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On the Utility of Equal Shares

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Elements of Justice

THESIS: Previous chapters discussed synergies between meritocracy, humanitarianism, and equal treatment. This chapter examines a well-known argument about a synergy between equal shares and utility, grounded in the idea of diminishing marginal utility. The argument does not work.

DIMINISHING MARGINAL UTILITY

Thomas Nagel believes that from an impersonal standpoint, if we were picking principles of just distribution from an impartial perspective, we would have to be in favor of radical egalitarianism.[81] At the same time, Nagel realizes, principles of equality are not the only principles we might adopt if we were to consider matters impartially. In particular, utilitarianism embodies its own brand of impartiality, and not everyone would agree that the imperative to equalize matters more than imperatives to maximize utility or to meet basic needs.

Nagel, however, believes that resolving theoretical tensions between equality and utility is moot. Egalitarianism and utilitarianism diverge in theory. As a practical matter, though, they converge in virtue of the phenomenon of diminishing marginal utility (henceforth DMU). As R. M. Hare puts it, the DMU of wealth and consumption means that approaches toward equality tend to increase total utility.[82] Edwin Baker argues that,

[81] Nagel 1991, 65.
[82] Hare 1982, 27. One author who anticipates my argument is Narveson 1997, 292. See also Narveson 1994, 485.

if wealth has declining marginal utility, then "a partial redistribution of income would maximize the total of individual utilities."[83] Therefore, "at least a limited intervention to increase equality will always be justified under utilitarian principles."[84] Abba Lerner says, "[T]otal satisfaction is maximized by that division of income which equalizes the marginal utilities of the incomes of all the individuals in the society."[85] Lerner infers: "If it is desired to maximize the total satisfaction in a society, the rational procedure is to divide income on an egalitarian basis."[86]

Consider that we have a hierarchy of needs.[87] Food could be our first priority even though satisfactions we pursue only after getting enough to eat are greater than anything we get from food. Therefore, what has first priority and what has highest utility need not coincide. (When I got up this morning, eating breakfast came before writing, on my list of priorities, but at the end of the day, the thing I remember as the day's highlight was the writing, not the breakfast.) Theorists, though, tend to assume such cases are atypical.

Suppose it is rational from a personal standpoint for Jane Poor not to patronize the arts with money she needs for groceries. Does it follow that it also is rational from an *impersonal* standpoint for a community not to patronize the arts with money that could have been spent on groceries? If we put ourselves in Jane Poor's shoes, eating first and patronizing the arts later seems rationally imperative. What if impartiality is more a matter of stepping into *no one's* shoes? In that case, we see that hunger relief is not the only impersonal value; it is unclear that the world would be a better place if, say, resources that went into building the pyramids and the Parthenon had instead gone into soup kitchens.

Again, though, most philosophers assume equality and efficiency go hand in hand, and that from an impartial perspective this is a reason to favor equality. John Broome refers to the argument as "the standard utilitarian argument for equality."[88] Thomas Nagel says,

> Even if impartiality were not in this sense egalitarian in itself, it would be egalitarian in its distributive consequences because of the familiar fact of diminishing marginal utility. Within any person's life, an additional thousand dollars added to fifty thousand will be spent on something less important than an additional

[83] Baker 1974, 45.
[84] Baker 1974, 47.
[85] Lerner 1970, 28.
[86] Lerner 1970, 32.
[87] Chapter 26 briefly discusses the seminal work of the psychologist Abraham Maslow.
[88] Broome 1991, 176.

thousand added to five hundred – since we satisfy more important needs before less important ones. And people are similar enough in their basic needs and desires so that something roughly comparable holds between one person and another.[89]

Nagel says we satisfy more important needs before less important ones. Not quite. We satisfy more *urgent* needs first, but the most urgent need is not necessarily most important. What Nagel calls utility is more closely related to urgency than to importance. Utility in this sense is short sighted, a question of what to do with the next available dollar, not a question of what is most worth doing in the grand scheme of things. Nevertheless, DMU is, as Nagel says, a familiar fact. We have all seen cases of one person turning to another and saying, "Here. You need this more than I do." We can all imagine contexts where such words seem not only intelligible but true.

This does not mean, however, that we should join Nagel and others in thinking that DMU resolves the apparent tension between equality and efficiency. In fact, this chapter will show, the tension is real. Further, the tension exists not only in spite of DMU, but sometimes *because* of it.

Whether we should take this as a critique of utilitarianism or of egalitarianism is a matter of perspective. The point here is not to refute egalitarianism, or utilitarianism, but to show that DMU does not reconcile them and, under conditions often assumed to secure their reconciliation, can even worsen the tension between them.

PREMISES

Harry Frankfurt believes the DMU argument is unsound, for it is grounded in false premises. As Frankfurt sees it, the DMU argument makes two assumptions: "[T]he utility provided by or derivable from an nth dollar is the same for everyone, and it is less than the utility for anyone of dollar $(n-1)$.... it follows that a marginal dollar always brings less utility to a rich person than to one who is less rich. And this entails that total utility must increase when inequality is reduced by giving a dollar to someone poorer than the person from whom it is taken.[90] Frankfurt thinks both premises are false. First, it is not true that the utility of money invariably decreases at the margin. Second, individuals are not alike; neither is there any reason to suppose their utility functions are alike. Thus, interpersonal comparisons of utility or satisfaction are-

[89] Nagel 1991, 65.
[90] Frankfurt 1987, 25.

problematic. Different people get differing satisfaction from wealth, such that a marginal dollar could be more satisfying to a rich person than to a poor person. We could add that, third, even if the argument were sound, the bureaucracies we set up to undertake egalitarian redistribution tend to be wasteful. Fourth, even if the costs of redistribution are manageable, there can be incentive problems: Redistribution can rob both rich and poor of the incentive to work. From a utilitarian perspective, such costs are at least relevant.

These four responses have some merit, no doubt, but this chapter asks what happens when (1) marginal utilities smoothly diminish, (2) all are known to have the same utility function, so interpersonal comparisons are easy, (3) redistribution is costless, and (4) there are no incentive problems whatsoever. I will show that even in this pristine environment, where the utilitarian case is most straightforward, we have a situation where transferring a dollar from someone who needs it less to someone who needs it more can be unjustified from a strict utilitarian perspective.

Frankfurt says it follows from the premises of the standard utilitarian argument for equality that a marginal dollar always brings less utility to a rich person than to one who is less rich. Let us accept this for argument's sake. This, adds Frankfurt, entails that "total utility must increase when inequality is reduced."[91]

Not so. This chapter explains why not. To see why not, suppose two people, Joe Rich and Jane Poor, have identical and smoothly declining marginal utility functions. For the sake of simplicity, suppose the only good whose distribution is at issue is corn. We take as given, then, that a marginal unit of corn is worth less to a corn-rich person than to a corn-poor person.

Suppose Poor has zero units of corn, whereas Rich has two units. Further, suppose that to have one unit of corn is to have enough to eat, while two units of corn is so much that Rich would get sick if he tried to eat it all. I do not assume that having a unit of corn is a matter of life and death. We may suppose that without corn, Rich and Poor would have to eat something awful, which they could not bring themselves to do if they could eat corn instead. Thus, consuming the first unit has high marginal utility for Rich and Poor alike, while consuming a second unit has low marginal utility. It is easy to see how someone might conclude that total utility increases when we transfer a unit from Rich to Poor, then go on

[91] Frankfurt 1987, 25.

to conclude that the DMU argument for egalitarian redistribution is, at least here, airtight.

THE ARGUMENT

But is it airtight? If it is *possible* that transferring a unit from Rich to Poor in this pristine environment does not maximize utility, then the alleged entailment fails. Notice: We are not trying to prove it *never* maximizes utility to redistribute from people with low marginal utility to people with high marginal utility. To defeat the entailment claim, we need only show it is not *always* maximizing to make such a transfer. The following argument shows just that.

Given one unit of corn, Jane Poor puts it to its highest valued use, namely immediate consumption. Joe Rich, having already consumed a unit and thus being satiated for the moment, invests the corn in something that is, by Rich's own lights, less urgent. Poor eats the corn, whereas Rich, already having eaten enough, has nothing better to do with his surplus than to plant it.

For a person with one unit, consumption is the highest valued use of that unit. For a person with two units, consumption is the highest valued use of the first unit and, because of the diminishing utility of consumption, production is the highest valued use of the second unit. Therefore, if Joe Rich's second unit is transferred to Jane Poor, both units are consumed, whereas if Joe Rich remains in possession of the second unit, then one unit is consumed and one is planted.

In Figure 23.1, C* is the point at which a person with that much corn would rather plant additional corn than eat it. In the story of Rich and Poor, C* equals one unit. Precisely because of diminishing (that is, downward-sloping) marginal utility of consumption, production becomes a higher valued use as wealth (measured on the horizontal axis as units of corn) rises.

Note: Production's tendency to become more desirable relative to consumption is a general consequence of consumption's DMU, and not an artifact of an odd example. The general conclusion: If a community does not have people out that far on their utility curves, so that they have nothing better to do with marginal units of corn than to plant them, the community faces economic stagnation at best.

Therefore, unequivocal utilitarian support for egalitarian redistribution is not to be found in the idea that consumption has DMU. This result in no way depends on questioning the premises of the DMU argument.

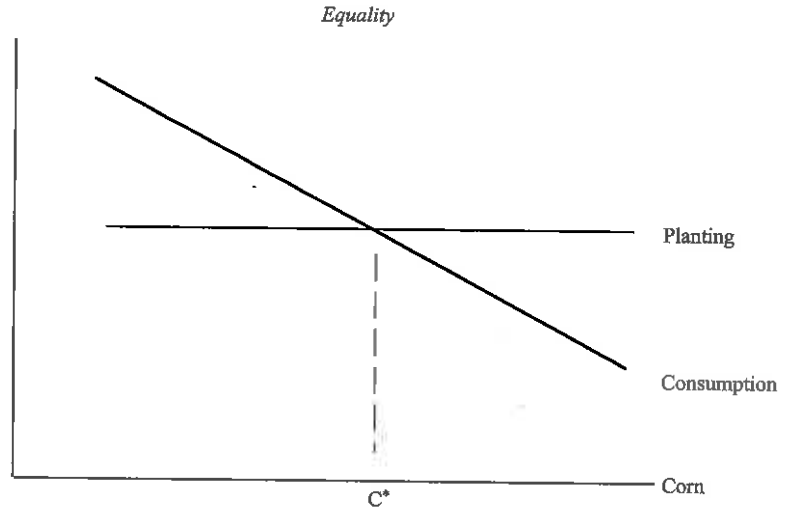

FIGURE 23.1 Marginal Utility of Corn: Planting versus Consuming.[92]

On the contrary, the argument is *grounded* in DMU. Contra Nagel, it does not follow from positing DMU that if everyone counts the same, then a more equal distribution will be better. A society that takes Joe Rich's second unit and gives it to Jane Poor is taking that unit away from someone who, by his own lights, has nothing better to do than plant it and giving it to someone who, by her lights, does have something better to do with it. That sounds good, but in the process, the society takes seed

92 Figure 23.1 is a static snapshot of a dynamic multi-period model in which, if we redistribute in accordance with DMU in period 1, each party consumes one unit by hypothesis. If the utility of consuming a unit equals U, then total utility for period 1 is 2U, and zero thereafter, because no units remain to put into production. By hypothesis, both Rich and Poor are without corn for all subsequent periods, and are left to eat something awful, which they could not bring themselves to do if eating corn were an option.

If we do not redistribute corn in period one, Rich consumes one unit and plants the second, so total utility of corn consumption for period one is 1 U. Suppose the productive yield of planted units is $2 + e$ units, so Rich can consume one unit per period and still have more seed corn than he had in the previous period. Eventually Rich's granaries are full, and plowing the surplus back into production has diminishing returns as well, or perhaps he lacks time to do all that plowing by himself. Rich eventually looks for other ways to invest it, such as lending it to Poor, giving it to Poor, or paying Poor to plow for Rich. So the utility of consumption is 1U per period, until we reach a period where accumulating increments of e have added up to a unit of corn or more. At that point, Rich begin to looks for some other way of using the surplus. If he gives or sells a unit of corn per period to Poor, then after that point, the utility of consumption per period is 2 units, indefinitely.

corn out of production and diverts it to current consumption, thereby cannibalizing itself.

RESPONSES

The Argument Assumes a Philosopher's Conception of Utility

The concept of aggregated interpersonal utility used by Hare and Nagel and Frankfurt, which gets the argument going in the first place, has largely disappeared from economic discourse. Kenneth Arrow says that in economics "the utilitarian approach is not currently fashionable, partly for the very good reason that interpersonally comparable utilities are hard to define."[93]

The Argument Assumes a Dynamic Model

With that caveat about the argument's premises, however, Arrow judges the argument to be valid. "In the utilitarian discussion of income distribution, equality of income is derived from the maximization conditions if it is further assumed that individuals have the same utility functions, each with diminishing marginal utility."[94] Arrow is not the only Nobel laureate economist who considers the argument valid. Paul Samuelson reasons that if people are all roughly the same, "so that their utilities can be added, then the dollars gained by the rich do not create so much social welfare or total utility as the dollars lost by the poor."[95] Elsewhere, Samuelson says, "If each extra dollar brings less and less satisfaction to a man, and if the rich and poor are alike in their capacity to enjoy satisfaction, a dollar taxed away from a millionaire and given to a median-income person is supposed to add more to total utility than it subtracts."[96]

Undoubtedly, Arrow and Samuelson would respond by saying they did not mean to suggest the DMU argument would hold in a world of production. They presumably would deny being surprised by the result obtained here, saying they were implicitly if not explicitly assuming the stock of utility-generating goods is fixed.

I accept this response. *If* the DMU argument were treated as relevant only to worlds without production, the argument would be valid, or near enough. Unfortunately, many people, and possibly Arrow and Samuelson too, reason as follows. If the DMU argument's strongly egalitarian

93 Arrow 1971, 409.
94 Arrow 1971, 409.
95 Samuelson 1973, 409.
96 Samuelson 1973, 423.

conclusions do not quite follow in a world of production, what presumably *does* follow is a suitably weakened version of those same egalitarian conclusions. Not so. In a world of production, DMU can weigh *against* egalitarian redistribution rather than for it, depending on the exact nature of initial endowments and production functions.

The Argument Assumes that Production's Marginal Utility Is Not Decreasing

Figure 23.1 represented the marginal utility of planting as a horizontal line, which we can interpret as constant returns to scale. Under that assumption, there will exist a point C* where DMU weighs against rather than in favor of egalitarian redistribution. (Holding constant other variables, such as production's marginal utility, allows us to focus on how consumption's DMU can lead to production becoming a relatively higher-valued use at C*.) Had we instead assumed increasing returns to scale, representing the marginal product of planting as a rising curve, the same conclusion would follow, for C* would still exist. Suppose we assume decreasing returns to scale, thus representing planting's marginal product as a falling curve. If production's marginal utility is downward sloping, a point C* will exist just in case the production line's slope is gentler than the consumption line's slope (that is, just in case there comes a point when Joe Rich has eaten so much corn that he'd rather bury an additional unit than eat it).[97] And so long as there is a point C*, there is a range where a person is better off planting. If so, then whether consumption's DMU weighs for or against egalitarian redistribution will depend on where we are on the curve, that is, whether we are to the left or to the right of point C*.

In any case, I do not assume production exhibits DMU; neither do I assume otherwise (except for purposes of drawing Figure 23.1). My quarrel is with the idea that *consumption's* DMU necessarily weighs in favor of egalitarian redistribution.

What If We Combine the Utilities of Production and Consumption?

Acknowledging the losses that occur in the course of transferring wealth, Nagel says that, nonetheless, "the rate at which marginal utility diminishes is so rapid that it will still have egalitarian consequences even in many

97 The point will be to the right of the y-axis if the C-line starts out above the P-line and then falls to meet it. Otherwise, if even the first unit is, improbably, better planted than consumed, C* will be on the y-axis.

cases in which the better off stand to lose more resources than the worse off stand to gain."[98] In Figure 23.1, though, the DMU of consumption for Joe Rich *grounds* the argument against redistribution.

For this argument to work, the marginal utility of consumption for Rich must diminish rapidly enough to dip below the marginal utility of planting by the time Rich allocates his last unit. Otherwise, there will be no point C* at which productive activity becomes relatively attractive. In that case, since Rich's last unit is destined for consumption, it makes utilitarian sense to transfer that unit to someone whose marginal utility of consumption is higher.

So, let me stress: This argument is not against redistribution in general but against assuming that, from a utilitarian perspective, consumption's DMU necessarily weighs in favor of egalitarian redistribution. Neither is this an argument against taxation for the sake of capital investment. Such investments would have to be assessed on their productive merits. Programs aimed at subsidizing the education of poor children could be a wise investment in a society's future. But DMU does not and cannot carry the argumentative weight in such cases.

Redistribution could enhance productivity by putting corn in the hands of people who otherwise would have no chance to become productive, but then we would no longer be redistributing from Rich to Poor; we would be redistributing corn not to poor recipients per se but rather to recipients better positioned to put extra units to productive use. Such recipients may tend to be people who already have C* units of corn, so that they will have the luxury of putting our grants to productive use. Such redistribution could go from the rich to the poor, or from the poor to the middle class. Or, imagine a middle class with more than enough to eat but not enough to invest optimally.[99] Combining the utilities of planting and eating could suggest a case for transferring wealth away from this class in *both* directions – to poor consumers with less to eat, and also (other things equal) to rich producers better positioned to exploit economies of scale.

CONCLUSION

The implications of consumption's DMU are consistently egalitarian only in a model with no production. In a world without production, a

[98] Nagel 1991, 65.

[99] I grew up on an unprofitably small farm (160 acres), so perhaps we were an example of this class.

downward-sloping marginal utility function represents marginal wealth as increasingly frivolous consumption. Utility is maximized in such a world by giving resources to those for whom resources have the most utility. In a world of production, this does not follow. In a world of production, DMU of consumption implies less reason to consume and, relatively speaking, more reason to invest in long-range production. In this world, it is an open question whether utility is maximized by transferring resources to those for whom those resources have the most utility. Utility may instead be maximized by transferring resources to those who will use them in the most productive way.[100]

There is a purpose served by model-simplifying assumptions, but assuming away production possibilities is not like ignoring steps in the utility curve. Ignoring steps simplifies the truth. When we ignore production, though, we do not merely simplify; we ignore *the* prerequisite for meeting needs in the real world.

[100] Needless to say, perverse incentive effects of paying people to *look* needy also afflict institutions that pay people to *look* productive. The latter problem is not unusual in large corporations.