

CAUSE-RELATED MARKETING: AN ECONOMIC ANALYSIS*

Leonid Polishchuk, Evgeny Firsov

Abstract

Cause-related marketing is a business strategy where firms bundle their products and brands with contributions to designated charities. The double appeal of this strategy is that it responds to societal pressure for “corporate social responsibility” and at the same time could prove commercially profitable. The paper inquires into the origins and incidence of economic gains of cause-related marketing. It identifies two sources of its profitability – first, corporations utilize their advantages over households in covering transaction costs of philanthropy, and second, can exploit cause-related marketing as a price-discrimination tool. Cause-related marketing channels to charity significant resources that would not be available otherwise due to high transaction costs of individual donations. It thus contributes to social welfare and, at the same time, to the bottom-line of practicing firms. This explains the observed rapid proliferation of this strategy against the overall stagnation and even decline of corporate philanthropy.

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1. Introduction

In the growing literature on economics of philanthropy (succinctly surveyed by Andreoni (2004)) relatively little attention is paid to an increasingly popular business strategy, known as cause-related marketing (CRM), when commercial firms tie to their brands and products contributions to charitable causes. The commonly cited motives for the practice is that it allows companies to meet social expectations of “corporate social responsibility” and at the same time contribute to the business bottom-line by differentiating products, building customer goodwill and brand loyalty and thus increasing market share, sales and profit. These rationales have been strong enough to ensure a rapid growth of the practice, driven by willingness of consumers to reward socially responsible behavior and give preference, at least all else equal, to companies that contribute to various public goods.

This paper inquires into the origins and incidence of economic gains of cause-related marketing. It identifies two sources of profitability of this strategy for the firms that practice it – first, corporations utilize their advantages over households in covering transaction costs associated with philanthropy, and second, can exploit cause-related marketing as a price-discrimination tool. Such gains, however, are shown to dissipate as more firms adopt this business strategy.

The paper is organized as follows. The next two sections describe modern trends in corporate philanthropy and introduce cause-related marketing. These are followed by Section 4 where economic rationales for CRM are discussed. Sections 5, 6 present a model that is used in the subsequent analysis. This model is applied in Sections 7-10 to study CRM under different assumptions of market power of firms that combine their products with philanthropy. Section 11 concludes.

2. Corporations and philanthropy

In the early-to-mid twentieth century US corporations were often making generous contributions to charitable causes. Corporate giving was motivated by the recognition of the key role of large companies in the economy and society, and thus their responsibility for social progress and welfare. These sentiments were later reinforced by environmental concerns, growing inequality, protests against exploitation of domestic and foreign labor, etc. In response to such societal pressures, companies pledged “socially responsible” behavior – a broad concept that provides, inter alia, for sizeable, at times massive, corporate donations.

However, corporate philanthropy raises serious questions that were put forcefully by Milton Friedman in his henceforth famous 1970 diatribe of the practice¹. Friedman argued that corporations’ sole business was business, and thus corporate social obligations should be restricted to those before the shareholders, and to the compliance

¹ Friedman, M. The Social Responsibility of Business Is to Increase its Profit. *The New York Times Magazine*, September 13, 1970.

with laws and government regulations. This view doesn't leave room for corporate contributions to charitable causes.

To better appreciate the economic underpinnings of Friedman's critique, one should invoke rationales for philanthropy. The latter usually fall into two main categories. First, donors could directly benefit, alongside the rest of society, from the supported public goods. The power of this incentive for private provision of public goods is however limited due to free riding; besides, this rationale cannot explain often observed contributions to "remote" causes which have no immediate bearings upon the benefactor.

The second explanation is an *altruistic* one, when donors find satisfaction from the very act of giving and their involvement in furthering a worthy cause. Put differently, donors experience "*warm-glow*" feeling from their dealing in charity (Andreoni, 1990).

Turning back to companies, they are spiritless and thus cannot experience warm-glow. However, warm-glow can be felt by corporate owners and managers who authorize contributions to charities. If the sole owner of a company makes such contributions, she spends her own money and this is essentially a case of individual giving, even if under a different guise. However, if a decision to donate to charity is made by a manager of a shareholder-owned company, this could constitute a conflict of interest and a possible breach of agency relation, since the manager enjoys warm-glow at the expense of shareholders in whose interests he is supposed to act².

The increased pressure of the bottom-line due to heightened competition in the global economy, diffusion of corporate ownership, and efforts to improve corporate managers' accountability to shareholders have all precipitated a decline of corporate charitable donations that shrunk in the US (as a percentage of profit) by half over the last fifteen years, and in 2001 alone – by almost 15% (Porter, Kramer, 2002). In 2004 contributions to charity by US corporations accounted for mere 5% of the nation's gross philanthropy – by comparison private individuals donated 75% of the total³. This trend is consistent with Friedman's assertion that charity is better left to individuals, not companies.

Despite of this decline, corporations maintain their presence in philanthropy, as the external forces for "corporate social responsibility" remain unabated. Businesses are compelled – by public opinion, government pressure (which is increasingly the case in Russia – see e.g. Polishchuk, 2006), or other means – to invest resources into projects and activities that either have no direct impact on the sponsors' earnings, or such impact alone does not justify the scale of sponsorship. The flipside of such behavior is companies' refraining from business practices, technologies, sources of supply etc., which are commercially profitable and legal, but are considered questionable by public opinion (e.g. dealing with international partners suspected of violation of human rights, worker safety and environmental standards).

² "If the corporation makes a contribution, it prevents the individual stockholder from himself deciding how he should dispose of his funds" (Friedman, 1982).

³ The Annual Report on Philanthropy for the Year 2004. Giving USA Foundation, 2005.

Compliance with this pressure leads to immediate loss of profits but could still benefit companies indirectly, making the observance of informal “civil regulation” (Zadek, 2001) overall profitable, as it allows to avoid sanctions that would ensue otherwise and could cost the businesses dearly. If the public holds business to higher “social responsibility” standards, a failure to meet such standards could lead to losses of customers that punish commercial egotism by turning to more socially conscious competitors⁴. Similarly if government’s expectations are not met, a company could lose government contracts or be penalized by other means at government’s disposal, such as tighter scrutiny and regulatory control.

3. Cause-related marketing

However, incentives for corporate social responsibility involve not only stick but also carrot. Companies often resolve the dilemma between being profitable and socially responsible by resorting to “*strategic philanthropy*” whereby support to social causes pays back through positive externalities that such efforts create, which aligns social and economic goals of the company (Porter, Kramer, op. cit., p. 58). Socially responsible actions of corporations thus serve a dual purpose of being an end for the company that is concerned about its image and at the same time a means to expand profits and revenues, i.e. a yet another business strategy.

There are two main modes of contributing to corporate bottom-line through strategic philanthropy. The first consists in improving infrastructure, raising quality and availability of labor and other inputs, relieving social tension in the regions where the company operates to mitigate political risks, and in other means of improving the operational environment of the company. This is essentially the corporate version of the above mentioned direct incentive for philanthropy.

The second mode, known as *cause-related marketing* (CRM), consists in bundling the image of the company or a particular brand or product that it sells with a charitable cause. The purpose of this business strategy is to differentiate the company and its products from competitors, to win loyalty and goodwill of customers by supporting a worthy undertaking, and thereby to ultimately expand the company’s market share and profits⁵.

CRM can take various forms, the most straightforward one being a pledge of remittance to a designated charity of a certain amount per customer’s purchase (see e.g. Vogel 2005). The donated amount could be either lump-sum, or a percentage of the paid price. Donations could also be indirect, in the form of forgone profit due to the company’s refusal to deal with suppliers or use technologies that cause damage to environment,

⁴An extreme form of this motive is participation of alcohol and tobacco producers in anti-drinking and anti-smoking campaigns.

⁵ B. Goodwill (1999) defines cause-related marketing as a business strategy aiming to “(a) associate [a company’s] product with a perceived social good and thus boost its appeal to a defined market segment which shares that perception, (b) increase a broader market segment’s perceptions of the enterprise as socially-engaged or responsible, (c) derive bottom-line benefits from increasing market share in the targeted segment”.

violate workers' rights, etc. A yet another version of this approach is a promise to fairly compensate company suppliers that would be otherwise victims of "unconscionable" exploitation.

CRM is analogous to the commercial practice known as "tie-in sales" (Tirole 1988), when a company sells packages consisting of its primary products in combination with accompanying ingredients that could be in principle obtained independently. For CRM, such add-ons are charitable donations.

CRM was pioneered in 1983 by American Express which promised to donate one cent per transaction conducted with an American Express card to the restoration of the Statue of Liberty, and contribute to the same cause one dollar per every newly opened American Express account. In the course of three months of this promotion, \$1.7 million was raised to give the Statue of Liberty a facelift, and American Express was rewarded by an almost 30% swell of the use of its credit card, and by a 45% increase of new credit card applications (Adkins, 1999a).

Since then CRM has mushroomed. Measured by revenues contributed to charity, it grew in the US from \$120 million in 1990 to an estimated \$1.08 billion in 2005 (Epstein, 2005). It is noteworthy that this impressive growth occurred against the backdrop of the abovementioned overall decline of corporate philanthropy. Major manufacturers and retail chains such as Avon, Barclays, Cadbury, The Home Depot, Target, Timberland, McDonalds and ConAgra, all practice CRM.

Private and household sectors surveys indicate a significant potential of CRM as a business strategy and a philanthropy tool. An opinion poll reported in (Goodwill, 1999), found that over 3/4th of respondents endorse CRM and as many would switch, price and quality being equal, to a brand associated with a good cause. Another source (Epstein, 2005) reports more recent data which put the latter number at 86%. A corporate survey conducted in 2001 by the UK-based Business in the Community movement⁶ reported that close to 60% of marketing directors practiced CRM in the year preceding the survey, and 2/3 of them found it important in achieving their marketing objectives. 77% of respondents are of the opinion that CRM can enhance corporate or brand reputation.

4. Economic rationales for CRM

Why companies can profit from CRM? Recalling that CRM is a version of tie-in sales, this question can be re-formulated as follows: why adding donations to charity to the main product (the basic good) makes economic sense for the company? Clearly such package is more appealing to a customer that values the chosen charitable cause, but it costs the company more, and the latter could still make a profit under at least one of the following conditions:

⁶ On the web at http://www.bitc.org.uk/resources/research/research_publications/corp_survey_3.html

- (i) the company has an advantage over its customers in conducting philanthropy, and could keep the at least some of the gains that such advantage creates, or
- (ii) CRM opens additional opportunities for the company on the primary market that it serves.

Gains of the first kind are due to the different abilities of large corporations, on the one hand, and their customers, on the other, to handle *transaction costs* associated with charitable donations. Such costs have two main origins – they arise due to asymmetric information, and in addition are incurred when donations are actually executed.

Asymmetric information transaction costs are borne to avoid adverse selection and moral hazard associated with philanthropy. Adverse selection is preventable by expending resources on search for an appropriate charity and checking and establishing the prospective grantee's credentials and track records. To avoid moral hazard, the performance of the chosen recipient of funds should be properly monitored.

Costs of both types could be significant⁷, and private individuals, at least those who do not make massive donations, can rarely cover such costs on their own, and even if they could, such costs most likely exceed the donors' perceived satisfaction from charity. Indeed, according to (Hausmann, 1980) informational asymmetry is one of the rationales for the very existence of non-profits. When potential donors aren't sure whether the charities would indeed use the donated funds for mandated purposes, and if so, how effectively they would use the donations, this concern can be addressed by applying the "non-distribution" constraint that disallows paying profits to charity operators and thus weakens incentives for opportunistic behavior. However, this constraint which defines the non-profit, in and of itself does not solve the adverse selection and moral hazard problem inherent to philanthropy; in particular it does not rule out excessive compensations to employees and managers of non-profits, and cross-subsidization that diverts funds away the specific activities they were supposed to support

Other authors (see e.g. Weisbrod, Dominguez, 1986) stress the importance of donors' access to information about how their funds would be spent to their propensity to donate to charity. The informational asymmetry that blocks donations could be lowered by fundraising – a non-profit equivalent of commercial advertising. However, the impact of fundraising could be ambiguous – on the one hand, such efforts reduce informational asymmetry and hence allay donors' apprehensions, but on the other, donors could be concerned that too much of their potential donations would be spent on further fundraising, instead of furthering the ultimate cause that the donors want to support. Finally, Andreoni (2004) points out that unknown quality of a new charitable project could be an obstacle to "capital campaigns" necessary to take the venture off the ground.

⁷ According to (Porter, Kramer, 2002, p. 63), "selecting the most effective grantees in a given field is never easy. It may be obvious which nonprofit organizations raise the most money, have the greatest prestige, or manage the best development campaigns, but such factors may have little to do with how well the grantees use contributions. Extensive and disciplined research is usually required to select those recipients that will achieve the greatest social impact".

The rest of transaction costs, that are required to execute a donation (write a check, make a payment), are much lower, but still nontrivial, especially if a donation is small. These costs thus stay in the way of making donations which are negligible for an individual donor but could add up to large sums when collected from numerous givers.

The above transaction costs pose entry barriers to private philanthropy. Corporations practicing CRM are able to remove these barriers. Indeed, the costs of processing and remitting donations made as parts of purchasing prices are trifling, and in addition spread over a large number of transactions, thus creating a valuable economy of scale. Asymmetric information costs are less trivial even for a big company, but first, they are also mitigated by the above scale economy, and second, corporations have important comparative advantages over individuals in performing search and monitoring of non-profit counterparts⁸. Corporations also have strong incentives to actually exercise due diligence in selecting and monitoring their non-profit counterparts, because they are linking their names, brands and business reputations to their partners, and failures of the latter to properly perform would adversely affect the corporate sponsors.

The second possible source of CRM profitability is that it could serve as a screening device revealing valuable information about company's customers. This device works as follows: a willingness to buy the basic good at a premium provided that a portion of the paid price will be contributed to charity sends the company two signals – first, that the customer values the supported cause, and second, that she is *ceteris paribus* not particularly sensitive to the price paid for the basic good. The second signal is particularly valuable for the company as it allows third-degree price discrimination that would not be possible without consumers signaling their types⁹. In this case charitable donations serve as a benchmark against which consumers' preferences for the basic good are measured.

The above reasoning suggests that CRM is indeed a means of strategic philanthropy allowing the companies to improve their economic performance while furthering social causes and objectives. Inasmuch as CRM cuts transaction costs of charitable donations, it corrects a failure of the market for philanthropy by channeling to charities donations that cannot be made otherwise due to entry barriers which are prohibitively high for individual donors. At the same time CRM could be used as a price-discrimination tool

⁸ “Corporations are well-positioned to undertake ... research [necessary to identify a grantee] if their philanthropy is connected to their business and they can tap into their internal capabilities, particularly the financial, managerial, and technical expertise of employees. ... Corporations also often have a presence in many communities [which] can provide significant local knowledge and the ability to examine and compare the operation of nonprofits firsthand” (Porter, Kramer, p. 63) Besides screening and monitoring, companies can transfer to their charity partners modern management practices, thus raising the efficiency of non-profits' operations funded by corporate grants (op. cit., p. 65).

⁹ The above logic is presented in (Harford, 2005), where the possibility to use company's contributions to solving social problems for price discrimination purposes is emphasized. This is illustrated by the so-called “fair-trade coffee” campaign whereby coffee shops charge significant price premiums for their beverages and justify it by a pledge to pay higher (“fair”) procurement prices to coffee harvesters in the Third World. However the cost increase due to higher input prices falls far below the mark-up, indicating a hidden agenda – namely, price discrimination.

that benefits the firm at the expense of consumers that were hitherto protected by informational asymmetry.

The rest of the paper investigates the above motives for CRM and their implications for the parties involved by using a stylized model applied under different assumptions about the structure of the market where CRM is practiced.

5. Basic model

Suppose that consumers derive utility from consumption of the basic good and from their contributions to charity. The latter assumption captures the above mentioned warm-glow motive of philanthropy. Consumer preferences are assumed to be quasi-linear; this considerably simplifies the subsequent analysis and reflects the fact that consumption of the basic good and philanthropic donations are unrelated activities, until they are tied in a CRM scheme.

The utility function of a representative consumer is thus

$$U(x, y, z) = z + u(x) + v(y), \quad (1)$$

where x is the consumption of the basic good, y – donations to charity measured by the donated amount, and z – consumption of all other goods. Utility functions u and v are assumed monotonically increasing and concave. Denote $d(\pi) = (u')^{-1}(\pi)$ and $\Delta(\rho) = (v')^{-1}(\rho)$ demand functions for the basic good and charitable donations where π and ρ are the prices of these goods.

The utility component $v(y)$ represents warm-glow from giving, and the maximal net utility that the consumer could derive from charity is thus $\max_{y>0} (v(y) - y)$. Assuming that $v'(0) > 1$, this utility is positive which means that, absent transaction costs, a consumer would be willing to make charitable donations to the extent of $\Delta(1)$, obtaining the consumer surplus of $v(\Delta(1)) - \Delta(1)$. Let the total transaction costs of philanthropy, net of the tax benefits, if any, of charitable donations, be greater than this surplus – this rules out direct individual donations to charity.

A firm that uses CRM has access to a production technology with the linear cost function $C(x) = cx$. To launch CRM, the firm has to incur a fixed cost of selecting a charity, negotiating an agreement with it, and monitoring its implementation. These costs, unlike the case of individual donors from the households sector, are negligible in comparison with the firm's operations, and are for the time being ignored.

The firm charges price p per unit for the basic good that it sells, and promises to make a charitable donation λ per purchased unit. The demand for the basic good $D(p, \lambda)$ is thus the optimal solution of the following consumer choice problem:

$$\max_{x \geq 0} (u(x) + v(\lambda x) - px), \quad (2)$$

and can be found from the first order condition

$$u'(x) + \lambda v'(\lambda x) = p. \quad (3)$$

Problem (2) reflects the assumptions that consumers cannot make contributions to charity on their own due to high transaction costs, and all such contributions are made on consumers' behalf through CRM.

6. Equivalence lemma

CRM ties consumption of the basic good with contributions to charity; however since consumer's preferences are separable in x and y , the choices of these variables can be disentangled, as per the following equivalence lemma.

Lemma. For every p, λ there exist prices π, ρ of the basic good and charitable contributions such that

$$D(p, \lambda) = d(\pi), \quad \lambda D(p, \lambda) = \Delta(\rho) \quad (4)$$

Vice versa, for any such prices there are p, λ such that equalities (4) hold. •

The equivalence lemma states that consumer choice under CRM, including consumption of the basic good and donation to charity, could be reproduced by separately charging properly set "effective" prices for the basic good and philanthropic contributions made by the firm on behalf of the consumer. The one-to-one correspondence between p, λ and π, ρ is as follows:

$$\pi = u'_1(D(p, \lambda)), \quad \rho = v'(\lambda D(p, \lambda)); \quad (5)$$

$$p = \pi + \frac{\Delta(\rho)}{d(\pi)} \rho, \quad \lambda = \frac{\Delta(\rho)}{d(\pi)}. \quad (6)$$

This can be verified by direct calculations, which also proves the lemma. Furthermore, the profit $(p - c - \lambda)D(p, \lambda)$ ¹⁰ of the firm practicing CRM is equal to the total of the

¹⁰ For simplicity we ignore for the time being the tax benefits (if any) of charitable donations that the firm could claim.

profits $(\pi - c)d(\pi)$ and $(\rho - 1)\Delta(\rho)$ that could be made separately on the markets for the basic good and charitable contributions, when p, λ and π, ρ satisfy equations (5), (6) (naturally the cost of donations to charity for the firm is unity, and the price ρ charged to consumers is the total of this cost plus a “commission” markup).

The above lemma provides a useful insight into the implications of CRM for the basic good and charitable donations markets, and the origins and incidence of gains and losses that the practice entails. In particular it challenges the intuitive view that charitable donations made by the firm on behalf of its customers are simply a “flow-through” and thus cannot be in and of themselves a source of profit. In fact, according to the lemma, CRM imputes an effective price for charity which could be well above the marginal cost of unity, and thus a source of profit stemming entirely from the charity, even if on the face of it all that the firm does is passing on donations made by the customers.

7. Monopoly: homogeneous consumers

Suppose that a firm that contemplates CRM has a monopoly in the basic good market and sells the product to a unit continuum of identical consumers with preferences (1). Prior to introducing CRM the firm charges the monopoly price π^* that maximizes profit $(\pi - c)d(\pi)$. With CRM in place, the firm solves the following problem:

$$\max_{p, \lambda} (p - \lambda - c)D(p, \lambda) \quad (7)$$

which according to the equivalence lemma can be reduced to determining the effective monopoly price ρ^* of charitable donations that maximizes $(\rho - 1)\Delta(\rho)$, and setting

$$p^* = \pi^* + \lambda^* \rho^*, \quad \lambda^* = \frac{y^*}{x^*}, \quad (8)$$

where $x^* = d(\pi^*)$, $y^* = \Delta(\rho^*)$ are sales of the basic good and charitable contributions that realize monopoly optima on the corresponding markets. Indeed, according to the Equivalence Lemma, the firm cannot get higher profit than in this “twin monopoly” optimum, and the latter can be obtained through CRM if the parameters of the scheme are chosen according to (8). This leads to

Proposition 1. When a firm has a monopoly on the basic good market and introduces CRM, the outcome is equivalent to two separate monopolies on the markets for basic good and charity. •

Therefore CRM allows the firm to retain all of its monopoly rent previously available from the basic good market, and augment it by the monopoly profit on the market for charity (as long as the firm’s position as an exclusive provider of add-on philanthropy remains uncontested – more on that later in the paper). CRM thus indeed aligns economic

and social objectives of the firm, increasing its profit while earning a reputation for “social responsibility”. It is also noteworthy that under the conditions assumed in this section CRM does not expand the sales of the basic good (an oft-cited rationale for the practice) – otherwise the firm would have lost a part of its earlier available profit, but instead allows it to tap into the warm-glow by earning extra money through mediation in charity where the “effective price” ρ^* is set above the marginal cost which is equal unity.

Consumers are also better-off with CRM, because they keep the consumer surplus available from the basic good market, but in addition enjoy warm-glow, although at a suboptimal level (since $v'(y^*) = \rho^* > 1$), and earn an additional consumer surplus of $v(y^*) - \rho^* y^*$. Finally, the impact on aggregate social welfare is as well positive, since the two immediately involved parties – the firm and its customers – are better-off, and a charitable cause creating a public good gets additional funding¹¹.

8. Monopoly: heterogeneous consumers

The preceding section shows how a firm could profit from CRM by helping customers to make charitable contributions that would have been otherwise obstructed by high transaction costs. This section illustrates a yet another source of additional profit generated by CRM, namely price discrimination.

Suppose that consumers to which the firm sells the basic good belong to two groups with utility functions $U_i(x, y, z) = z + u_i(x) + v(y)$, $i = 1, 2$, respectively. It is thus assumed that in each group consumers experience the same warm-glow from identical charitable contributions, but they derive different utilities from consumption of the same quantities of the basic good. The latter circumstance opens room for price discrimination on the basic good market, but since consumer types are not directly observable to the firm, such price discrimination could only be of a third-degree kind.

Let π_i^0 be optimal monopoly prices that the firm would have set for the two types of consumers if it were able to observe their types; these prices are found from the problems $\max_{\pi_i} (\pi_i - c) d_i(\pi_i)$, where $d_i(\cdot) = (u_i')^{-1}$ are the demand curves for the two segments of the market, $i = 1, 2$. Not being able to practice price discrimination prior to using CRM, the firm charges all consumers the same price π^0 that maximizes the total profit and

¹¹ Andreoni (2004) presents arguments against including warm-glow in social welfare calculations, while relying on it as a motive for potentially welfare-improving actions. From this, more restrictive, point of view, the impact of CRM on aggregate welfare is also likely to be positive, due to efficiency gains comprising the additional profit of the participating firm, and contributions to provision of a public good which is arguably undersupplied (i.e. available in less than socially efficient quantity) – otherwise a responsible charity would not support the cause.

solves the following problem: $\max_{\pi} [(\pi - c)[\xi_1 d_1(\pi) + \xi_2 d_2(\pi)]]$; here ξ_1, ξ_2 are sizes of the two market segments, $\xi_1 + \xi_2 = 1$.

When the firm introduces CRM, it chooses the retail price p and pledged contribution to charity λ from problem (7) with $D(p, \lambda) = \xi_1 D_1(p, \lambda) + \xi_2 D_2(p, \lambda)$, where $D_i(p, \lambda)$ are the choices of two types of consumers and satisfy the following first order conditions:

$$u'_i(x_i) + \lambda v'(\lambda x_i) = p, \quad i = 1, 2. \quad (9)$$

As before, the same choices would ensue if consumers were charged separate prices $\pi_i = u'_i(x_i)$ for the basic good and $\rho_i = v'(\lambda x_i)$ for the charitable contributions. Notice that although the price p charged for the basic good under CRM is the same for all consumers, *effective* prices π_i are in general different for the two segments, which constitutes de facto price discrimination. It will be now shown that with appropriately chosen p and λ the firm benefits from such discrimination. This will be established under the following simplifying assumptions:

- (i) $u'_1(x) > u'_2(x), \forall x > 0$
- (ii) $\pi_1^0 > \pi_2^0$
- (iii) profit functions $\Pi_i(\pi_i) = (\pi_i - c) d_i(\pi_i)$ are single-peaked, $i = 1, 2$.

Assumptions (i), (ii) state that the first type of consumer would purchase at a given price more of the basic good than the second type, and that the optimal monopoly price for the first segment is higher than for the second. Assumption (iii) implies that the unified non-discriminatory monopoly price π^0 falls between π_2^0, π_1^0 .

The following proposition shows that by manipulating p and λ the firm could drive a wedge between the effective prices π_1, π_2 , moving them sideways from π^0 towards the corresponding optima π_1^0, π_2^0 , and thus profiting from price discrimination on the market for the basic good. Furthermore, while doing so the firm does not lose money on the charity market – in fact, it earns on that market additional profit.

Proposition 2. There exist CRM parameters p, λ such that for the ensuing consumer choices x_i effective prices $\pi_i = u'_i(x_i)$ and $\rho_i = v'(\lambda x_i)$ satisfy the following inequalities:

$$\pi_2^0 < \pi_2 < \pi^0 < \pi_1 < \pi_1^0, \quad (10)$$

$$1 < \rho_1 < \rho_2. \bullet \quad (11)$$

Proof of Proposition 2 is presented in the Appendix. Due to single-peakedness of profit functions $\Pi_i(\pi_i)$, inequalities (10) imply that the firm makes more money on the basic goods market when it practices CRM, than without it. Furthermore, due to (11) the

effective prices that the firm charges for charitable contributions exceed the marginal costs, and thus the market for charity is another source of additional profits.

How these two sources of economic gains from CRM are combined in the optimal choice of p, λ , depends on specifics of consumer preferences. Notice that the problem of optimal choice of CRM parameters allows the following re-formulation in terms of effective prices π_i, ρ_i :

$$\max_{\pi_i, \rho_i} \sum_{i=1,2} [(\pi_i - c) d_i(\pi_i) + (\rho_i - 1) \Delta(\rho_i)] \quad (12)$$

$$\text{S.t. } \frac{d_1(\pi_1)}{\Delta(\rho_1)} = \frac{d_2(\pi_2)}{\Delta(\rho_2)} = \frac{\rho_2 - \rho_1}{\pi_1 - \pi_2} \quad (13)$$

Welfare implications of CRM when consumers are heterogeneous are uncertain: the low demand group gains from paying a lower effective price, while the high demand one, when it is charged a higher effective price, is worse-off, and it is unclear whether the consumer surplus lost by this group on the basic good market is compensated by the warm-glow (which by the way is cheaper for the high demand group than for the low demand one). The impact of CRM on the aggregate welfare, as it is often the case with price discrimination, is ambiguous as well.

9. Competitive market

Suppose now that a firm that uses CRM by offering the basic good at price p under the condition that it will donate λ to charity per every unit sold, competes on the basic good market with other producers all of whom have access to the same production technology with constant marginal cost c . The response of consumers, all of whom are supposed to have identical preferences, to the firm's offer can be found from the following consumer choice problem:

$$\max_{x, \tilde{x}} [u(x + \tilde{x}) + v(\lambda x) - px - c\tilde{x}], \quad (14)$$

where \tilde{x} represents sales of competitors that don't use CRM. The firm chooses p and λ to maximize its profit $x(p - c - \lambda)$, where x is found from (14). In fact such firm has a variety of optimal choices, which are as follows.

Proposition 3. For any $x \in (0, d(c))$ the values

$$\lambda = \frac{\Delta(\rho^*)}{x}, \quad p = c + \lambda \rho^* \quad (15)$$

form an optimal choice of a firm that uses CRM on a competitive market¹². •

Proof of Proposition 2 is presented in the Appendix. According to this proposition, CRM allows the firm to earn the full monopoly profit on the market for charity while still making no profit on the market for basic good. This is consistent with the intuition based on the Equivalence Lemma that decomposes CRM into charging appropriate prices on the basic good and charitable donation markets. The first of these prices due to the presence of competitors cannot be anything but the competitive price c , whereas the second one, for as long as the firm's mediation on the charity market remains uncontested by rivals, is the monopoly price ρ^* .

This proposition illustrates an important difference between CRM and conventional forms of tie-in sales, where a manufacturer has some market power in supplying the main good, and attempts to obtain similar power on a competitive supplementary good market. In the case of CRM when the basic good market is competitive, the purpose of the technique is to differentiate the product by tying it to charitable donations and thus hopefully to obtain some power on the basic good market. According to Proposition 3, such power cannot be secured however, even if the firm is the only one that practices CRM (this assumption will be removed in the next section).

The same maximal monopoly profit from dealing in charity can be spread over the range $x \in (0, d(c))$ of basic good sales. The firm can thus control its share of the basic good market from a small one (by charging a high retail price, a large part of which goes to charity) to the full market (the basic good is retailed at a price slightly above the production cost, and contributions to charity are small). In the simple framework considered in the paper the firm is indifferent between these alternatives, as for all of them it breaks even on the basic goods market and earns the same profit $(\rho^* - 1)\Delta(\rho^*)$ all of which comes from sales of charitable contributions. In reality of course the firm might have additional reasons to expand its market share, and according to Proposition 2 it can do so by using CRM – in agreement with the commonly invoked economic rationale for the practice. To that end, the firm has to keep its donations to charity small and offer a close to competitive retail price which covers the donation λ and earns the firm a mark-up of $\rho^* - 1$ per dollar of charitable donations.

The above analysis implies that when CRM is practiced on a competitive market, it makes all sides involved better-off by supporting charitable donations that were hitherto precluded by high transaction costs. Consumer surplus on the basic good market is protected by the option to turn to no-frills competitors, and thus CRM doesn't confer any market power on the firm's main market. Competition also rules out CRM-based price discrimination available to firms that have market power over the sales of the basic good.

¹² As before, ρ^* is the optimal monopoly price of charitable donations.

10. Competition for charity

In all of the above cases CRM was used by a single firm with a monopoly power in the market for charity. The rent that such firm earns attracts entry into CRM by competitors that also offer their goods in combination with charitable donations. To explore the outcome of such entry and the ensuing competition for charity, this section considers the case of two firms manufacturing the same basic good at cost c , both of which are using CRM by charging retail prices p_i and promising to contribute to charity shares λ_i of proceeds, $i = 1, 2$.¹³ Consumers who are assumed identical could purchase from both firms, and make their choices by solving the following problem:

$$\max_{x_1, x_2} [u(x_1 + x_2) + v(\lambda_1 x_1 + \lambda_2 x_2) - p_1 x_1 - p_2 x_2]. \quad (16)$$

CRM policies that firms choose form a Nash equilibrium in the game with payoff functions $x_i(p_i - c - \lambda_i)$, $i = 1, 2$, where x_i are solutions of (16).

Although the Equivalence Lemma is not directly applicable here, it suggests that this is a version of Bertrand competition and correctly predicts the outcome of such competition – both firms set effective prices of the basic good and charity equal to the corresponding marginal costs, and profits from both markets completely dissipate.

Proposition 4. When two firms compete on both markets, there is a unique equilibrium with

$$p_i = c + \frac{\Delta(1)}{d(c)}, \lambda_i = \frac{\Delta(1)}{d(c)}, i = 1, 2. \bullet \quad (17)$$

The above proposition, which is proven in the Appendix, implies that in equilibrium (where effective prices coincide with marginal costs viz. c and unity), both the basic good and charity contributions are provided in efficient quantities. All of the efficiency gains in such equilibria accrue to consumers, whereas the competing firms break even.

In reality competition for charity is less straightforward and vigorous, because commercial firms, in order to differentiate their products and brands – one of the main motives of CRM – aim to conclude exclusive agreements with non-profits pursuing distinct charitable causes (Adkins, 1999b), which are sometimes intrinsically, even if loosely, associated with the basic goods that corporate donors sell. Although these causes are distinguishable for consumers, all of them produce “warm-glow” and are as such substitutes, and the competition just described turns *monopolistic*, whereby each firm has a monopoly in linking a particular kind of philanthropy to its product, but competitors can enter the market for charity with sufficiently close substitutes. Such entry occurs until

¹³ None of the firms thus has an exclusive arrangement with the supported charity, or perhaps they sponsor different charitable causes which are perfect substitutes as sources of “warm-glow”.

the additional profit dissipates below the fixed costs required to launch a CRM scheme. In the long-run equilibrium the no-profit outcome still obtains.

The above version of monopolistic competition is based on “horizontal differentiation” of CRM, when various firms engage different charities in their marketing schemes. When consumers are heterogeneous and differ from each other by the intensity of “warm-glow”, another kind of monopolistic competition, based on “vertical differentiation”, is possible. In this case different firms set various rates of contribution of sale proceeds to charity, and reflect this in retail prices. This situation is similar to offering to the market goods of different quality and charging quality premiums¹⁴. Consumers with particular intensity of “warm glow” would choose firms whose CRM scheme fit their preferences best, and the monopolistic competition that ensues is similar to the classical “linear city” model (see e.g. Tirole 1988). Further investigation of such monopolistic competition versions of CRM is beyond the scope of this paper.

11. Concluding remarks

The above analysis reveals two main sources of CRM profitability for firms that practice it, viz. the unlocking of transaction costs barriers in the market for charity, and price discrimination. It also demonstrates that CRM does not afford additional market power in the market for basic good. This latter conclusion is of course conditional on the assumption made in the paper that demands for the basic good and charity are mutually independent. This is a plausible supposition, unless the basic good and charitable cause are directly connected with each other, e.g. are complements. The first two conclusions are robust to possible interconnectedness of the basic good and philanthropic cause. One way or another, CRM could indeed benefit corporate donors economically. A firm that introduces CRM on a competitive market can increase its market share, which is in agreement with the commonly held views of the nature of CRM contribution to the bottom-line; however, such expansion in and of itself does not generate additional profit.

The rent earned by firms that pioneer CRM makes this business strategy spread, which is consistent with observed growth of the practice over the last two decades. However, the entry of new firms into CRM leads to dissipation of profit as firms crowd out each other in exploiting the limited warm-glow capacity of their customers¹⁵. This could be an explanation of why empirical studies reveal no statistically significant positive relationship between corporate social responsibility, including CRM, and corporate profits, and of the observation that socially responsible companies are not systematically worse-off than their competitors either (Vogel, 2005).

Two other kinds of potential material gains that corporations could draw from CRM are non-pecuniary compensation for managers and tax benefits of philanthropy. In the first

¹⁴ This can be again illustrated by the earlier mentioned “fair-trade coffee” campaign (footnote 9), when more expensive “fair-trade” coffee is offered on the market alongside regular one, which is considerably cheaper.

¹⁵ “It is ... possible that the market niche for [socially] responsible firms is limited” (Vogel, 2005, p. 34).

case CEOs that authorize CRM earn social recognition, prestige and popularity and enjoy warm-glow, magnified by the large scale of corporate donations. In a competitive market for corporate executives such benefits could arguably justify lower remuneration in the traditional forms of salary, bonuses and stock options, and this enhances corporate profits¹⁶. Similarly, if contributions to charity made on behalf of customers are not taxed in the hands of the company, this reduces the cost of CRM and expands both the scale and profitability of the latter. However, competition drives the effective price of charity down to $1-t$, where t is the rate of the tax from which contributions to charity are exempt. In this case in the long-run equilibrium companies still make no extra profit, and their tax benefits are passed on to consumers who de facto enjoy on their contributions to charity the tax breaks which are nominally available to corporations.

CRM, except for its price-discrimination aspect, makes consumers better-off by providing them with previously unavailable warm-glow. But even if, as argued by Andreoni (2004), warm-glow should not be counted in welfare calculations, CRM makes the society better-off by channeling to charity significant resources that were previously blocked by transaction costs of philanthropy. It is particularly valuable that such contributions could be significant and available upfront before the supported charities could launch a conventional fund drive to collect additional funds necessary to implement a charitable program (such as a capital project) in its entirety. It is shown in (Andreoni, 1988) that when provision of a public good involves fixed costs and is to be privately funded, there could be multiple equilibria, in some of which the public good is provided, but in others due to a coordination failure no contributions are made. If in an initial push the charity could raise with the help of its CRM sponsor a required minimum of funds, when the sponsor undertakes “leadership giving”, this makes follow-up individual donors confident that the project will be implemented, and eliminates the no-provision equilibrium.

Porter and Kramer (2002) argue that Milton Friedman’s critique of corporate philanthropy mentioned earlier in the paper can be invalidated if a) companies can better pursue their economic objectives by engaging in charitable activities, and b) companies might have comparative advantages in philanthropy over individual donors. This paper shows that, perhaps with reservations, CRM meets both of these conditions, which explains the observed growth of this practice against the backdrop of overall stagnation and at time decline of corporate giving at large.

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¹⁶ No empirical confirmation of this hypothesis is known to the authors.

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Appendix

Proof of proposition 2.

Take y such that $v'(y) > 1$ and let $\lambda = y/x_1^0$, $p = \pi^0 + \lambda v'(y)$, where $x_i^0 \equiv d_i(\pi^0)$, $i = 1, 2$. With these p, λ the choice of type 1 consumers remains intact: $D_1(p, \lambda) = x_1^0$, and these consumers pay the same effective price π_0 for the basic good. Notice next that type 2 consumers will buy less of the basic good than type 1; indeed due to (ii) $u_2'(x_1^0) + \lambda v'(\lambda x_1^0) < u_1'(x_1^0) + \lambda v'(\lambda x_1^0) = p$, and therefore $D_2(p, \lambda) < x_1^0$ (recall that utility functions u_2 and v are convex). It means that type 2 consumers will contribute to charity less than type 1, and since marginal warm-glow is decreasing, $v'(\lambda D_2(p, \lambda)) > v'(\lambda D_1(p, \lambda))$. First-order condition (9) for type 2 now yields $\pi_2 = u_2'(D_2(p, \lambda)) = p - \lambda v'(\lambda D_2(p, \lambda)) < p - \lambda v'(y) = \pi^0$ and therefore type 2 consumers indeed are charged a lower effective price than in the initial setup without CRM. Now a slight increase in p with λ intact would reduce consumption of the basic good by both types of consumers, pushing the effective prices π_1, π_2 up. Keeping this

increase small enough so that π_2 remains below π^0 , obtains an outcome that satisfies (10). If y is sufficiently small, (11) is satisfied, too, Q.E.D. •

Proof of Proposition 3.

Due to pressure of competing firms, in an equilibrium one cannot have $u'(x + \tilde{x}) > c$. If in equilibrium the marginal utility of the basic good is greater than c , then $\tilde{x} = 0$ and by the Equivalence Lemma the firm that uses CRM is losing money on the basic good market. An increase of effective price π while keeping ρ intact reduces such losses. This leaves $u'(x + \tilde{x}) = c$ as the only possibility for optimal CRM.

Combining $u'(x + \tilde{x}) = c$ with the first-order condition $u'(x + \tilde{x}) + \lambda v'(\lambda x) = p$, one gets $x = \frac{1}{\lambda} \Delta(\frac{p-c}{\lambda})$, and firm's profit, to be maximized by p, λ , is thus $\frac{p-c-\lambda}{\lambda} \Delta(\frac{p-c}{\lambda})$.

By letting $\frac{p-c}{\lambda} \equiv \rho$ the problem can be reformulated as follows: $\max_{\rho} (\rho-1)\Delta(\rho)$, and leads to $\rho = \rho^*$, and thus $p = c + \lambda \rho^*$. Furthermore $\lambda x = \Delta(\rho^*)$, and since due to $u'(x + \tilde{x}) = c$ one has $x \leq d_1(c)$, this concludes the proof. •

Proof of Proposition 4.

Notice first that in equilibrium both firms earn zero profit. Indeed, denote x, y equilibrium quantities of the basic good and contribution to charity jointly supplied by the two firms. First-order conditions for problem (16) are $p_i = u'(x) + \lambda_i v'(y)$, $i = 1, 2$, and hence the gross profit is $\sum_{i=1,2} (p_i - c - \lambda_i) x_i = (u'(x) - c)x + (v'(y) - 1)y$. Assuming the latter positive, consider one of the firms that makes less than or equal to half of the total.

If this firm (say, the first) switches its initial strategy to $\lambda_1 = \frac{y}{x}$, $p_1 = u'(x) + \lambda_1 v'(y) - \varepsilon$ with sufficiently small $\varepsilon > 0$, it captures the whole market (quantities of the basic good and contributions to charity increase, and this leaves no space for the second firm, since marginal utility that consumers draw from a unit of its product and the matching contribution to charity is less than the second firm's price). The profit of the first firm is close to the initial gross profit of both firms, and the latter thus cannot be positive.

Since equilibrium profits of both firms cannot be negative, and their total is zero, both of these profits equal zero, too. This means $p_i = c + \lambda_i$, $i = 1, 2$, and it now remains to be shown that $\lambda_1 = \lambda_2 = \lambda^* \equiv \frac{y^*}{x^*}$, where $x^* \equiv d(c)$ and $y^* = \Delta(1)$ are efficient quantities of the basic good and contributions to charity. If on the contrary $\lambda_1 \neq \lambda^*$, consider a

response p_2^0, λ_2^0 of the second firms where $p_2^0 = u'(x^0) + \lambda_2^0 v'(y^0)$, $\lambda_2^0 = \frac{y^0}{x^0}$ for some x^0, y^0 that are chosen such that the second firm makes positive profit and leaves no space for the first firm as long as the latter follows its initial strategy. This will be the case if x_0, y_0 meet the following conditions:

$$u'(x^0) + \frac{y^0}{x^0} v'(y^0) > c + \frac{y^0}{x^0}, \quad (\text{A.1})$$

$$u'(x^0) + \lambda_1 v'(y^0) = c + \lambda_1. \quad (\text{A.2})$$

Note that the curve described by (A.2) has a negative slope and passes through (x^*, y^*) . Suppose that $\lambda_1 > \lambda^*$ (the opposite inequality is treated similarly) and consider x^0, y^0 on the above curve such that $y^0 > y^*$ (and hence $\frac{y^0}{x^0} > \frac{y^*}{x^*}$ and $v'(y^0) < 1$). To meet (A.2), one needs $(\frac{y^0}{x^0} - \lambda_1)(v'(y^0) - 1) > 0$, or $\frac{y^0}{x^0} < \lambda_1$. Therefore any x^0, y^0 that satisfy (A.2) and inequalities $\lambda_1 > \frac{y^0}{x^0} > \frac{y^*}{x^*}$ provide the required response, allowing the second firm to make positive profit, and hence p_1, λ_1 cannot be part of equilibrium.

Vice versa, CRM strategies $p_i^* = c + \lambda^*$, $\lambda_i^* = \lambda^*$, $i = 1, 2$ form an equilibrium. Indeed, let p_1, λ_1 be a response of the first firm to $p_2 = c + \lambda^*$, $\lambda_2 = \lambda^*$ that yields positive profit. In this case for the resulting equilibrium quantities x, y one has

$$u'(x) + \lambda_1 v'(y) > c + \lambda_1, \quad (\text{A.3})$$

$$u'(x) + \lambda^* v'(y) = c + \lambda^*, \quad (\text{A.4})$$

which gives $(\lambda_1 - \lambda^*)(v'(y) - 1) > 0$. If $y > y^*$, then $\lambda_1 < \lambda^*$, and hence $\frac{y}{x} \leq \frac{y^*}{x^*}$ (for the first firm the ratio of contribution to charity to the sales of the basic good is less than λ^* , and for the second, if it maintains its presence, this ratio is equal to λ^* , and therefore such ratio for the total of both firms' contribution and sales does not exceed λ^*). Inequalities $y > y^*$ and $\frac{y}{x} \leq \frac{y^*}{x^*}$ imply that $x > x^*$, but $y > y^*$ and $x > x^*$ violate (A.3). The case $y < y^*$ is dealt with similarly, Q.E.D. •