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Joshua Graff Zivin and Arthur Small

Abstract

A new theory of altruistic corporate social responsibility is developed. Firms that advertise their social and environmental good works in effect solicit charitable contributions from customers, employees, investors and other stakeholders. They compete with not-for-profits in the market to supply public and altruistic goods. To analyze how corporate altruism affects firm valuations, a model is developed in which investors gain utility both from personal consumption and from making donations to worthy causes. A share in a “responsible” firm is a charity-investment bundle. When individuals view corporations and not-for-profits as equally competent suppliers of charity-related “warm glow,” small changes in firms’ social policies induce exactly offsetting changes in individuals’ portfolio choices. There is no effect on firm valuations, and no change in the aggregate supply of good works. When a sizable fraction of investors prefer corporate philanthropy over direct charitable giving (e.g., to avoid taxation of corporate profits), firm valuations will be maximized by following social policies that involve strictly positive levels of corporate altruism.

KEYWORDS: corporate social responsibility, green investing

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“It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their self-love…” -- Adam Smith

“The man who dies rich dies disgraced.” -- Andrew Carnegie

1. Introduction

It is a challenge to explain behavior by firms that seems to involve the creation of strictly social benefits at company expense. Yet examples are ubiquitous. Large numbers of companies appear voluntarily to over-comply with environmental standards (Cropper & Oates 1992; Downing & Kimball 1982). Others make substantial donations to philanthropic causes: in 1994, corporate charitable giving totaled over $6 billion in the U.S. alone (Webb 1996). Indeed, a growing number of firms advance claims that all their management practices aspire to social and environmental “responsibility.” A striking list of major, old-economy firms --- Ford, Toyota, BP, Shell, and many others --- now routinely announce commitments to responsible behavior through their annual reports, company websites, and in acres of paid advertising in the popular press. A supporting industry of management consultants, securities analysts, and others has appeared to assist firms in measuring, improving, certifying and publicizing their social and environmental performance.

Corporate social responsibility – the production by firms of public or altruistic goods at levels beyond those required by law – absorbs real resources. Insofar as these practices are expensive, they presumably come at some expense to shareholders. As such, they are puzzling. They pose a challenge to a model of the firm as strictly a profit-maximizing entity. What motivates managers to pursue objectives of corporate social responsibility (CSR)? Just as importantly, how does CSR affect firm valuations?

We argue that when firms advertise their social and environmental responsibility, they are in effect soliciting charitable contributions from customers, employees, and other stakeholders. The de facto goal is to appropriate part of the revenue streams that currently flow to traditional cause-related not-for-profit organizations. “Responsible” firms have in effect moved into competition with not-for-profit charitable and cause-related organizations, as putative suppliers in the large market to create public and altruistic goods. Notwithstanding its for-profit legal status, the socially responsible firm is in operational practice a hybrid – neither entirely profit-maximizing nor wholly philanthropic.
The warm glow that individuals receive from direct charitable giving may also be obtained by purchasing and holding securities issued by socially responsible firms. Investors in these firms, we claim, know what they are buying. They know that part of their returns will be diverted to philanthropic causes, and have, by buying and holding these shares, given their tacit approval to these management practices. The socially responsible investor perceives the firm's managers as acting on her behalf as charitable agents. If she suffers reduced earnings in consequence, she does so knowingly and willingly. This dualistic view is consistent with public opinion about firm motives for acting socially responsible (Mohr et. al 2001).

In sum, we view the securities issued by “responsible” firms as composite financial products – a bundle that blends an investment vehicle together with a charitable giving vehicle. By thus delegating the burdens of performing good works, investors gain at least two advantages. They avoid the transaction costs associated with researching and selecting personally among the options in the large market for social causes. Furthermore, their donations are leveraged by the amount the firm would otherwise have paid in corporate profits tax on distributed dividends and retained earnings.

In this paper, we develop a model of an economy populated by firms that forgo some potential earnings in order to behave “responsibly,” and by individuals who derive utility by giving money away to charitable, environmental or social causes. A share issued by a “responsible” firm is treated as a bundle of two characteristics (Lancaster 1966), delivering both a financial return (money in the future), and a “charitable return” (warm glow in the future). If the market provides no arbitrage opportunities, then the price of this bundle should equal the sum of the prices of the components. The price of the investment component is determined by standard financial calculi. The price of warm glow is determined in an equilibrium of the market for good works, in which “responsible” firms compete with traditional philanthropic organizations. The key insight is that the market price of warm glow is not zero.

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1 Note that social responsibility by firms can generally take two forms: providing an altruistic or public good or generating less of a public bad. Conceptually, this distinction makes no difference. If, for example, one is willing to sacrifice $100 in earnings for a cleaner environment, it does not matter whether this sacrifice comes from reduced output/sales, increased operating costs, or support to a third-party that will deliver those benefits.

2 U.S. taxpayers who itemize deductions avoid personal income taxes for charitable donations in any case, whether these are made directly or via foregone investment returns.

3 It is important to differentiate charity-related warm glow from the enjoyment of public goods. An individual’s consumption of a public good (or bad) depends solely on the state of the external world --- its hectares of conserved rainforest, its number of homeless citizens. An essential characteristic of a truly public good is that all individuals in the economy consume the good at the same level. Each individual's consumption of the public good does not depend on how the good is
Each individual creates a portfolio of shares that, together with other charitable and cause-related giving, exactly matches her preferences over warm glow and other consumption. As firms alter their social policies, investors compensate by adjusting their direct charitable giving, in order to maintain their preferred mix of social and private consumption. If investors treat corporate giving as a perfect substitute for private giving, a striking conclusion follows. Under very general conditions, share prices of “responsible” firms are the same as those of otherwise identical firms that strictly maximize financial returns to shareholders. This neutrality result, and the logic behind it, are similar to those developed by Modigliani and Miller to explain the irrelevance of capitalization structure on firm valuations (Modigliani & Miller 1958).

Further, given perfect substitutability and no price effects, the aggregate amount of charitable giving in the economy is independent of firm behavior. This perfect offsetting of private giving by corporate giving is conceptually similar to perfect crowd out in the literature on government donations to charity (Roberts 1984) and Ricardian equivalence in the inter-generational transfer literature (Becker 1974).

In practice, a number of factors may keep individuals from viewing corporate and private charity as perfect substitutes. As noted, charity given by corporations is not subject to corporate profits tax, which would otherwise reduce the earnings shareholders could allocate to causes. Also, investors may prefer to delegate to firm managers the responsibility for finding appropriate charitable vehicles, in the same way that an investor may rely on a funds manager. On the other hand, the preferred social targets of managers may not correspond with those of investors. Individuals may also be “impurely” altruistic, so that they derive more utility from direct giving than from delegated giving (Andreoni 1989; Glazer & Konrad 1996).

Indeed, individuals are likely to be heterogeneous in the degree to which they perceive the two sources of charity as substitutable. Depending on the relative produced, nor on the contributions made by respective agents. The combination of shared consumption and costly private provision creates the well-investigated potential for free riding.

By contrast, individuals derive charitable warm glow not from the state of the public space, but from the act of contributing to its betterment. Warm glow is, therefore, a private good. It is the personal (hence rival and excludable) feeling of having made a difference.

The production of warm glow does not derive solely from the act of giving, however. (Otherwise, donors would be indifferent to the effectiveness of the charities to which they entrust their resources.) It depends also on the effectiveness of the donation in creating public or altruistic improvements. This relation could be represented quantitatively by describing warm glow as proportionate to the marginal increase in a public or altruistic state variable resulting from an agent’s charitable intervention. The conversion rate at which charitable inputs yield warm glow might indeed depend on a number of external factors, including the levels of the relevant public state variables. Still, the act of contribution remains private.

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importance of these factors, some investors may view corporate giving as a superior substitute to personal direct giving, while others may view it as an inferior substitute. We address this possibility in a generalized version of the model in which investors are heterogeneous in the “conversion rates” between corporate giving and private giving. In this setting, share prices are sensitive to corporate social policies. However, the relationship is not always monotonic. If a positive fraction of investors prefer corporate giving to direct giving, then share values are maximized at a positive level of corporate giving. In this case, increases in CSR unambiguously increase the aggregate welfare of the donor class. As in Andreoni’s work (Andreoni 1989), imperfect substitutability between sources of charity implies imperfect crowding out.

The next section presents a brief summary of the existing literature. It is followed by a simple model of CSR with homogenous investors. The fourth section presents the more general heterogeneous case. A final section articulates several testable implications of the theory and discusses possible extensions.

2. Literature Review
Attempts to understand CSR have focused mainly on the question of whether or not the practices are in fact profit maximizing, at least in intention. Burlingame and Young's seminal work in the area describes four basic models of corporate philanthropy: neoclassical, altruistic, political, and stakeholder models (Burlingame & Young 1996). All but the altruistic model involve some long-term financial benefit for the firm - a process referred to throughout the literature as strategic giving or strategic responsibility. (See for example Zetlin 1990; Baron 2001). Non-strategic or altruistic corporate behavior, on the other hand, is viewed as a discretionary allocation of economic surplus to achieve social and ethical objectives that bear no relationship to firm activities. Proponents describe this as a fulfillment of obligations in the unwritten social contract between society and the engines of production it sanctions (Buhl, 1996). Critics see “responsible” behaviors as an illegitimate appropriation of shareholder wealth, a violation of management's fiduciary responsibility to maximize the value of the assets entrusted to its care. The provision of public and altruistic goods by firms appears in this view as one example in a large class of agency problems that arise whenever ownership of assets is separated from managerial control (Williamson 1964). Friedman’s verdict is categorical and harsh: managers who deviate from profit maximization to practice CSR are cheating their employers, misallocating society's resources, and destroying wealth (Friedman 1962).4

4 This harsh image could be softened by removing the presumption of asymmetric information. It could be supposed that the firm's owners are well aware of the practices, and that the prerogative to support pet causes at some agreed level is provided to management as part of its negotiated compensation. Under this interpretation, the managerial utility maximization model reduces to a

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This view of CSR as a managerial perk does a poor job of explaining why these practices are typically so loudly publicized. If CSR arises solely from the nest-feathering impulses of management, advertisements pronouncing a commitment to do so would be peculiar indeed. Moreover, when a firm publicizes its philanthropy, it must be assumed that shareholders find out about it. As they continue to hold shares and leave the management team in place, a firm's owners signal, if not their tacit approval, then at least their grudging acceptance of the practices.

More recent scholarship has sought to understand how CSR creates benefits for firms – to explain CSR within the benchmark model of the firm as a profit-maximizing entity. In this view, resources allocated by firms to environmentally benign conduct, enlightened employment policies, charitable giving, and other socially worthy activity constitute investments in relationships with key stakeholders (Burlingame 1994). Warm attitudes on the part of customers, suppliers, employees, and regulators lead, it is claimed, to enhanced brand value/product differentiation (Atkinson & Galaskiewicz 1988; McWilliams & Siegel 2001), lower employee turnover (Logsdon et al. 1990; Greening and Turban, 2000), reduced risks of adverse government or activist action (Baron 2001) and ultimately, therefore, to greater returns on investors' capital (Khanna & Damon 1999; Arora & Gangopadhyay 1995; Navarro 1988; Strahilevitz & Myers 1998; Alberini & Segerson 2002; Segerson & Miceli 1998). In other words, charitable giving and regulatory over-compliance can be viewed as inputs to the firm's overall production process – applied, it can be supposed, at levels calibrated to maximize profits and shareholder returns. (For a comprehensive treatment of both the profit-maximizing and utility-maximizing theories, see Clotfelter 1985).

Theories explaining CSR in terms either of disguised profit maximization or managerial utility maximization do generate useful insights and testable hypotheses. (For example, if CSR constitutes a bald misappropriation of shareholder wealth, then a careful event study might show that firms generally lose value following announcements of new initiatives in corporate philanthropy.) Yet despite their explanatory scope, neither theory can account for other relevant observations concerning the relationship between “responsible” firms and their shareholders.

In particular, neither theory provides any explanation for why certain investors appear to have a taste for securities issued by such firms. The market for these “socially responsible investments” is surprisingly large. Recent figures suggest that in the US alone nearly $2.3 trillion worth of managed investment funds, one out of every eight professionally managed dollars, pass through some special case of the strategic giving model. We thank Roberton Williams for bringing this argument to our attention.

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form of social, environmental, or ethical screen. The last decade has seen an explosion in the number of organizations dedicated to responsibility screening and the construction of responsibility indices. Dozens of firms are currently engaged in the creating of such rankings, including venerable Wall Street players as the Dow Jones Corporation (MISTRA 2001).

Yet, there is a paucity of evidence suggesting that such firms offer higher returns (Johnson 1995). Indeed, recent empirical studies examining the relationship between CSR and financial performance find rather mixed results. McWilliams and Siegel (2000) find no relationship; while Waddock and Graves (1997) find a positive one and Wright and Ferris (1997) find a negative one (see Woods & Jones (1996) and Griffin & Mahon (1997) for more comprehensive reviews). Methodological concerns and inference problems related to the direction of causality further challenge our understanding of this relationship (McGuire et. al 1988; McWilliams & Siegel 2000).

So, why invest in responsible firms? Perhaps investors derive direct value from the good deeds being performed by such firms. After all, a very large fraction of individuals voluntarily give money to charities, including environmental and social causes. Roughly eight out of ten Americans report some charitable giving. In 2002, personal contributions to charity in the U.S., excluding donations to religious organizations, exceeded $150 billion or 1.5% of GDP (AAFRC 2003). Such behavior makes sense only if contributors receive some utility – e.g., a “warm glow” (Arrow 1972) – from the act of giving itself. It stands to reason that a similar “glow” may be experienced by shareholders in responsible firms.

The model developed in this paper is most similar to models of ethical investing developed in Heinkel et al. (2001) and Barnea et al. (forthcoming). In these papers, the authors develop a model with two types of risk-averse investors: green investors and neutral investors. Green investors will only hold shares of clean firms. Neutral investors are indifferent between holding shares of clean firms and holding shares of dirty firms. Thus, polluting firms are held by fewer investors, and since the variance of returns across the two types of firms is assumed to be imperfectly correlated, shareholders in dirty firms must bear more risk, leading to reduced stock prices for polluting firms. In equilibrium, this suggests that some polluting firms will reform, becoming clean firms in order to attract green investors and raise their stock price.

Our model differs from the model developed by these authors in several ways. First, we do not limit our attention to exclusionary investing, i.e. investing that screens out or boycotts ‘irresponsible’ firms. In our framework, firms can be

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5 See (SIF 2001). It should be acknowledged that this study employed a very broad definition of screening. Most of the screening was undertaken on behalf of large pension and endowment funds associated with institutions, philanthropic and religious organizations, labor unions, etc.
deemed responsible either through their absence of bad behavior or through their willful and proactive engagement in good deeds. Secondly, we assume that responsible firms are competing with charitable organizations to provide warm glow. As such, ‘green’ investors need not restrict themselves to investments in responsible firms. They can invest in traditional firms and then contribute their earnings directly to a charitable organization. Lastly, we develop a model with a continuum of investors that are heterogeneous in their preferences for corporate giving. In this case, we find that share prices are sensitive to corporate giving practices and that, if some fraction of investors in the economy prefer corporate giving over direct personal giving, share prices are maximized at some positive level of corporate giving. Thus, even absent a risk diversification story, we find that responsible investing can influence corporate behavior.

3. A Simple Model of Altruistic Investing

The representative investor gains utility both from consumption and from charitable giving. Per-period utility is given by $u(x, y)$, where $x$ denotes material consumption and $y$ denotes warm glow derived from donations to charity. Warm glow is defined as the utility that is derived from the act of giving as distinct from the value one might derive from a public good resulting from charitable giving. Thus, it is a private good in this model, allowing us to focus our attention on comparisons between giving directly and giving through firms without concerns about free riding and other potentially complex interactions with other providers of public goods. This issue is discussed in greater detail in the conclusions.

There are two firms in the economy. Both firms have the potential to earn returns on installed capital at rate $r$. However, one firm – firm B – voluntarily reduces its effective earnings through a combination of discretionary “responsible” behavior and charitable giving. Thus while each share in firm A pays out 1 dollar, each share in firm B pays out only $1 - \gamma$ dollars, where $0 < \gamma < 1$ denotes the social policy of the firm. An investor who holds shares in firm B also receives some charity value from his holdings of these securities. In the simple case, each share in firm B pays out $\gamma$ units of charity value. In addition to the two firms, there exists a pure charity to which investors can allocate funds, receiving 1 unit of charity value for each dollar of forgone consumption. For simplification purposes, we assume all returns are obtained with certainty.6

6 Note that if returns were uncertain but perfectly correlated across classes of firms, our results would remain unchanged. If on the other hand, investors were risk averse and returns were imperfectly correlated, shares in irresponsible firms would trade at a discount as a result of risk diversification concerns (see Angel and Rivoli (1997) for a detailed discussion and Heinkel et al. (2001) for a theoretical model of these impacts). In this case, our results would still remain the same and would occur in addition to (net of) these risk impacts.

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There are two periods. The representative individual begins period 0 with an initial endowment of 1. He allocates this wealth between current consumption, current charitable giving, and the purchase of securities. Let \( w \) denote the share of wealth allocated in equilibrium to investments (i.e., such that \( \partial u^0 / \partial w = \delta(\partial u^1 / \partial w) \)), where \( \delta \) is the social rate of time preference.

Taking share prices \( p_A, p_B \) as given, the individual constructs a portfolio including \( n_A \) shares in firm A and \( n_B \) shares in firm B, so that \( n_A p_A + n_B p_B = w \). After realizing returns, the individual may choose to make a direct charitable contribution in the amount \( m \) before consuming the remaining funds. We solve for the choice variables \( n_A, n_B, m \) in terms of given prices and exogenous parameters. Conditioned on the choice of \( w \), the individual's investment problem can be written

\[
\begin{align*}
\text{max} & \quad u(x, y) \\
\text{subject to} & \quad x = n_A + (1 - \gamma)n_B - m \\
& \quad y = \gamma n_B + m \\
& \quad n_A p_A + n_B p_B = w \\
& \quad m \geq 0
\end{align*}
\]

The last condition rules out withdrawals from the charitable organization.

First order conditions for an interior solution are

\[
\begin{align*}
\text{(6)} & \quad u'(x) = u'(y) \\
\text{(7)} & \quad \frac{p_B}{p_A} = 1 + \gamma \left( \frac{u'(y)}{u'(x)} - 1 \right),
\end{align*}
\]

where \( u'(x) \) and \( u'(y) \) represent the marginal utility of material consumption and warm glow, respectively. The conditions together imply \( p_B = p_A \): if the representative agent holds positive amounts of both securities and gives a positive amount to charity, then it must be the case that the securities have the same price. In particular, the price of the security in the activist firm is independent of the firm's social policy \( \gamma \), in this case. It is also important to note that the interior solution is not unique. Since corporate giving is a perfect substitute for private giving, any combination of securities and direct donations can achieve the desired levels of \( x \) and \( y \) at the same cost. Investors are agnostic about how they obtain \( y \). If firms do not provide it, they can purchase it in the charity market. If firms do provide it, they can adjust their direct charitable contributions accordingly.

If \( m = 0 \), then equation (6) above is replaced by the inequality

\[
\text{(8)} \quad u'(x) \geq u'(y)
\]
and equation (7) still holds. If the \( m = 0 \) constraint binds, then \( p_B < p_A \).

Formally, this is a standard characteristics model. The agent shops for the goods that provide the desired levels of all characteristics at the lowest price per unit of characteristic. Thus, rather than thinking in terms of share prices, we can view the investment problem in terms of characteristic prices for consumption and warm glow, \( p_x \) and \( p_y \), respectively. Since traditional firms only deliver financial returns, it must be the case that \( p_x = p_A \). The price of warm glow is a little more complicated. Since the charitable organization is a backstop technology that delivers units of charity at a constant price of 1, we know that the upper bound implicit price on glow \( p_y = p_m = 1 \) and that this condition must hold if \( m > 0 \). If \( m = 0 \), substituting constraints (3) and (4) into constraint (2) and rearranging yields the following relationship:

\[
(9) \quad xp_A + y \left[ \frac{p_B - p_A (1 - \gamma)}{\gamma} \right] = w.
\]

Since \( p_x = p_A \), we know that \( p_y \) must equal the bracketed term in (8a), which we know is less than or equal to one.

More generally,

\[
(10) \quad p_y = \min \left[ 1, \frac{p_B - p_A (1 - \gamma)}{\gamma} \right].
\]

When \( p_y = 1 \), individuals are indifferent between obtaining warm glow through investments or through direct giving, so \( m \geq 0 \). Alternatively, when \( p_y < 1 \), individuals prefer to obtain all glow through investment in the responsible firm and \( m = 0 \). Thus, we know from (10) that investment in the socially responsible firm will only occur if \( p_B \leq \gamma + p_A (1 - \gamma) \), where the left hand side is price of share in the responsible firm \( B \), and the right hand side is the price of obtaining the same levels of \( x \) and \( y \) through a regular investment and a direct donation.

Given the price of shares in the traditional firm \( p_A \), the price of shares in the “responsible” firm \( p_B \), and the characteristic price \( p_y \), are determined by an equilibrium in the market for charitable giving. Aggregate demand \( Y = \sum_i y_i = I y \) for charity is given by \( Y(p_y) = u'(y) W / p_y \), where \( W = \sum_i w_i = l w \) denotes aggregate investment. An amount \( \gamma N \) of charity is supplied inelastically by the “responsible” firm, in the form of charity dividends from the \( N \) outstanding shares. Additional units can be produced by the charitable organization at constant unit cost of 1. Market clearing requires that \( \gamma N + M = u'(y) W / p_y \), where \( M = \sum_i m_i = l m \) denotes aggregate direct contributions to charity.

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When $M > 0$, the total amount of charity created by the “responsible” firm and delivered to shareholders is less than the total amount demanded by individuals, given an implicit “price” on charity of unity, i.e. $\gamma N \leq u'(y)W$. We refer to this inequality as the Aggregate Giving Condition (AGC). When the constraint $M \geq 0$ is binding, the AGC is not satisfied and the responsible firm is delivering a surplus of charity to the market, driving the cost of charity units down to $p_y = u'(y)W / \gamma N < 1$. Since we also know from (10) above that when the direct giving constraint binds $p_y = \left( p_B - p_A(1 - \gamma) \right) / \gamma$, we find that $p_B = u'(y)W / N + p_A(1 - \gamma)$. Unlike the case when the AGC is satisfied, changes in the firm’s social policy do have an impact on share prices: $\hat{\beta}_p / \hat{\beta}_\gamma = -p_A$. If responsible firms are giving more to charity than demanded by investors, increases in firm giving lead to declines in share prices. These results are summarized in the following proposition.

**Proposition 1**: Share prices in “socially responsible” firms trade at a discount to those of other firms if and only if the aggregate giving condition (AGC) does not hold. If AGC holds, changes in the degree of the “responsible” firm’s commitment to popular causes have no effect on share prices.

If AGC holds, investors respond to changes in the social policy of the firm with an exactly offsetting shift in the resources they directly allocate to charitable organizations. Thus, as long as the responsible firm is not giving “too much” to charity, changes in the firm’s social policy have no effect either on share prices or on the aggregate amount of charity in the economy. This result is analogous to the Modigliani-Miller Theorem relating capitalization structure to firm valuation. If the responsible firm is giving “too much” to charity, shares will trade at a discount, and changes in the firm’s social policy will affect both share prices and aggregate giving in the economy. Additional giving in this case lowers the price of responsible firm shares by an amount equal to the price of a share in the traditional firm. Recall that in equilibrium the share price in the traditional firm is equivalent to the implicit price of characteristic $x$. Thus, we see that the price impact from excess responsibility is equal to the value of consumption that the investor must forgo when holding shares in the responsible firm.

4. **Heterogeneous Investors**

There are a number of reasons why some investors may prefer to make all their charitable donations directly, while others prefer to make such “donations” via

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Note that “too much” here refers to the aggregate supply of charity rather than the marginal supply $\gamma$ per share.
their investment practices. Individuals may differ in their tax rates, in the confidence they place in firm management relative to the management of charitable organizations, and in the time they have available to manage such affairs. Further, individuals may differ in the degree to which they derive process utility from the act of making donations directly, rather than having it done on their behalf.

In sum, individuals may differ in the degree to which they perceive charitable dividends as being a substitute for direct donations. To address how this heterogeneity affects the market for social choice investments, we modify our simple model, allowing that individual $i$ derives $k_i$ units of charity value from each unit of charitable dividend he receives. Agent $i$'s maximization problem is the same as (1-5), except that (3) is replaced with the following production function for characteristic $y$:

$$y_i = k_i \gamma n_B + m$$

Agents with a high $k$-value find it very cheap to buy units of $y$ by purchasing securities of the responsible firm. Agents with a low $k$-value find that these securities are an expensive source of the characteristic $y$. Note that our previous simple model is simply a special case of this one where all agents have a $k$-value equal to one, i.e. corporate giving and private giving are perfect substitutes for one another.

Investor types are drawn from a continuous distribution with support on the interval $[k, \bar{k}]$. We assume this distribution can be represented by a differentiable p.d.f. $\mu(k)$. Let $k^* \in [k, \bar{k}]$ denote the intermediate value for the agent who is indifferent between obtaining characteristic $y$ from responsible securities or through direct charitable donations:

$$p_B = \gamma k^* + p_A (1 - \gamma)$$

Agents with $k_i > k^*$ obtain units of $y$ solely through purchase of responsible securities. Market clearing requires that

$$\int_{k^*}^{\bar{k}} (u'(y)W) \mu(k) dk = \gamma N$$

where, as before, $W$ denotes aggregate investment, so that $u'(y)W$ is the aggregate expenditure on charity in period 1.

When investors are heterogeneous in the degree to which they derive benefit from corporate charity done on their behalf, it will in general no longer be the case that share prices are unaffected by corporate social policy. Differentiating (12) yields:
Differentiating the market clearing condition (13), we can rewrite (14) as follows:

$$\frac{\partial p_B}{\partial \gamma} = k^* - p_A + \gamma \frac{\partial k^*}{\partial \gamma}.$$  \hfill (14)

Clearly, when, $k^* \leq p_A = 1$, $\frac{\partial p_B}{\partial \gamma} < 0$: if the indifferent investor is one who views corporate giving as an inferior substitute for direct giving, then management can increase shareholder value by reallocating resources away from social policy and toward increasing earnings. When $k \leq 1$, this condition will hold for all $\gamma < 1$. In words, if investors prefer direct giving over corporate giving almost surely, then shareholder value is maximized through pure profit maximization.

However, if $k > 1$ then as $\gamma \to 0$, $\frac{\partial p_B}{\partial \gamma} \to k^* - p_A$ (by (15)). Since $k^* \to k$ as $\gamma \to 0$ and we know that $p_A = 1$, we find that $\lim_{\gamma \to 0} \frac{\partial p_B}{\partial \gamma} > 0$. As giving by firms approaches zero, responsible firms could increase share prices through increases in giving. Therefore there must exist a $\gamma^* > 0$ at which $p_B(\gamma)$ attains a global maximum. Put another way, the presence of these ethical investors leads share-price maximizing firms to engage in socially responsible behavior – responsible investors exert genuine influence over corporate policies. We have proven the following proposition.

**Proposition 2:** In the model with heterogeneous investors, share prices for responsible firms are sensitive to corporate social policy. Further, if some investors strictly prefer corporate giving to direct giving ($k > 1$), then share prices for responsible firms are maximized by following a social policy that involves a strictly positive amount of corporate giving.

5. Conclusion

Why do firms engage in management practices that make claims to social responsibility? Most work on the question views SR policies either as a profit-building activity that builds firm reputations while reducing legal and regulatory risks, or as a diversion of shareholder value towards management’s pet causes. This paper offers a new, alternative theory. The explanation is based on the claim that many investors gain utility – an ethical premium, if you will – through the knowledge their funds are invested in companies whose management practices concord with their own. Such investors view the securities of these firms as a bundle that delivers both financial and social characteristics. As buyers in the
market for both investments and causes, these individuals purchase the portfolio of assets and donations that matches their own preferences.

This framework delivers several predictions about how corporate social policies affect share prices, and the aggregate welfare derived from donations from all sources. If individuals view corporate charity as a perfect substitute for their own giving, then barring a (somewhat implausible) corner solution, share prices and aggregate donations are insensitive to corporate social policy. In the more general case of imperfect substitutes, share prices and welfare are affected. In particular, if a non-negligible fraction of the investing population prefers corporate giving to direct giving, then share prices are maximized at a strictly positive level of corporate charity.

These predictions can be formulated as empirically testable hypotheses. If there are investors willing to forgo earnings in return for ethical returns, then shares in more “responsible” firms should appear to be expensive, relative to those of similar firms that focus solely on profits. In particular, standard valuation formulae based on financial fundamentals (e.g., price/earnings ratios) should reveal a premium that is positively correlated with measures of corporate social responsibility (e.g., inclusion into various ethically screened mutual funds). Indeed, several studies have found this to be the case (e.g. Kurtz and DiBartolomeo, 1996; Guerard, 1997).

Changes in the corporate tax rate provide a natural experiment that could distinguish between the profit-maximization and ethical investor models. If socially responsible behavior is merely one of many inputs into the production process, then changes in profit taxes should have no distortionary effect on the amount of this input used by firms. The ethical investor model, by contrast, offers a prediction that changes in corporate profit tax rates should induce systematic changes in the share of corporate resources allocated to social causes. If firms are engaged in social policy on behalf of their ethically minded shareholders, then a reduction (say) in corporate profits taxes reduces the advantage of delegated giving over individual giving; corporate production of public and altruistic goods should then decline in tandem. This distinctive implication of the ethical investor model – a positive correlation between corporate tax rates and rates of corporate philanthropy – is borne out in at least some empirical studies (Burlingame 1994).

A potential critique of the ethical investor theory centers on the possibility of free riding. Why would anyone voluntarily accept a private cost – reduced financial returns – in order to hold shares in an enlightened company, when this passive sacrifice yields no noticeable effect on the firm's policies? A first rejoinder is to note that while the free riding issue may be puzzling, similar puzzles arise in every other domain where individuals undertake socially enlightened or altruistic behavior. More to the point, the model presented here in fact offers an explanation for ethical investing that avoids the free riding issue
entirely. Warm glow, we argue, is derived not from the state of the public space, but from the act of contributing to its betterment. This benefit is private, rival, and appropriable. The investor who sheds his holdings in an enlightened firm may still enjoy the public benefits of the firm's social activism, but will no longer enjoy the positive feeling that comes through a perceived personal connection to the endeavor. It is this private benefit, we claim, that underlies incentives to devote private resources to charitable and altruistic causes, whether through corporate or not-for-profit channels.

The ethical investor model also offers a coherent, conceptually grounded response to Friedman's classic thesis that a firm's sole legitimate activity is to maximize profits. Given that many shareholders (a.k.a. owners) do appear to derive utility from socially minded activities undertaken by managers on their behalf, the question of whether firms “should” engage in non-profit-maximizing activity to create social benefits could be cast as an issue of efficiency. Most firms produce both private goods and social benefits in some mixture, as a joint output of their production activities; the efficiency issue concerns whether or not these two sets of activities exhibit economies of scope. If and when they do, it may well be efficient for these activities to be carried out within a single hybrid organization. The activities of this hybrid firm-cum-NGO might then be financed through a combination of sales revenues and charitable donations, the latter coming from sympathetic customers, employees, investors, and government agencies. If on the contrary the production of social and private outputs interferes with one another, then these activities should be separated, and undertaken by distinct, specializing organizations. Management’s fiduciary responsibility to its shareholders involves finding the correct answer to this empirical question about scope economies, given the particulars of the organization's industry and situation; and then structuring corporate social policy accordingly.8

This efficiency test also applies at the larger level of government policy. Governments with a mandate to provide and maintain public goods confront complex make-or-buy decisions analogous to those confronted by firms. Governments deliver a wide range of public and social goods through direct provision (national parks, public housing), or by regulating closely the activities of private entities (pollution standards, disclosure requirements). At the same time, governments leave to households, firms, and not-for-profit organizations

8 In practice, the presence or absence of scope economies will likely depend strongly on the type of social good in question. ExxonMobil is probably a low-cost provider of environmental quality, but a very high-cost supplier of medical services to the indigent. The efficient location of social responsibility is also likely to depend strongly on the operating environment. In a country with weak or malfunctioning institutions, ExxonMobil’s resources and skill may well make it the low-cost supplier of “governmental” type services like road maintenance, water supply, or even health services.
much of the remaining responsibility for maintaining the public space. The engagement of these other actors is in effect “purchased” through direct expenditures, tax incentives, and other policy instruments. The model developed in this paper provides a basic framework for understanding how tax rules affect the overall level at which publicly traded corporations provide social goods. A more subtle question concerns which sector is the truly efficient provider of social goods of various different kinds; and how tax policies and other levers at the government’s disposal can be used to see that the assignment of roles follows genuine patterns of comparative advantage. Finally, there remains the analytic challenge of integrating the notion of securities as charitable giving vehicles into a full theory of corporate finance and financial markets.
References


http://www.bepress.com/bejeap/topics/vol5/iss1/art10


McWilliams, Abagail and Siegel, Donald, Corporate Social Responsibility and Financial Performance: Correlation or Misspecification? Strategic Management Journal, 2000, 21, 603-609.


MISTRA, Screening of Screening Companies, MISTRA, 2001 -- The Foundation for Strategic Environmental Research, Stockholm.


http://www.bepress.com/bejeap/topics/vol5/iss1/art10


