taxation of capital gains will improve the efficiency of the markets, because the taxation of capital gains upon realization encourages investors who have accrued past gains to keep their monies ‘locked in’ to such investments even when better investment opportunities present themselves. A reduction in the taxation of capital gains should reduce this ‘lock in’ effect. The Congress believed it is important that tax policy be conducive to economic growth. Economic growth cannot occur without savings, investment, and the willingness of individuals to take risks. The greater the pool of savings, the greater will be the monies available for business investment. It is through such investment that the United States’ economy can increase output and productivity. It is through increases in productivity that workers earn higher real wages. Hence, a greater saving rate is necessary for all Americans to benefit from a higher standard of living” (JCT 2005).

⁴JGTRRA decreased individual income tax rates on both dividends and capital gains for ten years, retroactive to January 2003. Most dividends moved from taxation as ordinary income, with a top statutory rate of 39.6 percent, to a maximum rate of 15 percent. The top statutory rate on long-term capital gains (assets held for at least a year) fell from 20 percent to 15 percent.

the marginal *benefit to themselves* of investing an additional dollar in a pet project equal to the value of paying out an additional dollar to shareholders. Critically, the manager perceives a higher marginal value of shareholder payouts when (1) the manager themselves owns more shares in the firm and will receive a larger portion of each dollar of shareholder payouts and (2) when the tax rates on dividends and capital gains are lower. Thus, this agency model of the firm predicts that managers should increase payouts more following a tax cut at the expense of pet project funds, and that the increase should be concentrated in firms with a high degree of managerial ownership and, therefore, alignment between the aims of the manager and the aims of shareholders.

The observed payout responses following JGTRRA fit this pattern: payouts increased, and the increases were concentrated among firms in which executives owned more common stock in the companies they operated (Chetty and Saez 2005, 2006; Yagan 2015).

1.3 Charitable Foundations and Payout Responses to JGTRRA

Our empirical strategy is simple. Chetty and Saez (2005) show that firms in which management and shareholder incentives were most aligned increased payouts relative to firms that were less aligned. We posit that if corporate foundations are a form of managerial perquisite available to entrenched managers, then, all else equal, firms with foundations are also less likely to act in the best interest of their shareholders. It follows that if, in fact, foundations are perks for entrenched managers then firms with foundations will increase shareholders payouts after JGTRRA by less than firms without foundations.⁵ On the other hand, if foundations are simply a revenue-generating technology, then changes in payouts should not differ between firms with and without foundations. Critically, as discussed above, foundation presence is plausibly exogenous with respect to the tax shock, so

⁵Supporting this supposition, a recent survey of corporate giving officers found that about three-quarters of “strong” engagement of senior management with the firm’s giving programs (Benioff and Adler 2007, foreword).

our test is unlikely to suffer from the problems endemic to most corporate charity research and can yield credible insights into the role of foundations and charity in the firm.

2 Data

We gather firm-year data on corporations’ financials, simulated marginal income tax rates, executive shareholding and S&P index membership by from WRDS/Compustat for years 1998–2012 (Blouin et al. 2010; Compustat 2015). Our primary sample is the set of all publicly traded corporations that were ever members of the S&P 500 index during the sample years.⁶

We identify publicly traded firms with charitable foundations using Foundation Directory Online, which links corporate foundations by IRS employer identification number to publicly traded firms by stock ticker, CUSIP and identifying information (Foundation Center 2014). Additional companies not initially linked to corporate foundations were uncovered by comparing the list of unmatched firms to the foundation establishment data in Esparza (2014), and through fuzzy-matching 990-PF and Compustat data by firm name, then confirming the match manually via Internet search. Spurious links were also found in the Foundation Center data, *e.g.* between a public corporation and a defunct foundation that was owned by a private firms that the corporation had acquired; these were manually pruned from the data.

Foundation and Treatment Variables

“Foundation 2002” is equal to 1 if the firm has an associated charitable foundation observed in 2002 and zero otherwise. “Foundation 1982” is equal to one if the firm has a foundation during the study period that can be matched to IRS form 990 data with an exemption letter

⁶We focus our analysis on S&P 500 firms because data availability is more consistent, and because corporate foundations are uncommon among smaller publicly traded firms.

date from year 1982 or earlier and zero for firms observed in 1982 without such exemption letters.⁷ Our empirical strategy interacts foundation variables with a treatment timing indicator, “JGTRRA03,” equal to one if at least six months of the firm’s fiscal year fell after passage of the 2003 tax cut and zero otherwise.⁸

Payouts Variables

In the majority of the analysis, the outcome variable is “Payouts” which equals the log of total dividends and share buybacks in millions of dollars plus one (\$1 million) added to keep zero values in the sample.⁹ In secondary analyses we also use the “Payouts 0/1” outcome which is an indicator equal to 1 if a firm makes any payouts in a year and 0 otherwise.

Entrenchment Variables

We use the Bebchuk et al. (2009) “Entrenchment Index” from year 2002 to measure how protected managers are from shareholder actions. The Entrenchment Index counts the number of governance rules that weaken shareholder oversight of executives. These rules are: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments.

Control Variables

In the majority of our regressions, we include interactions of “Executive ownership 2002,” a categorical variable with three possible values depending on whether Execucomp data on

⁷The forms 990 and 990-PF — information returns filed by most public charities and private foundations with the IRS each year — include dates of the IRS letter officially confirming tax-exempt status, which normally cannot be earlier than the formation of the charity or foundation.

⁸Specifically, since JGTRRA03 was signed into law in May 2003, this variable is equal to 1 for fiscal years ending in November 2003 and later.

⁹ We log-transform key variables while adding constants to avoid dropping observed zeroes — this allows coefficients to be interpreted as (approximate) elasticities and brings skewed variable distributions closer to normal. See Duquette (2016, fn. 35) for a more in-depth discussion of this procedure and its use in philanthropy research.

the percentage of equity owned by the five most highly compensated executives in 2002 is not observed, is above the median, or is below the median observed value (0.82 percent of shares). “1-Marginal Tax Rate” is log of the cost of giving net of the corporate income tax (Blouin et al. 2010). “Income” is log of the income of the firm, censored below at \$1 million. We also include tax loss carry forwards, research and development, and advertising as shares of total sales, as well as debt ratio, return on assets, and labor intensity, which are common controls used in the corporate charity literature.¹⁰

Other Explanation Variables

In Section 5.2 we check for other explanations for our primary empirical finding. These are “Cash Flow” measured as income before extraordinary items plus depreciation and amortization divided by lagged property, plant, and equipment, as in Kaplan and Zingales (1997); “Average Q” is the ratio of market value to replacement value of a firm (Tobin 1969);¹¹ “Firm Age 2002,” measured as 2002 minus the calendar year when the firm’s stock price is first observed in historical Compustat/CRSP data; and “Firm Size 2002” measured as the log of total assets in 2002.¹²

Alternative Samples

In Section 5.3 focus our analysis on three different samples of firms. “1982 Firms” is the subsample of 302 firms with nonmissing stock price data in the CRSP/Compustat data set as of year end 1982. The “Balanced Panel” sample is a balanced panel of firms observed

¹⁰We following Johnson (1966), Fry et al. (1982), Clotfelter (1985), Navarro (1988), and Boatsman and Gupta (1996) in using these firm controls. Debt ratio is censored below at zero for firms with negative values for shareholder equity.

¹¹Precisely, we set

$$\text{Average Q} = \frac{\text{Market Value of Equity} + \text{Total Liabilities}}{\text{Book Value of Assets}}$$

¹²These accounting variables are not observed for all firms in all years, and so we estimate the regression over a subset of our main sample with complete observations only. Additionally, Firm Age 2002 is censored at age 40, as the first year of observations is 1962.

in all 15 years 1998 to 2012. The “Stable Dividend” sample is composed only of firms that paid a strictly positive, non-decreasing total dollar value of dividends during the years 1998–2002.

Other Outcome Variables

In supplementary analysis we examine other outcomes. “CAPEX/PP&E” is capital expenditure divided by net lagged property, plant and equipment. “Exec. Comp. (total)” is average total compensation of the five most highly paid executives scaled by lagged sales. “Exec. Comp. (cash)” is average salary and bonus compensation of the five most highly paid executives scaled by lagged sales.¹³ “Chg. Assets” is the percentage change in total assets over last period. “ROA” is return on assets. “ROE” is return on equity. “Average Q,” as described above, is an estimate of the market value of assets divided by the book value of assets.

To reduce the influence of outliers created by mismeasurement, all variables are win-sorized at the top and bottom 1% levels. We define “year” to be the calendar year in which the firm’s fiscal year ended, since this is the time when the firm has the best information about how foundation contributions will look in the context of its financial reports and filings. Observations with non-12-month fiscal years (*i.e.* following a change in fiscal year-ending month) are dropped from the sample. Table 1 provides descriptive statistics for all variables used in our analysis.

Table 1 about here.

¹³“Total compensation” is the sum of Execucomp variables `salary`, `bonus`, `other annual`, `restricted stock grants`, `stock options granted`, `long-term incentive payouts`, and `all other total`. Cash compensation is `salary` plus `bonus`. For firms with fewer than five C-suite positions observed, we use average compensation for all reported managers.

3 Preliminary Evidence: Entrenchment and Foundations

Prior to directly testing for differential payout changes of foundation firms, we present supporting evidence demonstrating that corporate foundations are correlated with the *potential* for agency problems at the firm, proxied by Entrenchment Index. Entrenchment scores and having a corporate foundation are significantly correlated (correlation $\rho = 0.0961$, p -value = 0.0003). Figure 1 plots the share of firms with foundations by entrenchment score, for all firms and for firms in the S&P 500. The share of firms with foundations rises almost monotonically with entrenchment.¹⁴

Figure 1 about here.

While this plot is consistent with the conjecture that entrenched managers and corporate foundations are correlated, it is also possible that we are simply observing associations between tendency to engage in corporate philanthropy and managerial entrenchment that are driven by norms within industrial sectors, or mutual correlations with firm performance. Therefore, we further investigate this association in a multivariate linear probability model,

$$\text{Foundation}_i = \beta_0 + \beta_1 \text{Entrenchment Index}_i + \mathbf{X}_i' \boldsymbol{\gamma} + \psi_s + \varepsilon_i \quad (1)$$

where $\mathbf{X}_i$ is a set of firm financial controls, including log of income, tax cost of giving, and other accounting items, as defined in section 2; ψ_s is a sector fixed effect for one of ten broad economic sectors defined using the Global Industry Classification Standard (GICS) system; β_0 is a constant and ε_i is a residual. The association is estimated using data for year 2002,

¹⁴Analysis of the individual index components reveals that none of the six index components is more strongly related to foundation status than any other. Additionally, breaking the Bebchuk et al. index into two sub-indices following the framework of Cremers et al. (2016) — three components that can be adopted unilaterally by the board (poison pills, golden parachutes, and supermajority requirements to amend the bylaws) and components that must be approved by shareholders (staggered boards, supermajority requirements to amend the charter and to approve mergers)— finds that an incremental change in either sub-index is associated with a similar change in the likelihood of having a foundation. These findings are omitted for brevity.

immediately prior to JGTRRA03, and is estimated separately for all firms and firms that are members of the S&P 500 index.¹⁵ Standard errors are adjusted for heteroskedasticity. The coefficient of interest is β_1 , which estimates a conditional association between an incremental increase in the index of executive entrenchment and the likelihood of observing a corporate foundation.

Table 2 about here.

The estimates are presented in table 2. Consistent with the association clearly visible in figure 1, the conditional association estimated is large and statistically significant; for the unrestricted set of fully observed firms, the coefficient is 0.0275 and statistically significant at the one percent level; that is, moving from the best possible governance to maximum entrenchment (an increase in the Entrenchment Index from zero to six) is associated with a 16.5 percentage point increase in the conditional probability of having a corporate foundation. Within S&P 500 firms, the coefficient is larger in magnitude (0.410) and significant at the five percentage point level, with an implied difference in conditional association of almost 25 percentage points.¹⁶

We conclude that there is substantial support for our conjecture that corporate foundations are likelier to be observed in firms where entrenched executives have fewer institutional checks on their behavior.

4 Primary Investigation: Foundations and Payouts

We next investigate the role of corporate charitable foundations in firm payout decisions using a difference-in-difference (DD) empirical methodology. The baseline DD regression

¹⁵As noted, the establishment of firms' foundations largely precedes the beginning of our data panel, and corporate foundations are essentially never closed, which makes it uninformative to look at this relationship over time.

¹⁶Figure 1 looks very similar if Foundation is residualized using the control variables employed in table 2.

specification we estimate is

$$\text{Payouts}_{it} = \beta_0 + \beta_1 [\text{Foundation } 2002_i \times \text{JGTRRA03}_{it}] + \mathbf{X}_{it}'\boldsymbol{\gamma} + \nu_i + \psi_{st} + \varepsilon_{it} \quad (2)$$

Vector $\mathbf{X}_{it}$ denotes firm-level financial controls. Firm fixed effects ν_i control for time-invariant firm unobservables, while sector-year effects ψ_{st} control for unobserved within-year influences on payout policy for 10 broad business sectors denoted s , including sector-level economic shocks and peer effects on payouts (see Grennan 2017). ε_{it} is a residual. Standard errors are clustered by firm to adjust for heteroskedasticity and serial correlation.

β_1 is the DD estimate in the regression and represents the increase in payouts after JGTRRA03 by firms with foundations relative to those without. If corporate foundations are a sign of and vehicle for executive self-dealing, then we would expect β_1 to be negative; after the tax reform, firms with foundations will increase their payouts less than firms without foundations.

To be clear, β_1 measures a causal effect not in the sense that firms were treated with a differing change in capital tax rates, but because the importance of that rate change varied across firms, conditional on the plausible assumptions that (1) variation across firms in the structure of ownership and control, particularly, scope within the firm for managers to use funds for “pet projects” instead of distributions, implies variation in the value to management of the rate reduction, and (2) that the 2003 rate cut was exogenous to the payout policy and ownership of particular firms. Econometrically, we assume that residual terms ε_{it} are random conditional on observables, so that for generalized specification

$$P_{it} = \alpha_i + \beta T_{it} + \eta_{it},$$

where P is log payouts of firm i in period t , T is “treatment” level depending both on i ’s foundation status and timing before or after the tax rate reduction, and ν_{it} is some

idiosyncratic factor. We assume η_{it} is unassociated with T conditional on observed controls: $\eta_{it} = \mathbf{X}'_{it}\boldsymbol{\gamma} + \varepsilon_{it}$, $\mathbb{E}[\varepsilon_{it}|\mathbf{X}'_{it}] = \mathbf{X}'_{it}\boldsymbol{\gamma}$. Assuming these (plausible) conditions hold, $\hat{\beta}_1$ measures the difference between the causal effect of the 2003 tax cut on the mean firm without a charitable foundation and the mean firm with a foundation.

4.1 Baseline Regression Results

Table 3, column 1 presents estimates of specification (2) without time-varying firm financial controls. Column 2 adds time-varying firm controls to the specification. These results show that, indeed, the increase in payouts following JGTRRA03 was significantly smaller for firms with corporate foundations than those that did not have a foundation. The column 2 estimate, $\hat{\beta}_1 = -0.559$, is statistically different from zero at the 1% level. Following the 2003 reform, firms with corporate foundations increased their total payouts by about one half as much as similar firms without foundations. A back of the envelope calculation suggests that if sampled foundation firms had governance quality comparable to non-foundation firms, distributions would counterfactually have increased by more than \$700 billion per year for the 200 foundation firms in the sample.¹⁷

Table 3 about here.

To interpret this magnitude, consider that corporate philanthropy totaled \$11.4 billion for *all* corporations in 2004 (Giving USA 2016). Thus, our finding should not be construed to suggest that the lower dividends went entirely, or even primarily, to greater corporate charity. Rather, it implies that executives in foundation firms used the funds that would have been paid to shareholders were allocated to other purposes that may have included corporate philanthropy.

¹⁷For example, these 200 firms increased their total payouts from \$769 billion in 2002 to \$1020 billion in 2004, a difference of 0.283 log-points ($\ln(1020) - \ln(769) = 0.283$); a counterfactual increase of 0.563 log-points suggested by the semi-elasticity $\hat{\beta}_1 = -0.559$ implies that post-tax reform payouts of this group would instead have been $\exp(\ln(769) + 0.283 + 0.559) = 1784$, or \$764 billion more than was actually paid out.

4.2 Controlling for Executive Shareholding

As demonstrated in Chetty and Saez (2005, 2006), payout responses to JGTRRA differed by managerial ownership, so a concern is that foundation presence is simply a proxy for managerial ownership. For our first check in response to this concern, we look at the raw correlation coefficient between foundation status and executive shareholding in 2002. The correlation between these two variables is low and not statistically significant: $\rho = 0.068$, $p\text{-value}=0.419$.

Next, we include interactions of Exec. Ownership Low and Exec. Ownership High with JGTRRA03. The specification adding categories for executive shareholding are presented in table 3, column 3. Consistent with Chetty and Saez’s findings, high-shareholding firms increase payouts by substantially more than low-shareholding firms (or unobserved firms). However, the estimated effect of having a corporate foundation on payout differential is effectively unchanged.^{18,19}

5 Checks

In this section, we test for threats to identification and for alternative explanations for our findings. The results are robustly consistent with a causal effect of JGTRRA03 on payouts that differed by foundation status.

¹⁸While we prefer to divide executive shareholding into categories for ease of interpretation, our results are unchanged if implement the regression using executive ownership as a continuous variable. If anything, specifications with 2002 executive shareholding interacted as a continuous variable with the JGTRRA03 indicator make estimates of β_1 somewhat larger, with a point estimate of about -0.60 and statistically significant at the 5 percent level. However, Execucomp only reports ownership data for 145 firms in 2002, and the distribution of the variable is highly skewed (median 0.82, mean 2.8 percentage points), which means a small number of firms with high ownership drive a lot of the variation. Therefore converting this variable to categories is a more conservative approach.

¹⁹In untabulated results, we interact each of the three levels of executive shareholding with the Foundation-JGTRRA03 interaction to test whether differences in payouts changes between foundation and non-foundation firms are higher depending the level of executive shareholding. We find the difference in payouts is largest for the high-executive ownership firms, but the association between foundation status and payout behavior holds within all executive ownership groups.

5.1 Testing for Timing and Pretrends

Common threats to difference-in-difference identification strategies include confounding pretrends and spurious timing. To address potential confounding pretrends and confirm plausible effect timing, we estimate a more flexible semi-parametric DD specification:

$$\text{Payouts}_{it} = \beta_0 + \sum_{y=1998, \dots, 2001, 2003, \dots, 2012} \beta_{1y} [\text{Foundation } 2002_i \times \mathbf{1}\{t = y\}] + \mathbf{X}'_{it} \boldsymbol{\gamma} + \nu_i + \psi_{st} + \varepsilon_{it} \quad (3)$$

where instead of a single β_1 , a separate β_{1t} estimates the difference between foundation and non-foundation firms' payouts relative to the difference in comparison year 2002.

The estimated β_{1t} 's and pointwise 95-percent confidence intervals are presented graphically in figure 2. Estimates of β_{1t} in all years prior to the tax cuts are statistically indistinguishable from zero while estimates of β_{1t} in all years after the tax cut are less than zero. The results support the interpretation of our estimates as capturing a differential causal effect of JGTRRA03. No pretrend in the estimates is visible over the 1998–2002 period, and the estimates for 1998–2001 are not statistically different from 2002. For 2003, when firms would have been treated for part of the year, the point estimate is consistent with a modest differential in payouts, though not one statistically different from 2002. From there, the gap grows over time, and the gap in payout behavior is pointwise statistically different from 2002 at the 10 percent level in 2004, the 5 percent level in 2005 and 2006, and the 1 percent level thereafter.²⁰

Figure 2 about here.

The steady growth in the payout difference after 2003 likely reflects the fact that because investors heavily penalize firms that decrease dividends, once initiated firms slowly increase dividend payments over time (Michael et al. 1995). Thus, we posit dividend initiations

²⁰In Appendix B, we document that this pattern of coefficients is robust to the use of payout ratios instead of levels as the outcome variable, to the omission of time-varying firm controls from the specification, and to the use of a balanced panel of firms.

or increases in response to the 2003 tax cut compound over time creating the growing difference.

On the other hand, it is possible that the estimated effect grows over time because this analysis is attributing the effect of later relevant events to the 2003 change, for instance of tax reforms that extended the expiration of the tax rate cut through 2010 and then 2012.²¹ As a final check, we reimplement the specification in table 3 for a differenced regression from 2002 (just before passage of the law) to 2005 (when the tax rate change was implemented for the full year, including for 2004–5 fiscal years). Even in this extremely limited sample, the estimated relationship is large, negative, and statistically different from zero at the ten percent level.²²

5.2 Omitted Variable Checks

Other than differential pretrends, the primary threat to our identification strategy is that corporate foundations may be correlated with other factors *and* that these factors would mute the payout response following the tax rate cuts. For each potential confounder, we add an interaction between it and JGTRRA03 to a regression specification otherwise identical to table 3, column 3. These supplemental regressions are reported in table 4 and described in the following subsections.

Table 4 about here.

²¹These laws are the Tax Increase Prevention and Reconciliation Act of 2005 — which, despite its name, was enacted in May 2006 — and the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010.

²²This estimated relationship is

$$\Delta_{2002-5}\text{Payouts}_i = \beta_0 - 0.306 * \text{Foundation } 2002_i + \Delta_{2002-5}\mathbf{X}'_{it}\boldsymbol{\gamma} + \psi_s + \varepsilon_i \quad (4)$$

(0.182)

where the Δ_{2002-5} indicates a difference from 2002 to 2005, and other variables are as in equation (2), with the exception that taking a difference nets out time-invariant firm effects, and that looking at one difference per firm removes variation in variables over time. The sample is 495 firms with all variables observed in both 2002 and 2005. The point estimate for $\hat{\beta}_1$ is reported directly in the equation with its standard error underset in parentheses.

5.2.1 Controlling for Internal Finance Conditions

First, we consider that there may be some difference between the types of firms with foundations and those without in terms of their cash flows or investment opportunities. We reestimate our primary specification adding Cash Flow and Average Q as standalone control variables as well as interacted with JGTRRA03. Our reestimated results are presented in table 4, columns 1 and 2. We find no evidence that internal finance explains our estimated difference-in-differences effect; in both specifications, the point estimate and standard errors on our foundation-JGTRRA03 interaction are essentially the same as in table 3.²³

5.2.2 Controlling for Firm Age

Since firms that establish foundations rarely close them, the reader may be concerned that foundations do not proxy for entrenchment but for the age of the firm. In this case, foundation status would not be proxying for entrenched firm governance but rather for firm maturity. As a result, it might be that our estimates are generated by the tendency of older firms to have foundations and to have reached a level of relatively slow growth with an objective of steady, small increases in dividends (which would be reflected in a differential payout response). We test for this by including Firm Age 2002 in a further extension to the regression specification (column 3). Our point estimate is roughly half as large in magnitude as the corresponding estimate in table 3, column 3, suggesting that age of the firm may be a modest confounder; however, the smaller DD estimate is still economically important (a difference in payout of 27.3 percent) and statistically different from zero at the ten percent level conditional on firm age.

²³These results are perhaps unsurprising, since the most plausible correlates of corporate foundations and internal financial opportunities would induce firms to *increase* payouts after the reform, biasing our $\hat{\beta}_1$ towards zero. For instance, Brown et al. (2006) and Seifert et al. (2004) suggest that corporate philanthropy may be more prevalent in firms that are not cash constrained, owing either to low investment opportunities and excess free cash flows. However, because the 2003 tax cuts reduce the cost of equity financing, these firms are the least likely to need access to cheap sources of finance and should be the most likely to increase payouts following the reform. That the inclusion of these covariates does not meaningfully affect our results suggests not only that our identification assumptions hold, but that any such bias toward zero is not large.

5.2.3 Controlling for Firm Size

Another possibility is that foundation status is acting as a proxy variable for size of the firm. Larger firms are more likely to have foundations; the correlation between having a foundation in 2002 and log total assets of the firm is large and significant ($\rho = 0.390, p = 0.000$). We therefore reimplement our preferred specification adding an interaction between JGTRRA03 and Firm Size 2002. Results are presented in column 4 of table. Estimates of β_1 are essentially unchanged; if anything, once controlling for the size of the firm, foundation firms are even *more* insensitive to the 2003 tax cut relative to non-foundation firms, with point estimates of about -0.6 on the DD variable. Our estimates are not simply capturing firm size.

5.2.4 The Kitchen Sink

Specification (5) of table 4 includes all additional variables from other specifications in the regression at once. Even in this “kitchen sink” regression, our estimate of β_1 is large, negative, and statistically different from zero at the 5 percent level. Our kitchen sink estimate suggests that foundation firms increase payouts by 35 percent less than non-foundation firms after the 2003 tax cuts.

5.3 Sample Selection Checks

Even if our baseline model is well-specified, our estimates might nonetheless be biased by endogenous determinants of data observability and foundation status. We explore various concerns of this type by estimating our preferred specification using three alternative samples. Our results are presented in table 5.

Table 5 about here.

5.3.1 Exogeneity of Foundation

One potential concern is that our causal estimation is confounded by the endogenous establishment of foundations by self-dealing executives prior to the tax cut. With this in mind, we create a separate comparison of firms with and without corporate foundations as of 1982 — twenty years before the 2002 tax change, and well before almost all chief executives as of 2002 would have started their leadership positions. Using this approach, we can compare the payout decisions of executives who inherited a philanthropic apparatus from twenty years prior to those firms who either do not have foundations *or* whose foundations are established relatively recently at the time of the tax cut. To avoid a confounding comparison of old and new firms, we restrict our regression sample to 302 firms with nonmissing stock price data in the CRSP/Compustat data set as of year end 1982. The results are presented in table 5, column 1. The point estimates on the DD variable remain statistically significant and qualitatively large, only slightly closer to zero than those reported in table 3, suggesting that there is a large payout differential even when foundations are inherited suggesting foundations enable self-dealing.

5.3.2 Endogenous Exit

Specification (2) of table 5 implements our preferred specification using the Balanced Panel sample. If anything, limiting the sample in this way increases the magnitude of our estimate, eliminating concerns that the patterns we find are due an increased likelihood of bankruptcy or acquisition among foundation firms.

5.3.3 Stable Dividend Payers

As noted above, a concern is that foundation firms were more likely to pay steadily increasing dividends prior to 2003 and that continuing these payout trends may generate the differential response we estimate. To alleviate these concerns, we reestimate our preferred specification

for only the Stable Dividend sample in column 3 of table 5. Although the point estimate on the Foundation JGTRRA03 interaction is smaller, it is still negative and statistically significant at the 5% level.

5.3.4 1982 Foundations as an instrument

While we discuss our findings in section 5.3.1 in terms of sample selection, from another perspective a regression driven by foundation status in 1982 can be interpreted as the reduced form of an IV. Under this interpretation, foundations in 2002 might be correlated with payouts in more recent years to the extent that both are endogenous functions of underlying managerial self-dealing. But foundation status as of 1982 does not plausibly have an effect on shareholder payouts more than 20 years later, except to the extent that foundations *cause* differences in payout behaviors and older foundations are “bequeathed” to later generations of corporate managers.

Column 4 of table 5 investigates this interpretation formally by implementing a two-stage least-squares regression similar to that in column 1, but now using the Foundation 1982-JGTRRA as an instrument for the Foundation 2002-JGTRRA interaction. To preserve internal validity, the sample is again limited to firms that were observed in 1982. Consistent with our OLS estimations, the point estimate is very large and statistically different from zero at the 1 percent level, although the IV estimate is not statistically different from the OLS coefficient in column 1.

6 Payout Behavior at the Extensive and Intensive Margins

In order to better understand the differences in payout behavior between firms with and without foundations, we explore the effects of JGTRRA03 by foundation status at the intensive and extensive margins of firm distributions. We find that firms with foundations are both less likely to make a shareholder distribution following JGTRRA03, and that

conditional on making a distribution, they distribute less. Heterogeneity analysis reveals these associations are driven by a lower propensity of firms with foundations to initiate shareholder distributions or to make large increases in payouts.

First, we explore whether foundation firms changed their relative tendency to distribute to shareholders at the extensive margin. Table 6, column 1 reports estimates for a linear probability model analogous to table 3, column 3. Instead of log of distributions, here the dependent variable is “Payouts 0/1.” Foundation firms were 9 percentage points less likely to make a distribution following 2003 relative to similar firms without foundations.

Table 6 about here.

When we further divide the sample into firms that did and did not make shareholder distributions before 2003, we discover that this effect is asymmetric. When we consider only the 111 firms that did not make a shareholder distribution in 2002 (column 2), then within that group firms with foundations were about 22 percentage points less likely to make a shareholder distribution after the rate reduction than firms which did not have foundations. This estimate is different from zero at the 5 percent level despite the much smaller sample. On the other hand, within the sample of 390 firms that did make a distribution in 2002 (column 3), the difference in payout likelihood after 2003 between firms with and without foundations is small, not statistically different from zero, and inconsistent with a large effect; the 95 percent confidence interval on the estimate admits a difference of at most -4.1 percentage points. Firms with foundations are not more likely to *stop* making shareholder distribution, but they are less likely to *start*.

We also wish to explore whether, conditional on making a shareholder distribution, firms distribute more in the absence of a foundation. We rerun the regression reported in the third column of table 3 for a reduced sample of 390 firms with strictly positive shareholder distributions in 2002 (table 6, column 4). The differential effect of having a corporate foundation is large (0.298 log-points lower than payouts of similar non-foundation firms)

and statistically different from zero at the 5 percent level. The effect of foundations on payouts affects growth of payouts among existing payers as well likelihood of new payouts by 2002 non-payers.

To further explore this intensive margin, figure 3 plots the cumulative distribution function of log change in total payout from 2002 to 2005 for individual firms making a payout in both periods by foundation status. The solid line tracks the c.d.f. for firms with corporate foundations as of 2002, while the dashed line plots the c.d.f. for firms without foundations.

Figure 3 about here.

The comparison between the distributions is revealing; the cumulative shares of firms with relatively modest increases (a log change less than or equal to about 0.2) are essentially the same. However, firms without foundations are far more likely to implement large payout increases. At the right extreme of the distribution, 2.1 percent of firms with foundations increase payouts by a log-change greater than 3; for firms without foundations, 13.0 percent increased their distributions by at least that proportion.

We conclude that managerial aversion to a reduction, or too-slow increase, in shareholder distributions is shared by entrenched and accountable executives alike. Pet projects primarily matter to the extent that executives opt to keep excess profits within the firm rather than begin to pay distributions or to increase distributions “too” quickly. A possible explanation for this is that entrenched executives are reluctant to divert company resources to pet projects if doing so would reflect poorly on their management (*i.e.*, managers are averse to cutting payouts, or breaking a streak of annual dividend increases), but that they would prefer to keep excess earnings within the firm beyond some “good enough” rate of payout growth.

7 Other Outcomes

If foundation firms do not increase payouts as much as non-foundation firms after the tax cuts, then a natural question is, “what are they doing with the funds instead?” To explore this question, we repeat our preferred specification (table 3, specification 3) using different outcome variables designed to capture investment, executive pay, firm growth, and profitability as described in section 2.²⁴ Our results are presented table 7.

The dependent variable in column 1 is “CAPEX/PP&E” The variable captures the amount of capital investment a firm is making relative to its stock of capital. The Foundation-JGTRRA03 interaction coefficient is equal to 0.0276 and is statistically significant at the 1 percent level, meaning that foundation firms increased their capital expenditure by approximately 3 percent of their property plant and equipment relative to non-foundation firms after the tax cut. Foundation firms invested some funds that would otherwise have been paid as dividends in new capital equipment.

To examine a more holistic measure of firm growth, Chg. Assets is the dependent variable in column 2. This interaction coefficient suggests total assets of foundations firms grew 3.19% more than non-foundation firms after JGTRRA. The finding suggests reinvestment of funds (not necessarily through CAPEX) that would be paid to shareholders led to substantial total asset growth.

The dependent variables in columns 3 and 4 measure changes in executive compensation. In both specifications, the coefficient of interest is positive, indicating that executive compensation increased more at foundation firms relative to non-foundation firms after the tax cut. The increase is observed in cash compensation as well as total compensation, and so is not a function of stock market performance. Foundation firms used funds that would otherwise have been paid out to increase executive pay.

²⁴The specification differs from table 3, specification 3 by excluding ROA from the set of financial controls in columns 5 through 7 (where it is highly correlated with the dependent variable). We also omit controls for executive shareholding from specifications where the dependent variable is executive compensation.

While these specifications are consistent with self-dealing and “empire building,” the additional investment and asset growth may constitute a profitable use of corporate funds. To test between these theories, specifications (5), (6), and (7) use return on assets, return on equity, and Average Q as dependent variables. The Foundation-JGTRRA03 interaction in each of these regressions is not statistically different from zero.²⁵ These regressions cannot reject the null that foundation firms’ and non-foundation firms’ investments are equally profitable at the margin.

Table 7 about here.

8 Our Findings in the Chetty and Saez (2010) Model

Our analysis indicates (1) charitable foundations are more likely to exist in firms with high levels of managerial entrenchment, (2) firms with foundations were less likely to increase payouts after the 2003 tax cut, and (3) that these same firms increased managerial pay, investment, and grew more than non-foundation firms after 2003 but these actions did not increase their profitability. To gain additional traction in interpreting these results, we examine them through the Chetty and Saez (2010) agency model of the firm.

As noted in section 1, in the agency model, managers of established firms determine payout levels by equating their personal marginal benefit from an additional dollar of dividends and their personal marginal benefit from an additional dollar of “pet projects.” We find that when the marginal benefit from an additional dollar of dividends increases, managers in firms with foundations increase payouts by less than managers in firms without foundations. Our finding therefore suggests that each dollar allocated away from the pet project is worth more to the manager in firms with foundations than in firms without.²⁶

²⁵These estimates are robust to eliminating the financial controls which may be mechanically related to the outcomes.

²⁶We derive this result in a simplified model based on Chetty and Saez (2010) in Appendix A.

We see two potential mechanisms through which foundations can explain this difference. Both are supported by our empirical analysis.

Mechanism 1: Cost Reducing Technology

First, charitable giving (or a large portion of it) may, itself, constitute a managerial pet project. Under this assumption, a charitable foundation may be considered a technology that increases the marginal benefit of each dollar allocated to the charity from the perspective of the manager. By creating a formal administrative structure, foundations reduce the cost of large-scale charitable activity.

In section 5.3.1, we showed that differences in payout responses were driven in large part by firms with foundations that predate current management. Because these foundations are inherently unrelated to current levels of managerial entrenchment, they support the technology mechanism and thereby suggest that corporate charitable giving is a managerial perquisite.

Mechanism 2: Signal of Entrenchment

A second possibility is that foundations are a proxy for managerial entrenchment, itself. The marginal benefit of allocating funds to a pet project will inherently be much higher if managers are entrenched and face no repercussions from self-serving actions. Our preliminary analysis, which showed that corporate foundations are more likely to exist in firms with high levels of entrenchment clearly suggests that the entrenchment mechanism is also at play.

In sum, our payouts results interpreted through the Chetty and Saez (2010) agency model combined with subsidiary analyses suggest corporate foundations are a sign of and vehicle for executive self-dealing.

9 Conclusion

This paper has used a simple yet novel research design to examine the relationship between corporate foundations and payout behavior. Firms with entrenched managers are more likely to have corporate foundations. Firms with charitable foundations increased payouts by about one half as much following the 2003 tax cut as firms without foundations. While foundation firms are not more likely to end or reduce payouts, they are less likely to initiate or rapidly increasing payouts after the tax cut. This large effect on payout behavior is not explained by other potential determinants of corporate distributions, such as executive shareholding, internal finance conditions, firm age, or past payout behavior.

Based on our analysis, we conclude that corporate foundations are a signal of executive entrenchment and a vehicle that enables executive self-dealing. However, we cannot conclude that these behaviors necessarily hurt shareholders in the long-run; while foundation firms did not increase payouts to shareholders as much as non-foundation firms following the 2003 tax cut, and did increase executive compensation, foundation firms also increased capital investment and grew in ways that did not *decrease* profitability. These findings dovetail closely with those presented in Cremers et al. (2016), which suggest limited shareholder rights (*i.e.* managerial entrenchment) may serve a constructive governance function that allows management to pursue long-term wealth maximizing strategies.

This work represents a first step in a broader research agenda. Further work will quantify the importance of the corporate charitable foundation for the extent and timing of corporate charity; separately, we view this paper as a credible demonstration that corporate foundations are a signal of agency problems in the firm, and plan to use this institutional feature as a lens for viewing other corporate behaviors of interest to scholars of corporate governance and finance. Firms do not need foundations to make charitable gifts; nevertheless many firms do have foundations, a detail of institutional culture and governance that this work has shown indirectly reveals much about firms and their managers.

References

- Ballesteros, L., Useem, M., and Wry, T. (2017). Masters of disasters? An empirical analysis of how societies benefit from corporate disaster aid. *Academy of Management Journal*, 60(5):1682–1708.
- Barnard, J. W. (1997). Corporate philanthropy, executives’ pet charities and the agency problem. *New York Law School Law Review*, 41:1147–1178.
- Bebchuk, L., Cohen, A., and Ferrell, A. (2009). What matters in corporate governance? *Review of Financial Studies*, 22(2):783–827.
- Benioff, M. and Adler, C. (2007). *The Business of Changing the World: Twenty Great Leaders on Strategic Corporate Philanthropy*. McGraw-Hill, New York.
- Blouin, J., Core, J. E., and Guay, W. (2010). Have the tax benefits of debt been overestimated? *Journal of Financial Economics*, 98(2):195–213.
- Boatsman, J. and Gupta, S. (1996). Taxes and corporate charity: empirical evidence from micro-level panel data. *National Tax Journal*, 49(2):193–214.
- Brown, W. O., Helland, E., and Smith, J. K. (2006). Corporate philanthropic practices. *Journal of Corporate Finance*, 12(5):855–877.
- Card, D., Hallock, K. F., and Moretti, E. (2010). The geography of giving: The effect of corporate headquarters on local charities. *Journal of Public Economics*, 94(3–4):222–234.
- Cheng, I.-H., Hong, H. G., and Shue, K. (2016). Do managers do good with other peoples’ money? Mimeo.
- Chetty, R. and Saez, E. (2005). Dividend taxes and corporate behavior: Evidence from the 2003 dividend tax cut. *The Quarterly Journal of Economics*, 120(3):791–833.
- Chetty, R. and Saez, E. (2006). The effects of the 2003 dividend tax cut on corporate behavior: Interpreting the evidence. *The American Economic Review*, 96(2):124–129.
- Chetty, R. and Saez, E. (2010). Dividend and corporate taxation in an agency model of the firm. *American Economic Journal: Economic Policy*, 2(3):1–31.
- Clotfelter, C. T. (1985). *Federal Tax Policy and Charitable Giving*. The University of Chicago Press, Chicago.
- Compustat (2015). Wharton Research Data Services (WRDS/Compustat). [accessed April 2015].
- Cremers, K. M., Masconale, S., and Sepe, S. M. (2016). Commitment and entrenchment in corporate governance. *Northwestern University Law Review*, 110(4):727–810.

- Duquette, N. J. (2016). Do tax incentives affect charitable contributions? Evidence from public charities' reported revenues. *Journal of Public Economics*, 137:51–69.
- Edgerton, J. (2012). Agency problems in public firms: Evidence from corporate jets in leveraged buyouts. *The Journal of Finance*, 67(6):2187–2213.
- Esparza, N. (2014). Diffusion of corporate philanthropy: Economic and institutional effects on the establishment of company-sponsored foundations. Forthcoming, *Social Forces*.
- Farre-Mensa, J., Michaely, R., and Schmalz, M. (2014). Payout policy. *Annual Review of Financial Economics*, 6(1):75–134.
- Foundation Center (2014). Foundation Directory Online. Online directory. [accessed May 2014].
- Fry, L. W., Keim, G. D., and Meiners, R. E. (1982). Corporate contributions: altruistic or for-profit? *Academy of Management Journal*, 25(1):94–106.
- Godfrey, P. C., Merrill, C. B., and Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal*, 30(4):425–445.
- Grennan, J. P. (2017). Dividend payments as a response to peer influence. Mimeo.
- JCT (2005). General explantion of tax legislation enacted in the 108th congress. Technical report, Joint Committee on Taxation, U.S. Congress.
- Jensen, M. C. and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4):305–360.
- Johnson, O. (1966). Corporate philanthropy: An analysis of corporate contributions. *The Journal of Business*, 39(4):489–504.
- Kaplan, S. N. and Zingales, L. (1997). Do investment-cash flow sensitivities provide useful measures of financing constraints? *The Quarterly Journal of Economics*, 112(1):169–215.
- Lev, B., Petrovits, C., and Radhakrishnan, S. (2010). Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic Management Journal*, 31(2):182–200.
- Lilly Family School of Philanthropy, Indiana University/IUPUI (2016). *Giving USA 2016: The Annual Report on Philanthropy for the Year 2015*. Giving USA Foundation.
- Masulis, R. W. and Reza, S. W. (2014). Agency problems of corporate philanthropy. *Review of Financial Studies*, 28(2):592–636.
- Michaely, R., Thaler, R. H., and Womack, K. L. (1995). Price reactions to dividend initiations and omissions: Overreaction or drift? *The Journal of Finance*, 50(2):573–608.

- Myers, S. C. (2001). Capital structure. *The Journal of Economic Perspectives*, 15(2):81–102.
- Navarro, P. (1988). Why do corporations give to charity? *The Journal of Business*, 61(1):65–93.
- Schwartz, R. A. (1968). Corporate philanthropic contributions. *The Journal of Finance*, 23(3):479–497.
- Seifert, B., Morris, S. A., and Bartkus, B. R. (2004). Having, giving, and getting: Slack resources, corporate philanthropy, and firm financial performance. *Business & Society*, 43(2):135–161.
- Shleifer, A. and Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3, Part 1):461–488.
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, 1(1):15–29.
- Yagan, D. (2015). Capital tax reform and the real economy: The effects of the 2003 dividend tax cut. *The American Economic Review*, 105(12):3531–3563.
- Yermack, D. (2006). Flights of fancy: Corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics*, 80(1):211–242.

TABLE 1: SUMMARY STATISTICS

Variable	Obs	Mean	Std. Dev.	Min	Max
Foundation 2002	7238	.4085	.4916	0	1
Foundation 1982	4233	.2129	.4094	0	1
JGTRRA03	7238	.5799	.4936	0	1
Payouts*	7238	763.1703	2233.88	1	45026
Payouts 0/1	7238	.8389	.3676	0	1
Entrenchment Index	4644	2.3241	1.3078	0	5
Income*	7238	1410.765	4024.401	1	103052
1-MTR*	7238	.6914	.0767	.62	1
Executive Ownership 2002 unobserved	7238	.6967	.4597	0	1
Executive Ownership 2002 < median	7238	.1422	.3492	0	1
Executive Ownership 2002 > median	7238	.1405	.3475	0	1
Executive Ownership 2002 (continuous)	3259	2.0534	5.117	0	56.99
Tax Loss Carry Forward / Sales	7238	.0983	.3935	0	3.1832
Debt Ratio	7238	.4058	.9646	0	6.9329
Return on Assets	7238	.0744	.1036	-.3592	.3243
Labor Intensity	7238	.0079	.0077	0	.0459
R&D / Sales	7238	.018	.0499	0	.2551
Advertising / Sales	7238	.0079	.0198	0	.1121
Cash Flow	7069	.676	1.2899	-4.7918	6.6923
Average Q	7110	2.1388	1.5945	.8119	10.5756
Firm Age 2002	7225	24.9056	13.6693	1	40
Firm Size 2002	7089	8.6168	1.4882	4.5172	13.9083
CAPEX / PP&E	6526	.2386	.1971	.0161	1.2019
Exec. Comp. (total)	6351	.0014	.0028	0	.0218
Exec. Comp. (cash)	6355	.0003	.0005	0	.0031
Change in Assets	6672	.116	.2787	-.3604	1.6855
Return on Equity	7210	.1225	.4003	-1.9251	2.1953
1982 Sample	7238	.5848	.4928	0	1
Balanced Sample	7238	.7626	.4255	0	1
Stable Dividend Payer	7238	.2019	.4014	0	1

* Denotes winsorized, untransformed version of a variable that is winsorized and log-transformed in regression analysis.

Sources: Firm financial and Execucomp compensation data from Compustat (2015). Foundation-corporation links primarily from Foundation Center (2014). Firm marginal tax rates are from Blouin et al. (2010), made available through WRDS/Compustat.

TABLE 2: LIKELIHOOD OF CORPORATE FOUNDATION BY ENTRENCHMENT SCORE

	(1)	(2)
	Foundation	Foundation
Entrenchment Index	0.0275*** (0.00901)	0.0410** (0.0167)
Income	0.0568*** (0.00758)	0.0460*** (0.0125)
1 - Marginal Tax Rate	-0.162 (0.115)	-0.369 (0.276)
Constant	-0.128 (0.157)	-0.0425 (0.250)
Sector Effects	Yes	Yes
Firm Financials	Yes	Yes
SP 500 only	No	Yes
Observations	1138	455
R^2	0.145	0.155

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Dependent variable “Foundation” is equal to 1 if the firm has a foundation and as of 2002 and 0 if it does not. “Entrenchment Index” is a score from 0 to 6 for indicators of executive entrenchment in the firm computed by Bebchuk et al. (2009). “Income” is log of the income of the firm, censored at \$1 million. “1 - Marginal Tax Rate” is the log of the firm’s estimated cost of marginal corporate charitable giving after tax. “Sector Effects” are a vector of dummy variables for the firm’s inclusion in one of 11 GICS industrial sectors. “Firm Financials” are a set of firm controls including tax loss carry forwards, research and development, advertising as shares of total sales, debt ratio, return on assets, and labor intensity. Heteroskedasticity-robust standard errors are presented in parentheses.

Sources: Bebchuk et al. (2009); see also notes to table 1.

TABLE 3: PAYOUT BEHAVIORS OF FIRMS BY FOUNDATION STATUS

	(1) Payouts	(2) Payouts	(3) Payouts
Foundation 2002 * JGTRRA03	-0.642*** (0.155)	-0.559*** (0.136)	-0.525*** (0.133)
Income		0.173*** (0.0218)	0.170*** (0.0218)
1 - Marginal Tax Rate		-3.713*** (0.539)	-3.727*** (0.538)
Exec. Ownership Low * JGTRRA03			0.196 (0.190)
Exec. Ownership High * JGTRRA03			0.488** (0.221)
Company Effects	Yes	Yes	Yes
Sector-Year Effects	Yes	Yes	Yes
Firm Financials	No	Yes	Yes
Observations	7238	7238	7238
R^2	0.199	0.274	0.276

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Dependent variable “Payouts” is log of total dividend and share repurchase payouts plus \$1 million. “Foundation” is equal to 1 if the firm has a foundation as of year 2002 and 0 if it does not. “Income” is log of the income of the firm, censored at \$1 million. “1 - Marginal Tax Rate” is the log of the firm’s estimated cost of marginal corporate charitable giving after tax. “JGTRRA03” is equal to 1 for fiscal years with at least half of their months falling after the passage of the The Jobs and Growth Tax Relief Reconciliation Act of 2003 in May, 2003, and 0 otherwise. “Exec. Ownership Low (High)” is a dummy variable equal to 1 if the fraction of company shares owned by the chief executive is observed and above (below) the median observed value in 2002. “Sector-Year Effects” are a vector of dummy variables for the firm’s inclusion in one of 11 GICS industrial sectors interacted with year dummies. “Company Effects” are fixed effects by firm (GVKEY). “Firm Financials” are a set of firm controls including tax loss carry forwards, research and development, advertising as shares of total sales, debt ratio, return on assets, and labor intensity. Standard errors are adjusted for 520 firm-level clusters.

Sources: See notes to table 1.

TABLE 4: PAYOUT BEHAVIORS OF FIRMS: ALTERNATIVE EXPLANATIONS

	(1)	(2)	(3)	(4)	(5)
	Payouts	Payouts	Payouts	Payouts	Payouts
Foundation 2002 * JGTRRA03	-0.542*** (0.135)	-0.481*** (0.131)	-0.273* (0.143)	-0.578*** (0.138)	-0.348** (0.141)
Cash Flow	-0.240*** (0.0582)				-0.179*** (0.0578)
Cash Flow * JGTRRA03	0.200*** (0.0524)				0.106** (0.0505)
Average Q		-0.201*** (0.0403)			-0.168*** (0.0381)
Average Q * JGTRRA03		0.174*** (0.0510)			0.123** (0.0523)
Firm Age 2002 * JGTRRA03			-0.0263*** (0.00569)		-0.0315*** (0.00680)
Total assets 2002 * JGTRRA03				0.0566** (0.0277)	0.118*** (0.0364)
Company Effects	Yes	Yes	Yes	Yes	Yes
Sector-Year Effects	Yes	Yes	Yes	Yes	Yes
Firm Income and Tax Price	Yes	Yes	Yes	Yes	Yes
Executive Shareholding	Yes	Yes	Yes	Yes	Yes
Firm Financials	Yes	Yes	Yes	Yes	Yes
Observations	7069	7110	7225	7089	6793
Number of Firm Clusters	514	520	519	501	494
R^2	0.288	0.300	0.285	0.279	0.322

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: “Cash Flow” is income before extraordinary items plus depreciation and amortization divided by lagged property, plant, and equipment. “Average Q” is the ratio of the firm’s market value to book value. “Firm Age 2002” is the age of the firm as of 2002. “Total assets 2002” is log of total firm assets observed in year 2002. Other variables are described in notes to table 3. Standard errors are adjusted for firm-level clusters.

Sources: See notes to table 1.

TABLE 5: PAYOUT BEHAVIORS OF FIRMS: ALTERNATIVE SAMPLES

	OLS			2SLS
	(1) Payouts	(2) Payouts	(3) Payouts	(4) Payouts
Foundation 1982 * JGTRRA03	-0.503*** (0.165)			
Foundation 2002 * JGTRRA03		-0.589*** (0.146)	-0.386** (0.177)	-0.892*** (0.285)
Company Effects	Yes	Yes	Yes	Yes
Sector-Year Effects	Yes	Yes	Yes	Yes
Firm Income and Tax Price	Yes	Yes	Yes	Yes
Executive Shareholding	Yes	Yes	Yes	Yes
Firm Financials	Yes	Yes	Yes	Yes
Sample	1982 Firms	Balanced Panel	Stable Payers	1982 Firms
First stage F-stat				37.46
Observations	4233	5520	1461	4233
Number of Firm Clusters	302	368	103	302
R^2	0.272	0.303	0.462	0.260

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The “1982 firms” sample is limited to firms observed in 1982 stock price data. “Balanced panel” sample is limited to firms observed in every data year 1998–2012. “Stable Payers” sample is limited to firms with five consecutive years of strictly positive, nondecreasing dividend payments. “Foundation 1982” is equal to 1 if the firm’s corporate foundation exists as of 1982 and zero otherwise. Other variables are described in notes to table 3. Standard errors are adjusted for firm-level clusters.

Sources: See notes to table 1.

TABLE 6: PAYOUT BEHAVIORS AT INTENSIVE AND EXTENSIVE MARGINS

	(1)	(2)	(3)	(4)
	Payouts 0/1	Payouts 0/1	Payouts 0/1	Payouts
Foundation 2002 * JGTRRA03	-0.0907*** (0.0210)	-0.219** (0.0895)	-0.00734 (0.0170)	-0.298** (0.129)
Company Effects	Yes	Yes	Yes	Yes
Sector-Year Effects	Yes	Yes	Yes	Yes
Firm Income and Tax Price	Yes	Yes	Yes	Yes
Executive Shareholding	Yes	Yes	Yes	Yes
Firm Financials	Yes	Yes	Yes	Yes
Sample	All	Non-Payers	Payers	Payers
Observations	7238	1580	5509	5509
Number of Firm Clusters	520	111	390	390
R^2	0.115	0.384	0.0923	0.263

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Dependent variable “Payouts 0/1” is equal to 1 if dividends or share buybacks are strictly positive and zero otherwise. Other variables are described in notes to table 3. Sample “Payers” (“Non-payers”) is restricted to firms that made (did not make) strictly positive distributions in 2002. Standard errors are adjusted for firm-level clusters.

Sources: See notes to table 1.

TABLE 7: OTHER BEHAVIORS OF FIRMS BY FOUNDATION STATUS

	(1) CAPEX/PP&E	(2) Chg. Assets	(3) Exec. Comp. (total)	(4) Exec. Comp. (cash)	(5) ROA	(6) ROE	(7) Avg. Q
Foundation 2002 * JGTRRA03	0.0276** (0.0112)	0.0319** (0.0155)	0.000796*** (0.000159)	0.000116*** (0.0000249)	0.000935 (0.00413)	0.0149 (0.0208)	0.203 (0.144)
Income	-0.00309* (0.00166)	0.00459 (0.00391)	-0.0000609** (0.0000263)	-0.0000131*** (0.00000447)	0.0269*** (0.000990)	0.0499*** (0.00435)	0.0196 (0.0241)
1 - Marginal Tax Rate	-0.148*** (0.0421)	-0.374*** (0.0682)	-0.000536 (0.000629)	0.000173** (0.0000797)	-0.120*** (0.0205)	-0.180 (0.140)	0.642 (0.803)
ROA	0.280*** (0.0568)	0.330*** (0.0946)	0.00136 (0.000940)	0.000436*** (0.000138)			
Company Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Executive Shareholding	Yes	Yes	No	No	Yes	Yes	Yes
Firm Financials excl. ROA	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6526	6672	6351	6355	7238	7210	7110
Number of Firm Clusters	514	520	519	519	520	520	520
R ²	0.209	0.163	0.182	0.269	0.547	0.101	0.159

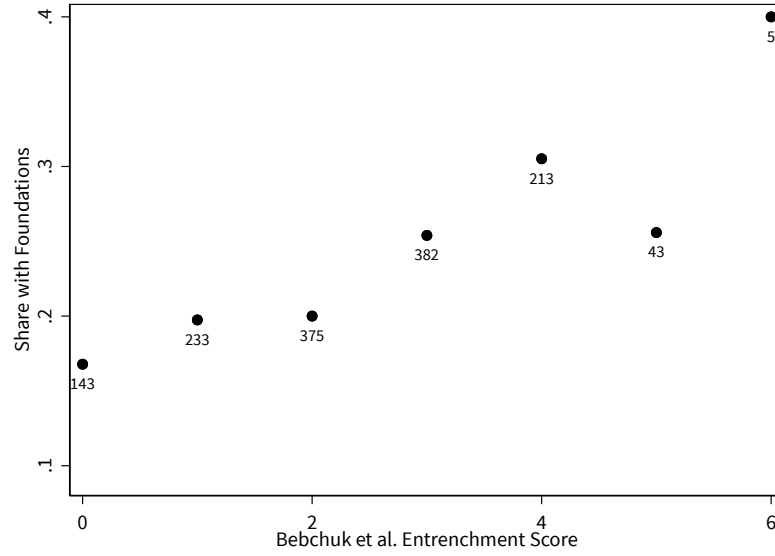
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: "CAPEX/PP&E" is capital expenditure divided by net lagged property, plant and equipment. "Exec. Comp. (total)" is average total compensation for all executive positions scaled by lagged sales. "Exec. Comp. (cash)" is average salary and bonus compensation for all executive positions scaled by lagged sales. "Chg. Assets" is the percentage change in total assets over last period. "ROA" is return on assets. "ROE" is return on equity. "Average Q" is the ratio of market value of assets to book value. Other variables are as defined in notes to table 3. Standard errors are adjusted for firm-level clusters.

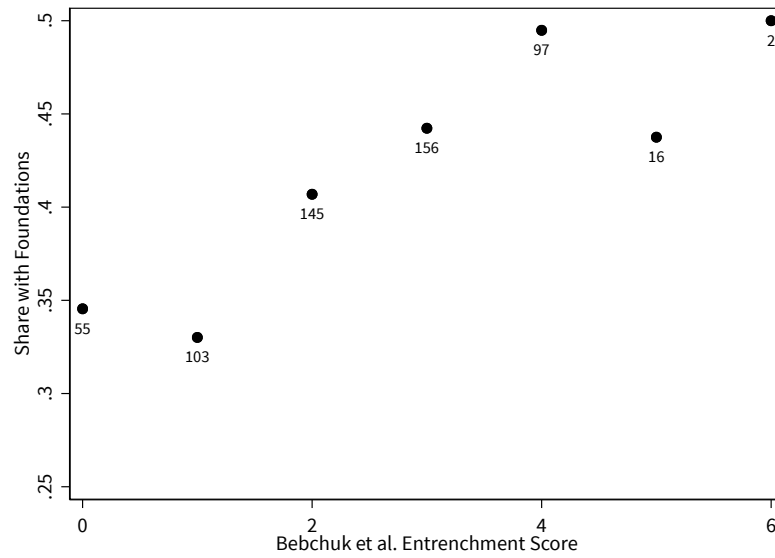
Sources: See notes to table 1.

FIGURE 1: FOUNDATIONS BY ENTRENCHMENT SCORE

A. All Firms

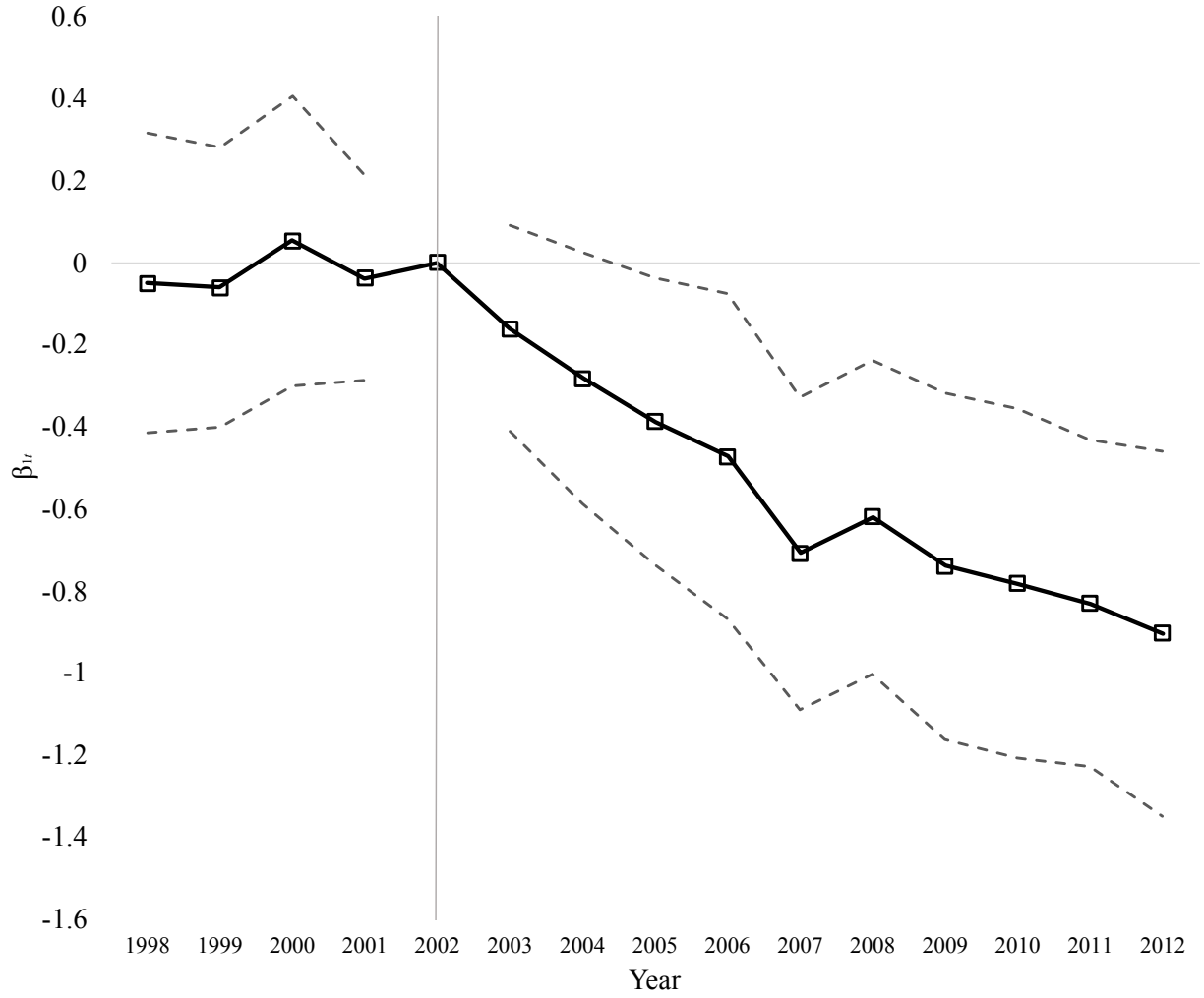


B. S&P 500 Firms



Notes: Marker labels denote number of observations. Sample is all firms observed in both WRDS/Compustat and Bebchuk et al. (2009) as of 2002. Panel B limits this set to firms in the S&P 500.
Sources: Bebchuk et al. (2009); Compustat (2015).

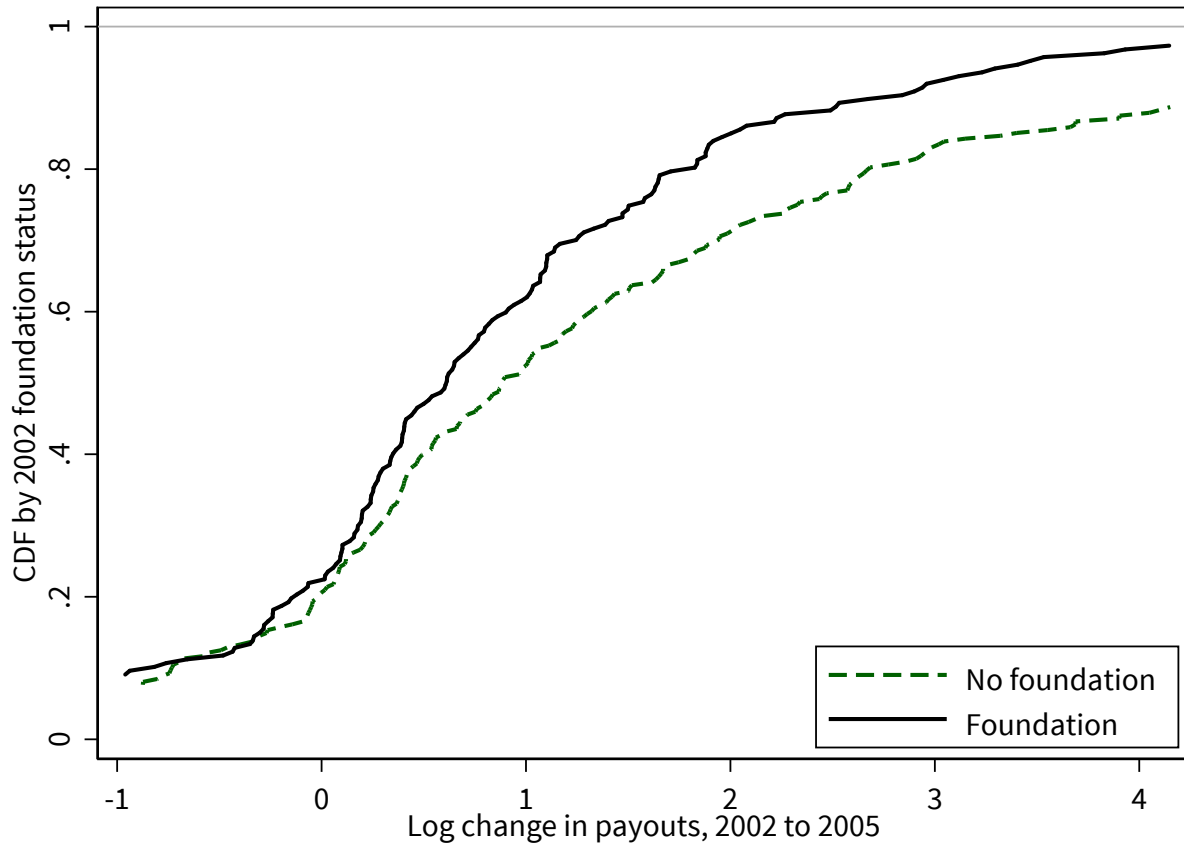
FIGURE 2: TIME-VARYING DIFFERENCES IN PAYOUT BEHAVIOR



Notes: Black squares connected by a solid black line represent point estimates of the difference between the payouts of firms with and without foundations, compared to the difference in year 2002. Dashed lines indicate pointwise 95-percent confidence intervals, adjusted for firm clustering. The vertical line indicates year 2002.

Sources: See notes to table 1.

FIGURE 3: CUMULATIVE DISTRIBUTIONS OF PAYOUT CHANGES, 2002-2005



Notes: Lines plot cumulative distributions for the log change in total payouts for two groups, firms with corporate foundations in 2002 (solid line) and those without foundations (dashed line). Firms with zero payouts in 2002 or in 2005 are not shown.

Sources: See notes to table 1.

A Foundations in an Agency Model of the Firm

This Appendix presents a simplified Agency Model of the Firm based on the Chetty and Saez (2010) model then uses the model to interpret the finding that firms with foundations increased payouts by less than firms without foundations after the 2003 JGTRRA tax rate cuts on dividend and capital gain taxes.

A.1 Preliminaries

Consider a two-period model of a firm. The firm begins period 1 with retained earnings, X . The CEO of the firm decides how to split the retained earnings between productive investments, I , unproductive pet projects, J , and dividends D , such that $D = X - I - J$.^{27,28} Tax τ_d is levied on dividend payments in all periods. Tax τ_c is levied on corporate profits. Productive investment I generates after tax net income according to the concave production function $f(I)$. In period 2, retained capital $X - D = I + J$ plus after-tax income is paid out to shareholders as a dividend. The present discounted value of profits received by the shareholders is

$$\pi = (1 - \tau_d) \left(D + \frac{(1 - \tau_c)f(I) + X - D}{1 + r} \right)$$

where r is the shareholders' discount rate.

Pet project investment J gives the CEO period 2 utility according to the concave function $g(J)/(1 + \gamma)$ where γ captures the amount of monitoring applied by active shareholders.²⁹ When the CEO is placed under no scrutiny, the CEO enjoys the full benefit of the pet project investment, $g(J)$. When $\gamma > 1$ the CEO cannot enjoy the full benefits due to shareholder scrutiny which may manifest as having to explain spending decisions to the board or facing possible job loss due to inefficient allocation of company resources.

Critically, the CEO owns fraction $\alpha (< 1)$ of the shares in the firm and thus receives fraction α of dividends from the firm.

²⁷The marginal source of finance is assumed to be retained earnings because firms with corporate foundations (and, by extension, appropriate comparison firms) are larger, older, and are more likely to pay dividends than firms without foundations.

²⁸For simplicity and for consistency with the terminology of Chetty and Saez (2010), we describe payouts as "dividends," but D may be interpreted as the sum of payouts in the form of dividends and share repurchases and τ_d may be interpreted as a weighted average of dividend and capital gains taxes.

²⁹In a more complex model, γ is endogenous. We take it as an exogenous parameter for expositional ease and because our conclusions regarding the role of foundations in the model holds regardless of its endogeneity.

A.2 CEO Optimization

The CEO chooses I and J to maximize her personal payoff composed of portion α of the after-tax present value dividends and utility from the unprofitable investment, J ;

$$\max_{I,J} \quad \alpha\pi + \frac{1}{1+r} \frac{g(J)}{1+\gamma}.$$

Assuming the firm has a sufficiently high level of retained earnings to invest in both I and J as well as pay dividends, two first order conditions hold at the optimum:

$$(1 - \tau_c)f'(I) = r \quad \text{and} \quad (5)$$

$$\frac{g'(J)}{1+\gamma} = \alpha(1 - \tau_d)r. \quad (6)$$

Condition (5) shows that the CEO directs funds to the productive investment until after tax returns are equal to the rate of return. Thus, dividend taxation does not affect productive investment. All other retained earnings are allocated to either the pet project or dividends according to Condition (6) which holds when the CEO invests in the pet project until her marginal return from the pet project is equal to her personal return earned from paying a dollar of dividends. Here, dividend taxation directly affects the level of pet project investment and dividends paid.

A.3 Responses to a Decrease in τ_d

Condition (6) governs how the firm responds to a decrease in the dividend tax rate, τ_d . Taking the partial derivative with respect to the dividend tax, τ_d , suggests how the firm reacts to 2003 dividend tax rate decrease.

$$\partial J / \partial \tau_d > 0 \quad \text{and, by extension,} \quad \partial D / \partial \tau_d < 0,$$

meaning that the tax rate decrease induces the CEO to decrease investments in the pet project and direct the additional funds to pay more period 1 dividends.

The magnitude of the dividend response to the tax cut, $\partial D / \partial \tau_d$, depends on three things. First, the dividend response is increasing in α , the share of dividends paid directly to the CEO. Second, the dividend response is increasing in γ , the amount of monitoring applied to the CEO. Third, the dividend response is decreasing in $g''(J)$, the rate at which the marginal benefit of the pet project increases in the pet project level.

A.4 Reconciling our Results with the Model

After directly controlling for α , our empirical results suggest that payouts of firms with foundations increased less than firms without foundations or that $\partial D / \partial \tau_d$ was smaller in foundation firms. Based on the discussion presented above, $\partial D / \partial \tau_d$ may be smaller because γ is smaller and/or because $g''(J)$ is larger in firms with foundations.

If pet projects are composed in large part of corporate charitable giving, then the nature of foundations may increase $g''(J)$. By creating a formal administrative structure, foundations are thought to reduce the cost of large-scale charitable activity. If large scale giving is only marginally more costly than small scale giving, then $g''(J)$ may indeed be smaller for firms with foundations.

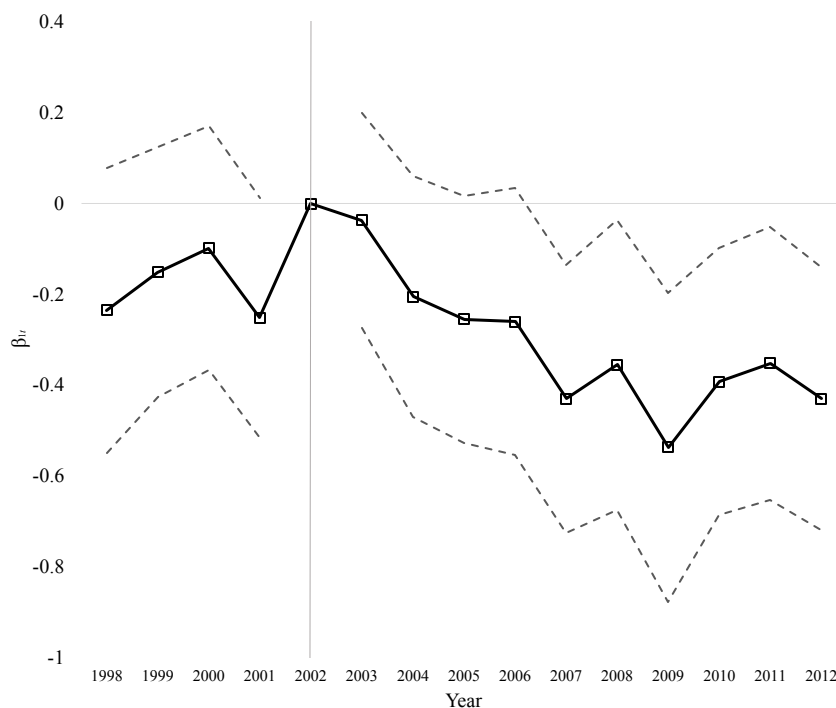
Whether pet projects are composed mostly of charitable giving or not, foundations decrease the payout response through γ . If foundations are a signal of managerial entrenchment, then scrutiny of shareholders will have no power to decrease the benefits of pet projects and γ will be effectively lower in foundations firms.

To summarize, interpreting our results through the lens of the Chetty and Saez (2010) framework, we conclude that corporate foundations are a sign of and vehicle for executive self-dealing.

B Additional Explorations of Payout Ratio Associations Over Time

This appendix reinforces the inferences drawn from time-varying regression coefficients presented in figure 2 by modifying the baseline regression upon which the figure is based. Figure B1 regresses payout-income ratio instead of log of payouts on our set of explanatory variables. Figure B2 repeats the payout regression without time-varying firm controls (panel A) and with a balanced panel of firms (panel B).

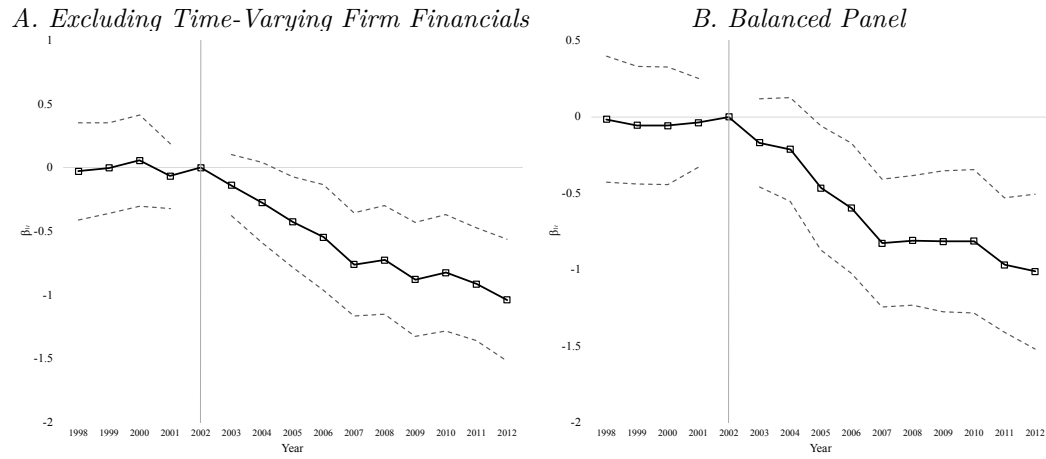
FIGURE B1: PAYOUT-INCOME RATIO, TIME-VARYING DD COEFFICIENTS



Notes: Black squares connected by a solid black line represent point estimates of the difference between the payouts-income ratios of firms with and without foundations, compared to the difference in year 2002. Dashed lines indicate pointwise 95-percent confidence intervals, adjusted for firm clustering. The vertical line indicates year 2002.

Sources: See notes to table 1.

FIGURE B2: TIME-VARYING DD REGRESSION, ALTERNATE SPECIFICATIONS



Notes: Black squares connected by a solid black line represent point estimates of the difference between the payouts of firms with and without foundations, compared to the difference in year 2002. Dashed lines indicate pointwise 95-percent confidence intervals, adjusted for firm clustering. The vertical line indicates year 2002. Panel A excludes time-varying firm financials from the specification. Panel B limits the analysis to a balanced panel of firms.

Sources: See notes to table 1.