

# AN ECONOMIC ANALYSIS OF ALTRUISM AND DEFERRED GIFTS

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THE purpose of this article is to provide a theory of the deferred giving of gifts by altruistic donors.<sup>1</sup> In particular, I address the following questions. First, why do altruistic donors frequently wish to defer giving gifts? (If they wish to give gifts, why do they not do so immediately?) Second, presuming that they wish to defer giving gifts, why do altruistic donors often announce their intentions to donees in advance? Third, why do such donors sometimes desire to be legally bound to give gifts? Fourth, what are the effects of a legal rule that renders donors bound to give gifts if they state their intentions and donees rely on their statements?

In Section I, I consider these questions using a model of donor and donee behavior that I analyze formally in Section II. In Section III, I offer several concluding observations.

## I. INFORMAL ANALYSIS AND DISCUSSION

Here I will first describe the basic assumptions concerning the motive of altruism, deferral of gifts, and reliance on receipt of gifts. Then I will examine the model of donor and donee behavior and I will review previous, related writing on altruism and gift giving.

### A. Basic Assumptions

1. *Altruism as a Motive.* The motive for giving gifts is assumed to be altruism: concern about the well-being of a donee. For example, an

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<sup>1</sup> Individuals may give gifts for reasons other than altruism (for example, to enhance their reputations), but only altruism is considered below.

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uncle may care about the welfare of his high school age nephew and want to finance his college education. In the formal model, the donor's utility includes a component equal to the donee's utility multiplied by a parameter called the donor's degree of altruism. Thus, other things being equal, the donor's utility will be higher the greater his degree of altruism or the larger the donee's utility.

2. *Deferral of Gifts.* There appear to be three reasons why donors may wish to defer giving gifts. Most obviously, a donor's assets may not be liquid. Second, a donor may be able to earn a higher rate of return from his assets than a donee or be able to secure a tax advantage through deferral. If so, it will be to their mutual advantage for the donor to hold the assets until the donee actually needs them. Third, a donor may want to allow for contingencies that would cause him to change his mind. He may, for instance, suffer a financial reversal, discover an unexpectedly good investment opportunity for himself, or learn that the donee is ungrateful or otherwise undeserving. The occurrence of such contingencies may lead a donor not to wish to give a gift because either they raise the value of money to him for his own use or they diminish its value as a gift. By deferring gifts, donors preserve their options; they are able to give gifts if and only if problematic contingencies do not arise. Henceforth, I will restrict attention to situations in which donors defer giving gifts.

3. *Reliance.* Before a donee receives a gift, he may take actions that will increase its value—that is, its utility. For example, the nephew may study in preparation for college; this will make a gift of a college education more useful for him. As is conventional, such value-enhancing actions will be called reliance activity, or simply *reliance* (because the actions are taken relying upon receipt of a gift).

4. *Magnitude of Gifts.* The size of the gift that a donor will wish to give, conditional on the donee's level of reliance, is determined by the utility benefits and costs of a gift to the donor. The utility benefits of a gift to the donor derive from his altruism; because a gift increases the donee's utility, it increases the donor's utility. Moreover, these altruistic benefits to the donor will be greater the higher the donee's reliance, as the utility of a gift for the donee will be greater the higher his reliance. The utility cost of a gift to the donor equals the pleasure he could obtain instead by using the gift for other purposes. The magnitude of the gift that the donor will want to give is that which yields him the largest utility benefit net of cost. Equivalently, in contemplating the size of the gift he will give, the donor may be imagined to increase the gift size as long as the marginal utility benefit to him exceeds the marginal utility cost.

Two basic conclusions follow about the donor's preferred magnitude of gift. First, the higher the donor's degree of altruism, the larger the gift will be; for the higher the degree of altruism, the greater the utility benefit to the donor from any increase in the donee's utility from a gift. Second, the higher the donee's level of reliance, the larger the gift will be; for, as observed, the higher the reliance, the greater the value of a gift to the donee and therefore to the donor.

### *B. The Model*

1. *The General Model.* At this point, several assumptions about the sequence of events will be stated; these assumptions will complete the description of the general model.

Suppose that, initially, a donor may say nothing, announce his intentions to give a gift, or contract to give a gift. He will make his decision keeping in mind how it will affect the level of reliance that the donee will thereafter choose and how that level of reliance will in turn influence the size of the gift that he, the donor, will subsequently give.

Next, the donee selects his level of reliance, based on his knowledge of the donor and the gift that he will obtain, conditional on his level of reliance.

Last, the donor chooses the size of his gift, as explained in Section IA4, unless it is dictated by contract.

2. *Simplest Version of the Model: The Case of Perfect Knowledge.* Consider first the basic case in which the parties have perfect knowledge of each other and donors face no uncertainties.<sup>2</sup> In this case, *there is no reason for a donor to make a statement about his intentions to give a gift*, for, by assumption, there is nothing that a donee can learn from such a statement. Notably, a donee can anticipate perfectly the gift he will receive, conditional on his level of reliance.

What will happen in this situation, assuming that there is no contract about gift giving? (As will be explained shortly, a donor would not want to make a contract.) That is, what level of reliance will a donee choose, and what gift will he then be given? In deciding about reliance, a donee will weigh the benefits and costs to himself of increasing reliance. The benefits to him are twofold: the higher his reliance, the greater the value to him of any gift; and the higher his reliance, the larger the gift the donor will give him. The cost of reliance to him is effort, expense, or forgone

<sup>2</sup> The assumption that donors face no uncertainties (such as over their wealth) will be maintained until Section IB5 below.

opportunities. The donee will choose the level of reliance that results in the highest benefits net of cost. Based on this level of reliance, the donor will select the gift to give the donee.

It follows that *the level of reliance chosen by a donee will exceed the level of reliance that the donor would want the donee to select. Accordingly, the donor will give a larger gift than he would have liked.* The essential reason for this conclusion is that, if the donor were determining the donee's level of reliance, he would consider as a cost of increasing reliance a factor that the donee does not consider, namely, the cost to himself, the donor, of increasing the gift size.

Notice, therefore, that the idea that the donor wants to induce the donee to increase his reliance is incorrect where the donee has perfect information about the donor.

In consequence, *the donor will not want to make a contract guaranteeing the minimum size of the gift that he will give.* If anything, he would like to make a contract constraining the size of his gift or the level of the donee's reliance. However, the donor would not be willing to enforce such a contract because to do this would conflict with his altruism.<sup>3</sup>

Finally, observe that, *if there is a legal rule obligating a donor to give a gift if he announces his intentions to do so and the donee relies, that rule will have no effect.* As noted at the outset, the donor has no need to announce his intentions because the donee is assumed to know them already. Therefore, it can be assumed that he will refrain from doing so and that the rule in question would not apply.<sup>4</sup>

3. *Version of the Model in Which Donees Do Not Know Donors' Degrees of Altruism.* Now relax the assumption that donees have perfect knowledge of donors, and assume instead that donees do not know how altruistic donors are. Specifically, assume that there are two types of donors, a less altruistic type and a more altruistic type, and that donees cannot distinguish directly between them. The more altruistic donors will want donees to choose a higher level of reliance than the less altruistic donors because the more altruistic donors derive greater utility from raising donees' utility and thus want donees to make greater investments in reliance.

In this situation, one possible outcome is that *donors of each type will state their degree of altruism or, equivalently, their intentions to give*

<sup>3</sup> A way for the donor to guarantee enforcement is to place responsibility for that irrevocably in the hands of a third party, such as a lawyer or a trustee, who does not have altruistic feelings for the donee.

<sup>4</sup> Even if the donor did state his intentions, he would give at least as much as he promised. Thus, the rule would not alter his behavior.

*gifts, in order to induce donees to choose a level of reliance that each type prefers.* The more altruistic donors will say that they are more altruistic so that donees will choose a higher level of reliance than they would for the less altruistic donors. Likewise, the less altruistic donors will say that they are less altruistic so that donees will choose a lower level of reliance than they would for the more altruistic donors.<sup>5</sup> Further, it will be rational for donees to believe donors' statements: donees know that donors of either type would lose by making false statements; and the truth of donors' statements will be confirmed by their behavior. Because donees will be able to separate the two types of donors by their statements, the situation under discussion is called a *separated* outcome.

Notice that in a separated outcome *there is no reason for the more altruistic donors to make contracts guaranteeing the size of their gifts.* Mere announcement by these donors of their intentions suffices to induce donees to increase their reliance. Also, observe that *a legal rule obligating a donor who says that he will give a gift to do so would have no effect,* for a donor will not want to give less than the amount he announces he will give.<sup>6</sup>

A separated outcome cannot arise if the more altruistic donors want to be mistaken for less altruistic donors. To understand why that may happen, recall from Section IB2 that a donee who knows a donor's degree of altruism will choose a higher level of reliance than the donor would want. Hence, a donee who believes a donor to be a less altruistic donor will choose a higher level of reliance than that type of donor would want. But this level of reliance may be close to the level that a more altruistic donor wants—or, at least, it may be preferred by him to the level of reliance the donee would choose if he knew the donor to be more altruistic. Thus, the more altruistic donors may want to pretend to be less altruistic. If so, the outcome cannot be a separated one. Instead, the more altruistic donors will mimic any statements made by less altruistic donors. Because donees will not know donors' identities, donees will choose their level of reliance recognizing that the size of the gift they will receive will depend not only on their level of reliance but also on whether the donor turns out to be a more or a less altruistic donor. This type of outcome, called a *pooled* outcome, should occur when the desired levels of reliance and, by implication, the degrees of altruism of the two types

<sup>5</sup> A slight qualification to these points is that *both* types of donors do not need to make statements. If only *one* type of donor makes statements and the other type is silent, the identity of the latter obviously will be understood by donees; for details, see proposition 3, below. Henceforth in Section I, similar, minor qualifications will not be mentioned.

<sup>6</sup> This conclusion may change when donors face uncertainty; see Section IB5 below.

of donors are relatively close (for if the desired levels of reliance are not similar, the more altruistic donors will not want to be identified as less altruistic). In a pooled outcome, there is no reason for donors to make contracts guaranteeing the size of their gifts, and a rule obligating donors who state their intentions to give gifts will have no effect.

4. *Version of the Model in Which Donees Do Not Know Whether a Donor Is Altruistic or Is a Masquerader.* Consider here a situation in which donees are unable to distinguish directly between two types of individuals: altruistic donors (of a single type), and individuals who will not give gifts but who want to masquerade as altruistic donors. (It will not be important for us to identify the source of the benefit to masqueraders, but one possibility is that they would enjoy being temporarily viewed as generous.)

Under this assumption, it is evident that, in the absence of contracts, the only possible outcome is a pooled outcome in which *masqueraders mimic altruistic donors*. By mimicking what, if anything, altruists say, masqueraders benefit because they will be thought to be altruists with positive probability. In a pooled outcome, donees will choose their level of reliance knowing that some of the "donors" are masqueraders. This knowledge will tend to lower the level of reliance that donees choose.

It follows that, *if the fraction of masqueraders in the population is sufficiently high, altruistic donors will want to induce donees to raise reliance. Thus, altruistic donors will distinguish themselves by making contracts to give gifts.* More precisely, it is apparent that the greater the fraction of masqueraders, the smaller will be the level of reliance chosen by donees in a pooled outcome. (In the extreme, if all donors were masqueraders, donees would not rely at all.) If the fraction of masqueraders is high enough to produce a low level of reliance in a pooled outcome, altruistic donors will want to raise donees' reliance by convincing donees that they will in fact receive gifts. To accomplish this, an altruistic donor must do something that a masquerader will not mimic, namely, contract to give a gift. If an altruistic donor does that, however, the donee, knowing his identity, will choose a higher level of reliance than he would wish. Thus, an altruistic donor will contract if and only if he would prefer this higher level of reliance to the low level that would be chosen by donees in the pooled outcome. In the separated outcome, a legal rule obligating donors who announce their intentions to give gifts to do so will not matter, for altruistic donors contract to give gifts in the absence of the rule.

5. *Extension of the Model: Donor Uncertainty and Legal Obligations to Give Gifts.* The conclusion from Section 1B3 that an altruistic donor would not care if his statement of intention to give a gift would legally obligate him to do so depends on the assumption that donors face no

uncertainty. Suppose here that donors do face uncertainty and that a contingency such as a financial setback might occur that would lead a donor not to want to give a gift. If a legal obligation would nevertheless require him to give a gift, the obligation would make him worse off.

But a donor could make his legal obligation to give a gift contingent on his not suffering a financial setback; he could be excused from his obligation whenever he sustains a setback. If that is so, then a legal obligation to give a gift will not matter to a donor who announces his intentions even though he faces uncertainty.

It sometimes may be difficult, however, for courts to verify the occurrence of contingencies that would result in the donor not wanting to give a gift. A court may be unable to verify that a donor's wealth declined (perhaps the present value of his business fell because of factors that courts could not readily evaluate).<sup>7</sup> *If courts cannot easily verify the occurrence of contingencies that a donor would want to release him from his obligations, a donor would be made worse off by being legally bound to give a gift.* In this circumstance, a legal rule that renders a donor who announces his intentions to give a gift obligated to do so can have two types of consequences. One is that donors will announce their intentions despite their resulting legal obligation. In this case, donors are made worse off, as just stated, but donees are made better off.

The other possibility is that donors will refrain from announcing their intentions to avoid becoming legally bound. In this event, both donors and donees are made worse off by the rule. Donees are made worse off because they are denied information on which to base their decision about reliance, which will also affect the size of the gift they receive. (Indeed, it is possible that because a donee does not know that a potential donor is very altruistic, the donee will not rely at all, and because of this, the donor will decide not to give him any gift.) Donors are made worse off because otherwise they would have stated their intentions, induced donees to choose preferable levels of reliance, and given gifts if problematic contingencies did not occur.

Similar remarks apply with respect to the possibility, described in Section IB4, above, that an altruistic donor would want to make a contract to make a gift to distinguish himself from masqueraders and thus to induce the donee to increase his level of reliance. If courts are unable to verify the occurrence of contingencies that matter to the donor, donors

<sup>7</sup> Or a court may be unable to verify that the donor has found a desirable business opportunity in which he wants to invest (and thus does not want to give a gift). Or a court may not be able to tell that the donee has revealed himself to be ungrateful.

will find making contracts less desirable. They may still contract, or they may decide not to, leading to the pooled outcome.

*C. Previous Writing on Altruism and Deferred Gifts*

Two earlier articles employ the economic approach to altruism and deferred gifts, and it is interesting to compare them to this article. One is by Richard Posner,<sup>8</sup> whose primary concern is to explain why a donor would wish to contract to give a gift. Posner suggests that, if the donee has foreknowledge of and confidence in receiving a gift, the donee will be made better off, and therefore the altruistic donor will also be made better off. However, Posner does not clearly articulate why the donee will be made better off by his foreknowledge of a gift; he does not mention the donee's ability to choose a better level of reliance as the value of foreknowledge.<sup>9</sup>

In the other article, Charles Goetz and Robert Scott<sup>10</sup> consider reliance by the donee, extending Posner's analysis. Goetz and Scott emphasize that a contract to give a gift may be desirable because the donee's foreknowledge of a gift will induce him to engage in greater reliance, which will enhance the value of the gift.

Thus, the contribution of the present article does not lie in its conclusion that altruistic donors may be made better off by making a contract to give a gift or that reliance by donees inures partly to the benefit of donors. Rather, the contribution inheres mainly in the distinction that is drawn between a donor's merely announcing his intentions to give a gift and his making a contract to do so, and in showing in some detail how the donee's information about the donor influences what the donor and the donee will want to do.<sup>11</sup>

<sup>8</sup> Richard A. Posner, *Gratuitous Promises in Economics and Law*, 6 J. Legal Stud. 411 (1977).

<sup>9</sup> He illustrates with an example of a donor who has in mind giving a gift to a symphony orchestra (see *id.* at 412). If the symphony knows it is likely to receive a gift, Posner implies that it will be better off merely from foreknowledge, not because of its ability to beneficially alter its plans (arrange a foreign tour). If the symphony is assumed not to change its plans given foreknowledge of a gift, however, the only reason that foreknowledge can make it better off is that it somehow derives pleasure from anticipation of the gift.

<sup>10</sup> See Charles J. Goetz & Robert E. Scott, *Enforcing Promises: An Examination of the Basis of Contract*, 89 Yale L. J. 1261, 1276-83 (1980). Another article that the reader may find worthwhile is Melvin Eisenberg, *Donative Promises*, 47 U. Chi. L. Rev. 1 (1979). This article (which is not economic in orientation) discusses a variety of arguments bearing on the desirability of enforcing donative promises and is useful as a general reference on the subject.

<sup>11</sup> It may also be mentioned that neither Posner nor Goetz and Scott consider the question of why altruistic donors defer gifts in the first place.



The more important conclusions from this article appear to be these. First, there is an underlying tendency for donees to engage in too much reliance relative to what donors wish, in the sense that, if a donee understands the donor's situation, the donee will choose a higher level of reliance than the donor would like. Second, if donees are uncertain about the degree of a donor's altruism, donors can induce donees to increase their reliance by announcing their intentions; donors will not need, or desire, to make contracts to give gifts. Third, only if there are some individuals who do not give gifts yet want to masquerade as altruistic donors is there a reason for altruistic donors to make contracts. Fourth, a rule obligating donors if they announce their intentions and donees rely will harm donors—and it may harm donees as well, for then donors may not tell donees their intentions, resulting in less reliance and smaller gifts.

## II. FORMAL ANALYSIS

### A. Basic Assumptions and Notation

Altruistic donors are in contact with donees. The sequence of events is as follows. First, a donor may make a statement to a donee about his intentions to give a gift, or he may make a contract concerning a gift. Second, the donee chooses his level of reliance, a costly action that will increase the value to him of a gift. Third, the donor decides on the size of a gift. (The assumption that the donor defers a gift is justified by the discussion in Section IA2.) Let

- $w$  = donor's level of wealth;  $w \geq 0$ ;
- $u(w)$  = utility of wealth of a donor;  $u'(w) > 0$ ;  $u''(w) < 0$ ;  $u'(w) \rightarrow 0$  as  $w \rightarrow \infty$ ;
- $x$  = amount of a gift;  $x \geq 0$ ;
- $\alpha$  = multiplicative weight reflecting the degree of a donor's altruism;  $\alpha > 0$ ;
- $r$  = donee's level of reliance;  $r \geq 0$ ; and
- $v(x, r)$  = value of a gift of  $x$  to a donee if his level of reliance is  $r$ ;  $v$  is concave in  $x$  and  $r$ ;  $v(0, r) = 0$ ;  $v_x(x, r) > 0$ ;  $v_r(x, r) > 0$ ;  $v_{xr}(x, r) > 0$ .

A donee's utility equals the value of a gift less his reliance,<sup>12</sup>

$$v(x, r) - r. \quad (1)$$

<sup>12</sup> A more general utility function of the donee is  $f(v, r)$ , where  $f$  is increasing in  $v$  and decreasing in  $r$ . Analysis of this utility function would not lead to significant changes in result.

A donor's utility equals the sum of two components: his utility from use of his wealth plus an indirect component equal to the weight  $\alpha$  multiplied by the utility of the donee. The donor's utility is thus

$$u(w - x) + \alpha[v(x, r) - r]. \quad (2)$$

We may now state a

**REMARK.** The magnitude of the gift that a donor will give, conditional on his wealth  $w$  and the donee's reliance  $r$ , is a function  $x(w, r)$  with the following properties. (a) If the gift  $x(w, r)$  is positive, it will be an increasing function of  $w$  and  $r$ . (b) For any  $r$ , the gift  $x(w, r)$  will be positive if the donor's wealth  $w$  exceeds a critical level  $w(r)$ ; and if  $w(r)$  is positive, it will be lower the higher is  $r$ .

*Proof.* A donor's gift, conditional on  $w$  and  $r$ , is determined by maximizing (2) with respect to  $x$ . The derivative of (2) is

$$-u'(w - x) + \alpha v_x(x, r), \quad (3)$$

so that, if  $x(w, r)$  is positive, it is determined by

$$-u'(w - x) + \alpha v_x(x, r) = 0. \quad (4)$$

Implicit differentiation of (4) shows that  $x(w, r)$  is increasing in  $w$  and  $r$ .<sup>13</sup>

Because (2) is concave in  $x$ ,  $x(w, r) > 0$  if and only if  $u'(w) < \alpha v_x(0, r)$ . It follows that if  $u'(0) \leq \alpha v_x(0, r)$ , then  $x(w, r) > 0$  for all positive  $w$ , so that  $w(r) = 0$ . In contrast, if  $u'(0) > \alpha v_x(0, r)$ , then  $x(w, r) = 0$  for  $w$  less than or equal to the  $w$  such that  $u'(w) = \alpha v_x(0, r)$ ;<sup>14</sup> this implicitly determines  $w(r)$ . Differentiating the latter equation with respect to  $r$ , we obtain  $w'(r) = \alpha v_{xr}(0, r)/u''(w) < 0$ . Q.E.D.

It will be assumed until Section IIE that  $w$  is fixed, and until then we will write  $x(r)$  instead of  $x(w, r)$ . For convenience, it will be supposed that  $x(r) > 0$  for all  $r$ , that functions involving  $x(r)$  that donors or donees maximize are concave in  $r$ , and, unless otherwise noted, that the levels of  $r$  that donees choose and that donors would choose if they could are positive.

### B. Donee Knows Type of Donor

Suppose here that a donee knows a donor's utility function and his wealth and is therefore able to predict the gift  $x(r)$  that he will receive as

<sup>13</sup> Condition (4) is of the form  $g(x, w, r) = 0$ . Differentiating with respect to  $w$ , we obtain  $x_w = -g_w/g_x$ . But  $g_x < 0$  (this is the second-order condition for the donor's utility to be maximized) and  $g_w = -u''(w - x) > 0$ , so that  $x_w > 0$ . Similarly,  $x_r = -g_r/g_x > 0$ .

<sup>14</sup> If  $u'(0) > \alpha v_x(0, r)$ , there must be a  $w$  such that  $u'(w) = \alpha v_x(0, r)$ ; for otherwise  $u'(w)$  is bounded above zero, contradicting the assumption that  $u'(w) \rightarrow 0$  as  $w \rightarrow \infty$ .

a function of his reliance  $r$ . Thus, there is no information that a donor can convey to a donee by making a statement, so we can ignore the making of mere statements by donors. Also, because there is no reason for a donor to make a mere statement, a legal rule obligating him if he does so can have no effect; he can accomplish his purposes without making a statement.

Consider first the situation in which a donor does not make a contract to give a gift. The sequence of events is therefore simply that a donee chooses his level of reliance and then the donor gives him a gift. We have

PROPOSITION 1. In the absence of a contract, (a) a donee will choose a level of reliance  $\hat{r}$  that exceeds the level  $r^*$  that the donor would like him to select. (b) Accordingly, the donor will give a larger gift  $\hat{x}$  than he would otherwise have wanted to give; that is,  $\hat{x} = x(\hat{r}) > x(r^*) = x^*$ .

NOTE. In choosing  $r$ , a donee will weigh the benefit to himself of raising  $r$ —an increase in the size  $x$  of the gift (because  $x$  is increasing in  $r$ ) as well as an increase in the value  $v$  of the gift given its size—against the cost to himself of raising  $r$ ; but the donee will not take into account the utility cost to the donor of giving a larger gift. Because the donor will naturally take his utility cost of a gift into account, he would want the donee to select a lower level of  $r$ .

*Proof.* A donee will choose  $r$  to maximize

$$v(x(r), r) - r, \quad (5)$$

so that  $\hat{r}$  is determined by

$$v_x(x(r), r)x'(r) + v_r(x(r), r) = 1. \quad (6)$$

The donor, however, would want to select  $r$  to maximize

$$u(w - x(r)) + \alpha[v(x(r), r) - r], \quad (7)$$

so that  $r^*$  is determined by

$$-u'(w - x(r))x'(r) + \alpha v_x(x(r), r)x'(r) + \alpha v_r(x(r), r) = \alpha. \quad (8)$$

(As indicated in the note above, [8] involves  $u'$ , the marginal utility of the donor's wealth, whereas [6] does not.) Using (4), (8) reduces to

$$v_r(x(r), r) = 1. \quad (9)$$

(Thus, it turns out that the donor would choose  $r$  by looking only at its contribution to the value  $v$  of the gift, given its size, but, as reflected in the first term of [6], the donee also considers how  $r$  increases the size of the gift.) From (9) it is apparent that the left-hand side of (6) exceeds 1 at  $r^*$ , and because (5) is assumed to be concave in  $r$ , it follows that  $\hat{r} > r^*$ . Also, because  $x(r)$  is increasing in  $r$ ,  $x(\hat{r}) > x(r^*)$ . Q.E.D.

The next proposition states several conclusions about contracts to give gifts.

PROPOSITION 2. (a) A donor would not benefit from making a contract guaranteeing a *minimum* gift of  $x^*$  (what he would want to give if reliance equals his preferred level  $r^*$ ): if he makes this contract, the outcome will be the same as the outcome if he does not make any contract. (b) A donor would, however, want to make a contract specifying  $x^*$  as a *maximum* gift or, equivalently,  $r^*$  as maximum reliance. But a donor would not be willing to enforce such a contract.

NOTE. If a donor promises to give a gift of at least  $x^*$ , he cannot benefit because, by the last proposition, his problem is that the donee will choose too high a level of reliance  $\hat{r}$  and that the donor will then give a gift  $\hat{x}$  exceeding  $x^*$ . For this reason, a contract stating a maximum gift size of  $x^*$  or a maximum reliance of  $r^*$  would be desirable for the donor to make. Yet if the donee does choose  $\hat{r} > r^*$ , the donor, at that point, would want to give the gift  $\hat{x}$ : if the donor were not to give  $\hat{x}$  as a gift, he would make himself worse off, due to his altruism. Thus, the contract would not be enforced by the donor.

*Proof.* Suppose that a donor makes a contract in which he specifies a minimum gift of  $x^*$ . Then, if the donee chooses  $r$ , the donor will give  $\max[x^*, x(r)]$ . Thus, if the donee chooses  $r \geq r^*$ , the donor will give  $x(r)$ . Consequently, supposing that  $r \geq r^*$ , the best choice of  $r$  for the donee is  $\hat{r}$ . If, however,  $r \leq r^*$ , the donor will give  $x^*$ . Hence, subject to  $r \leq r^*$ , the donee will choose  $r$  to maximize  $v(x^*, r) - r$ ; but the solution to this problem is, by (9),  $r^*$ . Because  $v(x^*, r^*) - r^* < v(\hat{x}, \hat{r}) - \hat{r}$ , the donee will choose  $\hat{r}$  and the donor will give  $\hat{x}$ . Accordingly, the outcome will be identical to that in the absence of a contract, establishing (a).

If a contract specifies a maximum gift of  $x^*$  and the contract would be enforced, the donee would choose  $r$  to maximize  $v(x^*, r) - r$ , which means that the donee would choose  $r^*$ . Hence, the optimal outcome for the donor would result. Also, if a contract specifies a maximum reliance of  $r^*$  and the contract would be enforced, then the optimal outcome for the donor would result. That the donor would not enforce a contract specifying  $x^*$  or  $r^*$  as a maximum, however, follows from the fact that if the donee chooses  $\hat{r}$ , the donor's utility will be maximized by giving  $\hat{x}$ . Q.E.D.

### C. Donee Uncertain about Donor's Degree of Altruism

Assume here that there are two types of donor, with degrees of altruism  $\alpha_1$  and  $\alpha_2$ , where  $\alpha_1 < \alpha_2$ , and that  $q$  is the proportion of the type 1's.

Assume as well that donees cannot directly observe the difference between the two types of donor; donees know only the  $\alpha_i$  and  $q$ . Thus, donees are faced with uncertainty as to the type of donors.

Let  $x_i(r)$  be the gift that a donor of type  $i$  will give as a function of  $r$ ; let  $F_i(r) = u(w - x_i(r)) + \alpha_i[v(x_i(r), r) - r]$ , the utility given  $r$  of a donor of type  $i$ ; let  $r_i^*$  be the  $r$  that maximizes  $F_i(r)$ , the optimal  $r$  for a donor of type  $i$ ; let  $r_i$  be the  $r$  that maximizes  $v(x_i(r), r) - r$ , the  $r$  that a donee would choose if he knew that the donor was of type  $i$ ; assume (as is plausible) that  $r_1 < r_2$ ; and let  $r(q)$  be the  $r$  that maximizes  $[qv(x_1(r), r) + (1 - q)v(x_2(r), r)] - r$ , the  $r$  that a donee would choose if he thought the donor was of type 1 with probability  $q$ .

Consider first the situation in the absence of contracts. Assume that, initially, a donor may say nothing, claim that he is a type 1 donor, or claim that he is a type 2 donor. Then the donee chooses his level of reliance and the donor gives a gift.

We will examine sequential equilibria in initial statements of donors, reliance by donees, and gifts. A sequential equilibrium has two properties. First, parties act optimally at each stage. In particular, a donor chooses optimally his initial statement, given how it will be interpreted by donees. Second, parties' beliefs are correct (for in an equilibrium, beliefs cannot be contradicted by general experience). Specifically, donees' beliefs are correct about the type(s) of donors who remain silent or make a type of statement.<sup>15</sup>

Now let us determine possible sequential equilibria. An equilibrium in which the two types of donors can be differentiated from one another by donees will be called a *separated* equilibrium; such an equilibrium arises when only one type of donor is silent or when the two types of donors make different statements. In a separated equilibrium, because donees know donors' types, a donee will choose  $r_i$  and will receive a gift of  $x_i(r_i)$  from a donor of type  $i$ . In other words, the outcome will be essentially as described in proposition 1.

An equilibrium in which donors cannot be differentiated from each other by donees will be called a *pooled* equilibrium; this equilibrium arises when all donors are silent or when all make the same statement. In a pooled equilibrium, donees choose  $r(q)$ , so that donors of type  $i$  give  $x_i(r(q))$  as a gift.

PROPOSITION 3. In the absence of contracts, (a) a separated equilibrium exists if and only if

<sup>15</sup> See David Kreps & Robert Wilson, Sequential Equilibrium, 50 *Econometrica* 863 (1982).

$$F_2(r_2) \geq F_2(r_1); \quad (10)$$

that is, type 2 donors prefer that donees know their identity. (b) A pooled equilibrium always exists.

NOTE. If (10) does not hold, then a separated equilibrium cannot exist because type 2 donors would want to make the statement that type 1's make. If (10) does hold, then a separated equilibrium exists because the type 2's do not want to be mistaken for type 1's. Also, type 1's do not want to be mistaken for type 2's because  $r_1$  is higher than type 1's want and  $r_2$  is higher still. One would expect (10) to hold if  $\alpha_2$  is sufficiently higher than  $\alpha_1$ .

The argument that there always exists a pooled equilibrium is the following. Suppose donees believe that the probability is  $q$  that a donor is a type 1 regardless of the statement the donor makes. Then donors will be indifferent about what they say, and we may assume that they are all silent. Thus, the beliefs of donees will be correct.

*Proof.* If (10) does not hold, a separated equilibrium cannot exist because, as just stated in the note above, the type 2's would be better off making the same statement as type 1's, upsetting the equilibrium.

If (10) does hold, assume as follows: either silence or a statement that he is a type 1 donor is believed by donees to mean the donor is type 1; and a statement that he is a type 2 donor is believed by donees to mean that the donor is type 2. Under this assumption about donee beliefs, a type 1 donor will either be silent or say that he is type 1, for then his utility will be  $F_1(r_1)$  because donees will choose  $r_1$ , whereas if he says he is type 2, his expected utility will be  $F_1(r_2)$  because donees will choose  $r_2$ . Moreover,  $F_1(r_1) > F_1(r_2)$  because, by proposition 1,  $r_1^* < r_1$ , because  $r_1 < r_2$ , and because  $F_1$  is concave in  $r$ . In addition, because (10) holds, a type 2 donor will state that he is type 2. Thus, type 1 donors are indeed silent or say that they are type 1's; and type 2 donors say that they are type 2's. This establishes *a*.

Part (b) is clear from the note above. Q.E.D.

It does not seem worthwhile analyzing contracts formally here because the conclusions about them are readily understood in light of propositions 2 and 3. Specifically, if the equilibrium in the absence of contracts is separated, then donors would not benefit from making contracts in which they specify minimum gift size. For we know from proposition 3*a* that merely by announcing their identity to donees, type 2 donors will induce donees to choose  $r_2$ . If type 2 donors instead make a contract to give a minimum gift of  $x_2^*$ , donees would, by proposition 2*a*, choose  $r_2$ , and donors would then give them  $x_2(r_2)$ , which is exactly the outcome when type 2 donors do not make contracts and announce their identity. Also,

type 1 donors never have a reason to make a contract because, for them, reliance is always too high.<sup>16</sup>

If, however, the equilibrium in the absence of contracts is pooled and  $F_2(r_2) > F_2(r(q))$ , then type 2 donors would benefit from making contracts. For if a type 2 donor makes a contract to give at least  $x_2^*$ , he will obtain  $F_2(r_2)$  instead of  $F_2(r(q))$ . (Also, note, that type 1 donors will then obtain  $F_1(r_1)$ , so they also will be better off, as  $F_1(r_1) > F_1(r(q))$ .)

#### *D. Donee Uncertain Whether Donor Is Altruistic or a Masquerader*

Assume again that there are two types of potential donors whom donees cannot distinguish directly. One type of donor is altruistic, with degree of altruism  $\alpha$ ; the proportion of such donors is  $q$ . The other type of donor is not altruistic but obtains a benefit to the degree that the donee believes that he will give a gift; this type of donor will be referred to as a *masquerader*. Let

$b$  = benefit masquerader obtains per dollar of a gift if the donee believes that he will definitely receive it;

$p$  = probability that the donee receives a gift, in his opinion;

and assume that the utility of a masquerader who the donees thinks will give a gift  $x$  with probability  $p$  is

$$u(w) + pbx \quad (11)$$

if he does not in fact give a gift and

$$u(w - x) + pbx \quad (11')$$

if he does give it. Therefore, note, a masquerader would not actually give a gift in the absence of a contract. Also, assume that  $b$  is sufficiently low that a masquerader would not want to make a contract to give a gift.<sup>17</sup>

Consider sequential equilibria in the absence of contracts, supposing

<sup>16</sup> In addition, were donors able to make contracts guaranteeing a maximum level of reliance, they would want to do so (at levels  $r_1^*$  and  $r_2^*$ , for type 1 and type 2 donors, respectively), but, as explained in proposition 2b, such contracts would not be enforced by donors. Also, a legal rule obligating donors to give gifts of  $x_2^*$  if they announce their intentions would have no effect: it would have no effect on type 1 donors because they never want to announce their identity; and when, in the separated equilibrium, type 2 donors announce their identity, they turn out to give  $x_2 > x_2^*$ , so a legal obligation would not alter their gift.

<sup>17</sup> If a masquerader contracted to give  $x$ , then  $p$  would be 1, so that his utility would be  $u(w - x) + bx$ , the derivative of which with respect to  $x$  is  $-u'(w - x) + b$ . Thus, the best  $x$  for the masquerader to choose is zero if  $b \leq u'(w)$ ; hence if  $b$  is lower than  $u'(w)$ , the assumption is justified.

that a donor first can claim to be altruistic or can be silent, that the donee then chooses reliance, and that the donor subsequently either gives a gift or does not.

Observe that if there is a separated equilibrium, because donees will know donors' types, a donee will choose  $\hat{r}$  and will receive  $x(\hat{r})$  if the donor is altruistic, and the donee will choose  $r = 0$  and will receive nothing if the donor is a masquerader. If there is a pooled equilibrium, because donees will not know donors' types, a donee will choose  $r(q)$ , where  $r(q)$  is the  $r$  maximizing

$$qv(x(r), r) - r. \quad (12)$$

Hence, if  $r(q)$  is positive, it will satisfy

$$q[v_x(x(r), r)x'(r) + v_r(x(r), r)] = 1; \quad (13)$$

and the donee will receive  $x(r(q))$  if the donor is altruistic and nothing if the donor is not. We have

**PROPOSITION 4.** In the absence of contracts, (a) there cannot be a separated equilibrium, and (b) there exists a pooled equilibrium (in which masqueraders mimic altruistic donors).

**NOTE.** Were there a separated equilibrium, a masquerader could benefit by making the same statement as an altruistic donor because the masquerader would therefore be thought to give a gift.

*Proof.* Were there a separated equilibrium, masqueraders would obtain utility of  $u(w)$  and altruistic donors would give  $x(\hat{r})$ . Hence, a masquerader would gain  $bx(\hat{r})$  by mimicking altruistic donors' statements, upsetting the equilibrium.

That a pooled equilibrium exists is obvious. For example, let all donors be silent, and assume that any statement by a donor is assumed by donees to mean that  $q$  is the probability of obtaining a gift of  $x(r(q))$ . Then it is rational for donors to be silent, and the probability will indeed be  $q$  that a gift of  $x(r(q))$  will be given. Q.E.D.

Now consider whether an altruistic donor would want to make a contract. Suppose for simplicity that donors either make a contract guaranteeing a minimum gift of  $x^*$  or do not make a contract; then donees choose reliance and donors may give gifts. In a separated equilibrium, altruistic donors make contracts and masqueraders do not;<sup>18</sup> thus donees with whom contracts are made choose  $\hat{r}$  and receive  $x(\hat{r})$ , and donees with whom contracts are not made choose  $r = 0$  and receive no gifts. In

<sup>18</sup> There is another conceivable separated equilibrium: altruistic donors do not make contracts and masqueraders do make contracts. But this equilibrium cannot occur because it has been assumed that masqueraders would not want to make contracts.



a pooled equilibrium, no donors make contracts,<sup>19</sup> donees choose  $r(q)$ , and they receive  $x(r(q))$  from altruistic donors and nothing from masqueraders. In demonstrating the next result, assume that altruistic donors prefer that donees choose  $\hat{r}$  than that they choose  $r = 0$  (but see notes 20 and 22 below).

**PROPOSITION 5.** Suppose that donors may make contracts guaranteeing a minimum gift of  $x^*$ . Then (a) there always exists a separated equilibrium. (b) There exists a pooled equilibrium if and only if the proportion  $q$  of altruistic donors is greater than or equal to a threshold level  $q'$ .

**NOTE.** A situation in which altruistic donors contract and masqueraders do not is always an equilibrium: were an altruistic donor not to make a contract, the donee would choose  $r = 0$ , making the donor worse off, and a masquerader would not want to contract.

A pooled outcome in which no donors make contracts can be an equilibrium only if altruistic donors would not want to contract. This in turn will be so only if donees choose sufficiently high reliance in the pooled situation; and that will be true only if  $q$  is sufficiently high. Otherwise, altruistic donors will contract to give gifts in order to induce donees to increase reliance.

*Proof.* Let  $F(r) = u(w - x(r)) + \alpha[v(x(r), r) - r]$ , the utility of an altruistic donor as a function of  $r$ .

To demonstrate (a), assume that altruistic donors make contracts, that masqueraders do not, and that donees believe that those who make contracts are altruistic and that those who do not are masqueraders. We want to show that this is an equilibrium. Because donees will choose  $\hat{r}$  when contracts are made and  $r = 0$  when they are not, an altruistic donor will obtain utility of  $F(\hat{r})$  if he makes a contract and  $F(0)$  if he does not; and because  $F(\hat{r}) > F(0)$  by assumption, he will make a contract.<sup>20</sup> Also, a masquerader will not make a contract by assumption.

To prove the claim about a pooled equilibrium, observe first that there exists a unique positive  $r' < r^*$  such that  $F(r') = F(\hat{r})$ . This follows from the assumptions that  $F$  is concave in  $r$  and that  $F(0) < F(\hat{r})$ , and from the facts that  $r^* < \hat{r}$  and that  $F(r^*) > F(\hat{r})$ . Second, observe that  $r(q)$  is increasing in  $q$  if  $r(q)$  is positive. This result follows from implicit differentiation of (13). Also, it is evident that  $r(q) \rightarrow 0$  as  $q \rightarrow 0$ , and that  $r(1) = \hat{r}$ .

From these two observations, it is clear that there exists a unique  $q$ , where  $0 < q < 1$ , such that  $r(q) = r'$ ; define this  $q$  to be  $q'$ .

<sup>19</sup> A pooled equilibrium in which both types of donors make contracts is not possible because masqueraders are not willing to make contracts.

<sup>20</sup> If, contrary to our assumption,  $F(\hat{r}) < F(0)$ , a separated equilibrium can never exist.

Now let us show that, if  $q < q'$ , there is no pooled equilibrium. Assume that there is a pooled equilibrium. Then altruistic donors obtain utility of  $F(r(q))$ , but if they make a contract, they obtain utility of  $F(\hat{r})$ .<sup>21</sup> Since  $q < q'$ ,  $r(q) < r'$ , so that  $F(r(q)) < F(\hat{r})$ . Hence, the equilibrium would be upset. Last, let us demonstrate that, if  $q \geq q'$ , there exists a pooled equilibrium. Assume that no donors make contracts. If an altruistic donor were to make a contract, he would obtain  $F(\hat{r})$ , whereas he obtains  $F(r(q))$  if he does not. Because  $F(r(q)) > F(\hat{r})$  when  $1 > q > q'$  and  $F(r(q)) = F(\hat{r})$  when  $q = q'$  or  $q = 1$ , altruistic donors strictly prefer not to make contracts when  $1 > q > q'$  and are indifferent when  $q = q'$  or  $q = 1$ .<sup>22</sup> Masqueraders never want to make contracts. Q.E.D.

A legal rule obligating a person who announces that he will give a gift to give at least  $x^*$  will have no effect in the regime with contracts because in a separated equilibrium donors make contracts and turn out to give  $\hat{x}$  exceeding  $x^*$ .

It may also be remarked that, had contracts guaranteeing gifts of smaller size been allowed, the conclusions would not have changed. The reason, in essence, is that in any separated equilibrium, donees would know that the altruistic donors are altruistic, so donees would choose  $\hat{r}$  and the donors would then give  $x(\hat{r})$ , even if donors had guaranteed a smaller gift. (The logic of proposition 2a establishes this result.)

#### *E. Extension: Donor Wealth Uncertain*

It is of interest to allow donor wealth to be uncertain, in which case a donee who knows the donor's degree of altruism (as in Section IIB above) will select  $r$  to maximize

$$\int_0^\infty v(x(r, w), r)h(w)dw - r, \quad (5')$$

where  $h$  is the probability density of  $w$ . The donee's choice of  $r$  would therefore be determined by

$$\int_0^\infty [v_x(x(r, w), r)x_r(r, w) + v_r(x(r, w), r)]h(w)dw = 1, \quad (6')$$

and, proceeding as above, it can be shown that proposition 1 continues to hold. Also, analogues to the other propositions can be established in a straightforward way.

<sup>21</sup> I am implicitly assuming that donees believe that contracts are made only by altruistic donors.

<sup>22</sup> If, contrary to our assumption,  $F(0) > F(\hat{r})$ , altruistic donors would not want to make a contract regardless of  $q$ , so that there would always exist a pooled equilibrium.

An important aspect of donor uncertainty over wealth is that making a contract to give a gift of minimum size imposes risk on a donor: his wealth may fall to a level so that he would not want to give the minimum gift, yet he would be obligated to do so by the contract.<sup>23</sup> This risk has implications in each of the situations studied.

Proposition 2a stated that if donees know donors' degrees of altruism, a donor will not benefit from guaranteeing a minimum gift; a donor will be just as well off if he makes a contract as he will be if he does not. However, if a donor's wealth is uncertain, he will be better off not guaranteeing a minimum gift because that would impose a risk on him.

Proposition 3a and the discussion following it explained that, if donees do not know donors' degrees of altruism and a donor wants the donee to increase his level of reliance, the donor would be indifferent between merely announcing his intentions to give a gift and contracting to do so. If the donor's wealth is uncertain, however, he will be better off just announcing his intentions, not making a contract. Moreover, in this case, a legal rule that obligates a donor to give a minimum gift if he announces his intentions could result in the donor not announcing his intentions and, therefore, in a pooled equilibrium with donees relying too little for the more altruistic donors.

If donees do not know whether donors are altruistic, and the wealth of donors is uncertain, donors would want to make contracts less often than stated in proposition 5; the separated equilibrium may not always exist, and  $q'$  will be lower.

In summary, donors would strictly prefer not to make contracts to give gifts, except possibly in the case in which donees do not know whether potential donors are altruistic or masqueraders.

### III. CONCLUDING COMMENTS

*A Recommendation: Donors Should Be Able to Bind Themselves.* A recommendation about the law that is supported by the analysis in this article (and for that matter seems obvious on its face) is that donors should be able to bind themselves to give gifts. It has been seen that there are reasons why donors may want to obligate themselves to give gifts (see Sections IB4 and IID): to distinguish themselves from masqueraders and thereby to induce donees to rely, enhancing the value of gifts.

<sup>23</sup> This statement assumes that the contract does not depend on wealth and therefore does not release the donor from having to give a gift if his wealth falls below a certain level; see Section IB5 and note 7 *supra*.

Thus, allowing donors to contract to give gifts will make them better off; it will make donees better off as well.

In fact, however, this recommendation is not entirely followed by U.S. contract law. It is difficult under current law in many jurisdictions in this country for an individual to bind himself to give a gift, unless the prospective donee relies to his detriment on the promise.<sup>24</sup> In France and Germany, by comparison, an individual can bind himself to give a gift as long as he meets certain formalities.<sup>25</sup>

*An Observation: Donors May Not Want to Bind Themselves Even When Donees Rely.* As discussed in the analysis, donors may want to announce their intentions to give gifts to induce donees to rely but not want to be bound to give gifts, for this would impose an unwanted risk on them (see Sections 1B5 and 11E). And there are related reasons why potential donees also may not want donors to be bound even if they, the donees, rely. Namely, such an obligation might discourage gift giving or at least it might discourage donors from announcing their intentions.

These points are worth emphasizing because they cast doubt on what commentators frequently suggest is a desirable feature of U.S. contract law: that promises to give gifts become enforceable if reasonably relied on.<sup>26</sup>

*A Contrast between the Donative Context and the Usual Context of Promise: The Desire to Bind Oneself.* There is a general reason why parties should ordinarily want to bind themselves to some degree in the usual promissory context: this promotes confidence about each others' future actions; if a party to an agreement does not bind himself somehow to fulfill his promise, the other side will lack faith in him and therefore either demand more for making an agreement or refuse altogether to do

<sup>24</sup> A donor will often find it hard to bind himself to a donee (other than a charity) if the donee does not engage in costly reliance, in jurisdictions that have abolished use of the seal in contracts. See, for example, sections 7.1 and 7.9 of John D. Calamari & Joseph M. Perillo, *The Law of Contracts* (3d ed. 1987); and Section II of Eisenberg, *supra* note 10.

Note, however, that according to the analysis of this article, a donor would want to contract *only when that would induce reliance*, which is to say, only when a contract is supposed to be enforceable. Thus, courts' insistence on the occurrence of reliance for a contract to be enforceable is not disadvantageous to donors unless courts are unable to determine that donees have undertaken detrimental reliance. But, arguably, courts sometimes experience difficulty in determining whether a donee has relied on a promise, especially if the nature of the opportunities that a donee has forgone is hard to establish.

<sup>25</sup> See Eisenberg, *supra* note 10, at 12, and references cited therein.

<sup>26</sup> See, for example, chapter 6 of Calamari & Perillo, *supra* note 24; and Section III of Eisenberg, *supra* note 10. However, a careful person should in principle be able to state his intentions to give a gift and not become bound if the potential donee relies: let the person state his intentions but not make a "promise," and let him add that the potential donee relies at his own peril.

so. In the donative context, by contrast, it has been seen that often there is no need for promisors to bind themselves. The altruistic donor may well find that the donee will rely as much as he, the donor, wants if he merely states his intentions to give a gift because his statement will make the donee confident enough of receiving the gift.

*An Omitted Factor: Negligent Inducement of Reliance.* A possibility that was not examined in this article is that, through lack of care or inattention to the interpretation likely to be accorded his statements, a person may lead another to expect a gift and to rely on this expectation even though the first person does not intend to give a gift.<sup>27</sup> This possibility can be likened to one in which negligence results in harm, the harm being the waste or forgone opportunities inherent in reliance on receiving a gift. In considering negligently induced reliance, however, one should take into account the chance of contributory negligence: the second person's failure to make a reasonable effort to determine whether the first person really planned to give a gift.<sup>28</sup> Assuming that there was not contributory negligence in this sense, negligent inducement of reliance represents a harmful act that should be deterred, and a natural way to do that is by imposing damages equal to the loss caused by reliance.

<sup>27</sup> See Richard Craswell, Performance, Reliance, and One-Sided Information, J. of Legal Stud. 365, 396-97 (1989), for a discussion of a similar problem in the usual, nondonative context.

<sup>28</sup> Presumably this effort would involve the second person informing the first that he plans to rely on receiving a gift.

