

# **Ethics and Inequality**

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## Overview

While one can in principle study inequality and poverty for purely positive reasons, interest in inequality and poverty is in fact a function of ethical intuitions that government policies should attempt their reduction.

Within political philosophy (which is where normative questions concerning inequality and poverty arise) there are several distinct traditions that provide guidance on *distributive justice* which, as the phrase indicates, concerns the just distribution produced by a society.

## **Welfarism**

One reason why inequality may have normative intuitions derives from its implications for personal well being. The standard measurement of well being is utility. Utilitarianism evaluates possible states of affairs, actions, etc. according to their effect on the sum of utilities in a population; welfarism does this evaluation based on a function of the individual utilities, one that is increasing in each individual utility. Hence utilitarianism is a special case of welfarism. It is an important special case as much policy analysis in economics is based upon it.

## Basic ideas

In order to facilitate the discussion, we need some notation. For expositional purposes, let  $C$  denote the aggregate of some good that is available for a population of  $I$  agents. Individual consumption is  $c_i$ . Agents have the same utility function  $u(\cdot)$ . Note that I assume each agent has the same utility function. This is a significant assumption as it means that interpersonal comparisons of utility are unproblematic. Interpersonal utility comparisons are in fact a serious theoretical difficulty and are studied in the social choice literature, but this is not important for our purposes.

The social planner has available  $C$  units of a consumable good that is to be allocated across the members of the population. Each individual  $i$  receives  $c_i$ , hence the social planner's allocation is subject to the feasibility constraint that

$$\sum_i c_i \leq C. \quad (1)$$

What allocation should be chosen?

When thought of this way, it is evident that the allocation problem is not yet well posed, since I have not stated the objective function for the social planner. The classical utilitarian (or Benthamite) objective function for the social planner is

$$\sum_i u(c_i) \quad (2)$$

In addition, suppose we follow the standard microeconomic assumptions on utility functions that 1)  $u'(\cdot) > 0$  and 2)  $u''(\cdot) < 0$ .

Under these assumptions, it is evident that aggregate utility (2) is maximized when

$$\forall i \ c_i = \frac{C}{I} \quad (3)$$

This is interesting as the optimal allocation requires complete equality of consumption simply based on the *a priori* assumption of equality of the utility weights each person received in (2) and the assumption of concavity of the individual utility functions. The decreasing marginal utility of consumption provides a justification for egalitarian consumption levels.

In modern welfare economics, (2) is an example of a social welfare function; the generic form of such functions is

$$s(c) = s(u(c_1), \dots, u(c_l)) \quad (4)$$

where  $c = (c_1, \dots, c_l)$  and  $s$  is nondecreasing in the utility of each agent, which under our assumption on utility is the same thing as saying that  $s$  is nondecreasing in each element of  $c$ .

The idea that a policymaker should maximize a nondecreasing function of individual utilities is what is meant by welfarism.



If the social welfare function is concave and permutation invariant, then equal shares will uniquely maximize (2) as they did (1).

One example of a social welfare function that implies strict equality in the optimal allocation of consumption is

$$s(c) = \min_i u(c_i) \quad (5)$$

This social welfare function is of interest as it concentrates attention on the least well off member of society. This is sometimes called a Rawlsian social welfare function, named after the philosopher John Rawls.

One example of a social welfare function that differs from the utilitarian one is Arrow (1973) gives an example for the Rawlsian social welfare function. Intuitively, for the Rawlsian case, one employs a social welfare function such that

$$s(c) = \sum_i \varphi(u(c_i)) \quad (6)$$

where  $\varphi(\cdot)$  is increasing and concave. This model can induce a preference for equality on the part of the policymaker that is logically distinct from concavity of the utility functions.

Arrow (1973) discusses the following case. Suppose that

$$\varphi(u(c_i)) = -u(c_i)^{-a}. \quad (7)$$

Consider the utilitarian social welfare function

$$s(c) = -\sum_i u(c_i)^{-a} \quad (8)$$

The allocation that maximizes (8) also maximizes

$$\left( \sum_i u(c_i)^{-a} \right)^{1/a} \quad (9)$$

Further,

$$\lim_{a \rightarrow \infty} \left( \sum_i u(c_i)^{-a} \right)^{1/a} = \min_i u(c_i) \quad (10)$$

This produces Rawls difference principle: maximize the utility of the least well off person. Hence Rawls has been faulted for implicitly assumes arbitrarily high risk aversion by contractors behind the veil.

## Comments on Rawls

1. Difference principle is hard to defend from perspective of social welfare functions. Derek Parfit argues that moral intuitions are really prioritarian, i.e. priority in the social welfare function should be assigned to the relatively poorly off.
2. Rawlsian argument, however, is not welfarist; it is based on a thick veil of ignorance, behind which individuals make choices about socioeconomic institutions. Thin veil leads to Harsanyi type approaches in which agents know everything about a society except identity. I raise this as Harsanyi's thinking is closer to social welfare approach in spirit.

3. I find the veil of ignorance thought experiment meaningless.

4. Rawls will be subject to deontological critiques.

## **Limit to the Example: Incentives**

The allocation model I have described is artificial in a very important respect. It applies to a pure endowment economy, i.e. one in which the consumption outcomes for individuals are completely decoupled from whatever process produced the aggregate consumption endowment  $C$ . As such, the problem ignores how individual behaviors respond to the policies put in place by the social planner.

To see why the failure to account for the effects of the allocation is a serious limitation, consider the case where individuals produce a single good  $y_i$  and so their aggregate defines aggregate feasible consumption.

$$\sum_i y_i = C. \quad (11)$$

Assume each agent possesses identical labor endowments  $L$  and identical production functions  $f(l_i) = l_i$  where  $l_i$  is  $i$ 's labor input into production; the assumptions that endowments and production functions are identical are made for expositional purposes.



Further, the utility function of each agent is modified to  $u(c_i) - v(l_i)$  where  $v'(\cdot) > 0$  and  $v''(\cdot) < 0$ . The assumptions on  $v$  involve the disutility of work. These modifications introduce the individual labor choice into the process by which the aggregate consumption level available to society is determined.

As a result, the aggregate consumption is now an endogenous variable, i.e. one that is determined by individual decisions, and its realization, as is now demonstrated, will depend on the allocation rule for the society.

Consider two different rules for the society. First, suppose that the social planner announces that individuals will keep the product of their labor. Assuming away corner solutions, then it is obvious, since labor is equivalent to output is equivalent to personal consumption, that each agent will choose the same level of labor  $l^*$  such that the following equality holds.

$$u'(l^*) = v'(l^*). \quad (12)$$

Equation (12) states the standard first-order condition for utility maximization, namely that the marginal benefit to an additional increment of work equals the marginal cost, where the marginal benefit in this model under our first allocation rule is the marginal utility of consumption and the marginal cost is the marginal disutility of work.

In contrast suppose that the social planner implements the following redistribution rule.

A 100% tax is placed on individual production, and each person receives an equal share out of the proceeds of the tax.

How will individuals choose their levels of labor and what will be the equilibrium levels of consumption across the population?

Clearly, the marginal product of individual labor on consumption has shifted from 1 to  $\frac{1}{I}$ .

Why? Each agent will only, after redistribution, be able to increase his consumption by  $\frac{1}{I}$  when he increases his labor by 1. (Notice with linearity, I do not need to invoke derivatives.)

The optimal choice of labor, under this second allocation rule for consumption,  $l^{**}$  is determined, as before, by equating the marginal consumption utility of an additional increment of work with the marginal disutility generated by the associated reduction of leisure, which leads to the equilibrium condition

$$u' \left( \frac{l^{**}}{l} + \frac{(l-1)l^{**}}{l} \right) \cdot \frac{1}{l} = v'(l^{**}) \Rightarrow \frac{u'(l^{**})}{l} = v'(l^{**}). \quad (13)$$

Note that  $\frac{(I-1)I^{**}}{I}$  is the consumption that agent  $i$  receives via the redistribution rule. In comparing (12) and (13) the difference is that in (11) the marginal utility is divided by  $I$ .

The reason for this is straightforward: when agent  $i$  increases his labor by one unit, it only translates into  $\frac{1}{I}$  units of additional consumption.

Given the assumptions on first and second derivatives, it is obvious that  $I^* > I^{**}$ . Intuitively, the tax and redistribution rule reduces individual incentives to work as opposed to enjoying leisure. Further, it must be the case that

$$u(c^*) - v(I^*) > u(c^{**}) - v(I^{**}) \quad (14)$$

where  $c^*$  and  $c^{**}$  are the consumption levels under the two policies. Why does (14) hold? The reason is simple. The pair  $(c^{**}, I^{**})$  was a possible choice under the first policy, but agents chose  $(c^*, I^*)$  instead. Under the assumptions on first and second derivatives, the inequality in (12) must be strict.



Intuitively, the tax and redistribute scheme reduces individual work incentives and so makes everyone worse off.

Both policies produce complete equality, but the second, in the context of the model, is clearly inferior to the first in terms of each individual's utility. The second policy is thus Pareto inferior and for a welfarist, the policy would be ruled out in favor of the no tax, no redistribution alternative.

What message should we take from this example? The critical message is that one needs to evaluate the general equilibrium effects of a policy if one is a welfarist.

## **Deontological Approaches: Responsibility and Desert**

From the perspective of ethical theory, the welfarist approach involves the good, as opposed to the right. By this, I mean that the welfarist approach does not embody notions of fairness, etc.

The question of fairness is deontological, i.e. involves moral rules. For us, one important distinction involves equality of opportunity versus equality of outcomes.

## Equality of Opportunity

As a simple example of how the sources of inequality may matter for ethical evaluations, consider two individuals who have initial endowment of the good  $c_A$  and  $c_B$  respectively. If I told you that  $c_A > c_B$ , would an ethical case exist as to whether the good should be redistributed so that each individual receives  $\frac{c_A + c_B}{2}$ ? For the utilitarian, the answer is determined by the properties of the individual utility functions, whereas for the welfarist the answer is determined by social welfare function as well as the individual utility functions. What I refer to as the *deontological perspective* would find this approach unsatisfactory as it does not ask what moral rules should be applied.

To see how the deontological and welfarist approaches can differ, consider two scenarios. In the first scenario,  $c_A$  and  $c_B$  are the wages paid to  $A$  and  $B$  respectively. (I will ignore distinctions between wages and consumption for simplicity.)  $A$  and  $B$  performed exactly the same job for the employer and were equally productive as workers; hence  $\frac{c_A + c_B}{2}$  is the marginal product of each worker. However, the employer paid  $A$   $c_A$  because he is white and paid  $B$  because he is black  $c_B$ . (Notice I have rigged the example; there is no justification for the wage difference outside of racial animosity by the employer).

For this example, fairness would provide a justification for equalization of wages and hence consumption.

Now consider a second scenario. Situate the two individuals in time. At time  $t-1$ , each individual performs an identical task and performs it equally well, and the employer pays each  $\bar{c}$ . (Assume both agents are white so discrimination is off the table.)

Agent  $A$  chooses to invest  $\bar{c}$  at a known real interest rate  $r$  and so at time  $t$  has  $c_A = (1+r)\bar{c}$ . In contrast, agent  $B$  chooses to spend some of his  $\bar{c}$  on a world tour and invests the rest in an asset that has a known real interest rate of 0, even though the asset with real return  $r$  was available. As a result, at time  $t$ , individual  $B$  is in possession of  $c_B$ .

In this case, fairness would not lead us to advocate a policy that equalized consumption across the two agents at time  $t$ .

In the scenario 1, it seems unjust to hold individual  $B$  responsible for the consumption discrepancy since it was the manifest of an action by a third party that was unjust. From the perspective of  $B$ , he should not be held responsible for the consumption disparity and, for the context that we constructed, the government acts justly by reintroducing fairness in the consumption allocation.

In contrast, in scenario 2, the consumption disparity between agents  $A$  and  $B$  derives from their choices. Now assuming that one is responsible for one's preferences (while determination of individual responsibility for preferences is important in implementing such policies and will be addressed later in the course, it is not of any importance to the distinction between the scenarios), it is evident that the individuals are personally responsible for the consumption disparity that would occur in time  $t$  in absence of redistribution.

This distinction between the scenarios illustrates a fundamental idea in the equality of opportunity literature: inequalities are justified if they result from factors for which an individual should be held responsible.

Factors for which an individual should not be held responsible are often referred to as “luck.” Hence equality of opportunity egalitarianism is sometimes called luck egalitarianism.



How might one formalize the ideas I have described. Consider a socioeconomic outcome of interest, denote it as  $\omega_i$ . Suppose this outcome is determined by two vectors of observable characteristics  $X_i$  and  $Z_i$ , and unobservable characteristics  $\varepsilon_i$ .

$$\omega_i = \phi(X_i, Z_i, \varepsilon_i) \quad (15)$$

Suppose that we believe that an individual is not responsible for  $Z_i$  but is responsible for  $X_i$  and  $\varepsilon_i$ . An empirical analyst could construct the conditional probability of the outcome  $\omega_i$  given the observable characteristics. One could then say that perfect equality of opportunity with respect to  $\omega$  exists, if the following conditional probabilities hold

$$\forall i, j \mu(\omega_i | X_i, Z_i) = \mu(\omega_j | X_j, Z_j) \text{ if } X_i = X_j \quad (16)$$

In words, equality of opportunity means that that so long as two individuals have the same values for the variable for which they are responsible, the probabilities of their outcomes are not affected by the variables for which they are not responsible. This formulation first appears in Durlauf (1996) although it seems an obvious extension of Roemer (1993).

## Limitations

First, no guidance provided on division between  $X_i$  and  $Z_i$ .

Second, nothing guarantees that (16) is feasible. In other words, there may not be government policies that can implement (16).

Third, and this is distinct from the previous argument, it is possible that a policy that can fulfill (16) should be rejected on other grounds.

Fourth,  $\varepsilon_i$  is treated something for which individuals should be held responsible.

In thinking about the application of equality of opportunity as a policy objective, it is often the case that an analyst is concerned about the effects of family background on socioeconomic prospects for an individual.

One is not responsible for one's parents, and their attendant effects on a child.

Other applications would focus on social factors outside an individual's control. Prejudice and discrimination are obvious examples, as are the effects of the neighborhoods in which one grows up or the schools one attends prior to college.

## **Responsibility vs. Desert**

One limitation of luck egalitarianism is that it ignores any distinction between being responsible for something versus being deserving of something. Is this distinction meaningful?

I believe it is.

If my family and background has led me to adopt values that are not conducive to economic success, e.g. I do not work hard in school, is my effort something for which I am or I am not responsible?

Desert and responsibility are distinct notions. Compare differences in wages due to discrimination versus genetic ability.

Why is there controversy over the distinction? The main objection is that desert implies control. Not clear this is sensible. It is meaningful to ask who deserves to be named winner of a competition.

Desert seems important in respecting agency.

“The problem of moral luck cannot be understood without an account of internal agency”

-Thomas Nagel, *Mortal Questions* (1979, p. 38)

“it is perfectly consistent to say that persons are not responsible for having certain characteristics, yet that precisely these characteristics make them the people they are.”

-George Sher, *Desert* (1987, p. 157)



## **Additional Comments**

1. Market prices are clearly not something for which an individual is responsible (i.e. one is not responsible for both supply and demand).  
What about luck associated with winning a patent race?

2. Interconnected of socioeconomic outcomes may render responsibility and desert notions nonoperational in interesting contexts.

3. Market design, as will be discussed by Scott Kominers matter as market “rules” affects what matters for responsibility and desert.

## **Welfarist Critique**

Kaplow and Shavell (2001) have criticized deontological approaches to evaluating the justice of policies on the grounds that they necessarily violate the Pareto principle, i.e. if one is a deontologist, then one is willing to accept socioeconomic configurations that are strictly dominated from the vantage point of individual utility.

Suppose that a social planner/policymaker chooses an allocation  $c = (c_1, \dots, c_l)$  from some set  $C$ ; I now allocations to be vectors. Assume free disposal, so if  $c$  is feasible, so is any other nonzero vector that is smaller element by element.

Utility is allowed to be individual-specific, i.e. preference heterogeneity is now permitted. Assume the individual utility functions are  $u_i(c_i)$  are strictly increasing all of the arguments in the vector  $c_i$ . Assume the social planner/policymaker ranks social states according to the “justice” function

$$J(c) = J(c_1, \dots, c_l) \tag{17}$$

This function is assumed to be continuous. Following Kaplow and Shavell, the justice function is not a social welfare function if there exists a pair of feasible allocations  $\bar{c}$  and  $\bar{\bar{c}}$  such that

$$J(\bar{c}) > J(\bar{\bar{c}}) \quad (18)$$

and

$$\forall i \ u_i(\bar{c}_i) = u_i(\bar{\bar{c}}_i) \quad (19)$$

Under the continuity assumptions, there must be an allocation  $\bar{c} - \delta$ ,  $\forall i \delta_{ij} > 0$ , (note that  $\delta_{ij}$  can be made arbitrarily small) such that

$$J(\bar{c} - \delta) > J(\bar{\bar{c}}) \quad (20)$$

But given (6), everyone is worse off, in terms of utility, at the allocation  $\bar{c} - \delta$  than at the allocation  $\bar{\bar{c}}$ . Hence the justice function violates the Pareto Principle.

At first glance, this seems perverse. However, the Kaplow-Shavell finding is less of a problem for deontological ethics than meets the eye.

The example does not say anything about how the elements of  $C$  are generated. Suppose that the choice of allocation is a choice of rules that generate it.

Then if I, as a policymaker, rule out all discriminatory allocations as unjust, I might choose a consumption allocation that reduces everyone's utility. This example is similar to one of Sen (1970) in which society refuses to implement censorship despite the fact it would raise the utility of both of the society's members.

Kaplow and Shavell remind us that adherence to the principle that “the right is prior to the good” can lead to utility losses, so if we equate the good with a social welfare function, there is a tradeoff to consider.

But unless we work with a model that embodies ideas of the “right”, the reasonableness of such tradeoffs will be hidden.

## Capabilities

Amartya Sen, Martha Nussbaum and others have developed a view of distributive justice that is premised on the idea that society should maximize capabilities of its members. James Foster will discuss in detail. Key idea: capabilities characterize lives one can lead/ability to flourish.

One asks about the potential lives a person can lead. Sen's framework is consequentialist, but unlike welfarism focuses on a conception of *freedom*.



“The ‘capability’ approach has something to offer both to the evaluation of *well-being* and to the assessment of *freedom*. Considering the former connection first, the capability approach to well-being differs from the traditional concentration on economic opulence (in the form of real income, consumption levels, etc.) in two distinct respects: (1) it shifts the focus from the space of *means* in the form of commodities and resources to that of functionings which are seen as *constitutive* elements of human well-being; and (2) it makes it possible-though not obligatory-to take note of the *set* of alternative functionings from which the person can choose. The ‘capability set’ can be seen as the overall freedom a person enjoys to pursue her well-being.

-Amartya Sen, *Inequality Reexamined* (1992, p. 150)

## Sen's formalization

Let  $x_i$  denote commodities, chosen from set  $X_i$ . Commodities convert to a vector of characteristics  $c_i$

$$c_i = \delta(x_i)$$

Characteristics are transformed into a functioning  $f_i$  via the choice of a utilization function,  $\phi_i \in \Phi_i$ ,

$$f_i = \phi_i(c_i)$$

Effective freedom,  $Q_i$  is defined as the set of feasible  $f_i$ 's.

Capabilities are closely related to Heckman's skills approach. Heckman/Sen respects agency of persons.

Note that this approach emphasizes the richness of potential outcomes for an individual, rather than realized outcomes. The existence of choices not exercised matters. This is richer than my description of equality of opportunity.

My reading of the literature is that it is often prioritarian in emphasis.

Finally, I think the capabilities approach segues with desert. Rich capabilities make it easier to accept that outcomes under fair rules are deserved.

This links to virtue ethics; Aristotle and Confucius redux!