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Corporate Social Responsibility and Firm Value: Recent Developments

Fan-chin Kung and Nicholas G. Rupp

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Abstract

We provide a synthesized introduction to recent findings in the link between corporate social responsibility and firm value. The focus is on how and why profit-maximizing firms engage in socially responsible actions, and how such activities can increase product demand and shareholder value. Recent studies in empirical evidences, theoretical models, and trends in practice are discussed. This chapter is not intended to be a comprehensive survey but rather an introduction to bring future research interest in this field. Empirical studies show evidences of a positive impact of corporate giving on indicators of firm value such as shareholder value and financial performance. Theoretical models provide mechanisms and economic foundations for the demand increase leading to profits in different market structures. Socially responsible actions can be induced by external activists for fear of boycotts. Investors may prefer to hold shares of responsible firms when corporate giving can substitute for personal giving. A public good may be produced jointly with a private good. Models of general industry equilibrium find that demand increases due to the public good may come from the endogenous market effect. Companies in industries with entry barriers make the top list of corporate giving. Using examples in the pharmaceutical, finance, and high-tech industries, we discuss how corporate social responsibility is conducted in practice.

Keywords: corporate social responsibility, public good, firm value

1. Introduction

Business corporations contribute significant amounts to the public. Giving USA reported that total giving by corporations in 2016 is \$18.55 billion. The Committee Encouraging Corporate Philanthropy (CECP, 2017) report that the median total giving by a corporation increased

from \$20.7 to \$21.2 million between 2014 and 2016 among 209 companies surveyed [1]. The median of total giving as a percentage of revenue and that as a percentage of pre-tax profit also increased in this period, despite decreases in total revenue and profits. These contributions are directed to diverse programs that are not relevant to production. For example, they are donated to health and social services, education, environment, disaster relief, and so on. Why would corporations contribute to consumption of public goods from which only consumers receive direct benefits? Corporate responsibility is defined as “actions that appear to further some social good, beyond the interest of the firm and what is required by law,” or alternatively, “actions which reduce the extent of externalized social costs” [2, 3]. Why would a profit-maximizing firm be interested in social corporate responsibility by making charitable contributions?

This is a first survey on the link between corporate social responsibility and firm value. We focus on how and why companies engage in responsible activities and how such activities can increase product demand and shareholder value. The plan of this chapter is to focus on recent developments. In the following three sections, we discuss recent findings in empirical evidences, theoretical models, and trends in practice. It is not intended to be a comprehensive survey of the literature. With this survey, we introduce this growing literature to the audience and hope to bring more research attention to bridging the fields of business strategy and the provision of the public good. We discuss empirical studies that confirm positive impacts of corporate social responsibility on indicators of firm value. Theoretical models provide possible mechanisms and economic foundations of why socially responsible actions can increase demand in different market structures. Responsible actions can be induced by external activists for fear of boycotts. Investors may prefer to hold shares of responsible firms when corporate giving can substitute for personal giving. A public good may be produced jointly with a private good. Models of general industry equilibrium find that demand increase due to the public good may come from the endogenous market effects. Companies in industries with entry barriers, such as health care, banking and finance, and high technology, are among top charitable givers. We discuss how corporate social responsibility is conducted in practice with companies in these industries as examples.

Studies on charitable contributions found considerable evidence that corporate social responsibility has a positive impact on shareholders. Some have suggested that low contribution levels of corporate social responsibility can improve a firm's value [4], yet too much corporate contributions can pull down shareholder wealth [5]. Most academic research has found that companies that are engaged in corporate social responsibility experience greater stock returns [6, 7] due to establishing greater trust among its employees, customers, and shareholders. The benefits from corporate social responsibility are especially prevalent during times of financial market uncertainty. Investors appear to reward companies that have a history of making charitable contributions with higher stock returns during the financial market crisis of 2008–2009 with between 4 and 7 percentage point returns to companies that exhibited higher corporate social responsibility intensity [8].

Theoretical investigations into corporate social responsibility explore mainly the fact that consumer demand for products increases with the public good. Empirical and experimental evidence on behavior beyond surveys confirm that consumers are willing to pay more for

products associated with charity or environmental friendliness [9]. Sample data from eBay auction show that the winning prices for items linked to charitable donations through eBay Giving are higher than those matched items not linked to donations. And this charity premium decreases with item value [10]. Companies market products with environmental labeling, which is a signal hard to verify by consumers. Experimental studies of laboratory markets show that such signaling of a product increases the product's trade volume even when buyers are subject to various forms of incomplete information [11]. Green products can sell at significant premiums. For example, customers of Patagonia, an outdoor sportswear brand, are willing to pay significant premiums for organic cotton garments [12].

This demand shift induces corporate giving in the environment of imperfect competition. External activists may initiate boycotts successfully when a firm does not conform to responsible standards. Fearing a profit loss from boycotts, the firm will behave responsibly [13]. Consumers may choose joint production of the product and public good over producing separately when the former has a cost advantage [14]. Yet, corporate giving may result in the same equilibrium outcome as individual voluntary contribution [15]. Giving can be an outcome of oligopolistic competition [16]. When investors can choose a portfolio composed of shares of responsible firms and regular firms, those with a higher substitution parameter for corporate giving will buy shares of the responsible firm, and those with a lower parameter would prefer personal giving [17, 18]. The above approaches suffer various degrees of limitations. For example, the warm glow effect is an extra assumption that appeals to personal emotions of giving in addition to public consumption. Portfolio choice models assume fixed profits or arbitrary profit functions, which are not based on market foundations. Recently, models of general industry equilibrium were proposed. The incentive for corporate giving is embedded in the properties of market demand. Consumer loyalty brought by socially responsible actions results in a lower elasticity of demand. This can help a firm to lower the risk in profit stream and induce a premium to its product price [19]. Some private products are complementary to the public good. Stronger complementarity induces higher corporate giving [20].

A few practical reasons cause companies to engage in responsible activities. First, the tax code provides incentives for companies to make charitable contributions as doing so lowers their taxable income. Second, making charitable contributions improves the corporate image. Third, these contributions support the communities in which their employees live making the community a better place to live. Fourth, corporate giving garners respect from the employees. Moreover, these contributions also serve to increase the popularity of the business which may increase consumer loyalty to the company. Fifth, companies involved with social corporate philanthropy receive valuable advertising and marketing from media exposure and positive public attention/recognition.

Given the reasons mentioned above for charitable contributions, which companies are more likely to be involved in corporate social responsibility? We expect that companies which are currently profitable have a greater incentive to provide contributions to social causes. In addition, it may also prove easier to make contributions when a company is profitable than when a company is losing money. The more competitive the industry, the less likely a company is to be profitable which reduces the likelihood of the corporation making charitable contributions.

Companies that are not profitable, have no excess profits to share with society in the public good provision. Hence, we expect to find more sustainable corporate giving in monopolistically competitive markets where an existing barrier to entry may allow companies to earn profits which can be shared with society. There are explanations such as tax incentives which provide incentives for companies to make charitable contributions as doing so lowers their taxable income. The highest US corporate tax rate is 35% and when combined with state and local taxes, the actual corporate tax rate is closer to 39%. Hence, for every \$1 contributed to charitable causes, the company can save about 39 cents in lower tax payments. We note that in December 2017, the Tax Cut bill reduced the corporate tax rate to 20%.

Beyond tax incentives, we also expect to find companies that are attempting to either improve on their public image or maintain their public image will seek to make charitable contributions and conducting social corporate responsibility seriously. For example, tobacco companies may feel compelled to be a good community citizen. Pharmaceutical companies with blockbuster drugs which generate large corporate profits may also be seeking to improve their corporate image by contributing to social causes. Companies that have recently experienced a public black eye (e.g., United Airlines received lots of negative media attention for forcing a passenger off a plane) may also be seeking to improve their public image by providing contributions to social causes.

2. Empirical evidence

Prior work in the academic literature on corporate social responsibility and its impact on shareholders has found that idiosyncratic volatility (the portion of companies' stock returns that are not explained by the stock market) is positively correlated with aggregate corporate social responsibility. In addition, some researchers believe that corporate social responsibility reduces flexibility to the company in responding to productive shocks and as a result earnings become less predictable hence the rise in idiosyncratic volatility [21].

How does corporate social responsibility impact shareholders? There is a debate in the literature about this issue as some researchers find at low contribution levels corporate social responsibility has a positive impact on firm value, while this relationship turns negative at high levels of corporate social responsibility expenditures [4]. This initially positive and then negative shaped relationship between corporate social responsibility suggests an optimal level of corporate social responsibility, a result documented by Gillan et al. [5].

On the other hand, there is considerable evidence that companies which take a more active role in corporate social responsibility experience higher stock returns by establishing greater trust among employees, customers, and shareholders. While some may question giving a portion of companies profits to charitable causes, these investments provide considerable benefits especially during financial crises. There are numerous studies that have documented the positive benefits from increased social corporate philanthropy. We will highlight a few of those now. Developing a valuation model, prior work finds through model simulation a positive relationship between firm valuation and corporate responsibility. The authors attribute

the higher firm valuation to a firm's commitment to social responsibility contributions which can increase the firm's probability of survival, improvement in a firm's intermediate and long-run cash flows, and reduce its cost of capital [6]. In addition, the authors also cite a more loyal customer base, more dedicated and committed employees, less likelihood of confrontations with labor unions, consumer advocacy groups or governmental agencies as reasons for higher probability of survival and lower cost of capital.

Others have also found a positive relationship between shareholder value and corporate social responsibility. Using an instrumental variable approach as an identification strategy, they show that firms that are managed effectively have fewer agency concerns (e.g., protection for minorities, strong pay-for-performance incentives, and less cash abundance) are more likely to participate in corporate social responsibility. These results run counter to the belief that corporate social responsibility contributions are a waste of company resources. Hence, the conclusion that corporate social responsibility can be consistent with maximizing shareholder wealth [7].

Other approaches include examining corporate social responsibility in the areas of environment, social, and governance (ESG) sustainability to determine whether investors (short sellers) take into consideration a companies' ESG [22]. They find lower valuations, worse future financial performance, lower return on equity and return on assets for firms that have low composite ESG scores. They also find a negative relationship between short selling and ESG composite scores. Hence, their findings suggest that investors (short sellers) are aware and take into consideration corporate social responsibility when making investment decisions.

More research has found evidence that corporate social responsibility is positively linked with higher firm value [23, 24]. This research has found that corporate social responsibility policies are similar for companies that are located close to one another (within the same 3-digit zip code) [23]. Examining CEO power (as measured by CEO pay slice, CEO tenure, and CEO duality), prior work has found CEO power to be negatively correlated with a firm's participation in corporate social responsibility [24].

Examining stock returns during the 2008–2009 financial crisis, research has found that companies with higher corporate social responsibility intensity had between 4 and 7 percentage points higher stock returns compared to firms that had low social capital [24]. These results highlight the importance of firms establishing trust through engaging in corporate social responsibility. Companies are rewarded for these social capital investments in times when financial markets experience negative shocks.

Other researchers have found higher average stock returns for both US and European companies between 2003 and 2006 for firms that have great corporate social responsibility [25]. They find that the stock returns are larger for the US companies compared to their European counterparts. The robustness of their results that corporate social responsibility holds for companies in both continents lends strength to its importance. When examining large European companies' finances between 2009 and 2014, further evidence that corporate social responsibility matters in Europe is provided as companies with more efficient investors have higher corporate social responsibility. These results also suggest that corporate social responsibility helps firms address both agency problems and information asymmetry problems [26].

3. Theoretical approach

The classical libertarian free-market viewpoint sees that firms should not engage in charitable work with stockholders' money and should leave public goods to the public sector. Even if investors have the option of contributing to the public good via corporate giving in addition to their personal giving, the private channel is more efficient. Moreover, in a perfectly competitive environment, there is no room for charity which reduces profits. This is a well-known argument by Friedman [27]. What lies under the classical viewpoint are the assumptions of perfect competition and that consumer demand for products is independent of the public good. Friedman's viewpoint prevails under these conditions, and there is an ideal separation between the private and the public sectors. If firms, however, do benefit from acts of charity, in the form of increased sales, profits and share price, assumptions for a perfectly competition market must not hold.

Therefore, to incorporate corporate social responsibility into profit-maximizing behavior, there need to be demand increases for firms' products associated with more public good. Moreover, firms operate in a variety of imperfectly competitive market structures. A successful model of corporate social responsibility needs to incorporate imperfect competition and demand shifts by the public good. The literature takes on a few different modeling strategies. We discuss these strands of models comparing the differences in their market structure, production technologies, and components of consumer utility, and how these increase the value of a firm. Firms may engage in socially responsible actions due to external pressure from activists for the fear of boycotts, or responding to incentives internal to the market. Socially responsible actions can take the form of donations to the public, joint production of the public good with products, or a better quality of products. The decision of engaging in socially responsible products may be made by managers in the firm, by investor through holding shares, or by consumers purchasing the products.

Some results in the literature may be driven by modeling features. Consumers consume and firms produce indivisible products; competing firms produce identical products, or the public good is jointly produced with a private product at a fixed ratio. Firms' roles are suppressed; either they are not making production decisions or their actions are limited by indivisibility and linearity. Hence, there is the equivalence result and that corporate giving crowds out investors' personal giving. Firms, however, should have the full range of price or quality decisions and also choice of contribution levels. Discussions on the benefits from altruistic business actions and the different ways in which firms execute them can be found in Ref. [9]. Other model features in the literature include, for example, the warm glow effect, which is an extra assumption that appeals to personal emotions of giving in addition to public consumption. Portfolio choice models assume fixed profits or linear profit functions, which are not based on market foundations. It would be fruitful if the interlinked relationships among the public and private goods, being complementary or substitutive, can be further explored. A model that exhibits different degrees of complementarity and substitutability among different goods would be an alternative approach [28, 29].

3.1. External activists

A firm can expand some output to improve the environment, and such efforts toward the environment will be rewarded by more sales of its product. An activist may also launch a

boycott and threaten the firm into a settlement for more contribution toward the environment. This situation is studied as an extensive form game in Ref. [13]. The firm can link amount of giving g to per unit of output. The firm faces an inverse demand $P(q, g)$, which is a function of quantity q and corporate giving. Corporate giving has a positive effect on the inverse demand, and shows up as an addition to the marginal cost MC in the profit function:

$$\pi = (P(q, g) - MC - g)q. \quad (1)$$

In equilibrium, when the firm has a better market opportunity or the pollution level is high in the environment, the activist will spend more efforts and make a higher initial demand. In this type of model, consumer behavior is limited to one product by one firm. The multiple market interactions are assumed away. The part of firm value due to corporate giving is supported by the threat of boycotts.

3.2. Joint production and consumer choice

This type of models have a production technology jointly producing a public good (or alleviating a public bad) along with the product, called a green product. There is a cost advantage for such joint production over separate production if it requires less input to produce the same combination of product and public good. Consumers are making purchasing decisions maximizing utility. A representative consumer can allocate resources endowment into a private product or an environmental public good [14]. When the joint production of public good is engaged, this is called a green market. When there is a cost advantage in joint production, introducing the green market or improving the green technology may discourage private provision of public good. When the joint production is a simple bundling of the private and the public goods, such as direct donations with a unit of product, the equilibrium outcome is the same as consumer voluntary contribution without joint production.

Consumers have diverse preferences. It is realistic to consider two types of consumers: one type care about the public good and the other type do not [15]. Consumers have linear indirect utility $V(p, g)$ from the product price p and public good g :

$$V(p, g) = b - p + \gamma f(g). \quad (2)$$

The first term b is a constant, $f(g)$ is the utility from public good, and γ is a 0/1 indicator for neutral and responsible consumers, respectively. Each consumer demands only one unit of the product and each firm produces one unit as well. Firms have constant returns to scale technology and constant marginal costs. Giving to public is committed with each unit of output. Firms compete in the market by announcing the pairs of product price and the amount of public good produced jointly with their products. Firms' strategies constitute a sorting Nash equilibrium that separates consumer types. There are two pairs of equilibrium price and social quality indicator for two groups of consumers. Responsible firms contribute to the public good and charge a high price, which is the marginal cost plus a premium. Increase in corporate giving induces short-run profits, and the value of a firm rises while the market adjusts to equilibrium.

We can compare three modes of public good provision in this setting: corporate social responsibility, private voluntary contribution, and government provision. There is a crowding out

effect on government provision from the other two modes. Corporation social responsibility will produce public goods at exactly the same level as predicted by the standard voluntary contribution equilibrium by individuals. Yet, corporate provision has an advantage when public good is naturally bundled together with the private good in production.

3.3. Oligopolistic competition and linked products

This type of models compare corporate giving in oligopolistic markets following Cournot type and Bertrand type of competition [16]. Firms produce identical products. In Cournot (Bertrand, respectively) competition, firms decide their output quantities (product prices) and leave the price (quantities) to be determined in the market. Firms can link a contribution to the public good with one unit of their products. When linked, a portion of sales is donated to a charitable cause. Both versions of the products, linked and unlinked, are available in the market. Consumers demand only one unit of product, either linked or not. They are heterogeneous in the willingness to pay for private and public goods. All consumers enjoy the public good, and there is a warm glow effect [30] associated with purchasing the linked product. They have an additive utility function containing nonlinked product x , linked product y , and public good g :

$$U(x, y, g). \quad (3)$$

In equilibrium, two types of firms compete for socially responsible customers, and this can lead to overprovision of the public good. In this setting, both underprovision and overprovision of public good may occur. There is a tradeoff between efficient private good production and the efficiency of public good provision between these two modes. Namely, there is a higher level of public good under the Cournot competition which also has a higher product price.

3.4. Portfolio choice and managerial decision

The representative investor's utility function contains a private good and a public good. The private good is produced by two firms. One of them is a socially responsible firm that produces the public good together with the private good. Investors may earn financial returns from shares of these two firms. The public good is composed of corporate giving from the firm and personal giving from investors, which also has a warm glow effect on utility. An investor has a choice of giving to charity directly or buying shares of the socially responsible firm and, hence, engaging in altruistic investing. This is a model of corporate giving versus direct giving through portfolio choice [17]. The link between firm value and its giving is explicit in this type of model, reflected in share price. The limitation to this approach lies in the number of firms and competition among firms.

Upon buying n dollar worth of shares of the socially responsible firm, γ cents per dollar of return will be donated to the public good. Thus, private return is $q = (1 - \gamma)n$. If the investor gives m dollars to the public directly, she consumes a public good level g , together with private donation as warm glow. And

$$g = \gamma n + m. \quad (4)$$

The investor maximizes utility over the portfolio of shares and direct giving. When the model parameters satisfy a certain condition, shares of the responsible firm trade at a lower price than the neutral firm. When there are heterogeneous investors in the market and some strictly prefer corporate giving to direct giving, the responsible firm will adopt the socially responsible policy of a positive amount of charitable giving in order to maximize share price.

A capital market with heterogeneous investors can be built on this model [18]. Firms have fixed profits and will distribute profits as financial returns. Besides two types of firms, there are also types of investors differentiated by a parameter θ , which indicates how strongly they feel about corporate giving. When corporate giving is a perfect substitute for personal giving, the former crowds out the latter and has no aggregate effect on the public good level. A critical level of θ separates investors into two groups. Investors with lower θ prefer personal giving and will not buy shares of the responsible firm, since corporate giving carries a higher cost. On the other hand, investors with higher θ prefer corporate giving, hence buying shares of the responsible firm.

The mechanism of managerial decision is added to this model in Refs. [31, 32]. Managerial contracts and personal utility induce managers to engage in socially responsible actions. The market value of the firm has a positive covariance with social returns. Firm's profit function $\pi(e, S)$ is determined by managerial effort e and social expenditure S . There is a distribution of managers with differentiated ability levels, parameterized by a . Managers have utility function $u(I, e, S)$, where I is the compensation specified by a managerial contract. The contract compensation $I(a, e, S)$ is determined by a linear function of observed profit π and social expenditures. There are two parameters in the I function that set the profit incentive and social incentive for managers. Managers maximize utility over two policy variables, the effort e and social expenditure S . Investors who own shares of a firm receive a financial return equal to profit minus contract compensation to the manager. Parameter θ shows how strongly investors prefer corporate giving to personal giving. It separates investors into two groups, those with lower θ will give personally and buy no share of the responsible firm, those with higher θ buy shares but will not give personally.

3.5. Monopolistic competition and industry equilibrium

Some results in the approaches discussed above may be driven by their modeling features. Consumers consume and firms produce indivisible products; competing firms produce identical products; or the public good is jointly produced with a private product at a fixed ratio. The equivalence result between corporate giving and personal giving comes from these modeling features that suppresses the roles of firms. Either they are not making production decisions or their actions are limited by indivisibility and linearity. Firms in an ideal model, however, should have the full choice range of price, quantity, and also contribution levels. Discussions on the benefits from altruism and the ways in which it is executed in corporations are provided in Ref. [9]. Other model limitations include, for example, that the warm glow effect is an extra assumption that appeals to personal emotions of giving in addition to public consumption. Portfolio choice models assume fixed profits or arbitrary profit functions, which are not based on market foundations. We introduce two recent approaches that incorporate a market of many firms.

Socially responsible actions by a firm can bring customer loyalty from those who care about the public; this leads to less elastic demand. With a lower demand elasticity, firm's profit is less sensitive to market fluctuations and provides a less risky stream of financial returns to investors. Thus, corporate social responsibility is a tool of risk management [19]. There are two types of products in the market. All products c_i are labeled on the unit interval representing variety, responsible products distribute over $i \in (0, \mu)$ and regular products distribute over $i \in (\mu, 1)$. A responsible product has a lower elasticity of substitution σ_r and a regular product has a higher elasticity of substitution σ_n . The parameter α is the share of expenditure on responsible goods. Representative investor's utility is

$$C = \left(\int_0^\mu c_i^{\sigma_r} di \right)^{\frac{\alpha}{\sigma_r}} + \left(\int_\mu^1 c_i^{\sigma_n} di \right)^{\frac{1-\alpha}{\sigma_n}} \quad (5)$$

A firm can choose to invest in a production technology for a product among the continuous variety of products. It takes a fixed cost investing in one of these technologies. The fixed cost of socially responsible technology follows a distribution with a lower bound that is smaller than the fixed cost of the regular products. After acquiring the technology, production has constant returns to scale. Investors are endowed with stocks and cash. They allocate endowment into consumption, stock holdings, and bonds. In period one, investment decisions are made and there is an aggregate consumption good which is not differentiated. It is found that responsible products sell at a premium to regular products. Shares of responsible firms trade on average higher than those of regular firms.

Another approach explores the interlinked relationships among the public and private goods, being complementary or substitutive. Consumer utility contains multiple private goods that exhibit different degrees of complementarity and substitutivity with the public good [28, 29]. There is no cost advantage in public good production tied with any product. The public good has differential effects on private products; it may be complementary to one and substitutive to another. For example, roads will increase the marginal utility of automobiles; this is a public good complementary to private products. On the other hand, national defense and police force will decrease the marginal utility of privately owned firearms; this is a public good substitutive to private products. PBS programs will increase the marginal utility of television sets and at the same time decrease the marginal utility of television programs. Without assumptions like cost advantage in joint production or indivisibility, complementarity is enough to explain the endogenous demand increase caused by a public good. When there are products that are complementary or substitutive to the public good in various degrees, it is apparent that firms whose products that are more complementary to the public good will face demand increases with a higher public good. Thus, there are incentives to contribute to the public. Firms whose products that are more substitutive to the public good suffer a demand decrease with a higher public good level.

A model of monopolistic competition with differentiated products and a public good is presented in Ref. [20]. Individuals and firms contribute at the same time but for different reasons. Individuals are looking to enjoy the public good directly, while firms contribute to induce demand increases. Consumers and firms can choose quantities freely in the market (products

are not indivisible); corporate giving is a separate decision from production (do not need to be joint production). There is a profile of private goods (x_1, x_2, \dots) and a public good g . The price of each x_i is p_i . Consumer utility is $U(x_1, x_2, \dots, g)$. With wealth w and indirect utility V , the demand for a private good x_i increases with the public good, if

$$\frac{U_{xg}}{p_i} - \frac{\partial^2 V}{\partial w \partial g} > 0. \quad (6)$$

A firm chooses quantity as strategy, find corresponding prices on the demand curve, and then announce prices in the market. This is an approach advocated by Refs. [33, 34]. By analyzing the derivative of the profit function with respect to g , we found a cutoff point for the cross partial derivative U_{xg} . Demand for a product with larger U_{xg} increases more strongly with the public good and the firm contributes more. And demand for a product with a smaller U_{xg} decreases with the public good. The equilibrium condition for corporate social responsibility and that for voluntary contribution are independent, and hence they are not perfect substitutes. More corporate giving from a firm whose product has a higher U_{xg} will increase demand and its value. In this setting, giving is a strategic market decision under competition with other firms.

4. Practice

In practice, companies engage in responsible activities for a few main reasons. First, the tax code provides incentives for companies to make charitable contributions as doing so lowers their taxable income. The highest US corporate tax rate is 35% and when combined with state and local taxes, the actual corporate tax rate is closer to 39%. Hence, for every \$1 contributed to charitable causes, the company can save about 39 cents in lower tax payments. Second, making charitable contributions improves the corporate image. In addition, these contributions support the communities in which their employees live making the community a better place to live. Corporate giving garners respect from the employees. Third, these contributions support the communities in which their employees live making the community a better place to live. Fourth, corporate giving garners respect from the employees. Klara Kozlov, head of corporate clients at the Charities Aid Foundation cites companies desire to “do good” as motivation for corporate gifts. Moreover, these contributions also serve to increase the popularity of the business which may increase consumer loyalty to the company. Fifth, companies involved with social corporate philanthropy receive media exposure and positive public attention/recognition. Hence providing the company with valuable advertising and marketing.

There are numerous examples of companies who are involved in corporate social responsibility. We provide some examples here, highlighting some of the companies that have recently been recognized for their generosity. In the United States, the Motley Fool in 2017 ranked the 12 most charitable US companies with health care, bank, and technology companies leading the list [35]. While there were two notable exceptions in Exxon and Walmart on the leading charitable company list, the remaining companies were comprised of health care, banking, and technology. The key component that drives corporate donations is company profitability.

Companies that are not profitable or are losing money do not have money to give away for public goods. The US companies which dominate the most charitable list of Motley Fool share a common attribute - there are considerable barriers to entry, for example, the pharmaceutical companies on the list are Pfizer, Gilead, Merck, Bristol Myers Squibb, and Eli Lilly, all have block buster drug patents that generate millions in profits for the companies. These health care companies may be trying to change the narrative when it comes to negative media attention about outlandish drug prices. For example, President Donald Trump tweeted on March 7, 2017: "I am working on a new system where there will be competition in the drug industry. Pricing for the American people will come way down!" [36].

In the technology industry, Alphabet (parent company of Google), Microsoft, and Cisco also appear on the Motley Fool's 12 most charitable US companies list. These high-technology companies are highly profitable and due to their market dominant position they possess, market power. Moreover, their leading position creates a significant barrier to entry for competitors. What is driving these companies to make charitable contributions? One research study found that people received greater happiness from giving away money to others rather than spending money on themselves [37]. In corporate giving, Alphabet has taken this approach in its corporate gifts as it has provided money to its clients to donate to charity, where the client chooses who receives the donation via the nonprofit web site. Such actions by Alphabet promote Google's mantra of "don't be evil" while earning loyalty and respect of its employees and clients.

Financial companies Goldman Sachs and Wells Fargo appear on the charitable list as well. It is ironic that Wells Fargo appears on the most charitable list, given since 2009 to 2015 Wells Fargo created 3.5 fake bank and credit card accounts. In an effort to re-gain consumer and public trust Wells Fargo may feel compelled to continue to make charitable contributions in an attempt to change the perception of Wells Fargo. The financial industry also has significant barriers to entry with the market structure being monopolistically competitive. Charitable contributions by financial institutions are not limited to the United States, since in the United Kingdom the industry sector with the largest average cash and in-kind gifts occurs in the finance industry [38].

One of the most competitive industries in the United States is the airline industry. Since September 11, 2001 there have been 12 chapter 7 filings (company closes) and 29 chapter 11 filings (re-organization). Of the four largest US carriers today, three of them (American Airlines, United Airlines, and Delta Airlines) were at some point in Chapter 11 bankruptcy since 2001. The remaining exception is Southwest Airlines which has never declared bankruptcy. Hence, we should expect to find larger charitable contributions for Southwest Airlines compared to its peers. In 2017, Southwest Airlines provided nearly 39,000 free flights for a combined value of more than \$19 million in total charitable gifts [39]. In 2016, American Airlines provided \$23.5 million in total charitable giving [40].

Next, we examine reasons beyond profitability to explain corporate social responsibility. Some businesses may choose to make charitable contributions in lieu of advertising/marketing expenditures as these businesses may see the chance for possible public recognition as "free" advertising and marketing. For example, Texas Roadhouse operates in such a fashion

as explained by David Hollinger (Managing Partner of Texas Roadhouse in Greenville, NC) since Texas Roadhouse views making charitable contributions to non-profit organizations as a “part of the fabric of the community. In return, we hope that people choose to eat at our restaurant” (interview with author January 11, 2018).

Additional evidence that corporations make charitable contributions as a form of advertising comes from outside the restaurant industry. Consider Allstate Insurance company which makes a contribution to the universities general scholarship fund for each field goal that lands in a net with the Good Hands logo of Allstate. There are 90 college and university stadiums as well as championship and bowl game events that carry the Good Hands logo. Moreover, the television broadcasters also mention the contribution that Allstate is making to the scholarship fund. Clearly, Allstate is receiving “free” advertising for these contributions. Upon further examination of the Allstate contributions to the Good Hands Field Goal Net Program for the 10-year period 2005–2014, it has been found that Allstate contributed \$3.4 million to scholarships or about \$340,000 per year in scholarships [41]. Given that 90 universities carry the Good Hands logo on their nets, this translates to about \$3778 per school per year which would cover about 50% of one semester tuition and fees for an instate resident to attend the University of Michigan. Given that the cost of a 30-second television ad on ESPN during the National Championship game in 2016 is \$1 million [42], it is no wonder that Allstate has chosen the “free” advertising of the Good Hands Field Goal Net Program.

5. Conclusion

Companies may feel compelled to undertake socially responsible actions for a variety of reasons including to lower their taxable earnings, to become a fabric of the community, to encourage consumer loyalty, foster employee pride/satisfaction, and to receive “free” advertising/publicity. Companies that are more inclined to make charitable contributions may also have more profits to share with the community. Moreover, the most charitable companies in the USA possess the characteristics of being both highly profitable and these companies have a market dominant position in their industry, which may explain why high technology, big pharmaceutical companies, and large financial institutions predominantly comprise the most charitable companies in the United States. There is overwhelming evidence provided on both continents that firms which engage in corporate social responsibility have higher firm valuations. At the heart of these companies that voluntarily choose to go above and beyond by making contributions to society is the creation of trust. This trust encourages loyalty among consumers and loyalty among employees. When financial difficulty does arise, this loyalty that companies have accrued through being good corporate citizens gets repaid in terms of better stock market performance during the financial crisis.

Empirical studies confirm the positive impact of corporate social responsibility on firm value. Yet, there are different types of socially responsible actions, such as environmental and social compliance, donation to charitable causes, and public good linked products. Their impacts may realize in investors’ expectation of a better company perspective or in consumer’s preferences bringing in a higher product demand. Future research may aim to identify and distinguish the

quantitative effects from different responsible actions and different channels. Theoretical models study in various market situations, how corporate social responsibility affect firms' value and competition. In the market, a firm's decision to contribute to the public is influenced by the interactions among consumers, investors, managers, and activists. The firm contributes to the public good through joint production of monetary giving. Firms compete in market structures of different degrees of competitiveness. Socially responsible actions can increase firm value via demand increases. These demand increases are usually exogenously assumed without a market foundation. Recent approaches embed demand increase in the competition among firms in the full market of industry equilibrium. Corporate giving is endogenized as one among other market strategies of firms, like price and output quantity. This research direction is fruitful and there is a need for empirically testable models. In a competitive market, perfectly or imperfectly, we can examine and test the substitutability of corporate social responsibility for other market strategies. For example, spending on corporate giving may crowd out investment, advertisement, and product development. We also need a well-defined welfare comparison for the effects of increased public good and efficiency loss in the market. This is a growing area that bridges business strategy and the provision of public good.

Author details

Fan-chin Kung* and Nicholas G. Rupp

*Address all correspondence to: kungf@ecu.edu, ruppn@ecu.edu

Department of Economics, East Carolina University, Greenville, USA

References

- [1] Committee Encouraging Corporate Philanthropy (CECP). Giving in Numbers. 2017. Available from: <http://cecp.co/home/resources/giving-in-numbers/>
- [2] McWilliams A, Siegel D. Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*. 2001;**26**:117-127
- [3] Heal GM. Corporate social responsibility: An economic and financial framework. *The Geneva Papers*. 2005;**30**:387-409
- [4] Barnea A, Rubin A. Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics*. 2010;**97**(1):71-86
- [5] Gillan SL, Hartzell JC, Koch A, Starks LT. Firms' environmental, social and governance (ESG) choices, performance and managerial motivation. University of Texas at Austin. Working Paper. 2010
- [6] Fatemi A, Fooladi I, Tehranian H. Valuation effects of corporate social responsibility. *Journal of Banking & Finance*. 2015;**59**:182-192

- [7] Ferrell A, Liang H, Renneboog L. Socially responsible firms. *Journal of Financial Economics*. 2016;**122**:585-606
- [8] Lins KV, Servaes H, Tamayo A. Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *Journal of Finance*. 2017;**72**(4):1785-1824
- [9] Bénabou R, Tirole J. Individual and corporate social responsibility. Institute of the Study of Labor (IZA). Working Paper No. 4570. 2009
- [10] Elfenbein DW, McManus B. A greater price for a greater good? Evidence that consumers pay more for charity-linked products. *American Economic Journal: Economic Policy*. 2010;**2**:28-60
- [11] Carson TN, Gangadharan L. Environmental labeling and incomplete consumer information in laboratory markets. *Journal of Environmental Economics and Management*. 2002;**43**:113-134
- [12] Casadesus-Masanell R, Crooke M, Reinhardt F, Vasishth V. Households' willingness to pay for green' goods: Evidence from Patagonia's introduction of organic cotton sports-wear. *Journal of Economics and Management Strategy*. 2009;**18**(1):203-233
- [13] Baron D. Private politics, corporate social responsibility, and integrated strategy. *Journal of Economics and Management Strategy*. 2001;**10**(1):7-45
- [14] Kotchen M. Green markets and private provision of public goods. *Journal of Political Economy*. 2006;**114**(4):816-834
- [15] Besley T, Ghatak M. Retailing public goods: The economics of corporate social responsibility. *Journal of Public Economics*. 2001;**91**(9):1645-1663
- [16] Bagnoli M, Watts S. Selling to socially responsible consumers: Competition and the private provision of public goods. *Journal of Economics and Management Strategy*. 2003;**12**(3):419-445
- [17] Graff Zivin J, Small A. A Modigliani-Miller theory of altruistic corporate social responsibility. *Topics in Economic Analysis & Policy*. 2005;**5**(1):1-19
- [18] Baron D. Corporate social responsibility and social entrepreneurship. *Journal of Economics and Management Strategy*. 2007;**16**(3):683-717
- [19] Albuquerque R, Durnev A, Koskinen Y. Corporate social responsibility and asset pricing in industry equilibrium. Working Paper. 2012. Available from: <http://www.geneva-summit-on-sustainable-finance.ch/wp-content/uploads/2013/03/koskinen.pdf>
- [20] Kung FC. Corporate social responsibility and public good provision. Working Paper. 2018
- [21] Becchetti L, Ciciretti R, Hasan I. Corporate social responsibility, stakeholder risk, and idiosyncratic volatility. *Journal of Corporate Finance*. 2015;**35**:297-309

- [22] Jain A, Jain PK, Rezaee Z. Value-relevance of corporate social responsibility: Evidence from short selling. *Journal of Management Accounting Research*. 2016;**28**:29-52
- [23] Chintrakarn P, Jiraporn P, Jiraporn N, Davidson T. Estimating the effect of corporate social responsibility on firm value using geographic identification. *Asia-Pacific Journal of Financial Studies*. 2017;**46**:276-304
- [24] Li F, Li T, Minor D. CEO power, corporate social responsibility, and firm value: A test of agency theory. *International Journal of Managerial Finance*. 2016;**12**:611-628
- [25] Von Arx U, Ziegler A. The effect of corporate social responsibility on stock performance: New evidence for the USA and Europe. *Quantitative Finance*. 2014;**14**:977-991
- [26] Samet M, Jarboui A. How does corporate social responsibility contribute to investment efficiency? *Journal of Multinational Financial Management*. 2017;**40**:33-46
- [27] Friedman M. The social responsibility of business is to increase its profits. *New York Times Magazine*. September 13, 1970. pp. 122-126
- [28] Kung FC. Voluntary contributions to multiple public goods in a production economy with widespread externalities. *Journal of Mathematical Economics*. 2008;**44**:1364-1378
- [29] Cornes R, Itaya JI. On the private provision of two or more public goods. *Journal of Public Economic Theory*. 2010;**12**(2):363-385
- [30] Andreoni J. Giving with impure altruism: Applications to charity and Ricardian equivalence. *Journal of Political Economy*. 1989;**97**(6):1447-1458
- [31] Baron D. Managerial contracting and corporate social responsibility. *Journal of Public Economics*. 2008;**92**(2):268-288
- [32] Baron D. A positive theory of moral management, social pressure, and corporate social performance. *Journal of Economics and Management Strategy*. 2009;**18**(1):7-43
- [33] Zhelobodko E, Kokovin S, Thisse JF. Monopolistic competition: Beyond the CES. Centre for Economic Policy Research Working Paper No. 7974. 2010
- [34] Behrens K, Murata Y. General equilibrium models of monopolistic competition: A new approach. *Journal of Economic Theory*. 2007;**136**:776-787
- [35] McNew S. American's 12 Most Charitable Companies [Internet]. April 25, 2017. Available from: <https://www.fool.com/investing/2017/04/25/americas-12-most-charitable-companies.aspx>
- [36] O'Connell B. Trump's tweet sends pharma stocks down. *U.S. News*. March 7, 2017. Available from: <https://money.usnews.com/investing/articles/2017-03-07/trumps-tweet-on-drug-competition-sends-pharma-stocks-down>
- [37] Dunn EW, Akin LB, Norton MI. Spending money on others promotes happiness. *Science*. 2008;**319**:1687-1688
- [38] Walker C. The Company Giving Almanac [Internet]. 2013. Available from: www.dsc.org.uk/cga [Accessed: January 12, 2018]

- [39] Southwest Airlines [Internet]. 2018. Available from: www.southwest.com [Accessed: January 5, 2018]
- [40] Corporate Responsibility Report [Internet]. 2016. Available from: www.aa.com [Accessed: January 5, 2018]
- [41] Axelrod M. Allstate insurance; or deception and student scholarships. The Huffington Post. November 19, 2015
- [42] Barrabi T, The business of college football's national championship. Fox Business. January 1, 2016

