CEO Characteristic and Corporate Disclosure

Thuy Lien Nguyen

Adelaide Business School, University of Adelaide, SA 5005, Australia

Abstract

Personal managerial altruism has a positive effect on corporate malfeasance in financial reporting. We find that firms run by CEOs with altruistic preferences, as captured by their stock donations, are less likely to commit financial fraud and exhibit lower levels of real and accrual-based earnings manipulation. These effects are more pronounced for CEOs who avoid backdating and planning around tax incentives when making stock donations. Our results are robust to several endogeneity concerns, including the potential effect of CEO turnover, and a number of alternative psychological measures of CEO altruism. Our study contributes to the literature on managerial personal pro-social behaviour by showing a key link between CEO altruism and diminishing corporate malfeasance in financial reporting.

JEL classification: D64, G30, G34, H29

Keywords: Altruism, Stock donations, Backdating, Tax-planning, Corporate fraud, Earnings management

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1. Introduction

In 2017 Americans donated 410 billion dollars to U.S. charities, an increase of 5.2% on 2016, with much of this difference driven by extraordinary and large stock donations from philanthropists who are also CEOs (Giving USA 2018)[1]. Prominent examples include; Michael Dell and his wife, who gifted 1 billion dollars of stock to their foundation; Mark Zuckerberg and his wife, who pledged to donate 99% of their Facebook stock; and Warren Buffett, who gave away 3.17 billion dollars in Berkshire Hathaway stock to charitable organisations (Reuters, July 11th 2017). This remarkable generosity is consistent with recent research showing that altruism is the primary psychological motive for donating to charity (Konrath and Handy 2018). While it is clear that these donations promote social welfare, far less is known about the relationship between personal philanthropy and the decision making of executives at a corporate level. Specifically, does the personal altruism of CEOs imply diminishing corporate malfeasance in financial reporting?

Economic theory shows that personal altruism can influence the honesty of individual decision makers (Gino et al. 2013; Gneezy 2005; Becker 1976). Human altruism is an unconditional kindness such that one is willing to sacrifice their own resources to improve the well-being of others, without concealed motives (Fehr and Fischbacher 2003; Fehr and Schmidt 2006). Altruists do care about the well-being of others, and thus they may be more sensitive to the harm that their acts can cause to others (Gneezy 2005; Gino et al. 2013). In theory, when altruistic CEOs are faced with deciding whether or not to commit corporate misdeeds, they should place added weigh on the benefits of their decisions for firms, shareholders and stakeholders other than themselves. They might therefore also be less likely to 'cook the books' or manipulate corporate earnings – something which is beneficial for executives but comes at

[1]Giving USA 2018: The Annual reporting on Philanthropy for the Year 2017, released on 12th June 2018

the expense of long-term shareholder value and future firm operating performance (Graham et al. 2005; Gunny 2005; Haynes et al. 2015; Bhojraj et al. 2009).

In contrast, greedy or selfish CEOs are more likely to act dishonestly whenever they can extract benefits from their actions, even if they harm others (Haynes et al. 2015; Takacs Haynes et al. 2017). Egoistic CEOs are also more likely to act opportunistically or unethically, and are more likely to commit corporate malfeasance, especially if they have a track record of personal indiscretions (Biggerstaff et al. 2015; Cline et al. 2017). These characteristics distinguish egoistic from altruistic CEOs and imply that the likelihood of engaging in corporate financial reporting malfeasance is contingent upon the costs to long-term firm performance and stakeholder well-being.

Schipper (1989) defines earnings management as "*a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain*". The most aggressive form of earnings management, which clearly violates the generally accepted accounting principles (GAAP), is corporate fraud. Prior studies show that corporate financial fraud is associated with increased firm cost of capital (Dechow et al. 1996), greater risk of litigation losses (Bonner et al. 1998), and damaged firm reputation (Cline et al. 2017). Corporate malfeasance in financial reporting can also take other, less severe, forms. For instance, CEOs can manipulate firm earnings based on real activities or by using accrual-based earning management, both of which can also increase the risk of losses in firm value. Gunny (2005) finds that real activities geared at manipulating earnings have an economically significant and negative impact on subsequent firm operating performance, while Bhojraj et al. (2009) show that firms using accrual-based earnings management sacrifice future firm operating and stock performance to beat short-term analyst forecasts. In addition, prior research also shows that accrual-based earning management increases the risk of audit and other regulatory scrutiny (Cohen et al. 2008; Graham et al. 2005; Zang 2012), and that corporate

financial misstatement harms shareholders via substantial litigation losses (Bonner et al. 1998; Palmrose and Scholz 2004).

We sort corporate malfeasance in financial reporting from most serious (corporate fraud), to immediate (real activities manipulation), to least serious (accrual-based earnings management), based on the costs and associated risks of each form of earnings manipulation. Given the significant repercussions of all three malfeasance levels for firm performance, shareholder wealth, and the well-being of stakeholders, we hypothesize that firms with altruistic CEOs will be less likely to commit fraud, and will also be less likely to engage in real activities and accrual-based earnings management relative to firms with non-altruistic CEOs.

To address our hypothesized CEO-altruism effect, we use CEO personal stock donations as a proxy for CEO altruism because donating stocks to charity is a type of giving that is motivated by human altruism (Konrath and Handy 2018). Our sample consists of 32,741 stock donations from 4,014 unique CEOs listed on the Thomson Reuters Insider Trading database between 1996 and 2016. Since we are interested in the effect of CEO altruism on corporate financial reporting malfeasance, we use two main data sources to compute our dependent variables. First, we extract data on accounting fraud from the SEC's series of published *Accounting and Auditing Enforcement Releases* (AAERs).[2] Second, we use COMPUSTAT to capture earnings manipulation, including both real activities management and discretionary accruals (Kim et al. 2012; Dechow et al. 1995; Roychowdhury 2006). Our study also relies on control variables including firm characteristics, corporate governance measures, and executive incentives, all of which are extracted from COMPUSTAT, 13f filings, RiskMetrics, EXECUCOMP and Marquis Who's who.

[2] The SEC takes enforcement actions again corporations and corporate executives, auditors and other insiders involved in violations of SEC and federal rules. The SEC reviews the financial statements of public firms each year and assesses firm compliance with GAAP. At the completion of a significant investigation involving accounting or auditing misconduct, the SEC issues an AAER.

Motivated by prior research on CEO backdating of stock gifts (Yermack 2009; Avci et al. 2016; Ghosh and Harjoto 2011; Jung and Park 2009), our empirical analyses show that CEO stock donations can present various degrees of an executive's personal altruism. Specifically, the stock donations of CEOs who intentionally time their endowments to maximize their tax deductions demonstrate less altruistic behavior relative to stock donations by CEOs who do not time their endowments. We argue that CEOs who make stock donations without self-interested fiscal preferences (i.e. without backdating or tax based timing of donations) demonstrate stronger altruism. Following our first hypothesis, we hypothesize that CEOs with higher levels of altruism will be associated with greater declines in all three levels of corporate financial reporting malfeasance.

Our univariate results examine corporate financial reporting malfeasance against dummies for CEO donations, CEO backdating, and CEO tax planning incentives. These initial results are in line with our hypotheses and suggest that firms with CEOs who donate stock, without backdating and without acting according to tax incentives, are less likely to be the subject of SEC AAERs and have lower average values of abnormal accruals and abnormal real activities management, relative to firms without altruistic CEOs.

To better examine our hypotheses, we use panel regression models of corporate financial malfeasance as a function of CEO personal altruism. Our regression results also indicate that managerial altruism is associated with lower financial reporting malfeasance, after controlling for industry and year fixed effects, as well as firm and CEO characteristics. Specifically, we estimate that the probabilities of fraud, real activities and discretionary accrual-based earnings management each decrease by about 41.3%, 14.0% and 13.9%, respectively, when the number of times a CEO donates stock increases by one standard deviation. Second, we find evidence of an economic effect from higher levels of altruism, as captured through CEOs avoiding backdating and tax planning incentives. On average, firms with more altruistic CEOs, display probabilities of fraud, real activities and discretionary accrual-based earnings management

which are about 58.1%, 90.7% and 87.4% lower than those of firms with less altruistic CEOs who do not donate stock or who make self-interested donations.

Our findings are consistent both when using a dummy or a ratio measure of CEO stock donations. In addition, we also use a dummy based on the number of humanitarian awards received as an alternative proxy for CEO personal altruism. Data for this are collected from the Marquis Who's Who database. We reach similar conclusions when we use this measure to proxy for CEO altruism. Furthermore, our results also remain consistent when we examine the effect of CEO altruism on corporate malfeasance in the context of the readability of annual financial reports that top managers can use complex disclosure to hide information from investors.

One concern is that our results might be endogenously determined. First, the omission of unobservable characteristics can increase the risk of spurious correlation between CEO altruism and corporate financial reporting malfeasance. To address this issue, we control for time-invariant firm-specific characteristics. In this analysis, our sample includes only firms which experience a CEO turnover, and specifically those firms which go from having a more altruistic CEO to a less altruistic CEO, or vice versa. We use data on CEO turnovers from the EXECUCOMP database. We find that firms run by altruistic CEOs (i.e. those more likely to donate stock), on average, have a 2.6% lower probability of fraud, and 4.7% and 16.3% lower probabilities of using real activities and discretionary accruals, respectively. These results hold while we control for differences in firm characteristics, corporate governance variables, and CEO incentives, as well as when we include industry, firm and year fixed effects. Admittedly, we recognize that we cannot control for all potential relevant CEO characteristics, and also that these can change due to CEO transitions.

Our firm effects regressions on the sample of transitioning CEOs are not sufficient to address the possibility of selection bias among CEOs who experience a turnover. To address this concern, we use propensity score matching estimations for firms experiencing a turnover

from a non-altruistic CEO to an altruistic CEO. We match these firms with control firms which are run by non-altruistic CEOs during the entire sample period. In the post-CEO turnover period, firms transitioning from non-altruistic to altruistic CEOs experience 37.4% lower average accruals management relative to control firms without a transition. The change in accruals management of the post-CEO turnover cohort is statistically significant and 174.2% lower than that of the pre-CEO turnover group. Similar conclusions are obtained when we examine changes in the probabilities of fraud and real activities manipulation for the sample of transition firms.

Finally, endogeneity in our initial estimations might be driven by correlation between our measure of CEO altruism and the error term in our models. To address this concern, we use two-stage least squares (2SLS) regressions with a binary endogenous variable of CEO stock donations and a binary instrument variable (IV) for CEOs who engage in child-caregiving activities. Data for this is again collected from the Marquis Who's Who database. To select our IV we follow the attachment theory of Ainsworth et al. (1978) and Bowlby (1982), which argues that altruistic behaviour can be defined as caregiving, support, and protection for dependent others, in response to their needs, and especially for infants and young children. Theoretically, our IV meets the relevancy condition because it is correlated with personal altruistic behaviours (Bowlby 1982; Ainsworth et al. 1978; Mikulincer et al. 2005), and also satisfies the exclusion condition because there is no reason to think that managerial influence on corporate financial reporting will lead to changes in involvement with voluntary caregiving to children. The results from our 2SLS estimations continue to show a statistically significant negative effect of CEO altruism on corporate financial malfeasance.

Our research contributes to three streams of literature. The first examines prosocial preferences in terms of their related outcomes on social and economic activity (Ackert et al. 2006; Anderhub et al. 2001; Riedl and Tyran 2005; Tyran 2004; Anderhub et al. 2002; Cabrales and Charness 2000; Fehr and Rockenbach 2003; Fehr and List 2004), and corporate

performance and portfolio choice (Haynes et al. 2015; Riedl and Smeets 2013). Much of this research uses laboratory or field data on generalised types of other-regarding preferences rather than altruism as measured by significant acts of financial philanthropy. As far as we know, our study is the first to empirically investigate the effect of personal managerial altruism on corporate decision making in the context of financial reporting malfeasance.

The second literature steam studies how senior management uses personal managerial caring to set organisational tone and to influence corporate decision making. Cronqvist and Yu (2017) find a positive association between CEO prosocial preferences and corporate social responsibility when CEOs have daughters. Although we also examine personal prosocial effect, our study provides novel evidence on the influence of CEO altruism on diminishing corporate malfeasance in financial reporting, after controlling for the prosocial effects of female socialisation captured by CEOs having daughters (Cronqvist and Yu 2017).

The third literature stream explores the 'dark-side' effect of personal managerial traits on corporate financial reporting misconduct. Prior studies focus on misdeeds revealed in personal lives of executives, including legal infractions (Davidson et al. 2015); allegations of dishonesty, substance abuse, sexual misadventure, and violence (Cline et al. 2017); as well as marital infidelity (Griffin et al. 2017). In contrast, our study focuses on the benefits of having altruistic CEOs who are associated with reduced corporate misdeeds in financial reporting. Further, our research is the first to differentiate between the beneficial effects of personal and corporate philanthropy in minimizing corporate financial malfeasance.

The remainder of the paper is organized as follows. Section 2 outlines the underlying theoretical framework of utility-maximizing altruistic executives and develops our CEO-altruism effect hypotheses. Section 3 describes the data, sample construction and summary statistics. Section 4 presents univariate and multivariate analyses which investigate the effect of CEO altruism on corporate financial malfeasance, and further reports the results of our robustness checks. Section 5 concludes.

2. Theoretical and hypothesis development

We present a simple theoretical framework modelling a utility-maximizing function of a CEO with altruistic preferences in the context of his decision making to manipulate corporate earnings. To illustrate, we assume that a representative executive can engage in earnings management *(e)* to generate private benefits[3] *B(e)*, where *B(e)* is an increasing function such that $\frac{dB(e)}{de} > 0$ and $\frac{d^2B(e)}{de^2} < 0$. However, corporate misdeeds in the reporting of earnings can reduce the well-being of stakeholders and shareholders, denoted *S(e)*, where *S(e)* is a decreasing function and $\frac{dS(e)}{de} < 0$. To the extent that executives cannot commit corporate misdeeds without impunity, earnings manipulation also imposes potential costs to firms, corporate managers, and stakeholders[4], which we denote *C(e)*, where *C(e)* is an increasing function such that $\frac{dC(e)}{de} > 0$ and $\frac{d^2C(e)}{de^2} > 0$. The standard utility function of CEO_i is:

$$U_i = B(e) + \alpha_i S(e) - C(e) \qquad (\mathbf{1})$$

where U_i is the utility of CEO_i and α is the degree of personal altruism of CEO_i. We assume that α_i is constant and that $0 \leq \alpha_i \leq +\infty$ such that a CEO_i either has no altruistic preferences ($\alpha_i = 0$), or altruistic preferences ($\alpha_i > 0$), represented in their utility function. The utility-maximising function of CEO_i can then be described by taking the first-order derivative of function (1):

$$\frac{dU_i}{de} = \frac{dB(e)}{de} + \alpha_i \frac{dS(e)}{de} - \frac{dC(e)}{de} = 0 \qquad (\mathbf{2})$$

[3] These benefits include increased equity-based incentive compensation (Bergstresser and Philippon 2006; Burns and Kedia 2006; Cornett et al. 2008; Efendi et al. 2007; Cheng and Warfield 2005), increased insider stock trading benefits (Beneish and Vargus 2002; Bergstresser and Philippon 2006; Collins and Hribar 2000; Sloan 2005), and boosting operational flexibility and managerial control power (DeFond and Jiambalvo 1994; Sweeney 1994).

[4] The potential costs of earnings management include forced CEO turnover (Hazarika et al. 2012), transparency costs to shareholders (Leuz et al. 2003), increased costs of external financing (Dechow et al. 1996), higher risk of auditor and regulatory scrutiny, and corporate ligation losses (Graham et al. 2005; Palmrose and Scholz 2004; Zang 2012; Bonner et al. 1998; Cohen et al. 2008).

Proposition 1: CEOs with altruistic personal preferences will be less likely to manipulate firm earnings than CEOs with no altruistic preferences.

Proof. From **(2)**, if $\alpha_i = 0$, then $\frac{dB(e)}{de} = \frac{dC(e)}{de}$; $\forall e$ **(3a)**; and if $\alpha > 0$, then $\frac{dB(e)}{de} + \alpha_i \frac{dS(e)}{de} < \frac{dC(e)}{de}$; $\forall e$ **(3b)**. From **(3a)** and **(3b)**, we have $\boldsymbol{e^*_{\alpha_i > 0}} < \boldsymbol{e^{**}_{\alpha_i = 0}}$. This implies that to maximize the utility of engaging in earnings management, altruistic CEOs, who cares about the well-being of stakeholders, will manipulate earnings less than non-altruistic CEOs, who does not care about the well-being of stakeholders.

Proposition 2: Altruistic CEOs with higher levels of altruism will manipulate reported earnings less than altruistic CEOs who have lower levels of altruism.

Proof. By the implicit function theorem, if we take the derivative of *e* with respect to α, and that of α with respect to *e*, **(2)** can therefore be described by totally differentiating the implicit function $\left(\frac{d^2B(e)}{de^2} + \alpha_i \frac{d^2S(e)}{de^2} - \frac{d^2C(e)}{de^2}\right) de + \frac{dS(e)}{de} d\alpha = 0$ This gives the function $\frac{de}{d\alpha} = -\frac{\frac{dS(e)}{de}}{\left(\frac{d^2B(e)}{de^2} + \alpha_i \frac{d^2S(e)}{de^2} - \frac{d^2C(e)}{de^2}\right)}$ that results in $\frac{de}{d\alpha} < 0$ **(4)**.This theoretical framework thus implies that earnings manipulation is negatively associated with the personal altruism of CEOs. In other words, altruistic CEOs with higher levels of personal altruism will manipulate reported earnings less than altruistic CEOs with lower levels of personal altruism.

2.1. CEO personal characteristics and financial reporting

Research on the effects of top executives' personal characteristics on corporate-level decision outcomes was largely limited until Hambrick and Mason (1984) developed Upper Echelons Theory. This theory suggests that personal managerial characteristics affect how top executives assess and interpret the situations they face, and that this can leads their decision making at a corporate level (Hambrick 2007; Hambrick and Mason 1984). Consistent with the theory, prior empirical studies show that managerial fixed effects have an impact on corporate decisions and performance (Bertrand and Schoar 2003; Fee et al. 2013), and on ethics in

financial reporting (Ge et al. 2011; Bamber et al. 2010; Brochet et al. 2011; Dejong and Ling 2013; Dyreng et al. 2010).

Other studies take significant steps toward showing the effect of specific managerial styles, rather than merely managerial fixed effects, on corporate decisions and policies. These studies report significant associations between CEO overconfidence and corporate investment and financing decisions (Malmendier and Tate 2005, 2008; Malmendier et al. 2011), CEO optimism and corporate investment and cash holdings policies (Huang-Meier et al. 2016; Campbell et al. 2011; Davis et al. 2015; Lin et al. 2005; Langabeer and DelliFraine 2011), and CEO perquisite and professional abilities and corporate performance and financial policies (Kaplan et al. 2012; Custódio and Metzger 2014; Yermack 2006). Moreover, previous studies also show behavioural consistencies between personal executive risk-taking experience and corporate risk (Malmendier and Nagel 2011; Cain and McKeon 2016; Benmelech and Frydman 2015), and CEO personal debt and corporate leverage (Cronqvist et al. 2012).

Prior research also finds evidence linking the personal characteristics of executives to corporate financial reporting practices. Some examples are the relation between CEO overconfidence and overstated earnings (Schrand and Zechman 2012), CEO facial masculinity and financial misreporting (Jia et al. 2014), and CEO military experience and corporate tax avoidance and financial fraud (Benmelech and Frydman 2015; Law and Mills 2013). Finally, some recent studies have linked executives' personal misdeeds (i.e. allegations of dishonesty, legal infractions, criminal conduct and marital infidelity) to corporate financial misconduct and performance (Davidson et al. 2015; Cline et al. 2017; Griffin et al. 2017).

2.2. CEO personal altruistic behaviour and corporate malfeasance in financial reporting

Our study also builds on the social psychology literature that describes personal altruism as a prosocial behaviour – any behaviour which increases the welfare of others without a direct benefit to the person who performs it (Dovidio et al. 2017; Penner et al. 2005; Ariely et al. 2009). Prior research in social biology shows that there are areas of the human brain which are

responsible for empathy, altruism and helping (Lieberman 2010), that in turn directly affect individuals' cognitive decision processes. However, personal altruism can be more pronounced for some individuals, in part because of their biological nature and in part due to social learning from other people (Batson 2011). We therefore expect that differences in the altruistic preferences of CEOs will lead to differences in terms of decision outcomes via changes in the cognitive process. In contrast to this, Becker (1968) suggests that the decision to commit fraud is the outcome of personal cost-benefit analyses. However, in the presence of altruistic preferences in the cognitive process, CEOs should consider not only their own costs and benefits, but also the well-being of other firm stakeholders.

With respect to the trade-off between the costs and benefits of financial malfeasance, prior research suggests that corporate malfeasance including accounting fraud and earnings manipulations, purposely benefits a minority of shareholders and top managers at the expense of firms and the majority of other stakeholders.[5] In addition, CEOs who behave altruistically are more likely to experience greater emotional costs from committing fraud. Indeed, in order to optimize their utility, altruistic CEOs will be less likely to commit corporate misdeeds where the costs to others outweigh any benefits. Thus, our first hypothesis is:

H1: Firms with altruistic CEOs are less likely to engage in corporate financial reporting malfeasance.

Specifically, conditional on the degree to which altruism can affect corporate malfeasance, we hypothesize:

H1a: Firms with altruistic CEOs are less likely to commit fraud.

H1b: Firms with altruistic CEOs are less likely to undertake real activities to manipulate corporate earnings.

[5] See references in footnote 4.

H1c: Firms with altruistic CEOs are less likely to engage in accrual-based earnings manipulation.

2.3. Level of personal managerial altruism reflected in CEO stock donations

Prior research on charitable giving indicates that the tax considerations of charitable donations are relevant to donors (Auten et al. 2002; Randolph 1995). For example, Auten et al. (2002) show that tax reform and changes in the relevant tax treatment of donations significantly affect the level of giving. Moreover, Randolph (1995) finds that donors may time their gifts in order to maximize deductions when tax rates are high.

Other research also shows that firm executives can backdate their stock donations to maximize their personal tax deductions (Avci et al. 2016; Ghosh and Harjoto 2011; Yermack 2009). Backdating involves CEOs retrospectively selecting their firm's highest historical stock price date as their gift date,[6] and implies that such stock donations are reported with delays.[7] The greater the time elapsed between the gift and filing dates, the greater the opportunity for CEOs to backdate their donation (Yermack 2009). To the extent that CEOs cannot gain tax benefits from backdating without impunity, backdated stock donations can be recognized by shareholders as a signal of managers with self-interested, rather than purely altruistic, incentives. For example, Ghosh and Harjoto (2011) find that shareholders react more negatively to donations that are announced later rather than earlier on in the year. Thus, CEOs making backdated stock donations demonstrate less altruism than CEOs who do not.

Given the heterogeneity in stock donations, we further argue that, in addition to donation backdating, other tax-based incentives around the timing of stock donations can also provide insight into the motivations of philanthropic CEOs. Specifically, in the U.S. personal annual

[6] Gift date refers to the date reported in the SEC filing Form 4 in which a corporate insider (such as a CEO) gifts stock. Gift dates are different to filing dates – where a filing date is the date a corporate insider (such as a CEO) reports filing a Form 4 and submits it to the SEC. Filing dates must occur after a gift date. Donated stock transactions are only effective once the SEC receives a Form 4.

[7] The SEC requires that insiders report their stock gifts within 45 days of fiscal year end for the period in which stock is donated.

tax liabilities manifest in December. This is an ideal time for executives with tax planning incentives to donate stocks. We draw on the limited-capacity theory of attention, which suggests that humans are cognitively limited when processing information (Posner and Snyder 2004; Engle and Kane 2004), to argue that CEOs will not be able to focus on tax planning at all times. Instead, we expect that CEOs will pay greater attention to their tax affairs during the peak of the December tax season. Therefore, stock donations made around tax time can be interpreted as being driven at least in part by managerial self-interest. We characterize CEOs who make stock donations in line with their personal taxation interests as less altruistic than CEOs who do not. Thus, our second hypothesis is:

H2: Firms with altruistic CEOs who donate stocks without personal financial motives have a lower probability of corporate financial reporting malfeasance.

And, dependent on the degree to which it can impact corporate malfeasance:

H2a: Firms with altruistic CEOs who donate stocks without personal financial motives are less likely to commit fraud.

H2b: Firms with altruistic CEOs who donate stocks without personal financial motives are less likely to undertake real activities to manipulate corporate earnings.

H2c: Firms with altruistic CEOs who donate stocks without personal financial motives are less likely to engage in accrual-based earnings manipulation.

3. Data, sample construction and summary statistics

3.1. CEO stock donations

The identification of personal altruism is not straightforward. Limited information on the personal behaviours of CEOs and insufficient data on the psychological factors related to personal managerial altruism make it challenging to empirically identify and completely measure personal managerial altruism. To overcome these issues, we use CEO personal stock donations as a proxy for CEO altruism because donating stocks to charities is a type of

charitable giving that is motivated by human altruism (Konrath and Handy 2018) in order to contribute good works to society (Yermack 2009; Avci et al. 2016). Further, it is also feasible to access data on managerial stock donations through U.S. SEC Form 4 filings. Another advantage is that CEO personal stock donations are, by definition, distinct from corporate charitable contributions, thereby allowing us to examine the effect of managerial altruism, separate from the effect of corporate charitable culture, on corporate financial disclosure malfeasance.

Gifts of stock made by corporate CEOs are required to be publicly reported to the SEC either via Form 4 or Form 5 filings. Since the Sarbanes-Oxley Act in 2002, the SEC requires disclosures of open market sales and purchases on Form 4 filings within two business days of the transaction. However, older disclosure rules continue to apply to Form 5 for bona fide gifts of stock, such that the SEC allows filing to be submitted up to 45 days after the end of the company's fiscal year.

We collect data on stock donations by corporate CEOs from the Thomson Financial Insider Trading database between 1996 and 2016 (TFN insider filing data).[8] This data is compiled from the Form 4 and Form 5 SEC filings of corporate insiders. Since we are interested in stock donations by CEOs, we retrieve all transactions by way of gift (transaction code G) made by insiders who list one of their job titles as CEO (rolecode = CEO). We exclude observations that Thomson indicates are problematic or unable to be cleaned because of missing, invalid or inconsistent data. Following Yermack (2009), we exclude gifts of securities other than common stock (e.g. preferred stock or warrants). To avoid double-counting donations, we also drop duplicated observations of gifts which are reported more than once. Moreover, to reduce the heterogeneity in the CEO-altruism effect caused by a firm having multiple CEOs in a single fiscal year, we exclude a small number of observations where firms had more than one CEO

[8] To avoid missing data and sample selection bias when merging data on stock donations with other data used in our empirical analysis, we choose 1996 as the first year we look at, since data on corporate governance variables from the ISS (formerly Risk Metrics) database is only available from 1996.

donate stock during a year. This filtering leaves us with 32,741 unique stock donations from 4,014 unique CEOs between 1996 and 2016. Using this sample, we then generate three measures of CEO stock donations. First, we create a dummy of stock donations (*DumDonate*) that equals one if a CEO made a stock donation during a calendar year, and zero otherwise. Second, we use a continuous variable which captures the total number of CEO stock donations (*#Donate*) in a given year. Finally, we calculate the ratio of shares donated to total shares owned in the firm (*DonateRatio*).

Following Yermack (2009), we capture potential backdating of stock gifts by looking at the number of days elapsed between the reported gift date and its SEC filing date. Longer reporting delays allow CEOs to select from larger sets of dates for backdating purposes (Yermack 2009; Avci et al. 2016; Ghosh and Harjoto 2011). Moreover, prior studies show that reporting time lags can vary from short delays of three to twenty days, to long delays of more than twenty days (Avci et al. 2016), up to until the next calendar year (Yermack 2009). We thus use a strict criterion and define CEOs as less likely to backdate when their donation is within two trading days of the filing date. For CEOs with one or more donations in a year, we calculate *NonBackdate*, a dummy equal to one only if all stock donations in that year are non-backdated (i.e. SEC filing is within two trading days of the donation date).[9]

To capture CEO tax planning incentives, we develop a dummy for whether SEC filings occur during the off-peak period in the U.S. federal tax season. This covers all time periods except the period from the 1st of December to the 15th of April of the next calendar year. In keeping with our approach for CEOs who make more than one stock donation in a year, we calculate *NonTaxplanning* as a dummy equal to one for CEOs who have all of their stock donations filed outside of the peak tax season, and zero otherwise.

[9] Our results are also significant and consistent when we use two other criteria for calculating *NonBackdate*, including (1) when CEOs have more than 50 percent non-backdated donations, or (2) when CEOs have at least one non-backdated donation in a calendar year.

3.2. Levels of corporate malfeasance in financial reporting

We first consider fraud – the most aggressive form of earnings management which violates the GAAP. Following Dechow et al. (2011), we extract data on accounting fraud from the SEC's series of published AAERs. AAERs represent cases where the SEC has sufficient evidence of accounting or auditing misconduct against firms and corporate executives. We initially collect a sample of 1,327 AAERs, on 506 unique firms, released between 1996 and 2016. We then drop firms with missing GVKEY and inconsistent reporting periods, leaving us with 905 AAERs on 347 distinct firms in our final sample.

Second, we look at real activities manipulation – purposeful managerial actions directed at operational activities which create abnormal changes in operational cash flow (OCF) (Roychowdhury 2006; Zang 2012). Roychowdhury (2006) shows that CEOs can influence reported earnings by manipulating sales, overproduction, or by cutting discretionary expenditures. These activities potentially impose greater long-term costs on certain shareholders because they can negatively affect future cash flows and may hurt long-term firm performance (Roychowdhury 2006; Chi et al. 2011). Following Roychowdhury (2006), Cohen et al. (2008), and Cohen and Zarowin (2010), we use three proxies of real activities management, including abnormal OCF, abnormal discretionary expenditures, and abnormal production costs. To capture the overall effect, we sum the absolute values of all abnormal real activities to create an aggregate measure of real earnings management which reflects attempts to alter earnings in both positive and negative directions (Cohen et al. 2008; Kim et al. 2012; Chi et al. 2011).

Data to estimate our proxies of real activities management are from the COMPUSTAT database. We drop firms from the financial and utilities industries, and we require at least ten observations in each industry-year grouping for our regressions. To eliminate extreme observations, we also winsorize all measures of real earnings management at the top and bottom 1%. Following Roychowdhury (2006) and Cohen et al. (2008), we measure abnormal

OCF, discretionary expenses and production costs as the residuals from the following two-digit SIC cross-sectional industry regressions:

$$\frac{OCF_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \epsilon_{i,t} \quad (\mathbf{5})$$

where $OCF_{i,t}$ is operational cash flow of firm *i* in year *t* (annual COMPUSTAT data item 308); $A_{i,t-1}$ is total assets in year *t-1* (data item 6); $REV_{i,t}$ is year *t* sales (data item 12); and $\Delta REV_{i,t}$ is the change in sales from year *t-1* to year *t*;

$$\frac{Prod_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{\Delta REV_{i,t-1}}{A_{i,t-1}} + \epsilon_{i,t} \quad (\mathbf{6})$$

where $Prod_{i,t}$ are production costs, defined as the sum of cost of goods sold (data item 41) and change in inventory in year *t* (data item 3);

$$\frac{DISX_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{REV_{i,t}}{A_{i,t-1}} + \epsilon_{i,t} \quad (\mathbf{7})$$

where $DISX_{i,t}$ are discretionary expenses in year *t*, defined as the sum of advertising expenses (data item 45), R&D expenses (data item 46) and SG&A expense (data item 189).

Abnormal OCF, abnormal discretionary expenses, and abnormal production costs are computed as the differences between the actual values and the levels predicted by equations (5) to (7), respectively. The aggregate measure of real activities management (*RealActMan*) is the sum of the absolute values of all three abnormal real activities.

Third, we look at accrual-based earnings management – achieved when executives change the accounting methods or estimates within GAAP choices used to represent underlying firm activities (Zang 2012). Income data on firms is again extracted from the COMPUSTAT database. We use the cross-sectional model of Jones (1991) to estimate firm discretionary

accruals because this model outperforms time-series models in detecting earnings management[10] (Bartov et al. 2000):

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \epsilon_{i,t} \quad (\mathbf{8})$$

where $TA_{i,t}$ is the total accruals of firm *i*, measured as the difference between earnings before extraordinary items and discontinued operations (COMPUSTAT data item 123) and operating cash flows (data item 308) for year *t*; and $PPE_{i,t}$ is gross property, plant and equipment (data item 8). The residual $\epsilon_{i,t}$ from equation (8) is the measure of discretionary accruals for firm *i* in year *t*.

Follow Klein (2002), Cohen et al. (2008) and Hazarika et al. (2012), we use the absolute value of discretionary accruals (*DicAcc*) to detect accrual-based earnings management because corporate executive can use discretionary accruals both to increase or to decrease reported earnings. CEOs can inflate earnings upwards to boost their equity-based compensation (Burns and Kedia 2006; Efendi et al. 2007) or to mislead certain stakeholders about firm performance when issuing new equity (Friedlan 1994; Teoh et al. 1998). However, managers also have incentives to deflate reported earnings before re-issuing options (Coles et al. 2006), before share repurchases (Gong et al. 2008), or to strategically time-shift income to show stable growth over time (Hazarika et al. 2012). Taking the absolute value of abnormal accruals allows us to account for attempts to manipulate earnings in both directions.

3.3. Control variables

We follow Burns and Kedia (2006) and control for a number of standard firm characteristics that could affect financial reporting behaviour. Firm size (*Size*) is measured as the natural logarithm of market value of equity. Firm age (*Age*) is calculated as the natural

[10] We also calculate discretionary accruals using the modified Jones model (Dechow et al. 1995), the modified Jones model with book-to-market (Larcker and Richardson 2004) and the modified Jones model with matched firm performance (Kothari et al. 2005). We obtain similar conclusions about the CEO-altruism effect on accrual-based earning management when using these measures of discretionary accruals, consistent with those obtained from using the Jones model.

logarithm of one plus the number of years since incorporation, and controls for the potential effects of different firm lifecycle stages. *Leverage* is the long-term debt scaled by total assets, and controls for leverage-based incentives in earnings management. To control for firm performance we use *ROA*, defined as the ratio of earnings before interest and taxes to total assets. We also follow Armstrong et al. (2013) in controlling for other determinants of AAERs, real activities management, and discretionary accruals, including firm capital intensity (*CAPEX*), intangible assets (*Intangibles*), and the size of firms' inventories (*Inventory*) and receivables (*Receivables*). Moreover, Bergstresser and Philippon (2006) and Jiang et al. (2010) suggest that the volatility of a firm's operating environment can affect accruals management and earnings quality, so we control for cash flow volatility (*CFOVol*) and sale volatility (*SalesVol*).

Following Burns et al. (2010) and Biggerstaff et al. (2015), we also control for corporate governance characteristics that could be related to the incidence of accounting fraud and earnings manipulation. Specifically, we use the level of institutional ownership (*InstOwnership*), obtained from the Thomson Financial 13f database, and the percentage of independent directors (*BoardIndep*), obtained from the ISS database (Beasley 1996). Moreover, to control for the CEO's equity-based compensation incentives and agency conflicts, we also control for *CEO ownership*, defined as the percentage of total shares (excluding options) owned by a CEO (Biggerstaff et al. 2015). The data for this is extracted from the ExecuComp database. Finally, to proxy for any potential caring effect (i.e., female socialization), we also control for CEOs who have daughters (Cronqvist and Yu 2017). We include *Daughter* in our regressions, a dummy equal to one for CEOs who have a daughter, and zero otherwise. Data for this is collected from the Marquis Who's Who database.

3.4. Descriptive statistics and correlation matrix

Table 1 shows summary statistics and correlation metrics for the variables in our sample. Panel A reports descriptive statistics for our dependent variables. Specifically, 7.4% of the

sampled firms commit accounting and financial fraud during our sample window. The average absolute values of abnormal real activities management and discretionary accruals are approximately 1.4% and 1.1% of lagged total assets, respectively. Our sample includes 11.5% of CEOs who make stock donations and the average number of times a CEO in our sample donates within a year is 0.346. Also, CEO stock donations on average comprise 1.6% of the total stock owned by CEOs in their firms.

Panel A of Table 1 also presents summary statistics for our firm, corporate governance, and CEO incentive variables. In particular, firms in our sample have an average market value of 0.485 billion dollars. Average firm age is approximately 2.5 years. Sample firms have an average leverage ratio of 0.3, return on assets of -1.7%, a capital intensity ratio of 0.263, an intangibles-to-assets ratio of 0.265, and an inventory-to-assets ratio of 0.155. On average, the volatilities of sales and cash flows are about 17.7% and 9.8% over the most recent two years, respectively. Our sampled firms also have, on average, 31.6% and 61.5% of total outstanding shares owned by institutional investors and CEOs, respectively. Independent directors account for around 18% of the total number of company directors.

Table 1, Panel B provides correlations among the variables in our main tests. Real activities management is significant and positively correlated with discretionary accruals (0.667), suggesting that some CEOs use both of these methods to alter reported earnings (Zang 2012; Cohen et al. 2008). We also find significant positive relations between our donation variables (*DumDonate*, *#Donate* and *DonateRatio*) and our proxies for the level of altruism characterized in CEO stock donations (*NonBackdate* and *NonTaxplanning*), suggesting that CEO are consistent in their altruism when making stock donations. Further, these altruistic behaviour variables are negatively correlated with all of the earnings management variables, but only have a significant negative correlation with *Fraud*. This suggests that the CEO-altruism effect might be more pronounced in preventing CEOs from committing corporate fraud, the most aggressive form of earnings manipulation.

[Insert Table 1]

4. CEO altruism and corporate malfeasance in financial reporting

4.1. Univariate statistics

We first examine mean differences in our corporate malfeasance variables when they are sorted by differences in CEO donations, CEO non-backdating behaviour, and CEO non-tax planning incentives. For our proxies of CEO stock donations, we also sort the means and the mean differences from low to high number of donations in a year and from low to high percentages of stocks donated. Panel A of Table 2 shows that firms with donating CEOs are on average 0.2% less likely to commit fraud, and that these firms also have significantly lower probabilities, of around 2.1% and 2.2%, to engage in real activities or to use discretionary accruals to manipulate earnings, respectively. The univariate results in Panel A (Table 2) also show that firms with CEOs who donate more than 2.7% of their stock are 0.5% less likely to be the subject of an SEC AAER than firms with CEOs who do not.

Table 2, Panel B presents univariate results for differences in our corporate financial reporting malfeasance variables when sorted across our range of CEO non-backdating variables. We find consistent results for all three measures of CEO non-backdating. Specifically, the results show that firms with CEOs who donate without backdating, are less likely to be the subject of SEC AAERs, have on average lower absolute values of abnormal real activities management, and are also less likely to engage in accrual-based earnings management. We replicate the univariate analysis in Panel B of Table 2 for CEOs who avoid tax planning when donating stock. Panel C in Table 2 shows that firms with CEOs who donate without regard to their tax-planning incentives have, on average, significantly lower levels of abnormal real activities than firms with CEOs who act in line with their tax incentives. This result is consistent across all three measures of CEO non-tax planning.

[Insert Table 2]

4.2. Regression analyses

In order to examine the effect of CEO altruism on corporate malfeasance in financial reporting we estimate a series of panel regressions that take the form:

$$Misreporting_{ijkt} = \beta_0 + \beta_1 CEO\ altruism_{jk} + \beta_2 Controls_{ijt} + \phi_k + \phi_t + \epsilon_{ijkt} \quad (\mathbf{9})$$

where *Misreporting* is one of three measures of corporate malfeasance in financial reporting (i.e. *Fraud*, *RealActMan*, or *DisAcc*), *i* indexes firms, *j* indexes CEOs, *k* indexes industries, and *t* indexes years. *CEO altruism* is one of five measures of altruistic behaviour reflected in stock donations (i.e. *#Donate*, *DumDonate*, *DonateRatio*, *NonBackdate*, or *NonTaxplanning*). *Controls* is a vector of standard firm characteristics, corporate governance characteristics and CEO incentives, ϕ are sets of industry and year fixed effects, and ϵ is an error term. That is, the model compares firms across CEO altruism for firms in the same industry and year, and with similar firm characteristics and CEO compensation incentives. Standard errors are heteroskedasticity-robust (White 1980) and clustered by industry and year to confront time-series correlation affecting the CEO-altruism effect. We also winsorize all explanatory variables and controls at the 99th percentile.

Table 3 reports estimates from equation (9) when using the number of times a CEO made stock donations (*#Donate)* to measure CEO altruism as our primary explanatory variable. We find a significant negative relation between *#Donate* and all three measures of financial reporting malfeasance. The estimated coefficient of *Fraud* in the probit regression (model 1) indicates that the probability of fraud is significantly lower, on average, by approximately 41.3% (t-statistic = -5.79) when the number of CEO stock donations increases by one standard deviation in a given year.

Table 3 also shows that the absolute values of abnormal real activities and discretionary accrual-based management are also significantly lower, by approximately 0.195% (t-statistic = -2.53) and 0.155% (t-statistic = -2.63) of lagged total assets, respectively, when the number of

donations by a CEO increases by one standard deviation in a given year (models 2 and 3). These decreases are about 14% of the average absolute values of both abnormal real activities management and discretionary accruals for firms in our sample. Overall, our results are consistent with the first hypothesis, and the related sub-hypotheses: firms with CEOs who have personal altruistic preferences are less likely to be subject to SEC AAERs, and have lower levels of earnings manipulation than firms with CEOs who have no altruistic preferences.

[Insert Table 3]

Table 4 presents results on corporate financial reporting malfeasance as a function of CEO non-backdating behaviour (*NonBackdate*), CEO non-tax planning (*NonTaxplanning*), and the interaction of *Nonbackdate and NonTaxplanning*. The results provide strong support for our second hypothesis that higher levels of altruism are associated with more pronounced reductions in corporate financial reporting malfeasance. Specifically, Table 4 shows that the coefficients of *NonBackdate* and *NonTaxPlanning* on *Fraud* are negative and statistically significant (t-statistics of -5.66 and -5.94), indicating that the probability of fraud is 68.5% and 47.6% lower in firms with CEOs who do not backdate or take into consideration their personal tax planning incentives, respectively (models 1 and 2). The coefficient on the interaction term *Non-(Backdate & Taxplanning)* is also statistically significant (t-statistic = -4.15, model 3). The interaction effect between CEO non-backdating and non-tax planning incentives is significant and negatively associated with a 58.1% reduction in the likelihood of firms being subject to an SEC AAER. These results suggest that the effects of *NonBackdate* and *Nontaxplaning* are more pronounced than the effect of increased stock donations in reducing the probability of fraud.

We obtain similar results in all regressions of real activities manipulation (models 4-6) and discretionary accruals (models 7-9) in Table 4. Specifically, in models 4 to 6, abnormal real activities management decreases, on average, by approximately 0.162%, 0.142%, and 0.174% of lagged total assets, respectively, when the number of times a CEO donates in a year increases

by one standard deviation. These figures are additionally lower, on average, by about 1.149%, 0.836%, and 1.260% of lagged total assets, for CEOs not involved in either backdating or tax planning, or both, respectively. These additional effects are sizeable, and are an approximate decrease of 82.8%, 60.2%, and 90.7%, respectively, when compared to the average *RealActMan* of 1.388% for firms in our sample. We also obtain similar results when regressing against discretionary accruals in models 7 to 9.

[Insert Table 4]

In summary, the results show that reductions in real activities and accrual-based earnings management are more elevated for CEOs who are both unlikely to backdate and to plan around their personal tax incentives. Further, the findings also present evidence that donating CEOs who either do not backdate, or do not plan for the tax implications of donating, are linked with greater reductions in the probability of fraud, real activities and accrual-based earnings manipulations.

Table 5 shows results from using our alternative measures of CEO stock donations (*DumDonate* and *DonateRatio)*. We replicate all regressions from Table 4 but substitute a dummy for CEO stock donations in Panel A and a ratio of stock donated over total stock owned in Panel B. Panel A shows that the coefficients of *DumDonate* are negative and statistically significant at the 1% level against all three measures of corporate financial malfeasance (models 1, 5 and 9). This indicates that firms with altruistic CEOs are, on average, less likely to commit fraud by 157.3%, and less likely to engage in real activities and accrual-based management by approximately 62.1% and 59.2%, respectively, than firms whose CEO has not donated stock.

Our results further suggest that the estimated additional effects of CEO non-backdating and CEO non-tax planning on real activities management are associated with significant reductions of 50.6%, 27.9% and 55.8% across models 6, 7 and 8, respectively. Similarly, discretionary accruals decrease on average, by approximately 48.6%, 26.9%, and 54.5% for CEOs who do

not engage in backdating, tax planning, or a combination of both, respectively (see models 10-12). In addition, we also find that while the probability of fraud is lower by about 28.1% (t-statistic = -2.11) for CEOs who do not backdate donations (model 2), we also find no evidence of a corresponding negative effect of *NonTaxplanning* (model 3), or of the combined effect of *Non-(Backdate & NonTaxplanning)* (model 4).

Table 5, Panel B presents our coefficient estimates of *DonateRatio*, which are negative and significant at the 1% level for all three measures of earning manipulation (models 1, 5 and 9). This indicates a consistently negative relationship between the ratio of stock donated by CEOs and the likelihood of committing fraud and other earnings manipulations. Furthermore, when using *DonateRatio* as an alternative measure of CEO altruism alongside measures for the additional effects of CEO non-backdating (*NonBackdate)* and CEO non-tax planning (*NonTaxplanning)*, we also find that higher levels of personal altruism are significantly associated with additional reductions in the probabilities of fraud (models 2-4), real activities management (models 6-8), and discretionary accruals manipulation (models 10-12).

Collectively, the results in Table 5 are consistent with our results using *#Donate* as the primary measure of CEO altruism. In summary, we document that all three levels of corporate financial reporting malfeasance decrease significantly in firms run by CEOs with altruistic preferences. Furthermore, we find evidence to suggest that the negative effect of CEO altruism on corporate financial reporting malfeasance likely amplifies for more altruistic CEOs.

[Insert Table 5]

4.3. Regression analysis on transitioning firms

An important concern in the above models is the potential omission of unobservable characteristics which may increase the risk of spurious correlation between CEO altruism and the levels of corporate financial reporting malfeasance we observe. To address this issue, we control for time-invariant firm-specific characteristics that may be correlated with omitted

explanatory variables. We eliminate any purely cross-sectional correlation between CEO altruism and corporate financial reporting misdeeds by including firm fixed effects in panel regression models which examine CEO altruism by comparing CEOs with different altruistic preferences operating the same firm.

In this analysis, our sample only includes firms which experience a turnover from a CEO more like to donate stock (an altruistic CEO), to a CEO who is less likely to donate stock (a non/less-altruistic CEO), or vice versa. Our panel regression model of transitioning firms is as follows:

$$Misreporting_{ijkt} = \beta_0 + \beta_1 DonateCEO_{jk} + \beta_2 Controls_{ijt} + \phi_t + \phi_k + \phi_j + \epsilon_{ijkt} \quad (\mathbf{10})$$

where *DonateCEO* is a dummy equal to one for CEOs (i) who have a track record of donating stock for at least half of their years in CEO tenure,[11] and (ii) who experience a CEO turnover event. We use the same control set as in our regressions of equation (9). We include firm fixed effects together with sets of industry and year fixed effects. The standard errors are heteroskedasticity robust and clustered by firm and year.

Table 6 presents our results for the effects of CEO altruism on *Fraud*, *RealActMan* and *DisAcc* when firms experience a change from a more to a less altruistic CEO, or vice versa. The results show that the probability of fraud remains statistically significant at the 1% level for this cohort, and furthermore that it is lower by an estimated 2.6% for firms run by more altruistic CEOs, after controlling for differences in firm characteristics, corporate governance and CEO incentives, as well as for industry, firm and year fixed effects (model 1). Similarly, when regressing against *RealActMan* and *DisAcc*, we find that real activities management and discretionary accruals for transitioning firms, on average, are estimated to decrease by 4.7% and 16.3%, respectively (models 2 and 3).[12]

[11] We only include CEOs whose tenure is greater than one year.
[12] Our sub-sample of transitioning firms has mean absolute values of real activities management and abnormal accruals of 0.623% and 0.471% of lagged total assets, respectively.

[Insert Table 6]

4.4. Propensity score matching analysis for transitioning firms

Our results from section 4.3 may not be sufficient to address the potential of selection bias around the time of transition. To better address this concern, we use propensity score matched estimations for transition firms experiencing a CEO turnover from non/less-altruistic to altruistic CEO.[13] The treatment group includes firms experiencing the transition from a less altruistic to a more altruistic CEO. We match these firms with control firms that are always run by non/less-altruistic CEOs during the entire sample period. Propensity scores are estimated within industry-year categories, using all firm characteristics, corporate governance, and CEO incentives variables included in our regression analyses. We set the difference between the propensity scores of firms run by altruistic CEOs and matched peers to not exceed 0.1% in absolute value.

Table 7 presents the average values, differences in means between the treated and control firms, and the differences in *Fraud, RealActMan* and *DisAcc* between the pre- and post-CEO turnover period for our sample. During the post-CEO turnover period, transitioning firms which move from non/less-altruistic to altruistic CEOs experience lower average rates of real activities and accruals management, at 34.7% and 37.4% respectively, relative to control firms without a CEO transition. Moreover, real activities and accruals management following CEO turnovers are estimated to be 7.2 and 1.7 times lower than those during the pre-CEO turnover period, respectively. These differences are also statically significant with t-statistics of 1.65 and 2.71, respectively. Our conclusions remain qualitatively the same when we examine the change in the probability of fraud. These results therefore provide additional evidence of changes in corporate malfeasance around CEO turnover events.

[13] For the sub-sample of firms experiencing a CEO turnover from altruistic to non/less-altruistic CEOs, we find a significant increase in the probability of fraud and accrual-based earnings management. However, we do not have enough control firms (i.e., firms always run by altruistic CEOs) from the same industry and year to undertake a propensity score analysis using the matching approach described here.

[Insert Table 7]

4.5. Two-stage least squares

One additional concern is that our results might be explained by the presence of a correlation between the error terms in our models and personal managerial altruism revealed in CEO stock donations. To address this endogeneity concern, we use a two-stage least squares (2SLS) to test the robustness of our results. The first-stage consists of a probit regression which models the probability of CEOs making stock donations through the use of an instrumental variable (IV). In the second-stage, we regress the dependent variables *Fraud, RealActMan* and *DisAcc* on the predicted probability of making stock donations estimated from the first-stage probit regressions.

The attachment theory of Ainsworth et al. (1978) and Bowlby (1982) defines altruism as caregiving behaviour, or the provision of care, support and protection to dependent others in response to their needs, especially infants and young children. We rely on this theory to construct a dummy for CEOs engaging in child-caregiving activities (*Childcare),* and use this as our IV. We argue that this IV meets the relevancy condition for an IV because it can be correlated with personal altruistic behaviour (Bowlby 1982; Ainsworth et al. 1978; Mikulincer et al. 2005). Furthermore, it meets the exclusion condition because there is no reason to expect that managerial influence on corporate financial malfeasance will lead to greater or lesser involvement in child-caregiving activities for CEOs.

Table 8 reports the estimated results from our 2SLS regressions of corporate malfeasance with a dummy endogenous variable (*DumDonate*) and a dummy IV (*Childcare*). In the first-stage probit regressions (models 1, 3 and 5), the coefficients on *Childcare* are statistically significant and positive across all models (at the 1% and 5% levels), indicating that the probability of a CEO donating stock is positively correlated with the probability of engaging in child-caregiving activities. The results in the second-stage regressions show a significantly negative relationship between the predicted probability of making stock donations and

corporate malfeasance at all three levels of financial reporting: *Fraud* (model 2), *RealActMan* (model 4), and *DisAcc* (model 6). In summary, these findings provide strong support that the negative effect of CEO-altruism on all three levels of corporate financial reporting malfeasance is robust after controlling for potential endogeneity in our original estimations.

[Insert Table 8]

4.6. Alternative psychological measure of CEO altruism

A further concern with our estimations is that CEO stock donations may not completely capture personal managerial altruism, and hence, that our results might not include all altruistic CEOs. This implies potentially omitted observations from our sample of altruistic CEOs. To address this concern, we follow prior psychological studies and construct a dummy capturing whether CEOs have received humanitarian awards for their charitable contributions (*Humani).* We use this variable as an alternative measure of CEO altruism because it highlights CEO philanthropy in society. Data for this are obtained from the Marquis Who's Who database.

Using this new measure, we examine corporate malfeasance as a function of CEO altruism by again employing a propensity score matching approach. The *Humani* treated sample includes firms with CEOs who have received a humanitarian award. For each such firm in the treatment group, we find a matching control firm that has comparable firm characteristics, corporate governance, and CEO ownership, but does not have a CEO who has received a humanitarian award. This analysis allows us to identify a control sample of firms that are run by non-altruistic CEOs, but that exhibit no observable differences relative to firms run by altruistic CEOs.

Table 9 reports average treatment effects on the treated (ATET) results of *Humani* on *Fraud, RealActMan* and *DisAcc*. The results reveal that real activities and accrual management in firms with awarded CEOs are, on average, 35.6% and 50.8% lower, respectively, than in firms with CEOs who have not been awarded. The coefficients on these differences are statistically

significant at the 10% and 5% levels, respectively. However, we find no evidence of a significant difference in the likelihood of fraud between the matched firms.

[Insert Table 9]

4.7. Readability of annual financial reports

To provide additional evidence on the effect of CEO altruism on various forms of corporate malfeasance in financial reporting, we examine whether personal managerial altruism can also impact on the readability of a firm's annual financial report. While it is technically not a form of misreporting, reducing the readability of the financial reports can make it easier to hide undesirable financial information (Bloomfield 2008; Li 2008). We argue that the more readable and understandable financial statements are, the better they represent corporate financial performance to stakeholders (Lo et al. 2017). This also likely plays an important role in helping stakeholders avoid corporate losses camouflaged in unclear or unreadable financial reports.

We follow Bonsall IV et al. (2017) and borrow data on the *Bog index* to measure financial reporting readability during the 1996 to 2016 period. The *Bog Index* is a comprehensive measure of readability specified in financial applications, where a higher *Bog Index* value equates to a less readable document. We replicate our earlier regressions and turn our attention to the CEO-altruism effect on the *Bog Index*. Table 10 reports estimated coefficients of the effects of CEO stock donations (*#Donate*, *DumDonate* and *DonateRatio)* and higher levels of CEO altruism (*NonBackdate*, *NonTaxplanning*, and the interaction term *Non-(Backdate & TaxPlanning))*, on the *BogInd*ex. The coefficients of #*Donate* and *DumDonate* are negative and statistically significant (models 1-8), indicating that the number of donations and the likelihood of gifting stocks are both associated with increased financial reporting readability. However, we have no significant evidence on the relationship between the ratio of stock donations and the readability of financial reports.

With respect to CEO backdating and tax planning incentives, our results imply that, on average, financial reports are more comprehendible for firms with CEOs who do not backdate

or who both fail to backdate and fail to engage tax favorable planning when making stock donations (models 2, 6 and 10). In contrast, we find no evidence that the additional effect of *NonTaxplanning* alone (models 3 and 7) can account for further improvement in the readability of firm financial statements.

[Insert Table 10]

5. Summary and conclusion

This paper examines whether the personal altruism of corporate CEOs is related to corporate malfeasance in financial reporting, including fraud, manipulation of real activities, and accrual-based earnings management. We find that firms run by altruistic CEOs, who donate portions of their stock holdings, are less likely to be the subject of SEC fraud investigations, and exhibit lower levels of real activities and accrual-based earnings manipulation. Furthermore, we find that CEOs who donate without self-interested fiscal preferences, such as backdating donations or donating in line with tax planning incentives, demonstrate higher levels of altruism. Our results provide strong support that more altruistic CEOs are associated with firms which experience greater reductions in the probability of fraud and other financial reporting malfeasance.

While corporate financial reporting is a natural starting point, we suspect that CEO altruism also might influence other corporate financial policies (e.g. M&A, investment strategy, and employee compensation policies). This seems particularly relevant given that altruistic executives are often faced with difficult decisions requiring trade-offs between monetary incentives and altruistic motivations. Future research can therefore examine the interplay between CEO altruism and other factors which can influence CEO decision making. This would also have implications for firms hiring altruistic CEOs to maximize corporate value and reduce any potential losses from corporate malfeasance.

Table 1. Descriptive Statistics and Correlation Matrix

This table presents descriptive statistics and correlations for our dependent variables, main variables of interest, and control variables. The superscripts [a], [b], and [c] denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A: Descriptive Statistics			Panel B: Correlation Matrix																	
	Mean	Median	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Dependent variables																						
(1) *Fraud*	0.074	0.000	0.162	1.000																		
(2) *RealActMan*	1.388	0.452	46.278	0.008	1.000																	
(3) *DisAcc*	1.113	0.114	44.255	0.002	0.667[a]	1.000																
Variables of interest																						
(4) *DumDonate*	0.115	0.000	0.334	-0.877[a]	-0.005	-0.005	1.000															
(5) *# Donate*	0.346	0.000	1.617	-0.165[a]	-0.003	-0.003	0.607[a]	1.000														
(6) *DonateRatio*	0.016	0.000	0.101	-0.124[a]	-0.002	-0.003	0.452[a]	0.397[a]	1.000													
(7) *NonBackdate*	0.029	0.000	0.171	-0.119[a]	-0.002	-0.002	0.481[a]	0.189[a]	0.180[a]	1.000												
(8) *NonTaxplanning*	0.051	0.000	0.235	-0.171[a]	-0.003	-0.003	0.648[a]	0.287[a]	0.293[a]	0.470[a]	1.000											
Primary Controls																						
(9) *Size*	0.485	0.363	0.640	-0.024[b]	0.032[a]	0.024[a]	0.070[a]	0.052[a]	0.028[a]	0.042[a]	0.046[a]	1.000										
(10) *Age*	2.526	2.565	0.512	-0.093[a]	-0.004	0.000	0.075[a]	0.041[a]	0.032[a]	0.107[a]	0.051[a]	-0.078[a]	1.000									
(11) *Leverage*	0.333	0.202	2.697	0.004	0.013[a]	0.012[a]	-0.016[a]	-0.009[b]	-0.006	-0.009[b]	-0.011[a]	0.142[a]	-0.014[a]	1.000								
(12) *ROA*	-0.017	0.110	5.075	0.005	0.456[a]	0.210[a]	0.007[c]	0.005	0.004	0.005	0.007[c]	-0.076[a]	0.017[a]	-0.051[a]	1.000							
(13) *CAPEX*	0.263	0.200	0.217	-0.090[a]	-0.013[a]	-0.008[b]	0.006	0.010[a]	-0.003	-0.003	-0.005	-0.155[a]	-0.014[a]	0.014[a]	0.016[a]	1.000						
(14) *Intangibles*	0.265	0.022	11.815	-0.007	0.001	0.000	-0.005	-0.002	-0.000	-0.003	-0.002	0.036[a]	-0.016[a]	0.003	-0.008[b]	-0.013[a]	1.000					
(15) *Inventory*	0.155	0.118	0.144	-0.002	-0.002	-0.004	-0.010[b]	-0.014[a]	-0.017[a]	-0.013[a]	-0.003	-0.091[a]	0.032[a]	0.010[b]	-0.013[a]	-0.266[a]	-0.012[a]	1.000				
(16) *SalesVol*	0.177	0.074	2.110	-0.007	0.008[b]	0.007[c]	-0.010[a]	-0.007[c]	-0.005	-0.005	-0.006	0.070[a]	-0.023[a]	0.190[a]	-0.008[b]	-0.022[a]	-0.001	0.001	1.000			
(17) *CFOVol*	0.098	0.033	0.927	-0.006	0.081[a]	0.047[a]	-0.015[a]	-0.010[a]	-0.008[b]	-0.010[b]	-0.012[a]	0.164[a]	-0.040[a]	0.220[a]	0.210[a]	-0.039[a]	0.012[a]	0.009[b]	0.537[a]	1.000		
(18) *Inst. Ownership*	0.316	0.154	1.468	-0.038[a]	-0.003	-0.002	0.041[a]	0.026[a]	0.019[a]	0.029[a]	0.026[a]	0.002	0.054[a]	-0.009[b]	0.007[c]	-0.003	-0.003	-0.021[a]	-0.007[c]	-0.013[a]	1.000	
(19) *BoardIndep*	0.181	0.000	0.322	-0.058[a]	-0.010[a]	-0.008[b]	0.200[a]	0.134[a]	0.089[a]	0.125[a]	0.118[a]	0.049[a]	0.314[a]	-0.023[a]	0.019[a]	0.032[a]	-0.010[b]	-0.077[a]	-0.024[a]	-0.041[a]	0.125[a]	1.000
(20) *CEO Ownership*	0.615	0.000	3.025	-0.034[a]	-0.003	-0.003	0.124[a]	0.096[a]	0.037[a]	0.062[a]	0.068[a]	0.025[a]	0.046[a]	-0.011[a]	0.007[c]	0.005	-0.004	0.009[b]	-0.007[c]	-0.013[a]	0.022[a]	0.141[a]

Table 2. Univariate Statistics

This table presents average values of, and mean differences in, *Fraud*, *RealActMan* and *DisAcc* when sorting them by CEO donations (Panel A), CEO non-backdating on stock donations (Panel B), and CEO non-tax planning (Panel C). T-statistics for differences in mean are shown in parentheses.
*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A: CEO donations

Sort by	**CEOs donate (*DumDonate*)**					***Number of Donations* CEO donated in a fiscal year (*#Donate*)**					**Ratio of shares CEO donated over CEO total shares (*DonateRatio*)**				
	No		*Yes*		***Difference in mean***	*0-2 donations*		*> 2 donations*		***Difference in mean***	*0 – 2.7%*		*> 2.7%*		***Difference in mean***
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Fraud	0.012	0.110	0.010	0.099	0.002** (2.57)	0.012	0.107	0.011	0.104	0.001 (0.55)	0.057	0.231	0.007	0.083	0.050*** (7.32)
RealActMan	3.151	51.641	1.065	11.202	2.086*** (4.25)	3.003	49.810	0.869	5.392	2.134*** (11.72)	3.026	50.255	1.394	16.814	1.632** (2.24)
DisAcc	2.866	96.449	0.684	7.490	2.182** (2.39)	2.708	92.806	0.559	4.295	2.149*** (7.00)	2.741	93.849	0.889	11.231	1.852 (1.36)

Panel B: CEO non-backdating

Sort by	**CEOs have all non-backdating stock donations (*NonBackdate*)**					**CEOs have ≥ 50% of non-backdating stock donations (*1/2NonBackdate*)**					**CEOs have at least one non-backdating stock donations (<*1/2NonBackdate*)**				
	No		*Yes*		***Difference in mean***	*No*		*Yes*		***Difference in mean***	*No*		*Yes*		***Difference in mean***
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Fraud	0.012	0.108	0.007	0.081	0.005*** (3.12)	0.012	0.108	0.006	0.079	0.006*** (3.73)	0.012	0.109	0.006	0.076	0.006*** (4.36)
RealActMan	2.968	49.444	1.093	11.011	1.874* (1.93)	2.981	49.600	1.031	9.913	1.950** (2.23)	2.989	49.694	1.017	9.486	1.973** (2.37)
DisAcc	2.671	92.159	0.843	7.114	1.828 (1.01)	2.684	92.450	0.776	6.424	1.908 (1.17)	2.693	92.627	0.752	6.107	1.941 (1.25)

Table 2 (Continued)

Panel C: CEO non-tax planning

Sort by	**CEOs have all non-tax planning incentives in stock donations (*NonTaxplanning*)**					**CEOs have ≥ 50% of non-tax planning stock donations (*1/2NonTaxplanning*)**					**CEOs have at least one non-tax planning stock donations (<*1/2NonTaxplanning*)**				
	No		*Yes*		***Difference***	*No*		*Yes*		***Difference***	*No*		*Yes*		***Difference***
	Mean	*SD*	*Mean*	*SD*	***in mean***	*Mean*	*SD*	*Mean*	*SD*	***in mean***	*Mean*	*SD*	*Mean*	*SD*	***in mean***
Fraud	0.012	0.108	0.011	0.103	0.001 (0.69)	0.012	0.108	0.011	0.104	0.001 (0.62)	0.012	0.108	0.011	0.105	0.001 (0.54)
RealActMan	3.004	49.993	1.342	15.624	1.662** (2.37)	3.042	50.417	1.207	13.681	1.835*** (2.97)	3.057	50.578	1.163	13.113	1.894*** (3.19)
DisAcc	2.719	93.342	0.847	10.323	1.872 (1.43)	2.756	94.136	0.766	9.046	1.991* (1.73)	2.771	94.437	0.739	8.677	2.032* (1.84)

Table 3. CEO Stock Donations and Corporate Malfeasance in Financial Reporting

This table presents regression results on the effects of *#Donate* on *Fraud, RealActMan* and *DisAcc*. We include industry and year fixed effects in all of the models. For definitions of the variables in the table see the Appendix. Standard errors are clustered by two-digit SIC industry and year, and t-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Variable of interest	*Fraud*	*RealActMan*	*DisAcc*
	(1) Probit	**(2)** OLS	**(3)** OLS
#Donate	-0.155***	-0.120**	-0.096***
	(-5.79)	(-2.53)	(-2.63)
Controls			
Size	0.000	2.789**	1.773**
	(0.01)	(2.35)	(2.00)
Age	-0.156***	-0.241	0.044
	(-3.35)	(-0.72)	(0.22)
Leverage	0.107***	0.036	0.075
	(2.70)	(0.21)	(0.60)
ROA	0.004	4.686	2.082
	(1.18)	(1.45)	(0.77)
CAPEX	-0.837***	-4.422***	-0.838
	(-5.49)	(-2.61)	(-0.66)
Intangibles	-0.378***	0.007	0.004*
	(-3.22)	(1.61)	(1.80)
Ln (Operating cycle)	0.155***	-1.071**	-1.014*
	(3.93)	(-2.17)	(-1.82)
Inventory	-0.485**	3.574*	1.227
	(-2.27)	(1.91)	(0.87)
Receivables	-0.668***	0.725	4.678
	(-3.03)	(0.23)	(1.37)
SalesVol	-0.094	-2.760*	-1.262
	(-0.84)	(-1.75)	(-1.16)
CFOVol	-1.044**	12.364*	5.856
	(-2.56)	(1.76)	(1.24)
Inst. Ownership	1.687***	-0.079	-0.066
	(17.00)	(-1.30)	(-1.35)
BoardIndep	-0.270***	-1.595**	-1.147**
	(-2.58)	(-2.56)	(-2.28)
CEO Ownership	0.007	-0.049**	-0.034**
	(0.99)	(-2.46)	(-2.15)
Daughter	0.264***	-0.465**	-0.300**
	(2.83)	(-2.49)	(-2.03)
Constant	-1.619***	5.452*	2.986
	(-6.85)	(1.76)	(0.88)
Number of observations	18,830	66,583	66,583
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Adjusted/ Pseudo R^2	0.206	0.256	0.057

Table 4. Non-Backdating and Non-Tax Planning Behaviour in CEO Stock Donations

This table presents regression results on the additional effects of *NonBackdate*, *NonTaxplanning*, and *Non-(Backdate & Taxplanning)* in CEO stock donations on *Fraud* (models 1-3), *RealActMan* (models 4-6), and *DisAcc* (models 7-9). See the Appendix for the definitions of these variables. We include industry and year effect fixed effects in all models. Standard errors are clustered by two-digit SIC industry and year, and t-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Variable of interest	*Fraud*			*RealActMan*			*DisAcc*		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
#Donate	-0.154***	-0.147***	-0.155***	-0.100**	-0.088**	-0.108**	-0.080***	-0.071**	-0.086***
	(-5.89)	(-5.91)	(-5.85)	(-2.46)	(-2.41)	(-2.51)	(-2.59)	(-2.58)	(-2.62)
NonBackdate	-0.685***			-1.149***			-0.882***		
	(-5.66)			(-2.59)			(-2.65)		
NonTaxplanning		-0.476***			-0.836***			-0.634***	
		(-5.94)			(-2.70)			(-2.68)	
Non-(Backdate & Taxplanning)			-0.581***			-1.261**			-0.973**
			(-4.15)			(-2.47)			(-2.56)
Constant	-1.648***	-1.570***	-1.626***	5.420*	5.492*	5.437*	2.962	3.017	2.975
	(-6.95)	(-6.59)	(-6.87)	(1.74)	(1.77)	(1.75)	(0.88)	(0.89)	(0.88)
Number of observations	18,830	18,830	18,830	66,583	66,583	66,583	66,583	66,583	66,583
Industry Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted/ Pseudo R^2	0.216	0.217	0.211	0.256	0.256	0.256	0.057	0.057	0.057

Table 5. Dummy and Ratio Treatments of CEO Stock Donations

This table presents robustness checks of the results reported in Tables 3 and 4 by examining two alternative proxies of CEO stock gifts. Panel A shows regression results on the effects of *DumDonate*, and *NonBackdate*, *NonTaxplanning*, and *Non-(Backdate & Taxplanning)* on *Fraud* (models 1-4), *RealActMan* (models 5-8), and *DisAcc* (models 9-12). Similarly, Panel B shows regression results on the effects of *DonateRatio*, and *NonBackdate*, *NonTaxplanning*, and *Non-(Backdate & Taxplanning)*. See the Appendix for definitions of these variables. We include controls, industry and year fixed effects in all models for both panels. Standard errors are clustered by two-digit SIC industry and year, and t-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A: Dummy of CEO stock donations

Variable of interest	*Fraud*				*RealActMan*				*DisAcc*			
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
DumDonate	-1.573***	-1.534***	-1.643***	-1.556***	-0.862***	-0.696**	-0.683**	-0.741**	-0.659***	-0.530***	-0.522**	-0.565***
	(-11.37)	(-11.31)	(-11.54)	(-11.32)	(-2.61)	(-2.43)	(-2.25)	(-2.54)	(-2.70)	(-2.59)	(-2.50)	(-2.67)
NonBackdate		-0.281**				-0.703**				-0.548**		
		(-2.11)				(-2.10)				(-2.28)		
NonTaxplanning			0.152				-0.387*				-0.299*	
			(1.53)				(-1.69)				(-1.88)	
Non-(Backdate & Taxplanning)				-0.182				-0.774**				-0.607**
				(-1.20)				(-2.06)				(-2.24)
Constant	-1.530***	-1.545***	-1.538***	-1.535***	5.504*	5.472*	5.510*	5.486*	3.025	3.001	3.030	3.011
	(-6.17)	(-6.23)	(-6.22)	(-6.20)	(1.78)	(1.77)	(1.78)	(1.77)	(0.89)	(0.89)	(0.90)	(0.89)
Number of observations	18,830	18,830	18,830	18,830	66,583	66,583	66,583	66,583	66,583	66,583	66,583	66,583
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted/ Pseudo R^2	0.277	0.279	0.278	0.278	0.256	0.256	0.256	0.256	0.057	0.057	0.057	0.057

Table 5 (Continued)

Panel B: Ratio of CEO stock donated over CEO total shares

Variable of interest	*Fraud*				*RealActMan*				*DisAcc*			
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
DonateRatio	-2.028***	-1.867***	-1.799***	-1.934***	-1.296**	-0.955**	-0.742**	-1.040**	-0.964**	-0.698**	-0.518**	-0.759**
	(-3.21)	(-3.19)	(-3.17)	(-3.17)	(-2.47)	(-2.35)	(-2.18)	(-2.43)	(-2.47)	(-2.30)	(-2.10)	(-2.39)
NonBackdate		-0.638***				-1.231**				-0.960***		
		(-5.63)				(-2.57)				(-2.67)		
NonTaxplanning			-0.449***				-0.905***				-0.727***	
			(-6.03)				(-2.67)				(-2.77)	
Non-(Backdate & Taxplanning)				-0.510***				-1.322**				-1.058***
				(-3.81)				(-2.44)				(-2.61)
Constant	-1.587***	-1.627***	-1.556***	-1.599***	5.537*	5.494*	5.558*	5.513*	3.050	3.017	3.068	3.031
	(-6.56)	(-6.72)	(-6.36)	(-6.60)	(1.78)	(1.76)	(1.79)	(1.77)	(0.90)	(0.89)	(0.90)	(0.89)
Number of observations	18,145	18,145	18,145	18,145	65,597	65,597	65,597	65,597	65,597	65,597	65,597	65,597
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted/ Pseudo R^2	0.201	0.210	0.210	0.205	0.256	0.256	0.256	0.256	0.057	0.057	0.057	0.057

Table 6. CEO Turnover and Corporate Financial Reporting Malfeasance

This table reports panel regression results on the effect of CEO donations when there is a CEO turnover on *Fraud* (model 1), *RealActMan* (model 2) and *DisAcc* (model 3). We include industry, firm and year fixed effects in all models. See the Appendix for definitions of all variables in the table. We also include controls in all models. Standard errors are clustered by firm and year, and t-statistics are reported in parentheses. In this analysis, we include only firms that experience CEO turnover from a CEO more likely to donate, to a CEO less likely to donate, or vice versa.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Variable of interest	*Fraud*	*Real ActMan*	*DisAcc*
	(1)	**(2)**	**(3)**
DonateCEO	-0.026***	-0.028*	-0.077**
	(-3.23)	(-1.86)	(-2.31)
Number of observations	2,918	5,791	5,791
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Adjusted R^2	0.374	0.421	0.180

Table 7. Propensity Score Matching Estimations for Transitioning Firms

In this table, we identify control samples of firms that are always run by CEOs who are less likely to donate stock by employing a propensity score matching procedure. Propensity scores are estimated within industry-year categories, using all firm characteristics, corporate governance variables, and CEO incentives controls included in our regression analyses. The treatment group in this table includes firms experiencing a transition from a CEO who is less likely to donate to one who is more likely to donate. We set the difference between the propensity scores of firms run by CEOs more likely to donate and matched peers to not exceed 0.1% in absolute value. See the Appendix for definitions of the variables in the table. T-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	Fraud			*RealActMan*			*DisAcc*		
Variable of interest	N	Mean	Difference (T-C)	N	Mean	Difference (T-C)	N	Mean	Difference (T-C)
Before CEO turnovers									
Control group (less-likely donating CEOs)	2,096	0.084	-0.015**	6,127	0.365	-0.021	6,127	0.038	0.097***
Treatment group (less-likely donating CEOs)	877	0.069	(-2.38)	1,461	0.344	(-0.71)	1,461	0.135	(2.47)
After CEO turnovers									
Control group (less-likely donating CEOs)	1,620	0.087	-0.083***	6,038	0.496	-0.173**	6,038	0.195	-0.073*
Treatment group (most-likely donating CEOs)	1,161	0.004	(7.84)	1,332	0.324	(2.33)	1,332	0.122	(1.72)
Difference in Differences	5,754		-0.068***	14,958		-0.152*	14,958		-0.169***
			(5.74)			(1.65)			(2.71)

Table 8. Two-stage least squares

This table reports two-stage least squares (2SLS) regressions with a dummy endogeneous variable *DumDonate*, and a dummy instrumental variable (IV) *Childcare*. The first-stage probit model shows the probability of CEOs having stock donations as a function of engaging in child-caregiving activities (*Childcare*). The second-stage regressions present the treatment effects on *Fraud*, *RealActMan* and *DisAcc*. In all models, we include industry and year fixed effects. See the Appendix for definitions of the variables in this table. Standard errors are clustered by two-digit SIC industry and year, and t-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	Fraud		*RealActMan*		*DisAcc*	
2SLS	(1) 1st stage	(2) 2nd stage	(3) 1st stage	(4) 2nd stage	(5) 1st stage	(6) 2nd stage
Variable	*DumDonate*	*Fraud*	*DumDonate*	*RealActMan*	*DumDonate*	*DisAcc*
DumDonate		-0.501***		-40.797***		-36.398**
		(-4.20)		(-2.73)		(-2.39)
IV: Childcare	7.245***		0.142**		0.142**	
	(27.35)		(2.03)		(2.03)	
Number of observations	21,614	21,614	67,417	66,583	67,417	66,583
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Table 9. Propensity Score Matching on Alternative Psychological Measures of CEO Altruism

This table reports average treatment effects on the treated (ATET). We examine the treatment effects of *Humani* on *Fraud, RealActMan* and *DisAcc*. The *Humani* treated sample includes firms with CEOs who have received a humanitarian award. For each such firm in the treatment group, we find a matching control firm that has comparable firm, corporate governance, and CEO characteristics, but whose CEO has not received a humanitarian award. See the Appendix for definitions of the variables in this table. T-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Variable of interest	**CEO received humanitarian award *(Humani)***		
	Treated (Yes)	Controls (No)	ATET (T-C)
Fraud	0.071	0.048	0.023
			(0.46)
RealActMan	0.536	0.832	-0.296*
			(-1.87)
DisAcc	0.279	0.567	-0.288**
			(-2.07)

Table 10. Readability of Annual Financial Reports

This table shows regression results on the effects of *#Donate (models 1-4)*, *DumDonate (models 5-8)*, *DonateRatio (models 9-12)* and *NonBackdate*, *NonTaxplanning*, and *Non-(Backdate & Taxplanning)* on financial report readability (*BogIndex)*. See the Appendix for definitions of the variables in this table. We include controls as used in Table 3, industry and year fixed effects in all regressions. Standard errors are clustered by two-digit SIC industry and year, and t-statistics are reported in parentheses.

*, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Variable of interest	*BogIndex*											
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
#Donate	-0.038**	-0.030*	-0.032*	-0.033**								
	(-2.39)	(-1.87)	(-1.94)	(-2.06)								
DumDonation					-0.263***	-0.179**	-0.270***	-0.199**				
					(-3.35)	(-2.00)	(-2.65)	(-2.35)				
DonateRatio									0.209	0.366	0.386	0.330
									(0.83)	(1.41)	(1.49)	(1.29)
NonBackdate		-0.470***				-0.363**				-0.570***		
		(-3.39)				(-2.29)				(-3.98)		
NonTaxplanning			-0.167				0.015				-0.293**	
			(-1.54)				(0.11)				(-2.57)	
Non-(Backdate & Taxplanning)				-0.543***				-0.419**				-0.638***
				(-3.36)				(-2.39)				(-3.91)
Constant	73.909***	73.892***	73.917***	73.900***	73.923***	73.905***	73.922***	73.912***	73.786***	73.762***	73.793***	73.771***
	(132.31)	(132.31)	(132.46)	(132.25)	(132.65)	(132.64)	(132.63)	(132.56)	(127.75)	(127.82)	(127.85)	(127.71)
Number of observations	56,290	56,290	56,290	56,290	56,290	56,290	56,290	56,290	55,345	55,345	55,345	55,345
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335

Variable Appendix

Variable	Definition
A. CEO stock donations	
DumDonate	CEO stock donation dummy equal to one if a firm's CEO has stock donations reported to the SEC in a given fiscal year (zero otherwise)
#Donate	Number of reported CEO stock donations in a given fiscal year
DonateRatio	Ratio of CEO donated shares to CEO total shares in a firm in a given fiscal year
NonBackdate	CEO non-backdating dummy equal to one if a CEO has all of their stock donations non-backdated (zero otherwise)
NonTaxplanning	CEO non-tax planning dummy equal to one if a CEO did not tax plan any of their stock donations (zero otherwise)
Non-(Backdate & Taxplanning)	Interaction of CEO non-backdating and CEO non-tax planning (*NonBackdate* NonTaxplanning*)
B. Fraud & earnings management	
Fraud	Dummy of SEC AAER frauds equal to one if a firm is recorded as the subject of a financial fraud in a given fiscal year (zero otherwise)
DisAcc	The absolute value of discretionary accruals, where discretionary accruals are computed using the Jones (1991) model
RealActMan	The absolute value of combined abnormal operating cash flows, production costs, and discretionary expenses (Roychowdhury 2006)
BogIndex	A measurement of financial reporting readability, sourced from Bonsall IV et al. (2017)
C. Firm characteristics	
Size	Natural logarithm of the market value of equity (MVE)
Age	Natural logarithm of one plus the number of years the firm has been in COMPUSTAT
Leverage	Ratio of long-term debt and debt in current liabilities to book value of assets (*DLTT + DLC)/AT*
ROA	Operating income before depreciation divided by total assets *(OIBDP/AT)*
CAPEX	Capital expenditures net of sales of plant, plant, property, and equipment scaled by total assets (*PPENT/AT*)
Intangibles	Ratio of sum of research, development and advertising expenses to total assets *(XRD+XAD)/AT*
Ln (Operating cycle)	Natural logarithm of firm's operating cycle calculated as $\ln((360/(SALE_{i,t}/(RECT_{i,t}+RECT_{i,t-1})/2)))+(360/(COGS/((INVT_{i,t}+INVT_{i,t-1})/2))))$.
Inventory	Ratio of inventory to total assets (*INV/AT*)
Receivables	Ratio of receivables to total assets (*RECT/AT*)
SalesVol	Standard deviation of sales (*SALE*) scaled by total assets (*AT*) over the prior 2 years
CFOVol	Standard deviation of cash flows from operation (*OANCF-XIDOC*) scaled by total assets (*AT*) over the prior 2 years

D. Corporate governance	
Inst. Ownership	The fraction of outstanding shares owned by institutional investors
BoardIndep	The fraction of total independent directors to total number of directors
CEO Ownership	The fraction of total shares held by CEOs
E. Donating CEO turnover	
DonateCEO	Dummy for donating CEO turnover equal to one if (i) a CEO has donated in at least 50% of the years during their CEO tenure, and (ii) their firm experiences a turnovers from a CEO likely to donate to one less likely to donate, or vice versa.
F. CEO personal characteristics	
Humani	Dummy equal to one for firms whose CEO has received a humanitarian award (zero otherwise)
Daughter	Dummy equal to one for firms whose CEO has a female child (including stepchildren) (zero otherwise)
Childcare	Dummy equal to one for firms whose CEO engages in chid-caregiving activities (zero otherwise)

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