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# DOES ALTRUISM PRODUCE EFFICIENT OUTCOMES? MARSHALL VERSUS KALDOR

DAVID D. FRIEDMAN\*

## I. THREE DEFINITIONS OF EFFICIENCY

THE term “economic improvement” is used in economics to refer to three different but closely related things. A Pareto improvement is a change that makes somebody better off and nobody worse off. A potential Pareto improvement—sometimes referred to as a Kaldor improvement<sup>1</sup>—is a change that would be a Pareto improvement if combined with a suitable set of cash transfers among those affected. A net improvement in the sense used by Marshall—what I have elsewhere called a Marshall improvement—is a change whose net value is positive, meaning that the total value to those who benefit, measured as the sum of the number of dollars they would each, if necessary, pay to get the change, is larger than the total cost to those who lose, measured similarly. For each definition of improvement we can construct a corresponding definition of efficiency. A situation is (Pareto/Kaldor/Marshall) efficient if it cannot be (Pareto/Kaldor/Marshall) improved.

The Paretian definition of improvement is the most convincing, since it involves no interpersonal comparisons, but the least useful, since virtually no changes in the real world are Pareto improvements. The Marshall definition of improvement<sup>2</sup> permits plenty of judgments, since many changes can be shown to be improvements in that sense, but it involves an implicit interpersonal comparison of utility that many find philosophically suspect. The potential Pareto criterion appears to combine the best of

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<sup>1</sup> Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 *Econ. J.* 549 (1939). See also John R. Hicks, *Foundations of Welfare Economics*, 49 *Econ. J.* 696 (1939), and Tibor de Scitovszky, *A Note on Welfare Propositions in Economics*, 9 *Rev. Econ. Stud.* 77–88 (1941).

<sup>2</sup> Alfred Marshall, 3 *Principles of Economics*, ch. 6 (8th ed. 1946).

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both worlds by reaching the same conclusions as the Marshall definition about what is or is not efficient without making interpersonal utility comparisons. It is on this basis that it was originally advocated by Kaldor and Hicks; in the words of the former, "This principle . . . simply amounts to saying that there is no interpersonal comparison of satisfactions involved in judging any policy designed to increase the sum total of wealth just because any such policy could be carried out in a way as to secure unanimous consent."<sup>3</sup>

I have argued elsewhere that the potential Pareto criterion's claim to avoid interpersonal comparisons is spurious.<sup>4</sup> The purpose of this note is to show that, in at least one interesting situation, the potential Pareto criterion and the Marshall criterion lead to radically different conclusions. One can describe a simple situation that is efficient in terms of the potential Pareto criterion but not the Marshall criterion. There is no possible combination of change and transfers that is a Pareto improvement, but there is a possible change that would cause an increase in net value.

This appears to be paradoxical. If a change produces a gain of  $X$  to me and a loss of  $Z$  to you, with  $X > Z$ , it would seem that the same change, combined with a transfer of  $Y$  from me to you, where  $X > Y > Z$ , must be a Pareto improvement, since it leaves both of us better off. So it appears that any Marshall improvement must be a Kaldor improvement as well.

## II. THE COUNTEREXAMPLE: ECONOMICS OF ALTRUISM

In order to produce a situation in which a Marshall improvement is not a Kaldor improvement, we shall make use of the economic analysis of altruism invented by Gary Becker.<sup>5</sup> Becker showed how altruism could be incorporated in a simple and elegant way into economic theory. The central idea was that instead of assuming that an altruist cares separately about how much someone else eats and how long he lives and all of the other things that might affect him, we simply assume that the altruist cares about the welfare of the beneficiary of his altruism, where that welfare is defined by the beneficiary's preferences. If the beneficiary would rather have two apples than an orange, or would prefer a short life of glory to a long one of shame, then those are also the preferences of the altruist for the beneficiary. The altruist wants only the beneficiary's happiness, and the beneficiary is the one best able to determine what makes

<sup>3</sup> Kaldor, *supra* note 1.

<sup>4</sup> David D. Friedman, *Price Theory: An Intermediate Text*, ch. 14 (1986).

<sup>5</sup> Gary S. Becker, *A Theory of Social Interactions*, 82 *J. Pol. Econ.* 1063 (1974).

him happy.<sup>6</sup> In the language of economics, this means that the utility function of the altruist is assumed to include, as one of its arguments, the utility function of the beneficiary. Analysis based on this assumption has been used by Becker and others to try to explain a variety of behavior, including that of parents toward children, of children toward each other, and of spouses toward each other, as well as charitable behavior.<sup>7</sup> In this article it will be used to show that in the case of altruistic behavior, the Marshall and Kaldor definitions of efficiency lead to quite different conclusions.

Consider two individuals, an altruist A, and a beneficiary B. The beneficiary's utility depends on his own consumption; the altruist's utility depends on his own consumption and on the utility of the beneficiary. Hence we have:  $U_b = U_b(C_b)$ ,  $U_a = U_a[C_a, U_b(C_b)] = U_a(C_a, C_b)$ , where  $U_{a,b}$  are the utility and  $C_{a,b}$  are the consumption of the altruist and the beneficiary respectively. We take advantage of the fact that the utility of the beneficiary depends only on his own consumption to eliminate  $U_b$  from  $U_a$ , writing the utility of the altruist as a function of his and the beneficiary's consumption.

A and B receive incomes  $I_{a,b}$ . A can transfer an amount  $T$  from his income to B. A can then consume his income minus the transfer, while B can consume his income plus the transfer, giving us the budget constraint:  $C_a = I_a - T$ ,  $C_b = I_b + T$ . The altruist can transfer money to the beneficiary, but he has no power to take money from the beneficiary, so we have the further constraint:  $T \geq 0$ .

A chooses  $T = T^*$  to maximize his own utility, which depends on both A and B's consumption. A's benefit from a dollar consumed by B is equal to the derivative of  $U_a(C_a, C_b)$  with respect to  $C_b$ —the change in A's utility from a unit increase in B's consumption. The cost to A of transferring a dollar to B is that he has a dollar less to spend on himself, which decreases his utility by  $dU_a(C_a, C_b)/dC_a$ —the change in A's utility from a unit change in his own consumption. A adjusts the size of the transfer until the gain from transferring another dollar just balances the loss. At that point,  $T = T^*$  (the optimal transfer, from A's standpoint),  $C_a = I_a - T^*$ , and  $C_b = I_b + T^*$ . So the equilibrium satisfies the condition:<sup>8</sup>  $dU_a$

<sup>6</sup> In some cases, most notably altruism toward children, the idea that the beneficiary knows what makes him happy becomes implausible; one must then redefine the beneficiary's utility function to correspond not to what he does want but to what he would want if properly informed. Such complications do not affect the argument of this article.

<sup>7</sup> For an interesting discussion of some of the problems in explaining observed behavior in terms of the Becker analysis of altruism, see Howard Margolis, *Selfishness, Altruism and Rationality: A Theory of Social Choice*, ch. 2 (1982).

<sup>8</sup> I am assuming here that we do not have a corner solution at  $T^* = 0$ . In other words, I am considering a case where the altruist chooses to make at least some transfer. This need

$(I_a - T^*, I_b + T^*)/dC_a = dU_a(I_a - T^*, I_b + T^*)/dC_b$ . In other words, the altruist transfers up to the point at which his marginal utility from a dollar of his own consumption is equal to his marginal utility from a dollar of B's consumption.

Is this outcome efficient? If efficiency is measured by the potential Pareto criterion, the answer is yes. If it is measured by the Marshall criterion, it is no.

To see why it is not efficient in terms of maximizing net value (Marshall's criterion), assume that A first chooses  $T^*$ , his preferred level of  $T$ , and is then forced to transfer an additional dollar to B, making  $T = T^* + 1$ . Since A's marginal utility from a dollar of B's consumption is equal to his marginal utility from a dollar of his own consumption when  $T = T^*$ , the increase in A's utility from B's consumption as  $T$  increases from  $T^*$  to  $T^* + 1$  will equal the utility A would get from slightly less than a dollar of his own consumption—say to the utility from a consumption of \$.99. So the transfer of the additional dollar makes A worse off by \$1 (A's utility from A's consumption) and better off by \$.99 (A's utility from B's consumption), for a net loss of \$.01. But it makes B better off by \$1. Hence, measured in terms of net value, it is an improvement of \$.99. The change is a Marshall improvement; therefore, the initial situation ( $T = T^*$ ) was not efficient by the Marshall criterion.

Is the transfer of the additional dollar a potential Pareto improvement? No. Combining it with any "compensating" transfer simply results in a different value of  $T$ . If the compensating payment is one dollar from B to A, then the net transfer is back at  $T = T^*$ ; there is no change from the original situation and consequently no improvement. If it is anything other than a dollar, then the net effect is to make  $T \neq T^*$ . But  $T^*$  was the transfer that maximized A's utility. Any other value of  $T$  must make A worse off than he was at  $T = T^*$ , so the change from  $T = T^*$  to some other value of  $T$  cannot be a Pareto improvement.

Once one looks at the situation of altruist and beneficiary for awhile, it is obvious both why the outcome ( $T = T^*$ ) is inefficient in terms of net value and why that does not imply, as it normally would, that it is inefficient in terms of potential Pareto transfers. It is inefficient in terms of net value because the altruist is making a decision (the amount of his transfer to B) that has a large externality—it affects the utility of B. It is true that A takes into account the utility of B; that is why he makes the transfer. But he takes into account the effect of the increased utility of B on his

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not always be the case. One could have an altruist who, although he valued the utility of the beneficiary and would be willing to pay something to increase the beneficiary's consumption by a dollar, would not be willing to pay as much as a dollar to do so and would therefore choose to make a transfer of zero.

own (A's) utility, not its effect on B. If we are trying to maximize total value, we should take account of both. Each dollar of B's consumption does double duty. It provides a dollar's worth of utility to B, and in addition it provides some utility to A (a dollar's worth if  $T = T^*$ ) through A's value for B's utility. A counts the dollar only once in deciding how much to transfer, so he transfers less than the amount that would maximize net value.

The existence of an externality—the fact that A's transfer affects both B and A—implies that A will choose a (Marshall) inefficient outcome. The same externality prevents us from using a transfer to convert the change that increases net value into a Pareto improvement. The change, in our example, is the move from  $T = T^*$  to  $T = T^* + 1$ ; it produces a net improvement of \$.99, since A loses \$.01 and B gains \$1. Suppose we try to make it into a Pareto improvement by having B compensate A to the tune of \$.50. This reduces B's gain from \$1 to \$.50, but it does not eliminate A's loss! A, remember, values B's consumption almost as highly as his own. A's utility from his own consumption goes up by \$.50, but his utility from B's consumption goes down by about \$.495; so the transfer has cost B \$.50 but provided A with a net gain of only \$.005. A is still worse off than he was at  $T = T^*$ .

One of the more interesting lines of argument growing out of Becker's theory of altruism is the idea that altruism provides a mechanism for overcoming various sorts of market failure, generating efficient outcomes without government intervention. Posner and Landes, for example, in a well-known article on the economics of rescue,<sup>9</sup> begin by discussing the optimal level of rescue activity that would occur under perfect costless contracting, then point out that the same level of rescuing activity would be produced if there were no contracts, but potential rescuers were altruists who valued a dollar benefit to those they rescued as equal to a dollar of their own consumption. The conclusion is true, but in part misleading. This amount of altruism would lead to the level of activity that would be efficient in a world without altruism. But in a world with altruism, that is no longer the efficient level—at least if efficiency means maximizing net value. Every act of lifesaving produces a double benefit—one for the person whose life is saved, and one for the altruistic salvor. The level of activity would be chosen taking only the latter into account, so it would be less than the optimal level.<sup>10</sup>

<sup>9</sup> William M. Landes & Richard A. Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism*, 7 J. Legal Stud. 83 (1978).

<sup>10</sup> Landes & Posner, *id.*, note the existence of this problem in note 27. The authors use the term *efficient* to describe both the level of rescue inputs that would have been efficient if altruism did not exist and the higher level that is (Marshall?) efficient given the existence of altruism, but do not explore the discrepancy.

## III. WHICH DEFINITION SHOULD WE USE WHEN?

I have demonstrated that certain situations are efficient by one definition and inefficient by another. Which definition is right? That depends on what we want to use the concept of efficiency for.

If we, like Marshall, are utilitarians trying to maximize total happiness, we should regard the altruist's voluntary transfer ( $T = T^*$ ) as inadequate. A small increase in  $T$  will cost A almost nothing but confer a substantial benefit on B.<sup>11</sup> If we like to take our utilitarianism with a Rawlsian flavor, we may say that from behind a veil of ignorance, with equal chances of being A or B, an individual would favor a law increasing  $T$  from  $T^*$  to  $T^* + 1$ . If he turns out to be A, the cost of the law to him is tiny; if he turns out to be B, the gain is large.

This suggests that even if we are not utilitarians, Marshall's definition of improvement may be useful for understanding the decisions made by people who construct transfer institutions with some uncertainty as to the role they will later play in them. When deciding whether to vote for a welfare program, for example, I should properly include among the benefits both the gain to me as an altruistic taxpayer who likes seeing the poor fed and the gain to me from receiving welfare benefits, each weighted by the probability of the corresponding outcome. If we sum the benefits to all of the voters, we will find that each dollar of benefit is being counted many times over—once as an addition to the utility of the recipient, and again as a resulting increase in the utility of each altruist.<sup>12</sup>

The analysis applies to some forms of private charity as well. Consider an organization, such as the Mormon church or a traditional Jewish community, that has a general policy of taking care of its own members. The benefits of such a policy include both increased utility to those who are taken care of and increased utility to altruistic members of the group from knowing that its members are being taken care of.<sup>13</sup>

<sup>11</sup> Note that this result does not depend on the particular rule for interpersonal utility comparisons (assume a dollar has the same utility for everyone) implicit in Marshall's definition of improvement.

<sup>12</sup> Each dollar of tax payment is also being multiply counted for the same reason; taxpayers are presumably altruistic toward each other as well as toward potential welfare recipients. If consumption by a beneficiary has declining marginal utility in the utility function of the altruist (either because of declining marginal utility of consumption for the beneficiary or declining marginal utility of beneficiary's utility for the altruist), then the reduction in the utility of the altruist due to payment of \$1 by (high-income) tax payers will be more than balanced by the increase due to the receipt of \$1 by low-income recipients. Whether voters will support such transfers will then depend both on the degree of their altruism and on their opinion about the excess burden imposed by the transfer—how much more than a dollar it costs the taxpayers to provide a \$1 benefit to the recipient.

<sup>13</sup> Private transfers of this sort are in some respects superior to governmental transfers. Donors are likely to be more altruistic toward fellow members of their community—possibly

This analysis, in both its public and private form, depends on my being uncertain which side of the transfer I will be on—a situation that applies to some voters for some welfare programs, but certainly not for all. A related argument applies even if everyone knows whether he will be a beneficiary or a taxpayer. The amount that potential taxpayers who oppose the program would be willing to spend to defeat it, in terms of money or political influence, will be reduced by the knowledge that the cost of paying for welfare is at least partly balanced by the benefit that they, as altruists, receive from knowing that the beneficiaries are better off. Thus the benefits to the recipients of the proposed transfer simultaneously increase political pressure for income transfer by potential recipients and decrease pressure against it by potential taxpayers. This suggests that in trying to construct an economic theory of the politics of income transfer, Marshall's approach is more useful than Kaldor's.<sup>14</sup>

Another situation in which Marshall's approach seems more appropriate than Kaldor's is that of double-layered altruism. Suppose that A is an altruist with regard to both B and C, and that B is an altruist with regard to C. If A is choosing a distribution of income between B and C, he should count C's consumption twice. It enters A's utility once directly, since A is altruistic toward C, and once indirectly, since C's consumption increases B's utility and A is altruistic toward B. This suggests the somewhat odd conclusion that if a parent has two children, one of whom exhibits altruism toward the other, he should spend more on the selfish child than on the altruistic one.<sup>15</sup>

If, however, we wish to use the concept of efficiency to predict people's behavior in a setting where altruism is single-layered, where everyone

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friends and neighbors—than toward anonymous beneficiaries. In addition, it may be much easier to limit the costs of the moral hazard resulting from transfers—recipients who choose to accept welfare instead of looking for jobs, or unmarried mothers who continue having children in the knowledge that someone else will pay for them—within a small and homogeneous community.

<sup>14</sup> The same externality argument which implies that there will be too little transfer when the level is chosen by the altruistic donor may also imply too much expenditure on causing transfers when the level of such expenditure is chosen by the recipient. Imagine that I am a nonaltruistic potential beneficiary lobbying in favor of a welfare program to be paid for by nonaltruist taxpayers. I will spend money lobbying up to the point where a dollar spent results in an additional dollar of transfer. In doing so, I ignore the cost to the taxpayers from whom the transfer comes. In equilibrium, the marginal dollar I receive costs \$2—a dollar paid by me for lobbying plus a dollar transferred from the taxpayer. This phenomenon, generally referred to as *rent seeking* in the recent literature, provides one of the strongest arguments against permitting governments to redistribute income.

<sup>15</sup> Part of the reason that this seems paradoxical when applied to real examples is that we are not willing to regard the children's behavior as merely reflecting given and unchangeable tastes. Selfish or altruistic behavior may reflect, not selfish or altruistic tastes, but a judgment by the child about what behavior will be rewarded by the parent.



already knows who and what he is, and where transactions occur by mutual consent of the parties concerned, we may be better off defining efficiency in terms of potential Pareto improvements. Consider, for instance, the question of whether the Coase theorem can get us out of the "inefficient" outcome ( $T = T^*$ ) described above. The answer is no. For precisely the same reason that we cannot convert the move from  $T^*$  to  $T^* + 1$  into a Pareto improvement, we cannot get to it by any deal between A and B. The value to A of anything B offers is reduced by A's altruism; he gains from getting what is transferred but loses from B's giving it up. Similarly, the inefficiently low level of lifesaving activity in a world with altruistic good samaritans cannot be eliminated by contract (however low the transaction costs), unlike the inefficiently low level of such activity in a world of selfish individuals.

#### IV. EFFICIENCY, ALTRUISM, AND TAXES ON GIFTS

One application of this analysis is to the question of taxing gifts and bequests.<sup>16</sup> The issue can arise in the context of either an income tax or a system of transfer (estate and gift) taxation. Under an income tax, the question is whether gifts are deductible to the giver and/or taxable to the recipient. If the underlying concept of income to be taxed is a net change in how well off the taxpayer is, it would seem that altruistic gifts should be taxed when received but not deducted when paid. The recipient is better off by the amount of the gift, and the donor receives a benefit, in the utility he receives from the recipient's increased utility, which at least compensates him for the money transferred. Put differently, the transfer is income to the beneficiary and a form of consumption (spending money on something he values) for the donor. So the recipient should be taxed and the donor should get no deduction. That is the result that Henry Simons reached under his definition of income.<sup>17</sup>

In general, that is not how gifts are treated under present law. The gift transfer is treated as a wash that results in neither income to the recipient nor a deduction to the donor. But there is often a tax on the transfer—which is equivalent, in its effect, to taxing some fraction of the transfer as income. The analysis of the previous paragraph suggests that a tax on the transfer follows from a consistent definition of income, but it does not tell us whether such a tax is more or less desirable than alternative taxes. To answer that question, we must start by analyzing the cost of taxes.

<sup>16</sup> This particular application of the analysis was suggested to me by the editor of this *Journal*.

<sup>17</sup> Henry Simons, *Personal Income Taxation* (1938). The definition of income is on p. 50, the discussion of gifts is on pp. 57–58.

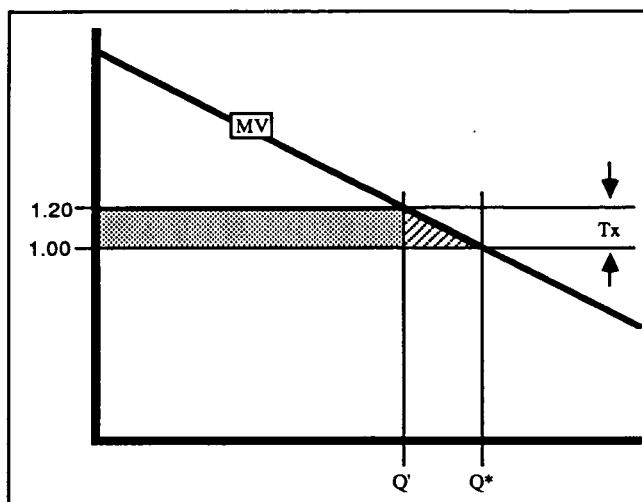


FIGURE 1

Taxes affect the behavior of those subject to them; the result is typically to make the taxpayer worse off by more than the amount collected. The additional cost is referred to as the excess burden of the tax. One of the objectives, in designing taxes, is to do so in a way that minimizes excess burden. To see how that is done, we may start with the simple case of a sales tax.

Suppose that a \$.20 sales tax is imposed on apples. Prior to the tax, the consumer paid \$1.00 per apple; now he pays \$1.20.<sup>18</sup> He therefore buys fewer apples than before. The tax is paid on the apples he still buys; for each of them he loses \$.20, and the tax collector gains \$.20. But the taxpayer also suffers a loss on the apples he no longer buys. Each of them was worth at least \$1.00 to him, which was why he would have bought it if there had been no tax, but less than \$1.20, which is why he no longer buys it after the tax is imposed. Since he paid only \$1.00 each for those apples, his net benefit—in the language of economics, his consumer surplus—was between zero and \$.20/apple. That was the difference between what those apples cost him and what they were worth to him.

The situation is graphed in Figure 1. *MV* is the marginal value of apples to the consumer—the value to him of consuming one more apple, graphed as a function of the number of apples he is consuming. The consumer buys up to the point where one additional apple is worth just what it costs;

<sup>18</sup> For simplicity, I am ignoring any effect of the tax on the producers; the supply curve for apples is assumed to be perfectly elastic.

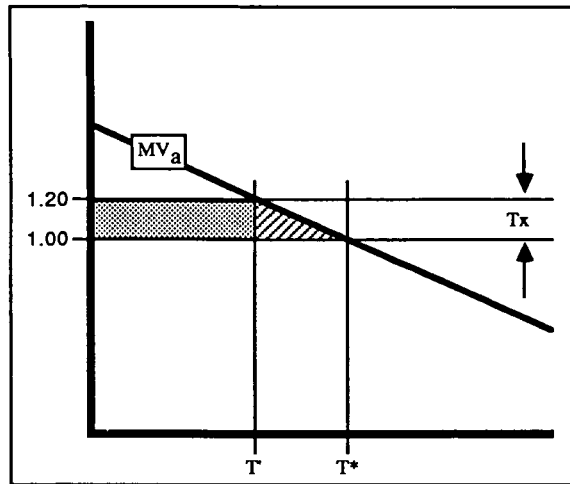


FIGURE 2

his marginal value curve is equal to his demand curve. Before the tax, he buys  $Q^*$ ; after the tax, he buys  $Q'$ . The shaded region is the amount of tax collected—\$.20/apple times  $Q'$ , the number of apples he buys at the (after-tax) price of \$1.20/apple. The hatched area is the additional cost to the consumer—the consumer surplus he loses due to the reduction in his consumption of apples as a result of the tax. It is sometimes referred to as the *excess burden* or the *deadweight loss* due to the tax. In order to maximize economic efficiency, one would like to minimize the excess burden of raising a given amount of tax revenue.

One can see by looking at the Figure that the excess burden per dollar collected is smaller the smaller the amount of the tax. A low tax discourages the consumption of some apples, but they are apples that are worth only a little more than their market price, so the consumer has only a very small amount of surplus on each apple to lose. The excess burden per dollar collected approaches zero as the tax approaches zero. That is one of the advantages of broadly based taxes, such as a general sales or income tax—the excess burden produced by a low level of taxes on many goods is less than that produced by a high level of taxes (generating the same total revenue) on a few goods.

Figure 2 shows the same analysis applied to a tax on  $T$ , the transfer from A to B discussed in Section II of this article.  $MV_a$  is the marginal value to A of an additional dollar received by B.<sup>19</sup> In the absence of a tax,

<sup>19</sup> I ignore here a possibility raised earlier—that the transfer itself may involve some excess burden due to the beneficiary's modifying his behavior in an attempt to increase the amount of the transfer. This problem will normally not arise as long as the altruist can directly observe the beneficiary's utility, as assumed here.

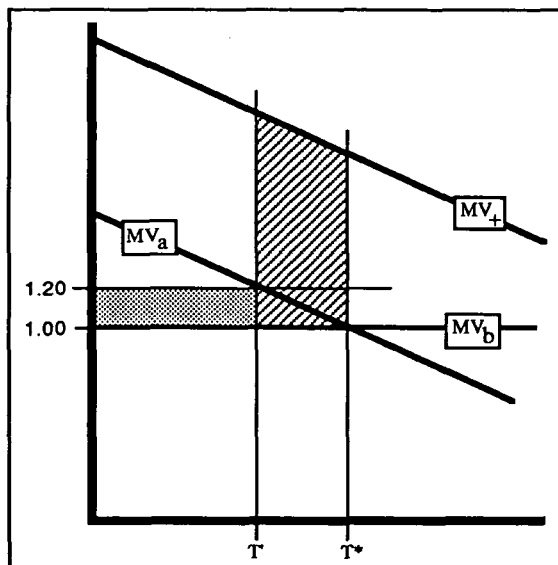


FIGURE 3

the cost to A of transferring a dollar is \$1. So A transfers up to the point  $T = T^*$ , where  $MV_a$  is equal to a dollar—where the value he gets from an additional dollar transferred is just equal to the cost. If we impose a tax of \$.20 on each dollar transferred, the cost of transferring a dollar rises to a \$1.20. A reduces his transfer to  $T'$ , the point at which  $MV_a = \$1.20$ .

If we consider only A's welfare, as in Figure 2, the result is very much like the result of the tax on apples shown on Figure 1. Just as in that case the surplus per unit (dollar transferred) approaches zero at the tip of the hatched triangle, so a sufficiently small tax imposes almost no excess burden per dollar collected.

But the reduction of the transfer from  $T^*$  to  $T'$  affects B as well as A; he is worse off by the sum  $T^* - T'$  which he no longer receives. B's surplus per dollar transferred is equal to a dollar, since he pays nothing at all for the transfer. This is shown in Figure 3.  $MV_b$  is the marginal value of the transfer to B. Since an extra dollar of transfer means an extra dollar of consumption for B,  $MV_b$  is constant at \$1 per dollar transferred.  $MV_+$  is the summed marginal value, to A and B, of the transfer. It is equal to  $MV_a + \$1$ .

Looking at Figure 3, one can see that the excess burden is very much larger than in Figures 1 and 2. One can also see that, in the case illustrated in Figure 3, excess burden per dollar collected no longer approaches zero

as the tax becomes small. As the effect of the tax becomes small, the lost surplus approaches, not zero dollars per unit, but \$1 per unit. The surplus on the marginal unit at  $T^*$  is zero for A plus \$1 for B.

This analysis does not prove that it is inefficient to tax altruistic transfers. Since we cannot predict the shape of the relevant curves,  $MV_a$  in Figures 2 and 3 could turn out to be very much steeper than  $MV$  in Figure 1. If so, the same \$.20 tax would have a much larger effect on the consumption of apples than on the volume of transfers, which could outweigh the larger excess burden per unit reduction in quantity (of apples or transfer) in the latter case. The analysis does imply that if the relevant curves are similar, a tax on gifts imposes larger excess burden than a tax (producing the same revenue) on apples. The discrepancy is larger the smaller the amount of the tax, since excess burden per dollar collected approaches zero as the tax approaches zero in the case of apples but not in the case of transfers. So, if one accepts Marshall's definition of efficiency, the analysis of this section suggests a strong, although not necessarily a decisive, argument against taxing altruistic transfers such as gifts and bequests.

It is worth noting that the argument applies only if the transfers are in fact altruistic. Some gifts and bequests may be disguised payments for goods or services. Obvious cases are gifts from one businessman to another or from an employer to an employee.<sup>20</sup> A less obvious but perhaps equally important case is a bequest conditional on the legatee obeying the desires of the testator, either before or after the latter's death. The effect of taxes on such "gifts" is analogous to that of taxes on other purchases, as shown in Figure 1.

The conclusion suggested by this analysis is that, in deciding when transfers should qualify as tax-exempt gifts, the essential question is whether the transfer was made because the donor valued the recipient's getting and having the money or because the donor was spending money in order to influence the recipient's behavior. In the former case, the transfer should be tax exempt; in the latter it should not.<sup>21</sup>

<sup>20</sup> In some cases, current legal doctrine treats such transfers as gifts and consequently nontaxable. Examples are *Commissioner v. Duberstein*, 363 U.S. 278 (1960), and *Stanton v. United States*, 186 F.Supp. 393 (E.D.N.Y. 1960). On the other hand, *Olk v. United States*, 536 F.2d 876 (9th Cir. 1976), cert. denied, 429 U.S. 920 (1976), appears, from the perspective of this article, to err in the opposite direction. The case involved the status of "tokens"—gifts given by gamblers to casino dealers. The court accepted a finding of the district court that "The tokens are given to dealers as a result of impulsive generosity or superstition on the part of players, and not as a form of compensation for services. . . ." but still ruled that they qualified as taxable income.

<sup>21</sup> In many cases, "gifts" may be given to influence behavior, even though at the point at which they are given they no longer have any influence on the behavior of the recipient. An obvious example is an employer who is better able to recruit employees because of his reputation for giving generous gifts at retirement. The analysis of this article implies that such gifts should be treated as taxable income.

## V. CONCLUSIONS

The first conclusion of this article is that the Kaldor and Marshall criteria for efficiency are not equivalent. The argument showing that they are equivalent depends on the assumption that a transfer from one person to another benefits the latter by the same amount by which it injures the former. This assumption is not true if the utility of the one party depends on that of the other, so in such cases the two definitions of efficiency lead to different conclusions.<sup>22</sup> In particular, the level of transfer chosen by an altruist is efficient by the Kaldor criterion but inefficiently low by the Marshall criterion.

The second conclusion is that the Marshall criterion is the appropriate one for individuals making decisions that will affect future transfers under circumstances where they do not know if they will themselves be the donors or the recipients. It is also the appropriate one for individuals deciding on transfers among other individuals toward whom they are equally altruistic.<sup>23</sup> It is not appropriate for predicting the outcome of bargaining among individuals who know what role they will play in any transfers.

The final conclusion is that the arguments suggest a justification, from the standpoint of Marshall (but not Kaldor) efficiency, for the special tax treatment of gifts. In doing so, it also suggests a criterion for determining which transfers should or should not be tax exempt.

<sup>22</sup> This would apply in the case of envy, where one person's utility is a decreasing function of another person's utility, as well as in the case of altruism.

<sup>23</sup> This is somewhat of an oversimplification, since the particular rule used to weight the changes in the utility of the people affected will depend on the details of the altruist's utility function. Even if all utilities enter into it in the same way, the utility that the altruist receives from a one-utile increase in someone's utility will, in general, depend on how great that utility already is; the altruist may well have declining marginal utility for other people's utility. But the correct rule will be similar to that proposed by Marshall, although with different weights, and Marshall's rule can be interpreted (as he himself, from a utilitarian perspective, interpreted it) as a way of approximating the operation of the more complicated rule. Similar qualifications would apply to the "veil of ignorance" case.

