Charitable Giving and Fundraising: When Beneficiaries Bother Benefactors

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Current Version: July 2, 2008

Abstract

Many instances partly or even totally depend on philanthropic gifts. Yet, such private donations usually do not occur if not distinctly solicited. An intermediate process becomes necessary, with the objective to address potential benefactors. So, most of these entities exert some sort of fundraising. Our approach is to model the potential conflict between benefactor and beneficiary with respect to the extent of fundraising activities, where the beneficiary is assumed to prefer a strictly higher level of fundraising than the benefactor would deliberately choose. The outcome of the common fundraising process proves inefficient. A Pareto-optimal allocation can either be achieved by a tax privilege of donations or by commitment of the benefactor to what we call strategic bounteousness.

Key words: Charity; Fundraising; Altruism

JEL classification: D64, H21

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1 Introduction

"An iron law of fundraising is that people tend not to give unless they are asked." James Andreoni (2006, p. 1257).

Many instances partly or even totally depend on philanthropic gifts. Institutions such as a theater, though drawing income from ticket sales, often enough hinge on supplementary governmental grants – and private donations. In pedestrian zones, one will quite frequently encounter beggars or animal rights groups that also strive towards private benevolence. The maintenance of performance operations in a theater, or the welfare of needy persons are both typical examples of causes a philanthropist might wish to support. And effectively, quite a significant amount of voluntary contributions to suchlike purposes can be observed in real life.

Yet, such private donations usually do not occur if not distinctly solicited. Accordingly, a further joint attribute of the above-mentioned examples is that fundraising activities of some sort are exercised. The addressees are prompted to give, either to satisfy a taste for giving, or because they feel coerced to do so. A theater might offer preferential access to dress rehearsals or opening nights to its most generous benefactors, and an animal rights organization might approach passers-by with posters or illustrated leaflets on animal mistreatment. Quite obviously, in all these cases a need for donations is not satisfied on emergence. Instead, an intermediate device becomes necessary, with the objective to address potential benefactors. The phenomenon that donations only occur upon solicitation is known as the "power of the ask".[1] However, fundraising generally goes beyond simply asking for grants. Typically, it involves a more complex exchange of resources between beneficiary and benefactor.

There is a growing literature that attempts to explain potential benefits for the benefactor that evolve from fundraising activities. Either fundraising simply constitutes an indispensable part of a provision process, or it brings about utility beyond altruistic concerns. The former argument covers models that emphasize fixed costs and transaction costs, as in Andreoni (1998), Andreoni and Payne (2003), and Vesterlund (2003). Fundraising may fulfill, for instance, the function to lower

[1] Andreoni (2006, p. 1257).

the cost of information or to guarantee some threshold supply of a collective good in the presence of non-convexities.

Another important field of research deals with the mechanisms employed by charitable institutions in order to enhance private giving. Raffle models, as presented in Morgan (2000), Morgan and Sefton (2000), and Duncan (2002), demonstrate the effect of linking donations to the opportunity of winning a prize. Other approaches, as in Glazer and Konrad (1996), Harbaugh (1998a,b), Romano and Yildirim (2001), and Bac and Bag (2003), emphasize the role of publishing the benefactors' names and the amount given. Thus, fundraisers choose strategies that add a private dimension to the causes supported by the gift – either explicitly through a raffle, or more subtly, through gift announcements.

In our analysis, we take for granted that fundraising is an integral part of the process of voluntary contributions to collective matters, and that it has an impact on benefactor utility. Our approach is to model the potential conflict between benefactor and beneficiary with respect to the *extent* of fundraising activities. Initially, we examine the case where fundraising brings about a positive marginal effect on benefactor utility, as in the theater example. Then, we model the case where fundraising is perceived as annoying or perturbing, as in the example with illustrations of mistreated animals.

In any case, the beneficiary is assumed to prefer a strictly *higher* level of fundraising than the benefactor would deliberately choose. This presupposition is essential for our results, and rests on the argument that the beneficiary can literally compel larger gifts by offering more fundraising. She profits from the strictly positive marginal effect of fundraising on giving, which results from the benefactor's feeling of innate obligation or coercion. The benefactor generally responds to additional fundraising by giving more. We show that in this – so to speak natural – setting, where the beneficiary determines the outcome by her choice of fundraising, the conflict between the beneficiary and the benefactor concerning the level of fundraising results in an inefficient equilibrium.

We then discuss two alternative strategies to remedy this inefficiency. First, we demonstrate that the government has the potential to enforce an efficient equilibrium by granting benefactors a tax privilege. Subsequently, we discuss a decentral efficiency enhancing strategy, where the benefactor commits herself to what we call strategic bounteousness. Where this strategy is not prevented by the institutional environment, it will enforce efficiency as well. In the equilibrium with a tax privilege, the efficiency gains mainly accrue to the beneficiary. By contrast, strategic bounteousness allows the benefactor to incorporate these gains.

The remainder of the paper is organized as follows. Section 2 introduces the model and characterizes the equilibrium solution of the beneficiary-benefactor conflict. Section 3 considers the effects of a tax privilege on donations. Section 4 establishes the notion of strategic bounteousness. Section 5 discusses some modifications, namely annoying fundraising and non-altruistic giving. Section 6 briefly concludes.

2 The Model

Consider a beneficiary approaching a representative benefactor.[2] The beneficiary dedicates some effort to fundraising, and the benefactor responds by choosing a certain donation. The beneficiary is assumed to draw utility b from the donation d net of her fundraising effort f,

$$b = d - f. \tag{1}$$

The benefactor is endowed with disposable income or wealth m, which she may choose to allocate among private consumption c, and a donation d to the beneficiary. The benefactor's utility B is a function of private consumption, the beneficiary's shift in welfare[3], and the level of fundraising the beneficiary offers,

$$B = u(c) + v(b, f), \tag{2}$$

where $m = c + d$ and $c, d \geq 0$. The functions u and v measure the utility the benefactor derives from private consumption and benevolence, respectively. With regard to the latter, the benefactor is not only interested in the beneficiary's net welfare gain, but she also strictly benefits from a marginal rise in fundraising. One might

[2]Note that we exclude competition among potential beneficiaries, and thus ascribe to them a certain extent of monopolistic power.

[3]In the theater example, straightforward interpretations of $d - f$ would be the number of additional debut performances, an increase in the quality of the cast, or comparable features induced by the donation.

think of prestige-enhancing incidents such as the announcement of donations, or of fringe benefits like an invitation to dress rehearsals.

In what follows, we assume that u and v are smooth and satisfy the standard monotonicity and concavity properties, i. e., $u' > 0$, $u'' < 0$, $v_1 > 0$, $v_2 > 0$, $v_{11} < 0$, and $v_{22} < 0$. In addition, we assume that

$$v_{12} > 0.$$

The assumption of a strictly positive cross derivative v_{12} implies that, with a rising level of fundraising, the marginal utility from the beneficiary's net welfare, $d - f$, increases. This assumption is essential for our analysis. It guarantees that a rise in the fundraising effort in fact prompts the benefactor to increase her donation.

If the benefactor had the power to autonomously determine both the amount donated and the level of fundraising, her most-preferred allocation would solve the maximization problem

$$\max_{\{m \geq d \geq 0, f \geq 0\}} \quad B = u(m-d) + v(d-f, f).$$

The associated first-order conditions are

$$-u'(m-d) + v_1(d-f, f) \lesseqgtr 0, \quad \text{with} = 0, \text{ if } m > d > 0, \tag{3}$$

$$-v_1(d-f, f) + v_2(d-f, f) \leq 0, \quad \text{with} = 0, \text{ if } f > 0. \tag{4}$$

These conditions determine a unique allocation (d^*, f^*), which we will refer to as the benefactor's most-preferred allocation.

In general, however, it is not the benefactor who autonomously determines the donation and the fundraising level. The allocation rather is the equilibrium outcome of a sequential game with two stages as depicted in Figure 1. First, the beneficiary chooses a level of fundraising. In reaction to the fundraising offered, the benefactor chooses an appropriate donation. This setting describes the natural process of philanthropic giving that reflects the "power of the ask" as mentioned in the introduction.

The game is solved by backward induction. In the second stage, the benefactor observes the level of fundraising exercised, and thus maximizes utility by choosing d for a given f,

$$\max_{m \geq d \geq 0} \quad B = u(m-d) + v(d-f, f).$$

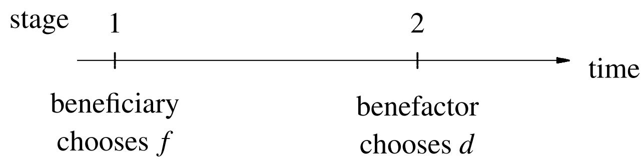

Figure 1: Sequence of Events

The first-order condition reads

$$-u'(m-d)+v_1(d-f,f) \lesseqgtr 0, \quad \text{with} = 0, \text{ if } m > d > 0. \tag{5}$$

Consider an interior solution. According to the implicit function theorem, the first-order condition then defines a reaction function $d = d(f)$, with

$$d'(f) = \frac{v_{11} - v_{12}}{u'' + v_{11}} > 0\,. \tag{6}$$

Hence, the donation d is an increasing function of the fundraising effort f. Equation (6) reveals the inevitability of our assumption $v_{12} > 0$. If $v_{12} \leq 0$ was possible, it would follow from (6) that $d'(f) < 1$. This would imply that for any additional Euro spent on fundraising, less than one Euro of additional donation would be obtained. Consequently, there would be no fundraising at all.

In the first stage of the game, the beneficiary chooses f, anticipating the benefactor's reaction $d(f)$. That is,

$$\max_{f \geq 0} \quad b = d(f) - f\,.$$

The first-order condition reads

$$d'(f) - 1 \leq 0 \quad \text{with} = 0, \text{ if } f > 0. \tag{7}$$

Consider again an interior solution. Then, equation (7) states that the beneficiary will choose a fundraising effort such that the last Euro spent on fundraising elicits just one additional donated Euro.

Since the function $d = d(f)$ may not be concave, it cannot be ruled out that there is more than one fundraising level f that solves (7). However, this does not necessarily imply the existence of more than one equilibrium. The underlying argument is that the beneficiary will choose among the solutions to (7) the one that maximizes her net revenue $d-f$. If there is more than one such solution, the beneficiary is indifferent between these fundraising levels. In this case, we will assume that the beneficiary chooses the fundraising level that is advantageous for the benefactor.[4]

Let (d_e, f_e) define the equilibrium allocation, i. e., the solution to equations (6) and (7). We shall make the following assumption.

Assumption 1. $f_e > f^*$.

This assumption is crucial in order to install what we will refer to as the beneficiary-benefactor conflict.[5] Note that Assumption 1 implies interior solutions to equations (6) and (7). Since $f^* \geq 0$, it is true that $f_e > 0$, which in turn necessitates $d_e > 0$. Besides, we claim that it is not too bold to presume that a benefactor prefers a lower donation in combination with less fundraising, than a beneficiary who always has the opportunity to generate additional giving with additional fundraising.

In consequence, the fundraising game ensues the following. By means of her initial choice of f, the beneficiary commits the benefactor to give a certain d. Hence, the beneficiary determines the outcome of the game, and in equilibrium, there will be an allocation with strictly higher values of d and f than in the bundle (d^*, f^*), which is most favored by the benefactor. The resulting conflict between beneficiary and benefactor is depicted in Figure 2.

As the following proposition states, the benefactor's most-preferred allocation is efficient whereas the equilibrium allocation is not.

Proposition 1. The benefactor's most-preferred allocation (d^*, f^*) is Pareto-efficient. The equilibrium allocation (d_e, f_e) is Pareto-inefficient.

[4]This assumption can be justified by the concept of so-called epsilon altruism [see, e.g., Hillier (1997, pp. 38-39)]. In the context at hand, this concept implies an epsilon gain for the beneficiary when she chooses a fundraising level that benefits the benefactor. However, the gain is so small that it will not guide the beneficiary's choice over fundraising levels whenever these levels offer different net benefits to herself.

[5]Since both f_e and f^* are endogenous, Assumption 1 may look somewhat odd. Alternatively, we might assume that

$$v_{12}(d^* - f^*, f^*) > -u''(m - d^*),$$

which implies $f_e > f^*$.

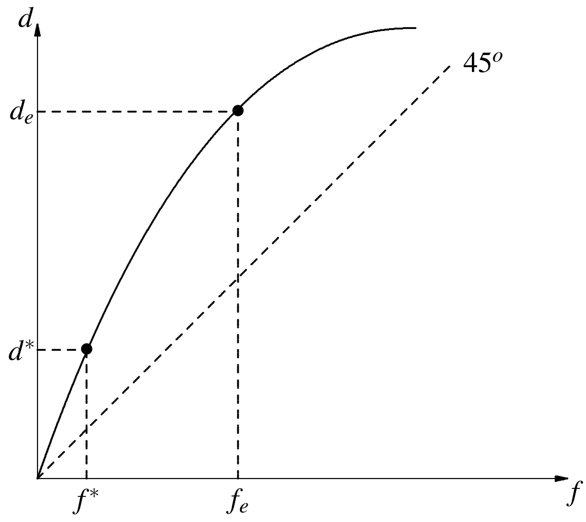

Figure 2: Beneficiary-Benefactor Conflict

Proof. A Pareto-efficient allocation solves the program

$$\max_{\{m \geq d \geq 0, f \geq 0\}} \quad B = u(m-d) + v(d-f, f),$$

subject to a predefined net payoff $\bar{b} = d - f$ for the beneficiary. The set of Pareto-efficient (d, f)-bundles is implicitly defined by

$$d = \bar{b} + f, \tag{8}$$

$$-u'(m - \bar{b} - f) + v_2(\bar{b}, f) \leq 0, \quad \text{with} = 0, \text{ if } f > 0. \tag{9}$$

Choose $\bar{b} = d^* - f^*$, and add on equations (3) and (4) to see that (d^*, f^*) solves equations (8) and (9). Thus, (d^*, f^*) is Pareto-efficient. Now assume, contradictory to what is stated in Proposition 1, that $(d_e, f_e) \neq (d^*, f^*)$ also is efficient. Then, (d_e, f_e) must be consistent with $-u' + v_1 = 0$ from (5) and $d_e > 0$, as well as with $-u' + v_2 = 0$ from (9) and $f_e > 0$. This implies that (d_e, f_e) is consistent with $-v_1 + v_2 = 0$. From (3) and (4) and the concavity of u and v, it follows that $(d_e, f_e) = (d^*, f^*)$. This is a contradiction. ■

Generally, the inefficiency of the equilibrium allocation implies that the benefactor can be made better off without making the beneficiary worse off. This suggests that there are viable efficiency gains that can be used to ease the beneficiary-benefactor conflict. In the following we characterize two different efficiency enhancing strategies. One is public and the other is private in nature.

3 Tax Privilege of Donations

Most societies grant philanthropists tax deductibility of donations. We will demonstrate that such tax privileges are not only suited to foster charitable giving. They also have the potential to remedy the inefficiency associated with the beneficiary-benefactor conflict.

In order to incorporate the idea of a tax privilege, we assume that the government subsidizes charitable giving at the marginal rate $\sigma \in [0,1]$. To finance subsidy expenditure, the government charges the benefactor[6] a lump-sum tax denoted by $\tau \in [0,m]$. The benefactor's utility and the government's budget may then be written as

$$B = u[m - \tau - (1-\sigma)\,d] + v(d-f, f),$$

and

$$\tau = \sigma\, d,$$

respectively. The tax τ clearly cannot exceed the benefactor's wealth m, so that $\tau \leq m$. By construction, the game reduces to the natural setting, when $\sigma = 0$. For $\sigma < 1$, the benefactor prefers a donation that is strictly smaller than m. For $\sigma = 1$, by contrast, the benefactor faces no marginal cost of giving and, therefore will donate as much as possible. In this case, the constraint $\tau \leq m$ is binding, so that $\tau = d = m$.

The equilibrium can again be determined by backward induction. We begin by considering the case of $\sigma < 1$. Subsequently, we will turn toward the corner subsidy rate $\sigma = 1$.

In the second stage, the benefactor solves the following program for a given structure of government intervention:

$$\max_{m \geq d \geq 0} \quad B = u[m - \tau - (1-\sigma)\,d] + v(d-f,\, f).$$

The first-order condition for an interior solution reads

$$-(1-\sigma)\,u'[m - \tau - (1-\sigma)\,d] + v_1(d-f,\, f) = 0. \tag{10}$$

[6] We again restrict our analysis to the case of one representative benefactor.

Since $\tau = \sigma d$ according to the government's budget constraint, the expression reduces to

$$-(1-\sigma)\,u'(m-d)+v_1(d-f,f)=0. \tag{11}$$

This implicitly defines the donation d as a function of the fundraising level f and the marginal subsidy rate σ, that is to say, $d = d(f,\sigma)$, with

$$\frac{\partial d}{\partial f} = \frac{v_{11}-v_{12}}{(1-\sigma)\,u''+v_{11}} > 0, \tag{12}$$

$$\frac{\partial d}{\partial \sigma} = \frac{u'}{(1-\sigma)\,u''+v_{11}} > 0. \tag{13}$$

In this setting, the donation does not only increase with respect to fundraising f, but also with respect to the subsidy rate σ. This applies although the subsidy generally causes both a substitution effect and an income effect. Since the income effect is neutralized by the subsidy-financing tax burden, the substitution effect predominates, so that the subsidy unambiguously fosters charitable giving.

In the first stage, the beneficiary solves

$$\max_{f\geq 0} \quad b = d - f.$$

The first-order condition for an interior solution is

$$\frac{\partial d}{\partial f} - 1 = 0,$$

which, in light of equation (12), can be written as

$$-v_{12}[d(f,\sigma)-f,f]-(1-\sigma)\,u''[m-d(f,\sigma)]=0. \tag{14}$$

Equation (14) implicitly defines fundraising f as a function of the marginal subsidy rate σ, that is $f = f(\sigma)$, with

$$f'(\sigma) = -\frac{[v_{121}+(1-\sigma)\,u''']\,\dfrac{\partial d}{\partial \sigma}+u''}{-v_{122}+(1-\sigma)\,u'''\,\dfrac{\partial d}{\partial f}}.$$

Generally, the sign of $f'(\sigma)$ cannot be unambiguously determined, as nothing has been said about the signs of the third derivatives of u and v. The fundraising level may react either positively or negatively to an increase in the subsidy of charitable gifts. In particular, the beneficiary might, on the one hand, abate her effort, because marginal fundraising is less effective in the view of a lower price of giving. On the other hand, she might even increase her effort in order to make the benefactor take full account of the lower price.[7]

The payoffs of the beneficiary and of the benefactor in the subsidy equilibrium are given by

$$b(\sigma) = d[f(\sigma),\sigma] - f(\sigma),$$
$$B(\sigma) = u[m - d(f(\sigma),\sigma)] + v[d(f(\sigma),\sigma) - f(\sigma), f(\sigma)],$$

respectively. Differentiation with respect to σ while considering the envelope theorem yields

$$b'(\sigma) = \frac{\partial d}{\partial \sigma}, \tag{15}$$
$$B'(\sigma) = -\frac{\sigma}{1-\sigma} v_1 \frac{\partial d}{\partial \sigma} + \left(v_2 - \frac{1}{1-\sigma} v_1 \right) f'(\sigma). \tag{16}$$

Following equation (13), the beneficiary unambiguously profits from an increase in the subsidy. The benefactor, by contrast, may either benefit or not, depending on how the beneficiary adjusts the fundraising level in response to subsidy variations.

Even if the subsidy might be of no advantage to the benefactor, this does not preclude that the subsidy will remedy the inefficiency associated with the underlying conflict. Since $b'(\sigma) > 0$, it can be inferred from (9) that an equilibrium with a positive subsidy rate, denoted as (d_σ, f_σ), is Pareto-efficient, if it satisfies

$$-u'(m - d_\sigma) + v_2(d_\sigma - f_\sigma, f_\sigma) = 0. \tag{17}$$

Without specifying the functions u and v, it cannot be said whether there exists a subsidy rate $\sigma \in (0,1)$ that solves equation (17). This does not imply, however, that the question if a Pareto-efficient subsidy equilibrium exists has to be left unanswered, because the equilibrium for the corner subsidy rate $\sigma = 1$ actually *is* efficient. For $\sigma = 1$, the benefactor seeks to give as much as possible, yet is bound to give no more than $d = m$. Since the beneficiary will obtain $d = m$, no matter

[7] A related discussion has been triggered by Andreoni and Payne (2003), who theoretically and empirically examined effects of government *grants* on fundraising. The results imply that such an intervention will reduce fundraising to a significant extent. Since the subsidy scheme presented here increases giving too, fundraising should respond likewise in the wake of a subsidization policy if, to a beneficiary, private donations are a perfect substitute for governmental grants.

how small her fundraising effort, she will consequently choose $f = 0$. Obviously, the allocation $(d = m, f = 0)$ is Pareto-efficient. We can thus formulate

Proposition 2. There exists at least one marginal subsidy rate $\sigma^* \in (0,1]$ such that the resulting subsidy equilibrium $(d_{\sigma^*}, f_{\sigma^*})$ is Pareto-efficient.

The results obtained so far shall be illustrated by the following numerical example.

Example 1. Let $u = \frac{1}{\gamma} c^\gamma$ and $v = \frac{1}{\gamma} b^\gamma f^\gamma$, and assume that $m = \frac{5}{4}$. Table 1 provides the values for the donation, the fundraising level, the payoffs of the benefactor and the beneficiary, and the subsidy rate in various allocations for $\gamma = \frac{1}{2}$ and $\gamma = 1$, respectively.[8] BMP denotes the benefactor's most-preferred allocation, EQL denotes the equilibrium allocation, i. e., the equilibrium with $\sigma = 0$, SUB denotes an efficient subsidy equilibrium with $\sigma^* \in (0,1)$, and COS denotes the subsidy equilibrium with the corner subsidy rate $\sigma^* = 1$.

		d	f	B	b	σ^*
$\gamma = \frac{1}{2}$	BMP	0.250	0.125	2.250	0.125	–
	EQL	0.750	0.500	2.121	0.250	–
	SUB	1.125	0.125	1.414	1.000	0.875
	COS	1.250	0	0	1.250	1
$\gamma = 1$	BMP	0	0	1.250	0	–
	EQL	1.250	1	0.250	0.250	–
	SUB_1	1.250	0.625	0.391	0.625	0.375
	SUB_2	1.250	0.250	0.250	1	0.750
	COS	1.250	0	0	1.250	1

Table 1: Example 1

As can be taken from Table 1, there is more than one efficient subsidy equilibrium with an interior subsidy rate for $\gamma = 1$.[9] For $\sigma^* = 0.375$, both the beneficiary *and* the benefactor benefit from a tax privilege of donations that

[8] See the Appendix for details. Note that $u'' = 0$, $v_{11} = 0$, and $v_{22} = 0$ if $\gamma = 1$. This, however, does not impair the example, as the model is still well-behaved in the sense that it generates distinctive allocations.

[9] In fact, there are infinitely many such equilibria, as each subsidy equilibrium with $\sigma \in [0.375, 1]$ is efficient. See the Appendix for details.

enforces an efficient allocation, whereas $\sigma^* = 0.750$ favors solely the beneficiary. For $\gamma = \frac{1}{2}$ there is only one interior subsidy equilibrium. This outcome turns out to be advantageous for the beneficiary relative to the equilibrium without a tax privilege, but makes the benefactor worse off.

4 Commitment to Strategic Bounteousness

As demonstrated in Section 3, the efficiency gains from subsidization potentially benefit only the fundraiser. In that light, the benefactor has an incentive to search for more favorable ways to overcome the beneficiary-benefactor conflict. One possible alley would be to credibly commit to an upper limit of or to a precise quantity of donations.

In order to confine the beneficiary's fundraising effort, the benefactor might establish a statutory ceiling for her philanthropic gift. This can be observed, for instance, when charitable foundations are set up. Their statutes will usually define a fixed endowment, and regulate the utilization of interest profits. A suitable example might be a foundation devoted to fostering higher education and science. It may establish a fix monetary award for outstanding merits on an annual basis, appoint an objective for excess funds, and set up conditions for its conferral, such as the joint public appearance of laureate and sponsor.

As opposed to such a formal commitment, this section presents a strategic approach to the resolution of the beneficiary-benefactor conflict, which can be illustrated by the following anecdote. The former president of a German private university reported on an experience he made while approaching a potential private benefactor. He proposed to set up a meeting, on the occasion of which he would present the university's merits and its future projects. In response, the addressee offered a five-digit Euro sum on condition that he were *not* visited.

We will demonstrate that such a strategy to limit fundraising efforts through initial bounteousness may be well-suited to ease the beneficiary-benefactor conflict.

In the sequential game as described in Section 2, the benefactor is bound to give d_e upon the beneficiary's offer of f_e. In order to install a more convenient allocation, the benefactor has to change behavior. While it is common – empirically as well as in the game modeled above – that benefactors merely *react* to the fundraising activities offered by the beneficiary, we will show that the benefactor benefits from altering the agenda. In awareness of the imminent equilibrium outcome, she should initially propose some more favorable bundle (d, f) that moreover prevents the beneficiary from asserting (d_e, f_e).

In order to demonstrate how that strategy can improve the allocation in this spirit, consider the indifference curves of the beneficiary and the benefactor. An indifference curve of the beneficiary is defined by

$$I_b = \{(d,f) \geq 0 : d - f = const.\}.$$

This can be easily identified as the set of straight lines with slope 1 above the 45°-line in the (d,f)-space. Clearly, the beneficiary's marginal rate of substitution between d and f is given by $MRS_b = 1$. That means, the beneficiary is only just willing to spend one additional Euro on fundraising in exchange for one additional donated Euro. Figure 3 illustrates the beneficiary's indifference curves associated with the equilibrium bundle (d_e, f_e) and the benefactor' most-preferred bundle (d^*, f^*).

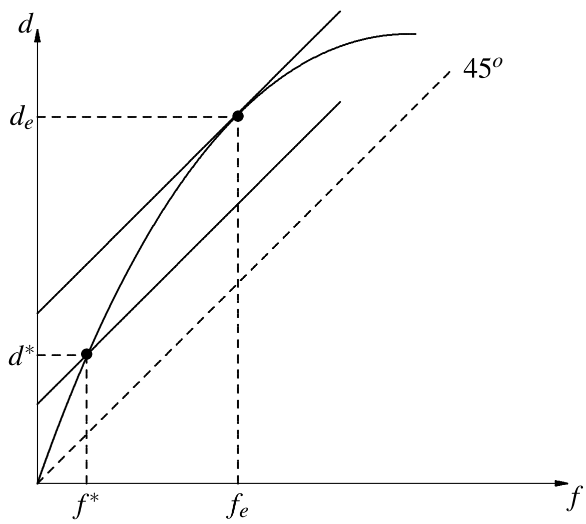

Figure 3: Beneficiary's Indifference Curves

The benefactor's indifference curves are defined by

$$I_B = \{(d,f) \geq 0 : u(m-d) + v(d-f,f) = const.\},$$

and the associated marginal rate of substitution between d and f reads

$$MRS_B = \frac{v_1 - v_2}{-u' + v_1}.$$

The benefactor's indifference curves are ringlike figures around her most-preferred bundle (d^*, f^*). Since $-u' + v_1 = 0$ holds true on the reaction curve $d = d(f)$, it follows that $MRS_B|_{d=d(f)} = \pm\infty$. That is, the benefactor's indifference curves have a vertical slope at the intersection with the reaction curve. Figure 4 illustrates the benefactor's indifference curves.

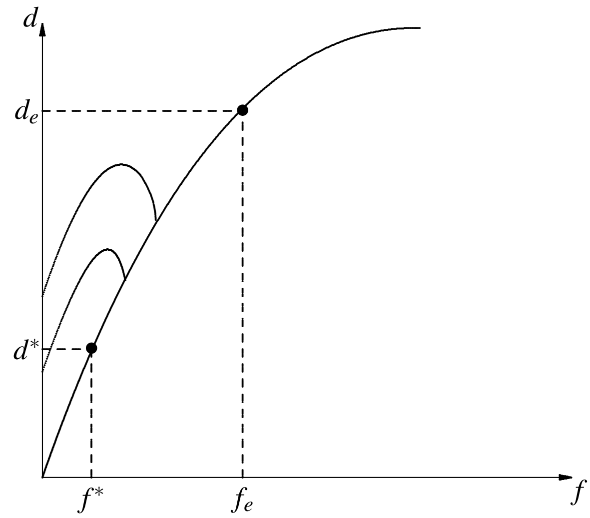

Figure 4: Benefactor's Indifference Curves

Since (d^*, f^*) is efficient, the beneficiary cannot be made better off without harming the benefactor. Yet, while maintaining the beneficiary's utility level derived from (d_e, f_e), the benefactor can profit by enforcing outcomes apart from those on the reaction curve.

This is where the advertised change of agenda comes into play. The benefactor can only avoid outcomes on the reaction curve, if she herself and not the beneficiary takes the first step. The set of outcomes the benefactor can enforce by initially proposing a (d, f)-bundle is given by $\{(d, f) \geq 0 : d - f = d_e - f_e\}$, that is, by the beneficiary's indifference curve through $d_e - f_e$.[10] Figure 5 identifies the benefactor's most-preferred *feasible* bundle which we denote by $(\hat{d}, \hat{f})$.

[10]Strictly speaking, it also includes the space above that indifference curve, but the benefactor evidently prefers an allocation that lies on the lower boundary of that space.

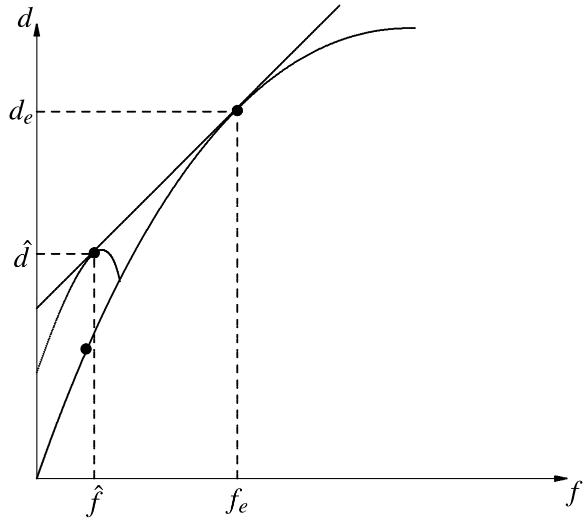

Figure 5: Strategic Bounteousness

In $(\hat{d}, \hat{f})$, the benefactor obtains the highest utility level consistent with $d - f = d_e - f_e$. By proposing $(\hat{d}, \hat{f})$, the benefactor accepts to make a strictly larger contribution than she would have in response to $\hat{f}$ in the natural fundraising game. The benefactor may thus be held to act in a bounteous manner. Yet, essentially, she donates more only in exchange for the beneficiary's renouncement of $f_e - \hat{f}$. We will therefore resort to the term of strategic bounteousness.

In contrast to the equilibrium outcome of the natural fundraising game, (d_e, f_e), the allocation achieved by altering the agenda, $(\hat{d}, \hat{f})$, is efficient. Individually better outcomes are only achievable on the expense of a decrease in the counterpart's utility.

Of course, it has to be noted that the institutional environment sometimes precludes the benefactor's ability to seize the agenda-setting power. Lack of information on the existence or accessibility of a philanthropic cause, for instance, prevents the contingent benefactor from anticipatorily determining the allocation. Yet, wherever potential benefactors are able to forestall the beneficiary's fundraising efforts, the following proposition holds.

Proposition 3. The benefactor's most-preferred feasible allocation $(\hat{d}, \hat{f})$ is Pareto-efficient.

Proof. Graphically, the proposition follows from the tangency of the indifference curves I_b and I_B in $(\hat{d},\hat{f})$. Formally, $(\hat{d},\hat{f})$ is the solution of

$$\max_{\{m\geq d\geq 0,\, f\geq 0\}} \quad B = u(m-d) + v(d-f,f),$$

subject to $d - f = d_e - f_e$. Obviously, for a given bundle (d_e, f_e), this results in a Pareto-efficient allocation. ■

The efficient outcome $(\hat{d},\hat{f})$ is enforceable whenever the benefactor succeeds in gaining agenda-setting power. However, there is no principal objection against the fundraiser's doing just so in turn, after the appointed moves have been made. Having received $\hat{d}$, and trying to force the benefactor to give more, the beneficiary might opt to initiate an additional round of the fundraising game.

Thus, let the benefactor propose a bundle $(\hat{d},\hat{f})$, so that the beneficiary devotes $\hat{f}$ to fundraising, and the benefactor gives $\hat{d}$. Does it pay off for the beneficiary to spend additional resources on fundraising? The next proposition addresses this problem.

Proposition 4. The benefactor's most-preferred feasible allocation $(\hat{d},\hat{f})$ is stable in the sense that the beneficiary has no incentive to initiate further fundraising.

Proof. We will show that by additional fundraising, the best bundle accessible to the beneficiary remains (d_e, f_e), the equilibrium outcome of the natural fundraising game. Of course, the beneficiary still has the power to enforce this allocation even when the *benefactor* makes the first draw. The latter cannot cease to react to fundraising activities, since they marginally contribute to her utility even when exceeding $\hat{f}$. However, the payoff the beneficiary would gain with (d_e, f_e) is precisely the one she receives from the allocation $(\hat{d},\hat{f})$. And applying the concept of epsilon altruism as in Section 2, she will refrain from further fundraising.

Starting from $(\hat{d},\hat{f})$, the beneficiary thus spends additional effort f on fundraising. The benefactor will react by solving

$$\max_{d\geq 0} \quad u\big[m-(\hat{d}+d)\big] + v\big[(\hat{d}+d)-(\hat{f}+f),\,(\hat{f}+f)\big].$$

The first-order condition reads

$$-u'\big[m-(\hat{d}+d)\big] + v_1\big[(\hat{d}+d)-(\hat{f}+f),\,(\hat{f}+f)\big] = 0. \tag{18}$$

This establishes total giving $\hat{d}+d$ as a function of total fundraising $\hat{f}+f$, i. e.,

$$\hat{d}+d=g(\hat{f}+f),$$

so that (18) may be restated as

$$-u'\big[m-g(\hat{f}+f)\big]+v_1\big[g(\hat{f}+f)-(\hat{f}+f),(\hat{f}+f)\big]=0. \tag{19}$$

We will now show that a unique interior solution $\hat{f}+f$ exists that solves equation (19). Differentiating the left hand side of (19) with respect to f yields

$$u''g'+v_{11}(g'-1)+v_{12}\,.$$

The beneficiary chooses f so that $g'=1$. Consequently, the expression simplifies to

$$u''g'+v_{12}.$$

By the implicit function theorem it follows that

$$g'=\frac{v_{11}-v_{12}}{u''+v_{11}},$$

and hence

$$u''g'+v_{12}=\frac{u''v_{11}-v_{11}v_{12}}{u''+v_{11}}<0.$$

Thus, $\hat{f}+f=f_e$ and $\hat{d}+d=g(\hat{f}+f)=g(f_e)=d_e$. ■

Figure 6 displays the implications of this calculus. Having reached a mutual consent in $(\hat{d},\hat{f})$, it does not pay off for the beneficiary to initiate a further round of the fundraising game. The best accessible extra donation only just offsets the required additional effort.

We have demonstrated that both a tax privilege of donations and a commitment of the benefactor to strategic bounteousness have the potential to remedy the inefficiency associated with the beneficiary-benefactor conflict. Both strategies result in a Pareto-efficient allocation. However, the allocations $(d_{\sigma^*},f_{\sigma^*})$ and $(\hat{d},\hat{f})$ differ with respect to the distribution of welfare between the beneficiary and the benefactor.

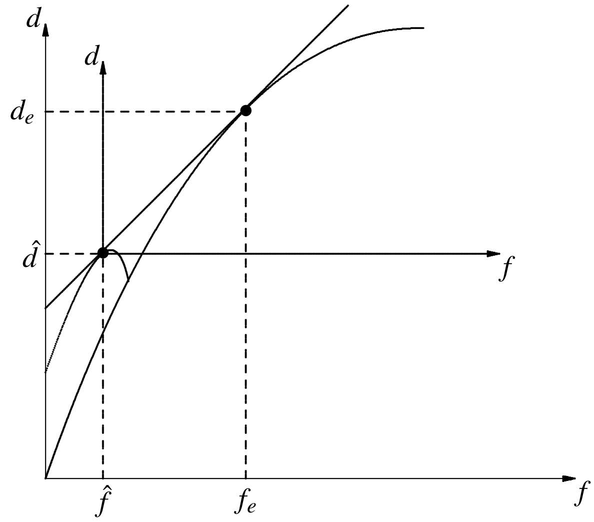

Figure 6: Repeated Fundraising

Proposition 5. The beneficiary strictly prefers the allocation $(d_{\sigma^*}, f_{\sigma^*})$. The benefactor strictly prefers the allocation $(\hat{d}, \hat{f})$.

Proof. In the $(\hat{d}, \hat{f})$ allocation the beneficiary's payoff is given by $\hat{d} - \hat{f}$, i. e., the beneficiary's payoff is the same as obtained in a subsidy equilibrium with $\sigma = 0$. According to equation (15), the beneficiary's payoff is increasing in σ in the subsidy equilibrium. Since a Pareto-efficient subsidy equilibrium requires $\sigma > 0$ by Propositions 1 and 2, it follows that the beneficiary strictly prefers the allocation $(d_{\sigma^*}, f_{\sigma^*})$. Since both the allocation $(d_{\sigma^*}, f_{\sigma^*})$ and the allocation $(\hat{d}, \hat{f})$ are Pareto-efficient, the benefactor strictly prefers $(\hat{d}, \hat{f})$. ■

Example 2. Consider the specification of the model outlined in Example 1. Table 2 provides the values for the donation, the fundraising level, and the payoffs of the benefactor and the beneficiary in the benefactor's most-preferred allocation (BMP), the equilibrium allocation (EQL), an efficient subsidy equilibrium (SUB) with $\sigma^* \in (0, 1)$, and the benefactor's most-preferred feasible allocation (BMF) for $m = \frac{5}{4}$ and $\gamma = \frac{1}{2}$.[11]

[11] See the Appendix for details.

	d	f	B	b	σ^*
BMP	0.250	0.125	2.250	0.125	–
EQL	0.750	0.500	2.121	0.250	–
SUB	1.125	0.125	1.414	1.000	0.875
BMF	0.450	0.200	2.236	0.250	–

Table 2: Example 2

5 Extensions

5.1 Annoying Fundraising

So far, it has been assumed that $v_2 > 0$, i. e. fundraising itself contributes to the welfare of the benefactor. For instance, a potential donor to a city's horticultural authority might be offered a tag to a park bench, stating her name and expressing the municipality's gratitude. Or, as in the theater example, access to dress rehearsals helps add a private dimension to the benefactor's utility from philantropic giving.

However, as outlined in the introduction, donations might also occur because an individual feels *coerced* upon being asked to give. Notwithstanding its continuing to create positive marginal revenues, fundraising may thus have a negative impact on the benefactor's well-being. While a beggar's welfare gain, for instance, may add to the utility of a potential benefactor, the particular method of fundraising generally does not. In this light, the model may be altered to offer an application to poverty alleviation when begging is perceived as annoying. We will return to that argument later in this section.

Thus, assume that $v_2 < 0$, while $v_{12} > 0$ still holds, so that the derivative of the donation function remains $d'(f) = (v_{11} - v_{12})/(u'' + v_{11}) > 0$. For $v_2 < 0$, the indifference curves of the benefactor take on a negative slope for $d > d(f)$, since

$$MRS_B = \frac{v_1 - v_2}{-u' + v_1} < 0.$$

Figure 7 plots the indifference curves of the benefactor. Clearly, for $v_2 < 0$ the benefactor prefers no fundraising at all. Furthermore, in Figure 7 it has been assumed that the benefactor does not donate at all in the absence of fundraising, making her most-preferred allocation $(d^*, f^*) = (0, 0)$.

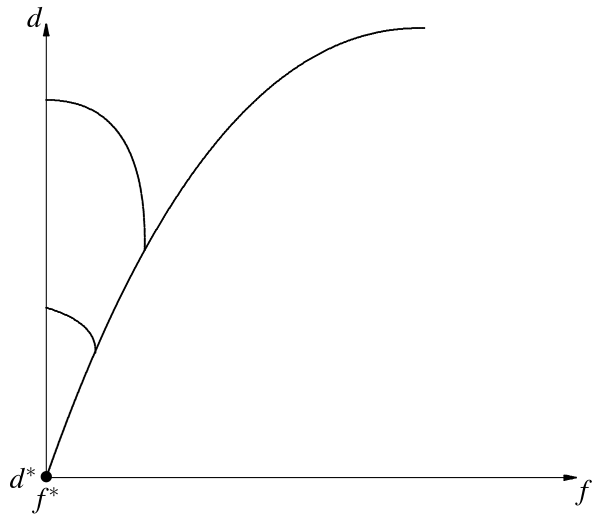

Figure 7: Annoying Fundraising - Benefactor's Indifference Curves

The effect of strategic bounteousness when fundraising is annoying is illustrated in Figure 8. The benefactor's most-preferred solution is $d^* = f^* = 0$, but the beneficiary will, as before, try to enforce the allocation (d_e, f_e). Applying the same reasoning as in the original setting, the benefactor's best response to this conflict is to establish $(\hat{d}, 0)$, that is, to forestall any fundraising attempt by unrequestedly choosing the appropriate, strategically bounteous gift.

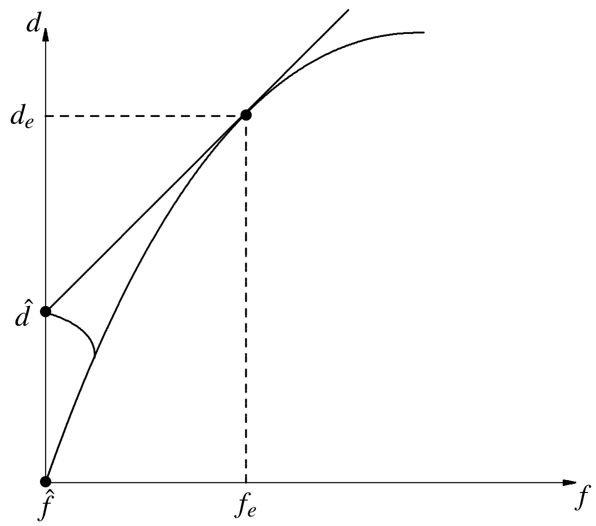

Figure 8: Annoying Fundraising - Strategic Bounteousness

This setting allows a short reference to public poverty alleviation. From an efficiency-oriented point of view, such policies should be designed to preempt begging by supplying an appropriate endowment from the outset. In modern societies, poverty is as common as the wish, not to be confronted openly with its existence. It does not belong to the self-perception of an enlightened society to inadequately cope with such disadvantage. A society that values equality of opportunities to some degree, but does not appreciate being continuously reminded thereof, should act according to the reasoning described above. TV-reports on, or positive confrontation with the needy, and other appeals to social conscience, should thus be evaded by providing the appropriate, strategically bounteous public poverty alleviation program.

Example 3. Let v be given by $v = \frac{1}{\gamma} b^\gamma f^\gamma - \frac{\alpha}{\gamma} f^\gamma$, where α measures the degree of annoyance experienced through fundraising activities, and u defined as in Examples 1 and 2. It is then readily verified that fundraising is annoying, i. e., $v_2 < 0$, as long as $\alpha > m^\gamma$. Table 3 provides the values for the donation, the fundraising level, and the payoffs of the benefactor and the beneficiary in the benefactor's most-preferred allocation (BMP), the equilibrium allocation (EQL), and in the benefactor's most preferred feasible allocation (BMF) for $m = \frac{5}{4}$, $\gamma = \frac{1}{2}$, and $\alpha = \frac{4}{3}$.[12]

	d	f	B	b
BMP	0	0	2.236	0
EQL	0.750	0.500	0.236	0.250
BMF	0.250	0	2.000	0.250

Table 3: Example 3

5.2 Non-altruistic Giving

The case of a non-altruistic benefactor implies a utility function of the form

$$B = u(m-d) + v(d, f) .$$

[12] See the Appendix for details.

According to this setup, the benefactor is merely interested in the donation itself[13] and in fringe benefits. She does not have any specific taste for the beneficiary's net gain in welfare. Applied to the theater example, the benefactor is interested in being mentioned in the program leaflet, and in being admitted access to exclusive post-performance events, but not necessarily in attending newly staged performances. Moreover, she might sense a warm-glow from the sheer act of helping to maintain the theater operations.

As in the case of an altruistic benefactor, the outcome depends on the benefactor's reception of fundraising activities. If $v_2 > 0$, meaning that she approves of suchlike treatment, the benefactor is out for more fundraising than the beneficiary is willing to offer. If, by contrast, she dislikes fundraising, i. e., if $v_2 < 0$, then the outcome resembles the conflict in the altruistic setting.

6 Concluding Remarks

The paper provides a model of the fundraising process. It incorporates the "power of the ask", the phenomenon that benefactors generally do not give but upon request. The fundamental assumption driving the paper's argument is that a beneficiary, for the sake of higher donations, implements more fundraising than the benefactor appreciates of. If one is willing to accept this presupposition, a conflict between the benefactor and the beneficiary regarding the extent of fundraising activities evolves.

With the "ask" in power, the beneficiary determines the outcome of the process, and this outcome is not efficient. A Pareto-optimal allocation can be achieved either by a tax privilege of donations or by strategic bounteousness. The former strategy generally benefits solely the fundraiser. The latter strategy means that the benefactor forestalls the beneficiary's choice by proposing a bundle of giving and fundraising on her own part.

This implies that the customary proceeding is altered. Of course, this point needs discussion: Is the "ask" *necessarily* in force, and if it is, why so? If individuals do not actually express an existing taste for giving, this might be due to an information problem. Either they simply do not know whereto or how to pro-

[13] The donation may then be motivated by the desire to experience a so-called warm-glow when giving, following, e. g., Andreoni (1990).

ceed their gift. Or they simply freeride, until social pressure - embodied by the fundraising instance - becomes too heavy. In the first case, there is little chance to change the agenda. In the second, though, a potential benefactor should anticipate the conflict, and respond through strategic bounteousness.

An obvious extension of the model would be to analyze the effect of beneficiary competition on the relevance of the beneficiary-benefactor conflict. In our model, we confine attention to a single fundraiser, therewith creating an essentially monopolistic environment. Responding to the beneficiary's choice, the benefactor, representing the whole range of potential benefactors in the society, acts as a price taker. This setting is rather realistic when it comes to institutions such as churches, which are generally not substitutable among each other. For relief organizations, by contrast, perceptible differentiation is much harder to achieve. Here it would be more reasonable to assume oligopolistic or perfect competition, which would make the problem gradually disappear.

Appendix

Example 1

For $u = \frac{1}{\gamma}c^\gamma$ and $v = \frac{1}{\gamma}b^\gamma f^\gamma$, the benefactor's most-preferred allocation (d^*, f^*) solves

$$-(m-d^*)^{\gamma-1} + (d^*-f^*)^{\gamma-1} f^{*\gamma} \lesseqqgtr 0, \quad \text{with} = 0, \text{ if } m > d^* > 0,$$
$$-(d^*-f^*)^{\gamma-1} f^{*\gamma} + (d^*-f^*)^{\gamma} f^{*\gamma-1} \leq 0, \quad \text{with} = 0, \text{ if } f^* > 0.$$

It can be readily verified that

$$(d^*, f^*) = \left(m-1, \frac{1}{2}(m-1)\right),$$

if $\gamma = \frac{1}{2}$, and that

$$(d^*, f^*) = (0,0),$$

if $\gamma = 1$.

Now consider an equilibrium allocation with a given subsidy rate $\sigma \in [0,1]$. The first-order condition determining the benefactor's donation reads

$$-(1-\sigma)(m-d)^{\gamma-1} + (d-f)^{\gamma-1} f^\gamma \lesseqqgtr 0, \quad \text{with} = 0, \text{ if } m > d > 0.$$

For $\gamma = \frac{1}{2}$, this implies the reaction function

$$d(f) = \frac{[m + (1-\sigma)^2] f}{(1-\sigma)^2 + f},$$

and for $\gamma = 1$,

$$d(f) = \begin{cases} 0, & \text{if } f < 1-\sigma, \\ m, & \text{if } f \geq 1-\sigma. \end{cases}$$

The fundraising level chosen by the beneficiary in anticipation of the benefactor's response is then determined by

$$f = (1-\sigma)\sqrt{m + (1-\sigma)^2} - (1-\sigma)^2,$$

if $\gamma = \frac{1}{2}$, and by

$$f = 1-\sigma,$$

if $\gamma = 1$. Let $\sigma = 0$. Then it can be inferred that the equilibrium EQL is given by

$$(d_e, f_e) = \left(m + 1 - \sqrt{m+1}, \sqrt{m+1} - 1\right), \tag{20}$$

if $\gamma = \frac{1}{2}$, and by

$$(d_e, f_e) = (m, 1),$$

if $\gamma = 1$. In a subsidy equilibrium $\sigma > 0$ holds true, so that

$$(d_\sigma, f_\sigma) = \Big(m + (1-\sigma)^2 - (1-\sigma)\sqrt{m + (1-\sigma)^2},$$
$$(1-\sigma)\sqrt{m + (1-\sigma)^2} - (1-\sigma)^2\Big),$$

if $\gamma = \frac{1}{2}$, and

$$(d_\sigma, f_\sigma) = (m, 1-\sigma),$$

if $\gamma = 1$.

A Pareto-efficient subsidy equilibrium with an interior subsidy rate solves equation (17) in the text, which is given by

$$-(m - d_\sigma)^{\gamma - 1} + (d_\sigma - f_\sigma)^\gamma f_\sigma^{\gamma - 1} = 0$$

in the present example. For $\gamma = \frac{1}{2}$ this is equivalent to

$$f - (d_\sigma - f_\sigma)(m - d_\sigma) = 0,$$

which gives

$$\sigma^* = \frac{1}{2}(3 - m).$$

For $\gamma = 1$, eq. (17) now becomes

$$-(m - d_\sigma) + d_\sigma - f_\sigma = 0,$$

which implies

$$\sigma^* = 2 - m.$$

Note that in case of $\gamma = 1$ there is not only one, but infinitely many efficient subsidy equilibria with an interior subsidy rate. To see this, consider the payoffs of the beneficiary and the benefactor in a subsidy equilibrium,

$$b_\sigma = m - 1 + \sigma,$$
$$B_\sigma = (m - 1 + \sigma)(1 - \sigma).$$

Since b_σ strictly increases in σ, every subsidy equilibrium with $\sigma \in [\frac{1}{2}(2-m), 1]$ is Pareto-efficient. The subsidy rate $\sigma = \frac{1}{2}(2-m)$ that maximizes B_σ corresponds to SUB_1 in Table 1.

Example 2

The benefactor's most-preferred feasible allocation $(\hat{d}, \hat{f})$ must guarantee the beneficiary a net endowment amounting to $d - f = d_e - f_e$. For $\gamma = \frac{1}{2}$, this is

$$d_e - f_e = m - 2(\sqrt{m+1} - 1).$$

Thus, the benefactor's most-preferred feasible allocation solves

$$\max_{\{m \geq d \geq 0, f \geq 0\}} \quad 2\,(m-d)^{1/2} + 2\,(d-f)^{1/2} f^{1/2},$$

subject to

$$d - f = m - 2(\sqrt{m+1} - 1).$$

It can be readily verified that the solution reads

$$(\hat{d}, \hat{f}) = \left(\frac{(m+1)\,[m - 2(\sqrt{m+1} - 1)]}{m + 1 - 2(\sqrt{m+1} - 1)}, \; \frac{2(\sqrt{m+1} - 1)[m - 2(\sqrt{m+1} - 1)]}{m + 1 - 2(\sqrt{m+1} - 1)} \right).$$

Example 3

Let $v = \frac{1}{\gamma} b^\gamma f^\gamma - \frac{\alpha}{\gamma} f^\gamma$. Then the derivative with respect to f is given by

$$v_2 = b^\gamma f^{\gamma-1} - \alpha f^{\gamma-1}.$$

Since $b = d - f \leq m$, it follows that fundraising is annoying, $v_2 < 0$, as long as $\alpha > m^\gamma$. The benefactor's most-preferred allocation (d^*, f^*) now solves

$$-(m-d^*)^{\gamma-1} + (d^* - f^*)^{\gamma-1} f^{*\gamma} \lesseqgtr 0, \quad \text{with} = 0, \text{if } m > d^* > 0,$$
$$-(d^* - f^*)^{\gamma-1} f^{*\gamma} + (d^* - f^*)^{\gamma} f^{*\gamma-1} - \alpha f^{\gamma-1} \leq 0, \quad \text{with} = 0, \text{if } f^* > 0.$$

Since $\alpha > m^\gamma \geq d - f$, it follows that

$$-(d^* - f)^{\gamma-1} f^\gamma + (d^* - f)^\gamma f^{\gamma-1} - \alpha f^{\gamma-1} < 0$$

for $f > 0$, so that $f^* = 0$. This, in turn, implies

$$-(m-d)^{\gamma-1} + (d-f^*)^{\gamma-1} f^{*\gamma} = (m-d)^{\gamma-1} < 0$$

for $d > 0$, so that $d^* = 0$. Thus the benefactor's most-preferred allocation reads

$$(d^*, f^*) = (0,0).$$

The equilibrium allocation in the natural setting, (d_e, f_e), is exactly the one that also applies when $\alpha = 0$ (see equation (20) in the Appendix, Example 1), i. e.,

$$(d_e, f_e) = \left(m+1-\sqrt{m+1}, \sqrt{m+1}-1\right),$$

if $\gamma = \frac{1}{2}$.

In the benefactor's most-preferred feasible allocation, $(\hat{d}, \hat{f})$, the fundraising level is given by $\hat{f} = 0$. Thus, the benefactor must guarantee the beneficiary a net benefit amounting to $d = d_e - f_e$. For $\gamma = \frac{1}{2}$, this is

$$d_e - f_e = m - 2(\sqrt{m+1} - 1),$$

so that the benefactor's most-preferred feasible allocation reads

$$(\hat{d}, \hat{f}) = \left(0, m - 2(\sqrt{m+1} - 1)\right).$$

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