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A NOTE ON SUBSIDIZING GIFTS

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ABSTRACT

Altruistically motivated gifts involve a species of consumption externality. Donors obtain an altruistic benefit from the effect of their gifts on donees' utility but do not take into account that the benefit to donees is itself relevant to social welfare. The level of gift-giving thus will be lower than is optimal. A subsidy can correct this problem, while compulsory transfers (assuming the state lacks information about who is altruistic) and bargaining between donors and donees cannot. The rationale for subsidizing gifts offered here does not depend on whether the donee's activity is a public good (as with gifts for medical research) or whether the transfer tends to equalize the wealth of donors and donees -- factors emphasized in the existing literature on the subject.

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Gift-giving -- notably transfers within the family and philanthropy -- is a significant economic phenomenon.¹ Presumably, altruism is an important motivation for many gifts.² This note compares the private and social benefits of altruistically motivated gifts and shows that subsidizing such gifts would increase social welfare.

Altruistically motivated gifts involve a species of consumption externality.³ An individualistic social welfare function includes both the donor's utility -- which depends in this instance on the donee's utility -- and the donee's utility in its own right. Thus, a gift, by increasing the donee's utility, enhances social welfare both because of the indirect effect on the donor's utility and the direct effect on the donee's. The donor, however, takes into account only the indirect effect. As a result, even a donor who weighs the donee's utility equally with his own does not account for the full effect of his gift on social welfare.

In the model analyzed in section 1, social welfare can be raised with a subsidy. As explained in section 2, the rationale for subsidizing gifts offered here does not depend on whether the

¹ For example, charitable giving in the U.S. has typically amounted to between two and three percent of national income. Clotfelter (1985, table 1.2).

² To be sure, altruism hardly motivates all giving. See Andreoni (1988), section 1.3, and note 13.

³ This point appears in Friedman (1988), who does not examine subsidies. Becker's (1974) well-known analysis also differs from that here, as he considers privately optimal allocations and how they affect individuals' incentives, but not what allocation would be socially optimal or how that allocation might be induced. The idea that the presence of altruism does not solve all problems to which it is applicable has received increasing attention. See, for example, Bernheim and Stark (1988).

donee's activity is a public good (as with gifts for medical research) or whether the transfer tends to equalize the wealth of donors and donees -- factors emphasized in the existing literature on the subject. Atkinson (1976) is closest to the present inquiry. Although he addresses what tax treatment of charitable contributions is optimal from the perspective of redistribution, his formulation employs an explicit social welfare function and considers donors' motivations for giving in a similar manner.

The welfare consequences of gifts are of particular importance in light of existing policies that subsidize some forms of giving, as through tax exemptions and deductions. For example, the revenue loss from the charitable contribution deduction under the U.S. federal income tax in fiscal year 1994 is expected to be about twenty billion dollars. The revenue loss from step-up basis of capital gains at death (bequests being an important component of transfers to individuals) will be approximately fifty billion dollars. Relatedly, federal taxes on estates and gifts are estimated to exceed twelve billion dollars. [Budget of the United States Government (1993).]

1. Analysis

1.1. Gifts in the Absence of Subsidies

There are two types of individuals, donees -- each of whose utility is a concave function, V , of his own wealth -- and donors -- each of whose utility is the sum of a concave function, U , of his own wealth and λ times a respective donee's utility. (Each donor is paired with a donee.) Donors' and donees' initial

levels of wealth are w and y respectively. Each donor chooses a gift, $g \in [0, w]$, to transfer to a donee, to maximize

$$(1) \quad U(w-g) + \lambda V(y+g).$$

The first-order condition for an interior solution is

$$(2) \quad U' = \lambda V'.$$

There will be no gift if donors' level of altruism is sufficiently small. For example, if $U(\cdot) = V(\cdot)$ and $w = y$, $g > 0$ if and only if $\lambda > 1$.

Assuming for simplicity that social welfare is the sum of utilities, the socially optimal g maximizes

$$(3) \quad (U + \lambda V) + V = U(w-g) + (1+\lambda)V(y+g).$$

The first-order condition for an interior solution is

$$(4) \quad U' = (1+\lambda)V'.$$

Using the previous example of equal initial wealth and identical functions for utility of wealth, a positive transfer is optimal when $\lambda > 0$. Moreover, the optimal transfer exceeds that which maximizes (1). The private and social optima differ because each donor counts the respective donee's utility only for its effect on the donor's own utility (no matter how large is the λ), while social welfare also includes the effect on the donee's utility in its own right. This divergence is reflected in the difference between the weights λ and $1+\lambda$ in (1) and (3) or (2) and (4).

1.2. Optimal Subsidy

If the social authority knew which individuals were donors and donees, the level of altruism, the initial levels of wealth, and the functional form for utility of individuals' own wealth, it simply could order the appropriate transfers. More realistically, much of this information will be unobservable (or costly to observe).

Assume, for example, that the social authority does not know who prospective donors and donees are, but that it does know λ , identical for all donors. When individuals begin with equal wealth and have the same functions for utility of own wealth, prospective donors will not give any gift when $\lambda < 1$; hence, observing private behavior would be insufficient to reveal who was altruistic. Thus, the optimal compulsory transfer scheme involves no transfers, as there is no basis for determining who should be ordered to transfer to whom.

With the same assumption about information, consider a subsidy. Let s be the rate at which donors are subsidized, so that a donor's private cost of giving a gift g becomes $(1-s)g$. This subsidy is financed by a pro rata lump-sum tax that individuals take as given.⁴ It can be demonstrated⁵ that the optimal subsidy rate is

⁴ The analysis to follow demonstrates implicitly that the effect of this tax on donors and donees' wealth disappears in equilibrium; donors are induced to distribute wealth between themselves and donees optimally, so that the increase in donors' giving is sufficient to offset the tax paid by donees. If the subsidy were financed by distortionary taxation, the optimal subsidy would differ.

⁵ When the subsidy is $1/(1+\lambda)$, the gift costs a donor $\lambda/(1+\lambda)$. Then, the derivative of the donor's utility with respect to g is

$$(5) \quad s = \frac{1}{1+\lambda} = \frac{V'}{U'}$$

When there is an interior solution -- that is, when there is any giving in the presence of this subsidy scheme -- the subsidy induces the first-best allocation of wealth because it internalizes the externality, which is V' , measured in utility units to the donor, U' .⁶

Note that when λ is very small the subsidy rate approaches 100% of the amount of the transfer, but when λ is very large (much larger than 1) the subsidy is very small, approaching zero in the limit. The intuition is that, without the subsidy, a donor weights the donee's utility by only λ rather than $1+\lambda$; when λ is near zero, the relative gap between the private and social valuations of V is very large, but when λ is large, the relative gap is small (even though the absolute gap is the same, equal to 1 in both instances).

The subsidy in this simple model requires knowledge of λ , but is independent of wealth levels w and y and of utility functions $U(\cdot)$ and $V(\cdot)$. Consider briefly the case in which the level of λ varies among potential donors and is not directly observable. In this instance, the optimal mechanism may well involve a subsidy, with the rate a function of the amount of individuals' gifts.

$$-\frac{\lambda}{1+\lambda}U' + \lambda V'$$

which yields (4) as the first-order condition for the donor.

⁶ When the first-best allocation requires donees to give to donors -- as it would if donees were sufficiently wealthier than donors -- a subsidy would fail, resulting in the corner solution in which there is no giving. Also, note that when $\lambda = 0$, $s = 1$, implying that donors are indifferent about the size of their gift; implicitly, the assumption in this case is that donors give the socially optimal gift.

Higher transfers would signal higher λ 's and thus call for lower subsidy rates. Of course, prospective donors would take this into account and may be induced to transfer less than they would if the subsidy rate were fixed. This is an instance of the familiar revelation problem [see Myerson (1979)], and an incentive-compatible mechanism would not allow implementation of the first-best. Also note that, when λ is not observable, the optimal scheme would depend upon initial wealth levels and individuals' utility functions. For example, if a donor has higher initial wealth, a lower λ is implied by any level of giving, ceteris paribus. As a result, individuals with similar giving patterns would receive larger subsidies the greater their observed wealth.

1.3. A More General Formulation with Warm-Glow Giving

An altruistic donor's utility might depend on the donee's wealth or utility in more subtle ways. Moreover, gifts might also be motivated by the benefit to the donor from the act of giving itself (warm glow), rather than purely by concern for the well-being of the beneficiary [Andreoni (1990)]. Instead of (1), the donor would maximize $U(w-g, y+g, g)$. In place of (5), the condition for the optimal subsidy would be

$$(6) \quad s = \frac{2V'}{U_1 + U_2 + V'}$$

where U_i is the derivative of U with respect to argument i . Although not immediately apparent, expression (6) is essentially the same as (5) for the simple case.⁷ In particular, the optimal

⁷ Expression (5) could also have been written as

subsidy is lower when altruism, here indicated by the magnitude of U_2 , is greater. (The existence of a warm-glow motive does not affect the formula for the optimal subsidy: the externality -- that the donor does not count V directly -- exists regardless of the motive for giving.⁶)

2. Remarks

(a) Why private agreement cannot internalize the gift externality. Private agreement cannot produce a first-best outcome, as with typical externalities.⁷ The reason is that a transfer of wealth itself is the source of the effect on social welfare. If a prospective donee offered a side payment, p , to a prospective donor in an attempt to induce the socially optimal gift, that payment would itself constitute undoing of the gift. (A gift of g induced by a payment of p is identical in the model to a gift of $g-p$ and no side payment.)

The problem arises because achieving the social optimum involves a redistribution of wealth. Although there is an

$$s = \frac{2V'}{U' + \lambda V' + V'}$$

The intuition for (6) -- and this variation of (5) -- is that donors ignore both the independent benefit of their gift to donees, V' , and the cost of the subsidy (the lump-sum tax is taken as given), which at the margin equals $s/2$ (each pays half the subsidy cost) times the direct marginal utility of the donor, U_1 , the donee, V' , plus of the indirect effect of the donee on the donor, U_2 . When s is given by (6), external costs equal external benefits, so donors' decisions are optimal.

⁶ The presence of a warm-glow motive will increase the level of giving for a given degree of altruism, which may affect the optimal level of the subsidy because the relevant marginal utilities are affected. In the simple case in which altruism takes the form in the initial model, the optimal subsidy equals $1/(1+\lambda)$ regardless of any warm-glow motive. As a result, if evidence indicates that a given level of observed giving is more explained by the warm-glow effect than altruism, the optimal subsidy rate would be higher because λ (reflected in (6) by U_2) would be lower.

⁷ See Coase (1960). Friedman (1988) has indicated that bargaining cannot eliminate this externality.

externality in the sense that donors do not fully appropriate the benefit of their gifts, the private allocation (with no subsidy or compulsory transfer) is a pareto optimum -- one differing from that which maximizes the sum of utilities. It is familiar that individual decisionmaking will not maximize social welfare when matters of distribution are involved.

(b) Other rationales for subsidizing gifts. A frequently offered rationale for subsidy to charities also invokes the concept of externalities. It relies on the assumption that institutions receiving gifts use them in a way that creates positive externalities, as with medical research.¹⁰ It is not contemplated that, looking solely at the donor and donee (even if the donee is not a "charity"), there is an externality of sorts.¹¹ Another common rationale for subsidy focuses on the redistributive dimension of giving -- i.e., the extent, if any, to which gifts involve transfers from rich to poor. In contrast, the discussion here emphasizes a rationale independent from both the nature of the recipient's activities and traditional redistribution, in that it holds even if the recipient spends the

¹⁰ It is proposed that subsidies be used in an attempt to implement a Lindahl solution. See Hochman and Rogers (1977).

¹¹ For example, Hochman and Rogers (1977, p. 3) state: "External benefits must accrue in the demands for the specific services that charity finances . . . to justify the public subsidization of charity. Otherwise, the benefits of giving are private, and no subsidy is warranted." This viewpoint perhaps explains why the literature focuses on gifts to public charities, ignoring gifts to individuals. Of course, income redistribution itself can be a public good, justifying subsidy (or compulsory redistribution) on conventional externality grounds. Hochman and Rogers (1969) explain that such redistribution may be warranted because of the effect a wealthy donor's gift to a poor donee has on the utility of third parties (others whose utility depends on the welfare of the poor). Their focus, as the title to their well-known article suggests, is on the redistribution necessary to reach a pareto optimum, not, as here, on inducing transfers that result in a social welfare maximizing pareto optimum that differs from the private allocation, which is itself pareto optimal.

gift on ordinary consumption and initial wealth is equal (or the donee is richer than the donor).

(c) Policy implications. The central conclusion derived here is that the optimal subsidy rate for gifts is positive.¹² Of course, any rationale for subsidizing gifts assumes that, as a practical matter, they can be distinguished from payments for goods or services.¹³ But the presence of return flows from beneficiaries to donors (which could even include returning the gift itself) would often be difficult to detect, particularly for gifts within the family.

This administrative constraint may be more of a problem with respect to private giving than contributions to public charities. Indeed, gifts to charities are subsidized, by the income tax deduction for charitable contributions and the exemption from many forms of taxation for charitable activity.¹⁴

Treatment of gifts to individuals is quite different. Although the income tax excludes gifts from donees' income (which some view as an implicit subsidy), donors get no deduction. Whatever its merits, this approach is surely more administrable

¹² Although the conclusion does not depend on the additive (utilitarian) specification of the social welfare function, it does depend upon a welfarist approach. The inclusion of the donor's altruistically derived utility may be controversial. But satisfaction from altruism, even if deemed selfish altruism, is arguably at least as virtuous as ordinary selfish pleasure. Moreover, if this source of utility is excluded from social welfare, the optimal subsidy would equal $1-\lambda$, and thus would be negative -- a tax -- when $\lambda > 1$.

¹³ For evidence that much giving is motivated by exchange rather than altruism, see Bernheim, Shleifer, and Summers (1985) and Cox (1987).

¹⁴ Much of the literature on tax policy addresses the extent to which various tax policies encourage charitable giving, devoting little attention to how much giving (and by whom) is socially optimal. For a discussion of empirical work on charitable giving, see Clotfelter (1985).

than alternatives, particularly in light of the difficulty of the government in assessing whether private transfers are gifts or expenditures for goods and services. Nonetheless, large gifts and bequests are separately taxed, which is not consistent with the efficiency argument developed here.

The efficiency rationale also has implications for the form of an optimal subsidy; recall that the optimal subsidy rate is higher for less altruistic donors because the weight they give to donees is a relatively lower fraction of the socially appropriate weight. This implies, first, that the optimal subsidy rate is lower for larger gifts, to the extent they reflect greater altruism rather than higher income of the donor. Yet reformers often advocate that a floor be placed on the charitable contribution deduction, limiting the subsidy to large gifts. Second, the optimal subsidy is higher for gifts of a given size made by high-income donors, because their higher income implies a lower degree of altruism, *ceteris paribus*. As a result, a tax deduction -- worth more to those in higher tax brackets -- is not obviously inferior to a credit, which is often proposed as a replacement for the current deduction.¹⁵ It should be emphasized, however, that the efficiency property of a subsidy for giving is only one factor relevant to how a subsidy scheme or a tax system should treat gifts.

¹⁵ The present analysis, like that in Atkinson (1976), differs from that of many reformers, such as Vickrey (1947, 1975), because results are derived from an explicit welfare function, as urged by Stiglitz and Boskin (1977), rather than from a stipulated reference point, such as a comprehensive definition of income.

References

- Andreoni, James, 1988, Privately Provided Public Goods in a Large Economy: The Limits of Altruism, *Journal of Public Economics* 35, 57-73.
- _____, 1990, Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving, *Economic Journal* 100, 464-477.
- Atkinson, A.B., 1976, The Income Tax Treatment of Charitable Contributions, in Ronald E. Grieson, ed., *Public and Urban Economics: Essays in Honor of William S. Vickrey* (New York: D.C. Heath), 13-29.
- Becker, Gary S., 1974, A Theory of Social Interactions, *Journal of Political Economy* 82, 1063-1091.
- Bernheim, B. Douglas, Andrei Shleifer, and Lawrence H. Summers, 1985, The Strategic Bequest Motive, *Journal of Political Economy* 93, 1045-1076.
- _____, and Oded Stark, 1988, Altruism Within the Family Reconsidered: Do Nice Guys Finish Last?, *American Economic Review* 78, 1034-1045.
- Budget of the United States Government: Fiscal Year 1991, 1990.
- Clotfelter, Charles T., 1985, *Federal Tax Policy and Charitable Giving* (Chicago: University of Chicago Press).
- Coase, Ronald H., 1960, The Problem of Social Cost, *Journal of Law and Economics* 3, 1-44.
- Cox, Donald, 1987, Motives for Private Income Transfers, *Journal of Political Economy* 95, 508-546.
- Friedman, David D., 1988, Does Altruism Produce Efficient Outcomes? Marshall versus Kaldor, *Journal of Legal Studies* 17, 1-13.
- Hochman, Harold M. and James D. Rogers, 1969, Pareto Optimal Redistribution, *American Economic Review* 59, 542-557.
- _____, and _____, 1977, The Optimal Tax Treatment of Charitable Contributions, *National Tax Journal* 30, 1-18.
- Myerson, Roger B., 1979, Incentive Compatibility and the Bargaining Problem, *Econometrica* 47, 61-73.
- Stiglitz, Joseph E. and Michael J. Boskin, 1977, Impact of Recent Developments in Public Finance Theory on Public Policy Decisions, *American Economic Review* 67, 295-301.
- Vickrey, William, 1947, *Agenda for Progressive Taxation* (New York: Ronald Press).
- _____, 1975, Private Philanthropy and Public Finance, in Edmund Phelps, ed., *Altruism, Morality, and Economic Theory* (New York: Russel Sage Foundation), 149-169.