EFFICIENCY AND EQUITY: A STRUCTURAL PERSPECTIVE

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I. Introduction

Economists evaluating policies frequently split the measurement of effects into two elements: efficiency, and the distribution of income. Traditional economic theory has focused primarily upon efficiency, under the assumption that efficiency alone avoids subjective judgments. Considerations of distribution, based on equity and involving subjectivity, are eschewed because of their normative nature.

There are two perspectives on the relationship of efficiency and equity. One believes there is a tradeoff, while the other believes that any such tradeoff, if it exists, is too complex to discuss so haphazardly. Many economists in the United States believe that efficiency and equity are mutually exclusive, where increases in one are bought only at the expense of the other. This "tradeoff" is argued most eloquently by Okun (1975), but also is discussed by Thurow (1981), Saposnick (1984), Browning and Johnson (1984), Shavell (1981), and Jorgenson (1985). Because equity is subjective, economists feel forced to make a value judgment without help from economic's "positive" theory. The preferred balance of efficiency and equity thus must stem from the personal beliefs of the analyst. Recommendations vary radically, depending upon the beliefs of who offers them. Friedman, for example, claims that efficiency is the most important while Rawls places that stress on equity, (Milton Friedman, Capitalism and Freedom, 1962, pp. 161-166, and John Rawls, A Theory of Justice, 1971, p. 62, both quoted in Okun 1975:92).

As conceptualized by at least some neoclassical economists, efficiency and equity have completely different value components. Efficiency is regarded as an objective function, as a mere description of observable reality which can be scientifically tested. It is perceived as existing in and of itself, unaffected by subjective sensibilities.

Equity, in contrast, "has to do with justified or justifiable distributions of rights and privileges among people. An equitable distribution need not give everyone the same rights and privileges but it must be justified in some sense- legally, morally, by custom, by practicality or on some other basis." (Johnson 1983:595) It is considered a moral determination. Scared about openly making value judgments, neoclassical economists have shunned equity while embracing efficiency as their main measure of economic performance.

Other economists object to this conceptualization, noting that efficiency itself is a normative concept (Shaffer 1985:1; Thurow 1973a:59). The law of thermodynamics guarantees that the ratio of what goes into a process and what comes out will always equal one: it is the value economists attach to the various inputs and outputs which determine the efficiency they discuss (Johnson). The output from feeding a dairy cow, for example, includes manure, urine, offal, and heat, as well as milk. Efficiency in dairy farming necessitates maximizing the latter outputs while minimizing the former, a value judgment.

Efficiency as utilized by economists is based on relative prices, which are direct products of property rights, distribution

of wealth, social norms, and other institutional factors in the economy. Efficiency tacitly makes a value judgment by accepting this market structure as justifiable.

The second view towards efficiency and equity, accepted by only a minority of economists, believes that efficiency and equity are mutually determined. They believe that any tradeoff between the two is very complex, involving a tradeoff between different systems, not tradeoffs within a system, contingent on altering the initial endowment of resources. The determination of equity and efficiency occurs, not once the economy has begun operating, but when initial endowments are set. Equity and efficiency are thus determined simultaneously by the endowments and structure of the economy.

Any tradeoff is between two value laden concepts, not between a positive efficiency and normative equity. Over reliance on efficiency disguises the value judgments being tacitly accepted, and misrepresents the difficulties in determining appropriate economic policies.

This paper argues that the second perspective is more accurate. Given the complexities and the normative nature of both efficiency and equity, it further argues that standard economic analysis must be changed to explicitly incorporate value judgments. Chapter II provides a brief but helpful background by exploring the institutional framework which determines market structures and performance. Using this understanding, Chapter III discusses and then critiques traditional measures and views of efficiency, while Chapter IV does so for equity. Finally, the alleged tradeoff, including some of the

literature on this subject, will be evaluated in Chapter V, before developing an alternative view.

II. The Nature of the Market

> The analysis of markets is treated under the heading of micro theory, but it cannot be understood without some indication of the macro setting in which it operates. A prisoner-of-war camp, a village fair, and the shopping mall of a modern city cannot all be treated in exactly the same terms.
>
> (J. Robinson 1980:5)

A. Institutional Framework

Economic theory, at least the current mainstream within the United States, attempts primarily to explain the behavior of individual actors within an economic system. The forces which create and alter the economy are largely ignored by both major branches of thought, where microeconomics focuses on the individual actors and macroeconomics looks at the aggregate behavior of individuals.

Microeconomics ignores questions of the institutional framework of markets, merely delineating how individual actors can maximize or minimize some objective function within a given economic structure. It does note concentration, technological, and entry/exit differences between market systems, but it cannot discuss the more basic factors underlying an economy. It tells actors how to behave within their given situation, but it cannot tell the actors whether they would be better off in an entirely different game. By its nature, it concentrates on the individual behavior of participants while ignoring more global issues.

Macroeconomics does look at the more general behavior of an economy, but it does this primarily by aggregating individual behavior. Even on a large scale this approach fails to really consider how the various elements of the market structure participants' opportunity sets. Any existing glimmers of substance in macroeconomics will be unfulfilled with the theoretical work of Rational Expectations and the apparent demise of Keynesian Macroeconomics, because theorists have started to "put the microeconomic roots" back into macro theory. Micro-foundations of a choice theoretic nature may establish a more realistic behavioral grounding for macro theory, but because it is adopting a microeconomics which accepts the status quo as the norm, it also reinforces the inability of neoclassical economic theory to deal with systems study. If a theory based purely on the behavior of one economic actor without regard for the nature of constraints is unable to offer help in this direction, aggregating these individuals with this insufficient theory will bring us no further towards understanding.

The neoclassical concentration on the efficient operation of the economy is helpful to those individual actors within an economy grappling with how best to utilize their own resources, but because it ignores structural factors, it proves ineffective for policy makers evaluating rules and alternative strategies which would affect the marketplace. The normative presumption of neoclassical economics that markets exist in a world separate from political, cultural and social factors is the chief stumbling block, because it ignores that markets are created and sustained only through the

interaction of such factors. The rules which create and structure the economy are the product of government action, and the behavior elicited within the market are largely the result of cultural tradition and mores.

Markets by their nature involve interdependence: the behavior of each person restricts the opportunity sets of every other individual within that market. Samuels (1981:12) says "the economy is... a system of mutual coercion in which the choices of each individual have eventual impact upon the opportunity sets and choice of others- even when washed through a competitive market." Simple focus on the personal preferences of individuals completely obviates the way individuals' opportunity sets are structured by their environment. To speak of choices without considering the nature of constraints on opportunities is woefully inadequate and inaccurate.

The preferences people articulate result from opportunities available to them, not from any sense of absolute personal freedom. Individuals are forced to satisfice within the constraints imposed by the nature of the market. (Gintis) Ignoring this process misrepresents personal decision-making and leaves a key determinant of market behavior outside of analysis.

The market opportunities in the United States, for example, are controlled by the different elements of its market structure: private ownership, markets in labor, markets in land, income distribution based on returns to owners of capital, markets for the necessities of life requiring people to work for survival, and control of production processes by the owners of capital. The

opportunities in other economies are products of the elements intrinsic within and unique to those market structures. These factors restrict individuals by limiting the choices available to people, and by determining how resources are allocated and controlled.

These should not be viewed as negative constraints, because the institutional framework performs a positive function: "To anyone but a philosophical anarchist it is plain that competitive market activity must be bounded by constraints. Bombing the factory of a rival enterprise, for example, is not the kind of competitive activity which economic theory regards as contributing to an efficient allocation of resources." (Gordon 1980:161-2) Markets cannot exist without some structure of permissible (and thus impermissible) behaviors.

The relationship of institutional factors to market performance is complex, involving multi-directional influences. To understand what is going on in markets, for example, one must look at the government and the other factors; but to understand what is going on in the government one must look at markets plus the other factors. The clear, concise separation between exogenous and endogenous variables that scientists so dearly love are not available here, because <u>every</u> variable is endogenous and interdependent with the other.

B. Major Factors Composing Market Structure

Some of the mechanisms suggested by many economists as playing major roles in determining market structure, and thus opportunity sets include: institutions, the government, power, property rules, the original endowment of resources, and norms.

1) Institutions

The nature of the institutions influencing markets is essential to ascertain, because the internal decisions made within these institutions help formulate market rules and regulations. Their motivation, relative power, and norms have direct bearing on the nature of a market and opportunities available to individual participants. Other economists have suggested that the black box view of institutions be discarded. The stated purposes of an institution may be completely irrelevant to how the institution actually performs, because the motivations and behaviors of the individuals within the organizations determine the institutions' actual behavior. (Leibenstein 1979; Wellford; and Schon 1974) Understanding of institutions must therefore start with an understanding of their internal natures and operation.

Internal study is further important because the assumptions of institutional neutrality, a central element of the neoclassical disregard for institutional considerations in analysis, are unfounded. Any institution, even the State, is subject to a limited range of potential inputs, conversion processes, and feedback functions by its standard operating procedures. These internal rules predeter-

mine the decisions which the institution can make, destroying any possibility of value neutrality. (Seidman:558) The market-influencing behavior of the state cannot be, for similar reasons, value neutral.

2) Government

The state helps formulate the structure and rules of markets, and the distribution of the fruits of the economy with several behaviors: laws, regulations, the enforcement of these, taxation, and government spending. The connection is not solely in one direction. The behavior of the government affects the opportunity sets of market participants, but the opportunity sets of participants also help control the behavior of the government.

Describing government activity within the economy as "intervention" grossly misrepresents the role government plays. Such semanticism reflects the erroneous belief that markets can exist above and beyond the socio-legal structure of society, and thus they are despoiled when touched by any government influence. If this was true, no market could ever exist.

Economies must be viewed as sets of rules and regulation, (Thurow 1981:128) produced by the powers of political institutions. (Okun 1975:32; Seidman:557) Laws and norms of behavior ensure that buying and selling can occur instead of each person just taking what they want by force of might, elements essential for the creation and operation of every market. (Lerner 1972:259) The enforcement of these actions is more pertinent than the letter or intent of the

fomenting legislation, because these can easily be lost in application. The Indian government, for example, calls itself and its regulations socialist while it ostensibly pursues policies more favorable towards the upper classes. The way rules and regulations are expressed in practise are thus more important than the rhetoric of legislation, so should be the focus of study.

Beyond helping determine the rules of a market, almost all government acts influence the distribution of resources. (Tullock 1983:13) Taxes lower incomes, and spending raises incomes, though not necessarily of the same persons. (Thurow 1981:157; Tullock 1983:2) This fiscal power is second only to the power that a state can wield through its police and military, and by means of an established church. (Gordon 1980:215) A major premise behind the neoclassical view of governmental influence on the economy is that the economist and government are beneficent: that those deciding and implementing government policy are working for the social good and not their own. The creation of policy and evaluation of alternatives will be unbiased by the personal objectives of those involved, and the researcher need not worry about the "acceptability" of recommendations, having no need to alter them to suit political exigencies. Under such a situation, the analysis will be the least subjective.

Several people have raised doubts about the reasonableness of this assumption. Leibenstein said that institutions cannot be treated as black boxes, with a single easily discernable goal, because they are mere conglomerations of individuals. Each person

within government influences policy by bringing their own objectives to work. Some workers are most concerned with being promoted, some want to do as little work as possible to get their paycheck, others want most to help society.

The difficulties of implementing policies are important to consider, because "agencies at the periphery tend to optimize to the measures rather than to the criteria underlying the measures." (Schon:157) The bureaucrats who actually put policies into action will focus more on the measures of success than on the underlying reasons for the policy. "The (bureaucrat) will always optimize to his or her own interests, as he or she sees them, within the framework of having to meet (policy) measures.." (Schon:158)

If either the government officials and bureaucrats, or the economic researcher providing alternatives are maximizing their own utility over society, the subjectivity of policy increases. When the members of government are the offenders, results vary, depending on the level at which the offense occurs. If the policy makers decide to serve their own needs over those of society, less socially beneficial policies may be chosen over better selections. Similar problems occur when the bureaucrats who implement and enforce policies are the personal maximizers, even if the policy decisions were responsible. When the government is totally unbiased, if the economist is the offender the alternatives given decision makers will be misrepresented, again ultimately leading to less socially beneficial allocations of resources.

If policy itself is based on assumptions of utility maximization by rational individuals, the assumed non-maximization by the economist and government seems contradictory, and raises similar disturbing doubts: are all people rational utility maximizers, and thus the analysis itself reflects the individual economist's or bureaucrats' maximizing viewpoints, or are there people who do not maximize their utility? If there are some non-maximizers, determining the percentage of non-maximizers in society becomes difficult, not to mention the major change in assumptions it demands.

The presumption of mainstream economics that efficiency avoids subjectivity problems is meaningless if decisions about which alternative is most efficient are made and implemented subjectively. In fact, it is worse, because it masquerades as objective fact and consequently may not be questioned or subjected to needed discussion. Equity forces assumptions to be clearly detailed.

Citing facilitative law, Seidman in fact argues that the government's influence over the economy can never be neutral, insuring that the government always has an effect over market participants. Given this power over the economy, the motivations of the state are important determinants of market structure and performance, and cannot be ignored.

The creation and control of governmental power is vital to consider, a process which has increasingly seen economics and political science working together. Bentley considered government as the adjustment or balance of interests, (Process of Government, in Olson:264) a perspective supported by empirical observation of

the political role pressure groups play, and one which makes the complementary interrelationship between economic and political power especially important to consider. Those with power in the market have unproportionate political power as well which can feedback into the market.

3) Power

The relative power of individuals and interest groups, both economic and political, are an important determinant of opportunity sets. The more powerful actors in a market restrict the opportunities of others (Galbraith) through control of political and economic resources. The bargaining positions in a market may not be equal because of the power differences between market participants. Contracts which appear to be freely entered may not be a matter of choice, but of command (Seidman:556; Basu, May 1986 Lecture at MSU) because the weaker of the bargainers had no effective options.

Economic power, clearly evident in a bargaining situation, may also be less obviously exerted through the political process. Market rules are created through politics, troublesome because political power and economic power are reinforcing, (Shaffer 1975:3) giving those with economic power the ability to change the institutional framework through control of the government. Galbraith (1973) argues that the more powerful actors in markets restrict the opportunities of others through several avenues. Powerful actors possess greater bargaining strength about employment matters, are able to influence consumer (and voter) preferences through advertiz-

ing, and are able to unduly influence the government (which influences the structures of markets through defining rights and privileges) by political machinations.

If people cannot maximize because of uncertainty, but instead are forced to achieve what looks possible, advertizing which shows what is possible can be very effective. Advertizing can serve as subsidized information, helping to sway people towards the producers' desired goal.

Given the amount of resources available to them, producers are able to exert more influence over government. They have the financial resources, the organizational capacity, and the will to use government for their desired ends. Consumers, on the other hand, are generally unable to organize as well because the cost to each individual from a decision overly favorable to producers is not worth the amount of energy each person would use in politically fighting the legislation.

To elide the great economic effects of economic and political power is to destroy economic's relation with the real world (Galbraith 1973:2) because by so doing one ignores the effect that power has on participant opportunities. Accepting decisions without evaluating the framework which establishes opportunities, effectively takes the present distribution of power as acceptable and beyond reproach.

4) Property Rules

Property rules, created by government, tradition, and social mores, play a vital role in determining the choices and opportunities available to individual actors as well as the allocation of resources. (Gintis; Knight, Ethics of Competition, p. 56 in Johnson 1986:78; Furubotn:1138; Samuels 1983:59; Shaffer no date:79; McClennen 1983:350); Furubotn:1140; and Carter 1985:799) These rights "represent the starting points from which bargaining takes place, the counters that are exchanged in bargaining, and the rules or constraints under which bargaining goes forward." (Fried:177)

> Property rights do not refer to relations between men and things, rather, to the sanctioned behavioral relations among men that arise from the existence of things and pertain to their use. Property rights assignments specify the norms of behavior with respect to things that each and every person must observe in his interactions with other persons, or bear the cost for nonobservance.
>
> (Furubotn:1139)

By specifying the acceptable relations between individuals, property rights play a vital role in determining the behavior and performance of an economic system. Such rules affect whose costs and benefits enter the calculations that determine resource allocation. (Carter 1985:799) Ignoring the statutes of conduct explicit within these rules leaves the central element of economic behavior outside of analysis, neutralizing the effectiveness of theory to deal with the real world. Some economists have argued that the consequences of alternative property rules on behavior should be

more important than the concern with optimal allocations of resources (Shaffer no date:78), or even that a properly developed micro theory must be a property rights approach. (Furubotn:1157)

> In essence, economics is the study of property rights over scarce resources... The allocation of scarce resources in a society is the assignment of rights to uses of resources... the question of economics, or of how prices should be determined, is the question of how property rights should be defined and exchanged, and on what terms.
>
> (Alchian, Pricing and Society, Occasional Paper No. 17, Westminster: The Institute of Economic Affairs, 1967, p. 2-3; in Furubotn:1139)

5) Original Endowment of Resources

The initial distribution of resources weights the preferences of market participants, affecting demands for goods and services and thus the distribution of income (Thurow 1973a:57). Buchanan, (1977:70) even mistakenly placing initial endowments separate from the market, argues that they are a much more important element in determining income than what he more traditionally considers the market itself. Initial endowments are usually taken as given by neoclassical economic theory[1], and are thus easily accidentally

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[1]"To be sure, the neoclassical model in all its fullest generality allows for different 'endowments' among the households that comprise the model. Nevertheless, although endowments may indeed differ in the sophisticated formulations of Kenneth Arrow, Gerard Debreu, and Frank Hahn (Arrow and Debreau 1954; Debreau 1959; Arrow and Hahn 1971), there, as in the whole corpus of neoclassical theory, the systematic element in the pattern of 'endowments'- the concentration of ownership and control of the means of production in a small fraction of the households- is totally ignored, as are the consequences of concentration for the nature of equilibrium." Marglin (1984 p. 459)

forgotten despite the major effect they have in determining relative prices. Given such a important influence on economic performance and outcomes, initial endowments must be included in any definition of market structure.

6) Norms

The norms of behavior play a significant role in market performance. (Basu 1984; Bergsten 1985) Laws help structure behavior, but those which are extremely contrary to social norms are unenforceable. "The 'invisible hand' would not be able to coordinate a multitude of selfish acts to bring order- as it is supposed to do- if it was not aided by the adherence of individuals to certain commonly accepted values." (Basu 1984:6)

Norms are dictated largely via culture. The acceptable institutions, expectations, and behavior are all part of or products of the culture in which a person lives. Because those within a culture have internalized the rules and mores, they cannot be fully aware of those dictates. It is only when challenged or confronted by a different cultural system that the individual becomes more fully aware of the depths of their cultural values. The culture shock for many who have lived in other lands is usually worse when they return to their original culture, because they have been sensitized to alternative ways of thought, behavior, and experience of the world.

Given peoples' relative blindness to cultural roots and constraints, it is easy to understand why much of the base reasons for

economic behavior- why this behavior was performed and that behavior wasn't even considered- have been relatively over looked or taken for granted by mainstream economic thought.

Much of the diversity of behavior is assumed away by the consideration of only the maximization assumption where individuals maximize their utility or firms maximize profits, or its corollary of minimization. Anthropological concerns about customs and the effect of advertizing on norms and behavior are important issues, however, influencing markets in much more important ways than mainstream thought presently considers.

C. Prices

Prices are unique to the interaction of these factors. Prices are not perfect embodiments of technology and the relative wants of individuals as some economists suggest: such a view drastically oversimplifies their nature. Individual wants are important, but of equal importance is how effectively different participants can express these preferences. The institutional influences, property rules, power, and norms all seriously affect this ability. The price-structure of an economy reflects the underlying institutional frameworks just as much, if not more, than it mirrors participants' relative preferences. Prices cannot exist without this institutional framework anymore than can markets exist without it. Samuels (1981:36) summarizes this tersely when he says, "Prices and costs, through demand and supply, reflect social power."

Altering even one of these underlying institutional factors produces a change in the price structure and resource allocation. Randall (1972:27), Shaffer (no date:79), and Lang (1980:775) directly note this influence for changes in property rights, Papandreou (in Breimyer 1976:29), and Thurow (1973a:57) indicate this for different initial distributions of wealth, and Basu (1984:7) mentions this potential for changes in social norms. Altering any of these factors creates another price-cost structure, unique to the new situation, because it changes the opportunity sets and weights of participants' preferences. Prices therefore are not

neutral. They reflect the institutional framework and the distribution of original endowments within an economy.

A hypothetical situation by Meade (1964:40) illustrates this quite well. Meade posits what would happen to a society where the ownership of property had been equally distributed over all its citizens. "Work (would) become rather more a matter of personal choice. The unpleasant work that had to be done would have to be very highly paid to attract to it those whose tastes led them to wish to supplement considerably their incomes from property... At the other extreme those who wished to devote themselves to quite uncommercial activities would be able to do so with a reduced standard of living, but without starving in a garret." It is clear that this simple reshuffling of resource endowments and relative power would produce drastic changes in relative prices and wages.

Because prices reflect the institutional framework supporting the economy, accepting these prices tacitly approves the framework which spawned them. Prices are a proxy for the underlying framework, and acceptance of "the prices and resource allocation of the marginal conditions is to accept as proper the distributional factors giving rise to them." (Samuels 1981:47)

D. Distribution of Income

Distribution, both of government resources and of income in the private sector, is ultimately controlled by the power which sanctions property claims and responds to political requests. It thus

is "ethical only insofar as right and might are one." (Knight, Ethics of Competition, p. 58, in Johnson 1986:78)

Because the distribution of income is a product of the market structure, through sanctioned rights, norms and power, to speak of "redistribution" is a misnomer. The returns to factor shares are not based on some intrinsic value within the factors, as "redistribution" and the Marginal Productivity Theory presupposes; claims to the fruits of production are based on and supported wholely by the institutional framework of markets. If the value of contributions were inherent within input factors, there would be little need for debate over who should receive what share.

The oft presumed "fact" that inputs receive returns on the marginal benefit of their use stems directly from the assumptions of neoclassical theory, not from empirical observation. The assumption that the production function is homogeneous of degree one (constant returns to scale), combined with Eulers Theorem, forms the basis of theoretical results showing returns to factors equaling their marginal contribution to production.

Mathematically this assumption takes the form:

$$f(tX_1, tX_2, \ldots, tX_m) = t^r f(X_1, X_2, \ldots, X_m), \quad t>0$$

where $f(\ )$ is a production function, X_i is an input, and t is a scaler. When $r = 1$ is assumed (Constant Returns to Scale) the formula, and combined with Euler's Theorem, the results are especially appealing:

$$\frac{\partial f}{\partial X_i} * X_i = rt^{r-1} f(X_1, X_2, \ldots, X_m)$$

$$= f(X_1, X_2, \ldots, X_m) \text{ when } r = 1$$

From this it appears the inputs X_1, X_2,...., X_m can thus be remunerated the value of their marginal production. This is the theoretical basis for distribution based on marginal contributions to production: the value of output is exactly equal to the value each factor added to production. When factor inputs are paid their marginal worth, no residual value remains. The distribution of returns seems to accord to each input exactly their due, with no surplus value left to be appropriated, especially pleasing because it simplifies decision-making.

This result, however, is a product of the preconceived assumptions of the model, not from observed reality. It is the assumptions which make this distribution appear straightforward, because they ignore the inherent complexity of production. Enough empirical and theoretical difficulties arise with Marginal Productivity Theory, despite its apparent simpleness, that many economists find a theory of distribution based upon such assumptions doubtful or useless. (Bronfenbrenner 186-188; Gordon 1980:97-98; Knight 1951:55-57; J. Robinson 1980:149; Marglin 1984:315-316; Okun 1975:41-8; and Thurow 1973a:70-73)

Any distribution of income instead reflects a complex interrelation of technology, economic power, political power, effective

demands, relative prices, property rules, and social norms; in brief, distributions reflect the institutional framework of markets. Just as relative prices change whenever the institutional framework is altered, the distribution of income (based on relative prices) also varies with structural change.

The wages of medical doctors, for example, are higher relative to other professionals because of reasons other than the marginal value of the human health work they perform. Wages are high because of the institutional framework of the market, not through individual effort. The restricted number of seats in medical schools, unnecessarily abusive teaching methods, and strict governmental licensing procedures artificially limit the number of medical doctors. These institutional factors inflate doctors' incomes with "monopoly wages", giving medical doctors relatively larger incomes than others because of little additional effort of their own. Professional athletes benefit by a similar but more complex institutional process, limiting the number of professional teams and keeping ticket prices and wages high.

Objections can be raised, at least with the medical profession, that some restrictions are imperative to guarantee quality health care. Not everyone, obviously, is competent or ethical enough to become a medical doctor. It could be argued that these restrictions help insure quality medical care, and are hence in the public interest. They probably do benefit society. But even if limiting the number of doctors is in the public interest, the institutional factors which restrict entry through this process grant doctors

monopoly wages. This objection does not, thus, deny that doctors' incomes are inflated by these factors and thus do not reflect doctors' marginal productivities.[2]

Modifications of structural factors do not "redistribute" income from those to whom it "rightfully belongs", because there is no concept or claim to income outside of the institutional framework. "Right" and "moral claim" depend entirely upon the property rules and norms which influence market structure, and which are the means for changing the distributions of income. Derogatorally labelling these efforts for greater equity as "redistribution" wrongfully implies that the status quo distributions are more correct than the new distributions resulting from the change.

Because the rules and structure which sanctioned any prior distribution of income are no more legitimate than the rules and structure which create and sanction the new pattern of distribution, moral outrage is solely dependent on the illegitimate objection to altering the status quo. The term "redistribution" will not be used here to avoid this judgment.

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[2] It also does not mean the public has no claim on the monopoly wages society grants doctors. The restrictions, after all, are for the public good, not for the benefit of doctors.

III. Efficiency is a Normative Concept

A. Types of Efficiency

Economic efficiency can be divided into productive efficiency and allocative (or pricing) efficiency. Productive efficiency attempts to most productively utilize available resources and output. It is important for microeconomic analyses of resource transformations, and is of secondary importance in considerations of distribution within society.

Allocative efficiency reflects whether prices are an accurate indication of consumer preferences and the production possibility set. When this occurs, prices serve as an information source for the entire economy, allowing producers and consumers to allocate their resources optimally.

Neoclassical economists state three conditions for such an economically efficient allocation:

(a) the value placed on produced goods by an individual (marginal rate of substitution) must be equal to the cost of transforming one good into another (marginal rate of transformation)

(b) the value of consuming factors of production directly (marginal rate of substitution) must be equal to the cost of transforming the inputs into goods (marginal rate of technical substitution), and

(c) the value placed by consumers on consumption of an input and an output (marginal rate of substitution) must be equal to the marginal product."

(Kilmer & Armbruster:101)

This discussion presents efficiency as a positive concept, wherein one merely has to calculate a little bit, and then plug numbers into some objective formula. Whether this is because mainstream economists perceive it this way, or out of sloppiness, efficiency is not value-free. Efficiency involves value judgments, in contradiction to its reputed objectivity. Thurow notes that all the postulates underlying analysis of economic efficiency are thoroughly ethical in nature, saying "a value judgement is made that each individual is the best judge of his or her own happiness, and that more choices are always better than less. Without such value judgments, 'efficiency' in modern economics ceases to have any meaning." (Thurow 1973a:59) Its use as a standard for performance further embroils efficiency in normativism, implying that the "most efficient means, program, method, firm, economy are the best."(Shaffer 1985:1)

> The lack of inherent reference to more general value considerations tends in actual practise to give efficiency the status of an absolute value and seems to close the avenues of thought to the larger issues of policy in relation to social organization.
>
> (Parsons:292)

Consistently when mainstream economists talk about efficiency and equity, they allege a difficult trade-off between the two because they are not comparable. (Okun 1975:88; Thurow 1981; Saposnick 1984; Browning and Johnson 1984; Shavell 1981; and Jorgenson 1985)

In policy, the idea that the private sector is better than government has became warmly embraced in the early 1980's, in large part because the private sector is supposed to be more efficient. Federal programs were dismantled or parceled out, because "the private sector can do it better." U.S. Forest Service campgrounds, federal prisons, the Postal Service, the Space Shuttle system, and weather satellites, for example, were placed under or suggested for the management of private entrepreneurs. Politicians, the people who utilize economic analyses as one basis for decision-making, ran for office on the basis of their extensive business experience, which would allow them to run government like an efficient business. In this environment, despite its apparent innocuous objectivity, efficiency was used and has become confirmed as a norm for behavior and decisions.

Critics of this use of efficiency and the neoclassical view do not disagree that efficiency is a useful concept. Few would argue that it isn't good for an individual to get the most possible from their available resources. But the use of efficiency measures to judge rights, including regulations, laws, policy, and public programs ignores the normative nature of efficiency, and stretches it inappropriately. (Shaffer 1985:3) Furthermore, because it is

normative like equity, economists cannot say anything more about efficiency than about equity. (Bromley in Kilmer & Armbruster:101)

Efficiency ignores the constraints on a market, such as property rights, even though "there is no such thing as a market operating without constraints. The economic outcome of a society allowing slavery will be very different from the outcome of a market in a society that does not... None of these constraints can be deduced from economic theory, though adoption of one or the other can produce a very different market outcome" (Thurow 1983:230).

> Study of efficiency... necessarily involves understanding of the institutional background and the conditions under which transactions take place. By implication, the limitations of the traditional theory are traceable, in part, to the highly simplified assumptions made in this area.
>
> (Furubotn:1141)

Because efficiency can only be defined in terms of a specified set of property rights (Randall 1972:28), "it changes as property rights, the distribution of wealth and the distribution of income change. Just to demand efficiency leaves open the question of which of the infinite number of theoretically possible efficient solutions is preferable."(Randall 1972:25) Economic criteria automatically assume certain rights as given and thus whose interests count, (Shaffer 1985:3) a subjective judgement.

Even in its role of conveying the magnitude of losses or gains and the related changes in income distribution so the political

process can decide efficiency and equity tradeoffs it fails: "Almost any policy relevant measure of efficiency is based upon a pre-existing set of rights... Prices always reflect the rules of the game and efficiency measures require valuation. Thus it would seem we are back to a judgement that one set of rules or rights is better than another." (Shaffer 1985:5). This need not remove economics from policy analysis. Lang (1980:775) supports this policy support role of economics, arguing only that it is inappropriate for the analyst to compare "benefits to group A with costs to group B and then to conclude that one policy or the other is superior in terms of economic efficiency."

Further failing efficiency in its supposed objectivity is the use of relative demands as its basis. Unlike assertions that efficiency "implies allocating resources in a way that caters effectively to people's wants" (Browning 1983:145), efficiency only responds to <u>effective</u> wants. "Individual preferences determine market demands for goods and services, but these individual preferences are weighted by income before being communicated to the market." (Thurow 1981:194) An individual must have income or wealth to be able to express their needs in a market economy. Using market prices and the underlying effective demands is a tacit subjective judgement that the original distribution of resources was just.

The minimization of attention to under- and unemployment is also important for the neoclassical view of efficiency. If underemployment is significant in the economy, it makes economists' concerns about efficiency meaningless.

> Efficiency in the use of underemployed scarce resources is as irrelevant as it is in the administration of free resources...only in a fully employed economy does allocation become an economic problem.
>
> (Scitovsky in Breimyer 1976:30)

In such a situation the orientation of economics must shift from trying to optimally allocate resources to understanding how the system works. Hirschman suggests this move away from optimal allocation and thus efficiency, asserting that "the performance of the advanced economies... depends not so much on finding optimal combinations for given resources as on calling forth and enlisting... resources and abilities that are hidden, scattered, or badly utilized." (Albert Hirschman, The Strategy of Economic Development, Yale University Press, New Haven, 1958, p. 2. quoted in Hirschman 1981:9) If resources are under utilized, efficiency as a concept becomes meaningless and economists' attentions are better spent on determining ways to bring more resources into use.

Historically, neoclassical economists could not ignore labor unemployment's inconsistency with the market clearing assumptions which give prominence to efficiency because it was one of society's most volatile economic/political problems. The response to unemployment was two-fold. Some neoclassical economists refused to discard their assumptions, denying unemployment's existence by asserting that it was entirely voluntary; others split their theory into two inconsistent halves, a microeconomic theory based on market

clearing assumptions, and a macroeconomics which discarded these assumptions to explain the unemployment "anomaly".

More recently, other economists have resurrected Marshall's conceptions of market behavior, where markets may not always clear. In such a situation, the short side of the market determines the transactions. This appears more promising than the Walrasian Neoclassical attempts, but it makes the institutional framework even more important to consider: when a market does not clear, this framework provides the rationing mechanisms which determine who receives the scarce good, and thus whose wants count.

B. Traditional Measures of Efficiency

1. Pareto Optimality

The principle measure of allocative efficiency in Neoclassical Economics is a theory called Pareto Optimality. It is a deceptively simple concept: a change which benefits one person without hurting another can objectively said to be a change for the better. (Scitovsky 1971:58)

This measure looks appealing to mainstream economists because it seems to avoid the difficulty of finding interpersonally valid standards of utility, thus eluding subjective judgments. Until Pareto, economic doctrine had often been "the expression of economic, political, or social reformers who attempted to 'rationalize' one favored system of ethics or another." (Tarascio:54) The Paretian measure appeared to avoid the "mercenariness" of these early subjective theories, so was widely accepted by those trying to copy the physical sciences. Despite some tarnish on this image, today it is still deemed important by neoclassical economists.

A Pareto Optimality with two individuals and pure exchange can be illustrated with an Edgeworth Box:

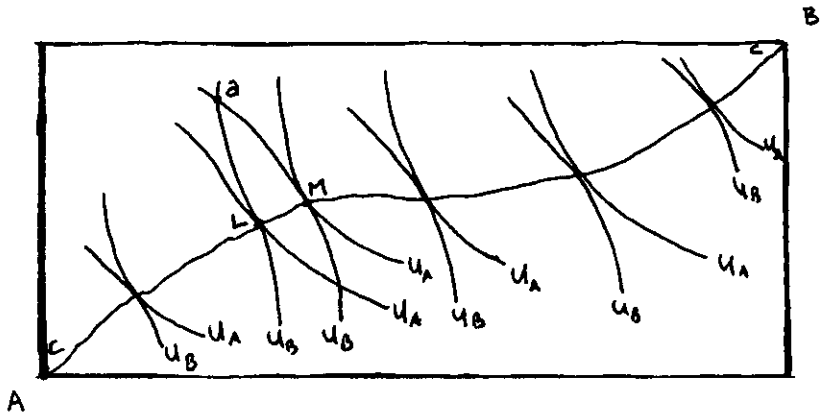

Figure 1

Both individuals initially start at 'a'. Because the rates of substitution are unequal at 'a', the utility of both persons can be increased by redistributing the goods. "If the final position is on the contract curve between L and M, both will have gained." If the position is at either L or M, one person will have gained, and the other will have remained as well-off. "Once a point on the contract curve (cc) is reached, it is not possible to improve the position of either individual without loss in the position of the other." (Paraphrased and quoted from Tarascio:81)

Pareto Optimality is consistent with the perfect competition theory of neoclassical economics: given a free ability to trade resources, it is posited, people will exchange resources for those individually most satisfying. Arbitrage will ultimately lead to the allocation of resources which maximizes everyone's utility within the constraint of the initial endowment of resources. This supposedly occurs whether tastes and preferences within society are homogeneous or diverse.

2. Consumers' and Producers' Surpluses

Consumers' and producers' surpluses are sometimes used as a measure of efficiency. Practitioners believe the changes in surpluses provide convenient proxies for changes in consumer welfare, despite the inherent debatable assumption that consumers' and producers' surpluses are a unique money measure of utility. (Kilmer and Armbruster:105) Superficially surpluses appear straightforward, easily understood, and free of normative entanglements, troubled only by the difficulty of discerning the relevant demand or supply curve. Consumers' and producers' surpluses, however, are vexed by many of the same hidden ethical judgments that plague pareto optimality.

Despite these doubts, consumers' and producers' surpluses have proved popular among economists and agricultural economists. Some recent agricultural analyses have used these measures of efficiency as their methodological base: Hayami and Herdt (1977), Ayer and Schuh (1972), Schmitz and Seckler (1970), Akino and Hayami (1975), and Scobie and Posada (1978) looked at the impact of technological change, Parker and Connor (1979) estimated the social cost of U.S. food manufacturing monopolies, and McNiel (1980) and Gardner (1983) used these in analyzing policy alternatives and consequences.

a. Consumers' Surplus

Consumers' surplus involves the area beneath the demand curve and above the price line:

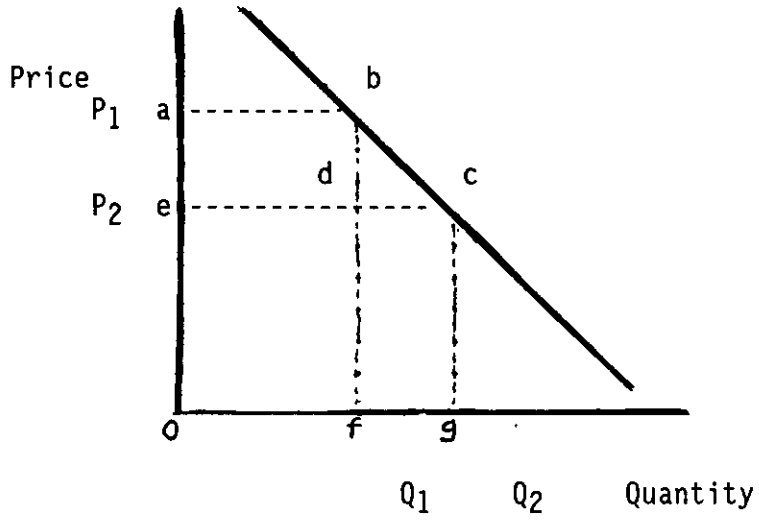

Figure 2

The demand curve conveys the marginal value product for all consumers: it contains the amount consumers are willing to purchase as the price level varies. The consumers at the point 'b', for example, value the product enough to pay P_1 per unit. If the price level rises above P_1 the unit cost will exceed the marginal value of the product to consumers at 'b,' so these consumers will not purchase it.

If price drops from P_1 to P_2, the cost to consumers at 'b' becomes less than the marginal value they obtain from the product: they value the product P_1 but only have to pay P_2, so they will purchase the product. Similarly, consumers for whom the marginal value is an amount between P_1 and P_2 only have to pay P_2, despite the way they value the product more than they have to pay. This excess value which consumers obtain but do not have to pay for is the consumer surplus in the market.

The amount consumers value the quantity (Q_2-Q_1) purchased as a result of the price drop is equal to 'Q_1bcQ_2'. Yet they only pay 'fdcg' for the product, netting the value 'bcd' at no cost. Similarly, they once paid 'abf0' for the quantity Q_1 they used to purchase, but now only pay 'edf0' for the same amount, saving 'abde'. (Boadway & Wildasin:35) This difference between consumers' marginal value and the price they pay, 'abce', is the graphical measure of consumers' surplus.

Users of consumers' surplus believe that comparing the consumers' surplus losses and gains across alternative policies provides a method of ascertaining optimal policy. This principle is sometimes used for modifying Pareto Optimality to include situations where someone benefits and others lose. Called the Compensation Principle, this doctrine claims that a change is Pareto Optimal if the net gains to society exceed the net losses. Thus, theoretically, there could be net gain to society despite some individual harm. To mitigate the loss, the winners must be able to compensate the losers (though the compensation need not actually occur) and yet still have net gains.

b. Producers' Surplus

The devout believe this principle works as well on the supply side, in the primary factor markets (i.e. land, labor, entrepreneurial ability, capital), and for intermediate markets under some conditions (sellers have at least one fixed factor of production,

and constant prices). (Kilmer & Armbruster:105) In these cases, the focus of analysis is on economic rent or producer surplus:

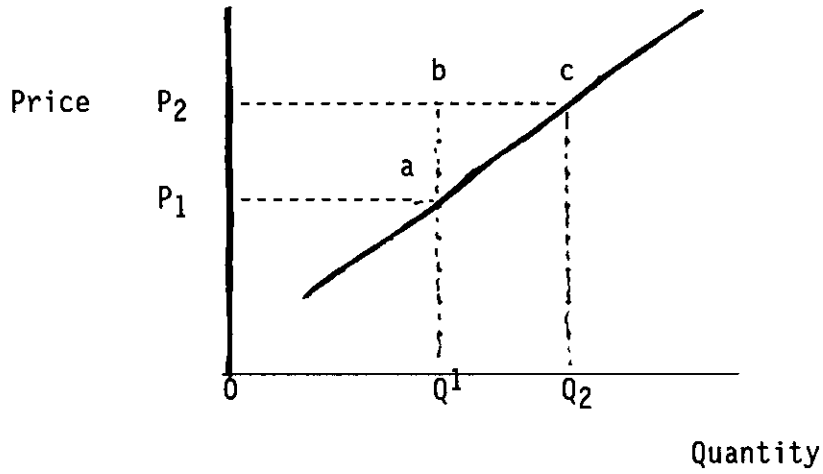

Figure 3

The mechanism is similar to that in consumers' surplus, except it is based on producers' marginal costs instead of consumers' marginal values. If P_1 goes up, the marginal revenue per unit increases. Producers, basing decisions on their marginal costs of production (and usually assumed to be facing decreasing returns to scale), are suddenly able to supply more units without their marginal costs exceeding the marginal revenue they receive for output. Producers who were willing to supply Q_1 at P_1 now produce Q_2 because of the higher price. Previously they received 'P_1aQ_10' for the first Q_1 they produced, but now they receive an extra 'P_2baP_1' for the same quantity. All revenues above the supply curve are such windfalls for producers, because they exceed the marginal costs entailed by producing output. This difference

between producers marginal value of output and the price they receive is called producers' surplus.

c. Some Modifications

Fancy machinations of consumers' and producers' surpluses, all ultimately based on these basics, have been suggested for various tasks or purposes.

i. Rents

Intermediate market general equilibrium demand curves are said to measure the sum of rents to producers selling in all higher markets (assuming no intervening market has perfectly elastic demand) plus final consumers' surplus, as well as benefits to buyers in that market alone. The area behind general equilibrium supply curves in an intermediate market likewise are supposed to measure rents for all producers selling in more basic markets (assuming no intervening market has perfectly elastic supply), the initial resource supplier's surplus, and the rents for producers selling in that market. (Just and Hueth:953)

ii. Deadweight Loss

Other measures developed by Gardner, Nerlove, and Wallace, involve deadweight loss. (Kilmer and Armbruster:105) Efficiency is defined as the surplus lost because of a policy change divided by the amount of surplus transferred from consumers (producers) to producers (consumers). (Kilmer and Armbruster:105)

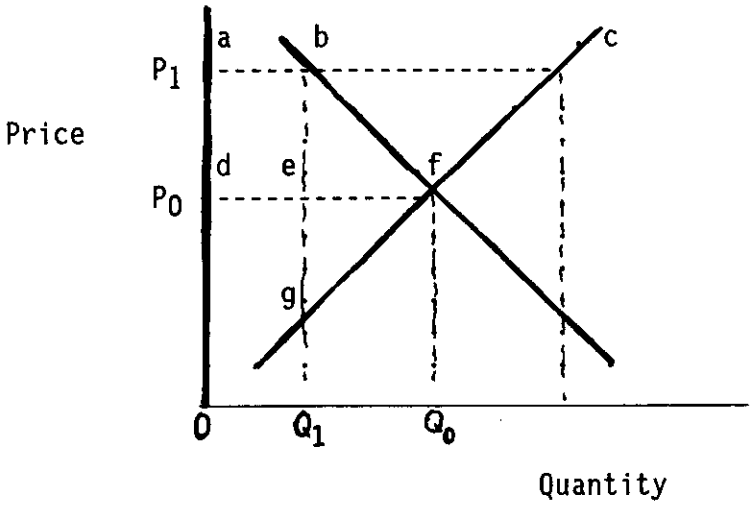

Figure 4

If policy raises prices above the equilibrium level, to P_1, consumers' purchases drop to Q_1 from Q_0. The consumers' loss is the area 'abfd', and consists of the consumers' surplus foregone because of the higher price level. Part of this, 'abed', is captured by producers, and forms a net transfer from consumers to producers. The remaining consumers' loss, 'bfe', is lost to society, as is producers' loss 'efg'. Adding these loses, the total region 'bfg' is the dead weight loss from this change.

Converting from graphical analysis to mathematical, it is suggested that the social cost of every dollar transferred can be easily calculated from this with the formula:

$$\frac{\text{abed}}{\text{bfe + efg}}$$

(Kilmer & Armbruster:105)

3. Problems with Pareto Optimality and Consumer Surplus[3]

a. Problems Common to Each

The accolade for Pareto Optimality and Consumer Surplus is largely without merit: both measures have some serious problems which not only limit their usefulness, but also raise doubts about their objectivity and appropriateness for economic analysis. Of initial interest is the questionableness of finding an objective measure for a subjective concept. Efficiency, after all, is a value-laden concept. The deceiving simpleness of both measures makes it easy to forget that efficiency is normative, even when hidden in an objective guise. Supposing that either measure in itself was objective, then each would still become subjective in practise when used to analyze efficiency.

The objectivity of either measure in and of themselves is highly suspect. Samuels suggests that the Pareto criterion does not rest on the "one fundamental ethical postulate" that individual preferences count, as is so commonly believed. Its base is a much more subtle and complex structure of value judgments, (Samuels 1981:42) which cannot raise it above subjectivity. Similar objections can be raised about consumers' surplus, which rests on many of the same subtle judgments.

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[3]Major criticisms of consumers' surplus are equally applicable to producers' surplus, so for ease of exposition further discussion of "consumers' surplus" should be considered references to producers' surplus as well.

By ignoring the institutional framework which formulates markets, and using market prices, each grants tacit consent to the institutional framework of the market, thus making a value judgement that the status quo is best. The Pareto criterion and consumers' surplus both accept the status quo institutions, government policy, property rules, structure of power, endowment of resources, and norms as unimportant or beyond the pale of economic concern.

These institutional factors, however, are vital because they help determine market opportunity sets and relative prices. To ignore this framework is to move institutional analysis outside of economics, in patent disregard of the institutional nature of markets. This is tantamount, in a game analogy, to only considering the skill levels of individual players while refusing to discuss how the rules of the game favor different individuals. A value judgement about the fairness of the rules is inherent in this disregard, only condoning adjustments within the status quo power structure while disengaging the possibility of changing the institutional framework adjustment. Though this may be defended as an "ease of operation," it is still a value judgement.

In a criticism equally valid to consumers' surplus, Samuels (1981:51) says, "at bottom (Pareto optimality) postulates that justice is what power can get in the market. It thus takes a particular, if complex and ambiguous, ethical position with regard to the issues of the larger paradigm of choice and power." Concentrating entirely upon the effective preferences of individuals or accepting the choices available to participants without considering

how opportunity sets are created, as do Pareto optimality and consumers' surplus, completely disregards the important effect these factors have in determining economic performance. It accepts the choice sets created by the institutional framework as valid and beyond reproach, and thus tacitly judges the status quo power distribution acceptable.

Both measures are unable to critique the possibility of power differences or exploitation in a market: they merely take the existing power situation as given. Pareto optimal choices come from within the individuals opportunity set, (Samuels 1981:27) accepting the interplay of institutional factors which structure these sets as valid. Consumers' surplus uses status quo prices, and thus condones the underlying institutional framework for which prices are proxy.

Preferences as expressed in markets depend on the effective demand of individuals. Using participant willingness or volition to buy as a justification is incomplete because it ignores the way power and income affect the ability for individuals to effectively articulate their needs. Ignoring how opportunity sets are created obscures the fact that "beneath a superficial equality of exchange, there can be exploitation." (Carter:808) The willingness or volition of participants may mean either no desire to change or an inability to change (Samuels 1981:28) because they lack the resources to express their preferences.

The initial endowment of resources, ignored by both measures, plays a similar role as power in determining how effectively market

participants can communicate needs. This distribution weights preferences, helping to decide whose preferences count and whose do not. "An individual with no income or wealth may have needs and desires, but he has no economic demands." (Thurow 1973a:57) The structure of prices is determined by effective demand, making this initial endowment especially important for consumers' surplus.

The "notion of society as a collection of Robinson Crusoes" (Marglin:481) inherent in Pareto optimality and consumers' surplus is not helpful. Because of their concentration on individual orderings of preferences, disregard for the positive role of institutional frameworks, and neglect of the interdependent nature of individual decision-making, both measures lack the breadth for evaluating efficiency in even a mildly complex social setting.

Unfortunately, markets <u>are</u> complex social settings created by the interplay of institutions, government behavior, property rules, initial endowments, and social norms. For situations with incomplete information, asymmetrical distributions of power within society, relationships of economic power to political power, and other factors controlling market operations, in short, in the real world, the Pareto criterion and consumers' surplus are powerless. Ignoring these factors serves only to judge the status quo institutional framework as better than change.

b. Problems Specific to Pareto Optimality

Such disregard for the market environment blunts the focus of the pareto criterion, resulting in multiple solutions and meaningless results. An optimum point, in Pareto's sense, is not a unique point. (Samuelson:214) It can exist both before and after any change of the institutional framework, (Samuels 1981:23) varying "with income and wealth distribution, with the power structure, and, most significantly for policy issues, with the law." (Samuels 1981:23) As a measure or norm it is meaningless unless it specifically states whose interests and which consumers count in analysis, but this destroys any semblance of objectivity. By accepting the status quo institutional framework, these normative questions about who counts are tacitly answered by the existing structure of power. (Samuels 1981:31)

Pareto optimality proves useless for analyzing many of the most crucial (and in practise the most difficult) decisions (Dobb, Welfare Economics and the Economics of Socialism, Cambridge University Press, 1969, pp. vii, ii., in Samuels 1981:25) because it avoids any situation where one person gains and another loses. "In other words, the pareto-criterion works by sidestepping the crucial issue of interpersonal comparison, that is, by dealing only with cases where no one is harmed so that the problem does not arise." (Baumol, Economic Theory and Operations Analysis, Prentice-Hall, Engelwood Cliffs, 2nd Edition, 1965, p. 376, in Samuels 1981:24) Proposals which hurt no one or where harm can be eliminated via compensation, and thus fall within the narrow focus of the pareto

criterion, can be accomplished through private negotiation without help from the public sector. The difficult political and policy decisions, precisely those which most need help from economics, find the pareto criterion inappropriate and unhelpful. (Shaffer 1985:4)

Pareto optimality thus is not a useful guide for what policies are appropriate within a market or even whether a market is better than non-market systems of allocation. (Calabresi: 84-85) It can never show a non-market to be Pareto superior to the market, and more importantly, nor can it ever show the market to be Pareto superior to a nonmarket. (Calabresi:83)

The disregard for the initial distribution of resources makes Pareto optimality impotent for evaluating final market distributions, because given initial endowments the market can as efficiently adjust to inequitable distributions of purchasing power (Thurow 1973a:57) as it can to equitable ones.

> Suppose we are considering the division of a cake. Assuming that each person prefers to have more of the cake rather than less of it, every possible distribution will be Pareto optimal, because any change that makes someone better off is going to make someone else worse off. Since the only issue in this problem is that of distribution, Pareto optimality has no cutting power at all.
>
> (Sen 1973:7)

If distribution or equity is a concern, the incompleteness of Pareto optimality necessitates the use of other measures. The lack of regard for how the structure of markets helps structure behavior

proves its undoing, because it is then forced to accept the status quo structure as justified.

c. Problems Specific to Consumers' Surplus

Limiting consumers' surplus appropriateness for policy is its partial equilibrium nature. Instead of noting economy-wide effects of policy, consumers' surplus can focus on only one segment of the economy at a time. "It is assumed that, as a result of the change, there will be no significant change of price elsewhere." (Little, p. 168) Decision-makers need information on the entire effects of a proposed policy, not just influences on a single market (or chain of markets), because their responsibility extends to all actors within the economy: even state and local policy-makers are forced to deal with the multitude of submarkets which exist in any geographic region, not just a single sector of the economy. Partial equilibrium analysis does not permit looking at the interconnected nature of markets, forcing each market to be incorrectly treated as an entity isolated from the economy.

Partial equilibrium analyses may be useful for actors concerned solely with the operation of a single market, but they prove deceitful for policy purposes. A policy affecting participants in one market will also have cross-over effects in other markets which consumers' surplus is unable to discern. By ignoring the economy--wide effects of policy, it is unable to fully answer the question imperative in policy analysis, "Who does a policy effect?" Policy

analysis requires a more general equilibrium approach which can trace the regional or national effects of a policy.

The assumptions necessary for consumers' surplus are:

> "not only too unrealistic, but also involves us in the estimation of so many magnitudes which cannot be objectively measured, that it is quite senseless to suppose that it enables us to pick and choose, in a rational manner, between alternative criteria- unless one such criterion appears to be, at the theoretical level, fantastically wrong.
>
> (Little, p. 179)

Consumers' surplus is based on marginal changes, where it is assumed that small changes in price levels will cause incremental changes in purchases. Crucial to this is the ability to make marginal changes in consumption. But "where the amount of a thing bought or produced can only be varied in jumps, i.e. where there are 'indivisibilities,' there, by definition, the marginal analysis cannot apply." (Little, p. 160) When consumers are purchasing "bulk" items like durable goods, such as refrigerators, automobiles, or washing machines, "marginal" changes by consumers are meaningless. Consumers' surplus is thus limited to discussing divisible goods.

Consumers' surplus also stumbles over its acceptance of market prices. A proxy for the underlying institutional framework, prices are unique to the power structure, endowment of resources, institutions, government activity, and social norms within the economy. Based upon the marginal price relationships of this framework, consumers' surplus tacitly consents to the institutional factors underlying the structure of prices. It assumes, for example, that

the effective demands of market participants, as expressed through the demand and supply curves, are justifiable. Ability to pay becomes the answer to the important moral question of whose demands count. This is a normative decision.

Like the Pareto criterion, consumers' surplus discourages discussion of the institutional nature of the market, disengaging legal change and adaptation of property rules. Acceptable alternatives are only those found within the status quo framework, because alternatives under different institutional arrangements (where relative prices are different) cannot be evaluated. This limited scope restricts economic analysis, eliminating the possibility of viewing efficiency in even a mildly complex social setting.

Theoretically consumers' surplus has major difficulties as well. Silberberg (1978) concludes that consumers' surplus "is using the inappropriate to measure the undefinable." (p. 362) After examining its mathematical and economic structure, he says:

> It should be clear by now that no such functions can exist. There is no way to identify a unique amount of money income as the amount gained (or lost) through different trading arrangements... The area to the left of the ordinary demand curve does not measure the gain from trade, as there is no unique 'gain from trade'. Moreover, it is odd to use as a measure of the gains from moving from one indifference surface to another a measure which explicitly holds utility constant.
>
> Silberberg, p. 362

The result, according to Little, is that consumers' surplus "does not yield us a criterion at all- or if it can be said to yield a criterion, then it is one which is open to anyone's interpretation within very wide limits." (Little, p. 175)

IV. Equity

Equity is an openly normative concept, involving a standard of justice or fairness, and providing a rough measure of how well an economy satisfies the values of society. There are three main questions about justice which pertain to property and the economy, (Gordon 1980:84) solvable only through normative means.

1. What kinds of procedures which lead to acquisition of property are just?
2. What procedures which transform property are just?
3. Is distribution of property just?

A. Equity in Economics

Economists have largely been loath to discuss these questions because of the subjective choices which are required. Attempts at objectifying the problems have faltered on the inability to develop interpersonal measures of utility, floundering on the questionable comparability and measurability assumptions necessary for utility analysis to work. (Bronfenbrenner:101) Interpersonal measures are necessary so equity can appear consistent with the positivistic scientific methodology neoclassical economists revere. Without such an "objective" method of determining the fairness of income distribution, the only way to achieve a preference for one distribution over another is make an assumption about utility functions. One must be chosen more tenable than others, or Utilitarian social

philosophy cannot work for social policy. (Gordon 1980:32) Even if such measures were successful, neoclassical economists would still be forced to accept the subjective view that the happiness principle of utilitarianism can be the basis of Justice.

Scared by the unabashing subjectivity of equity, and perplexed by the difficulties of setting up standards for it, (Scitovsky 1971:64) mainstream economics eschewed them by assuming that equity and justice were in the realm of other disciplines. By the 1950's even basic textbooks did not discuss equity, except to note that "market economies must start with a 'just' distribution of economic resources. What made a distribution just was ignored or assumed to be the responsibility of the political process." (Thurow 1973a:56)

Unfortunately, ignoring justice does not eliminate the conceptions of equity inherent in economic theory; it merely eliminates discussion. The aim of theory itself is a normative consideration which cannot be avoided. If the purpose of the economy is believed to be the satisfaction of individual preferences, for example, this can be accomplished by markets or by planning, and the debate in economic terms is an empirical one: which of the two allocates resources most efficiently? But if the purpose of an economy is to satisfy some other aims, the use of relative prices generated by a market are clearly not appropriate because of the values which lie beneath free market transactions. (Gordon 1980:58) "One way or the other we are forced to reveal our collective preferences about what constitutes a just distribution of economic resources." (Thurow 1981:195)

More recently economists and political scientists have recognized the interactions between the economy and the political process, and have renewed the interest in openly discussing equity and justice. The rise of Normative Public Choice literature, and the work of John Rawls, James Buchanan, Lester Thurow, Ronald Dworkin, Robert Nozick, Amartya Sen, Scott Gordon, and Arthur Okun (among others) have refueled interest.

The conceptions of justice and equity suggested vary, not only by content, but also by manner of derivation. Mueller mentions four main types of Normative Choice theories which differ in their methods. The first is the heart of Neoclassical Welfare Economics, while the last three fall within the rubric of Public Choice Literature.

1. Social Welfare Functions- P. Samuelson
   K.J. Arrow
2. Rawl's Theory of Justice
3. The Constitution as a Social Contract-
   J.M. Buchanan
   G. Tullock
4. The Constitution as a Social Welfare Function-
   J.C. Harsanyi

Other economists instead rely upon traditional understandings of equity, avoiding a lot of conceptualization difficulties, under

the assumption that these represent the values of society adequately.

Neoclassical Welfare Economics derives standards from utilitarian philosophy, and struggles to make their welfare functions conform to reality. Much of its literature has been concerned with the proper assumptions about welfare functions: can a social welfare function be derived by adding individuals utility functions? Are individual utility functions independent? Are utility functions uniform across society? What are their forms? How do we compare measures? How can they be applied?

Unfortunately it ignores the methods by which society agrees on basic values, even though it is concerned with the functional embodiment of those values, (Mueller:424) implicitly taking the maximization of total welfare in society as the highest goal. The distribution of welfare across society is a secondary concern, as are individual opportunity sets. The institutional framework is taken for granted, restricting change to adaptations within the status quo opportunity set structure.

Public Choice Theory believes the appropriate conception of equity for analysis depends upon the normative values of the community. It tries to discern how society would define an equitable or socially justifiable distribution, seeking propositions about justice in the community's collectively held values. (Mueller:422) A blend of economics and political science, it recognizes that the institutional framework is an organic part of the economy. The framework affects the procedures of acquisition,

transformation, and final distribution of income, as well as the values which society affirms. The primary subject of justice is the basic structure of society, "or more exactly, the way in which the major social institutions distribute fundamental rights and duties and determine the division of advantages from social cooperation." (Rawls 1971:7) The multiplicity of theories in the Public Choice literature are the result of the various aspects of society on which theorists have concentrated attention.

B. Popular Conceptions of Equity

Gordon (1980) divides conceptions of equitable distribution into five general groups: Fair Exchange, Equality of Opportunity, Desert (or Merit), Need, and Equality. The first two focus on the ethical quality of the procedures themselves, in the assumption that if the means are fair the ends will be as well, and will not be discussed in much detail. The latter three center entirely upon the ethical quality of end results, and will be explored in more depth. Many people believe that these must not be accepted as strict measures, nor as mutually exclusive.

1. Fair Exchange

Fair exchange focuses entirely on the procedures used to obtain a result. If the rules of process are fair, this concept of justice states, then any outcome from the process will be just. This belief is not widely supported, because most people believe end results are

as important as the means. They are hesitant to accept equity purely as a procedural focus.

2. Equal Opportunity

Equal opportunity stresses that everyone should face the same opportunities and limits. Discrimination on the basis of race or sex unfairly limits the choices that some individuals can make, hindering the optimal allocation of personal skills in the economy. If opportunity sets are equal, distribution will reflect the individual decisions and skills of participants rather than the uneven constraints on behavior.

Several problems restrict the usefulness of this concept of equity. It answers only part of the problem: one must still determine what economic game to play, and what the structure of prizes should be. (Thurow 1973a:60) Like fair exchange, its procedural focus presupposes that the equity of end results depends entirely upon the equity of the procedures used to achieve them. This produces a tradeoff difficult for many to resolve: "In a world where people differ in their natural endowments or their preferences, or both, equality of opportunity will lead to inequality of resulting states; while if we insist on producing equality of resulting states, we will prevent the working of equality of opportunity." (Gordon 1980:111) Quantitatively, determining the equality of opportunities proves almost impossible, because there are no effective measures. It is a value revered by United States

society, but the theoretical and procedural difficulties limit its use.

3. Desert

Desert or merit is one of the more popular theories of equity, stating that a distribution is equitable if it is allocated on the basis of merit. "The person who contributes most, gets most." (Thurow 1973a:58) The strength of this concept is owed in part to the support it receives from neoclassical Marginal Productivity Theory, which asserts that factors receive the value of their marginal contributions to production.

It is not that simple. Determining individual contributions to output from a complex or timely production process can be nearly impossible. Luck is as important as effort, because those who possess scarce resources of high demand will receive more income than those who hold more abundant resources- and if demand doubles, the owner's income will jump through no effort of their own. The role that the institutional framework play is ignored, so the fruits of social endeavors become arbitrarily assigned to individual effort instead of the group who made it possible. The varying opportunities or skills available to people are overlooked, even though most people would feel it is unjust to give nothing to a handicapped person who does not work. Enough difficulties like these arise with merit that such justifications prove doubtful or useless. (Bronfenbrenner 186-188; Gordon 1980:97-98; Knight 1951:55-57; Marglin 1984:315- 316; and Thurow 1973a:70-73)

4. Need

The concept of need assumes that distribution is equitable if income is received on the basis of who needs it most; the disadvantaged would receive enough income to meet their needs, even though they may not directly contribute (whether from lack of ability or of opportunity) to production, while those lucky enough to own scarce resources or talents would not reap more than they can use. Different needs approaches have been suggested for use. The basis of distribution can be the absolute needs of individuals, or a more relaxed version which just wants to satisfy some minimum level of needs for every individual.

Needs is an important conception of Justice. Sen (1973:104) argues that it should have priority over desert as a basis for distributional judgments, while Gordon (1980:113) claims that observational evidence of what people do "seems strongly to suggest that need is the most important criterion of justice in the common judgment." The World Bank and other international development organizations affirmed a needs approach to economic development during the 1970's, shifting focus towards meeting the basic needs of individuals. The United States welfare system similarly is based on raising income to enable people to achieve some minimum level of subsistence.

> The principle of need seems to speak with the strongest and clearest voice... Need is a very strong theme of welfare, quite independent of justice. It also is an important theme of freedom in the views of those who regard freedom positively, as connotating power to do something, and not merely negatively, as absence of coercion by others. So the need criterion receives powerful reinforcement from the two other primary social goods (welfare and freedom).
>
> (Gordon 1980:114)

The needs criterion, however, stumbles against insurmountable difficulties. The shape of individual utility functions must be ascertained to allocate income optimally. As Welfare Economists have discovered, this is not easy. Reliance on self-reporting can be highly inaccurate, because interpersonal measures are necessary for people to describe the satisfaction they are receiving. Reports of "a lot," "not much," or "I'm fairly happy" are obviously not precise, but the limitations of language allow going no further. Self-reporting also offers great opportunity and incentive for under-reporting one's welfare, with little manner of discerning the extent, much less existence, of such cheating.

Of similar difficulty, individual welfare functions are interdependent with each other, producing a complex web of inter-relationships which must be considered. Individual needs are the result of socialization as well as biology. A person's happiness depends primarily on their position relative to others in society, not merely upon absolute material resources. "The poor in the United States might be rich in India, but they actually live in the U.S. and feel poor. The middle class may have fresh fruits and

vegetables that the richest kings could not afford in the Middle Ages, but they feel deprived relative to the upper-middle class, who can afford things they cannot afford." (Thurow 1981:18)

Individuals identify with groups that are economically close to themselves rather than society as a whole. These reference groups provide a means of comparing their welfare with others. "The happiest people seem to be those who do relatively well within their own reference group rather than those who do relatively well across the entire population." (Thurow 1981:199) Raising incomes throughout society will not solve the problem, because there is no specification of economic equity which will let everyone gain. Because of the relative pattern of reference groups and historic wage contours, any change will create a sense of relative deprivation among someone, somewhere. (Thurow 1973a:69)

Because needs are socially determined, they can never be satisfied completely. Increasing simultaneously with income and the income of neighbors, needs will keep growing forever. Even minimum target levels will be forced to rise as others' income grows and increases the perceived needs of the deprived. Such a policy would require endless reconsiderations of what is an acceptable minimum level, itself an imposing task. Measures to determine the level of material resources necessary to satisfy needs would be hard to discern, and would be constantly changing. The needs approach also makes it important to consider whether giving a person with expensive tastes much more income than people with frugal tastes so they can be equally happy is just. Strict applications of this

criterion would require that those with tastes for champagne, caviar, and Rolls-Royces by necessity receive more income than people who are satisfied with bicycles, tofu, and beans. Few people would accept this as justice.

Most difficult for economists, who prefer to use the market as a means of analysis, is the concern that the welfare from working is more important than welfare from consumption. "It seems clear that, so far as adults are concerned, their personality characteristics are much more affected by the manner in which they earn their incomes than in how they spend them." (Gordon 1980:65) A needs approach, to be consistent, would have to include both welfare from work as well as consumption. Work, after all, is part of economic behavior. Economists' tools, however, are impotent for "pre-market" focuses, making economics inadequate if welfare is the major criterion, because of its one sided analysis.

5. Equality

Dworkin (1981a) suggests that there are two types of equality worthy of consideration; equality of welfare, and equality of resources. Equality of welfare refers to how evenly welfare is distributed across society. Perfect equality of welfare exists when every individual obtains the same level of welfare from the economy. This measure falls prey to many of the obstinate difficulties which plague the Needs criterion, such as the need for knowing individual utility functions, the great possibility of cheating, and the

concentration solely on welfare from consumption, limiting its usefulness and making it less desirable than equality of resources as a pragmatic criterion.

Equality of resources instead refers to how evenly resources are distributed across society. It focuses on physical goods. This is the type of equality most often considered relevant by economists. For convenience from now on references to 'equality' will be understood to mean 'equality of resources'.

Equality is attractive to economists for several reasons. It avoids the need for any interpersonal measures of utility, whether for hedonometry or for assessing individual needs. It is a traditional value of Justice in Western culture, easily understood by non-economists and needing little justification, useful for explaining analysis to public decision-makers. Equality also provides the safest gamble if social welfare maximization is a goal but utility functions are not known. If it is unknown whether person 'a' or person 'b' receives greater welfare from a given unit of resources, the distribution which minimizes error gives equal income to each. (Gordon 1980:34-5)

Because of the wide use of equality, it must be explored in more detail than is appropriate in a brief review of equity conceptions. Discussion will continue in the next section.

C. Equality

1. Differentiating Equity from Equality

Equity must be clearly differentiated from equality, because they are frequently confused. Equity refers to a distribution which is justifiable in some manner, with the values underlying the justification determined by the observer. It is clearly subjective. Equality, in contrast, describes how equally resources are distributed among people. (Johnson 1983:595) Inherent in its use is the value judgement that evenness or unevenness in distribution across society is somehow important.

This distinction is important. Measures of equity must first delineate the values underlying justification before determining how income is actually distributed within society. The possible values beneath equity are unlimited because of its amorphous nature. Equity is meaningless and has no value content until the relevant values have been consciously determined. This necessity of choice makes it clearly apparent that equity is subjective.

Equality is already imbued with value decisions, by nature presupposing that the possession of resources relative to others in society is somehow important. Equality can appear more objective than other measures because it avoids the necessity of explicitly choosing values, but this occurs only because its underlying values are hidden within. Equality is no more a mere description of reality than is equity; both are built upon judgments, varying only in how apparent those normative choices are. Equity forces you to

state your value assumptions, while equality already contains these assumptions. Accepting equality also consents to its base values.

2. Normative Problems of Equality

The normative problems associated with equality are not trivial. Important decisions include specifying "what entities are on either side of the equation sign, and... (in) what dimension their equality is asserted or measured." (Gordon 1980:99) Any choice is subjective. Should the entities be households or individuals? People of the same age, race, or reference group, or across the entire population? How does one handle the increasing income potential that individuals receive with experience? Should equality be measured in terms of income or some other numeraire? Should wealth be included or only income?

The dimensional problem is complex. If society possessed only one resource, determining the evenness of distribution would be relatively easy. But because of the multifarious resources in the economy some numeraire is necessary. Money income is commonly accepted for this duty because economists already utilize prices as proxies for effective demand, despite the associated difficulties. Equality, however, judges merit on the basis of end-states, but money income is a means more clearly than it is an end. (Gordon 1980:104) General access to essential necessities is also a key element to consider, (Scitovsky 1971:290) both through markets and public goods, but is not explicitly represented in a price based absolute distribution of income.

Accepting market prices accepts the underlying institutional framework, the status quo distribution of individual rights to property or income, without question. Price based numeraires cannot allow political power or other institutional factors to be considered, because changes in the institutional framework change relative prices and thus the numeraire. An overall theory of equality must integrate private resources and access to public goods with political power, (Dworkin 1981b:283) or else it suffers the same price-based problems that inflict efficiency.

3. Disincentive Effects

The disincentive effect of equality is a frequent theme, (Okun 1975:47-8; Dworkin 1981b:284; Knight 1951:61; Gordon 1980:105; Scitovsky 1971:288) asserting that too much equality would reduce incentives for production and thus reduce the size of the economy. The perfect competition view of economic behavior, intrinsic in neoclassical economics, believes that the economy performs best when participants have some incentive to work efficiently. Believers argue that some inequality of income to provide incentives and rewards is imperative to avoid economic ruin. "In a competitive game," as Knight said, (1951:61) "it is absurd to speak of equality as an ideal."

This is the trade-off implied between equity and efficiency, where one is seen as the antagonist or victim of the other. (Dworkin 1981b:284) Whether such a clear trade-off exists when the institutional framework which structures the "competitive" environment is

considered, or that such a trade-off is between a scientific or objective term (efficiency) and a value-ridden and subjective concept (equity) must be discussed in a later section.

4. Measures of Resource Equality

Many measures of equality have been suggested, ostensibly to provide a method for comparing the relative equality of different situations. Analysts would prefer to be able to rank alternatives, facilitating comparison and allowing decision- makers to judge which situation is best. The complex nature of equality makes this very difficult. Sen (1973:76) argues that "the glib man who can make inequality comparisons perfectly between every pair of distributions and the wise guy who finds all such comparisons 'arbitrary' both seem to miss essential aspects of the concept of inequality." Inequality is not that precise.

Because the complexities of equality are not geared to making fine distinctions, only coming into its own with sharper contrasts, (Sen 1973:75) quasi-ordering measures are more appropriate than ordinal or cardinal measures. Quasi-ordering measures do not worry about clearly differentiating between "close" alternatives, as long as they can discern wide differences.

Two types of equality measures have been distinguished by Sen; Positive measures which attempt to catch the extent of inequality in some objective sense, usually employing statistical measures instead any explicit concept of social welfare; (Sen 1973:2) and Normative

measures, which are based on some explicit social welfare function and loss incurred from unequal distribution. (Sen 1973:24)

Despite their categorical name, positive measures are still subjective in nature, because they do contain implicit conceptions of social welfare. Atkinson demonstrates that each positive measure will rank the same distribution differently, (Atkinson 1970) as a result of the different conceptions of welfare implicit in the measures. In some cases these hidden values have properties which are unlikely to be acceptable, with no grounds for believing that they would accord with social values. (Atkinson 1970:262) The choice of measure thus becomes a partial determinant of one's results, introducing more subjectivity.

Any measurement of equality must involve judgments of the relevant entities and dimensions to consider. (Gordon 1980:99) "Simple" decisions, such as whether to include income, wealth, or both, (Thurow 1981:168) how to define relevant factors, or access to essential necessities (Scitovsky 1971:290) are not trivial because they help determine results. The choice of measure plays a similar role.

For this reason, Atkinson (1970:262) argues that it is better that these values be explicitly apparent. If value choices are being made, they should be openly justified and available for discussion. Because the choice of measure does not have a purely neutral effect on results, why it was chosen should be clearly explained. Ethical decisions should be readily visible for public debate instead of being hidden from sight within the analysis.

a. Positive Measures

Positive or objective measures of inequality try to capture the extent of inequality in some objective sense, usually employing some statistical measure of the relative variation of income. (Sen 1973:2) Despite this superficial image, these measures inherently contain normative conceptions of social welfare. The first four herein measure variation from the mean, a process which does not catch the income differences between individuals. (Sen 1973, p. 28.) The last 2 positive measure do allow cross comparisons between people.

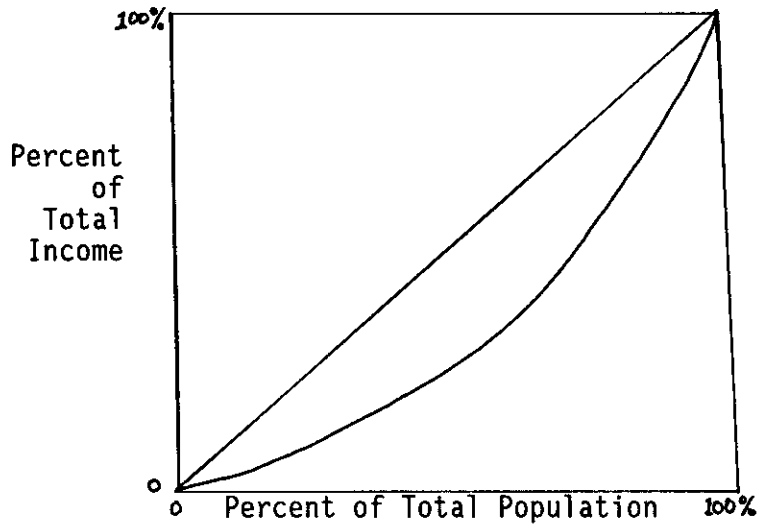
i) Frequency Distribution The Frequency Distribution illustrates the occurrence of different incomes, most characteristically with income on the horizontal axis of a graph and frequency of occurrence on the vertical. It is useful as a presentation measure, but does not adequately describe the tails of the distribution: it may represent the middle of the income distribution, but it fails to represent the full extent of differences in income. (Atkinson 1975, p. 13)

ii) The Range Relatively unsophisticated, the range is simply the range over which income varies, from lowest to highest in society. It displays the extremes, but does not give any indication of the distribution of recipients within this range.

iii) Relative Mean Deviation This method takes the absolute values of the differences between each income and the mean income, and then looks at the sum as a proportion of total income. (Sen 1973, p. 25) This measure creates difficulty because it cannot discern transfers from a poorer person to a richer person as long as both lie on the same side of the mean income. (Sen 1973, p. 26)

iv) Variance and Coefficient of Variation (Pigou-Dalton Condition) If the difference between each value and the mean is squared before being added, the difficulty inherent within Relative Mean Deviation disappears. Transfers can be noted, without regard to where they occur.

v) Lorenz Curve The Lorenz Curve is a very graphical method of showing the degree of dispersion of incomes, (Atkinson 1975, p. 15) indicating the share of total income going to the bottom X per cent of income units. (Atkinson 1970, p. 15) The relative share of income is displayed on a graph, with percent of total income on the vertical axis and percent of total population, arranged from poorest to richest, on the horizontal. An even distribution between all parts of society would be a straight line between the origin and the NE corner: actual distributions can be compared to this.



Lorenz Curve

Figure 5

vi) Gini Coefficient The Gini Coefficient is the most widely used measure of equality. (Ahearn, p. 1088) It transforms the Lorenz Curve into a ratio of the difference between the line of absolute equality and the Lorenz Curve to the triangular region beneath the diagonal. (Sen 1973, p. 30) It allows easy comparison of income shares between income groups, and readily captures the effects of transfers. It also, unfortunately, attaches more weight to transfers affecting the middle class. (Atkinson 1970, p. 257)

b. Normative Measures of Inequality

Normative measures of equality (as opposed to equity) are based on explicit conceptions of social welfare functions. The analyst must consciously choose the social welfare function employed rather than accepting one indirectly via the positive statistical measures.

This direct approach forces the form of the function to be directly considered, and emphasizes that any measure of inequality involves judgments about social welfare. (Atkinson 1970, p. 257)

These measurements should be distinguished from the social welfare functions of welfare economics, in that they compare the total utility in a society with the total utility possible if income was equally divided. They thus include an element of comparison with a norm. Social Welfare functions are instead solely concerned with quantifying the welfare which exists within society. This "value" can then be analyzed against norms with more flexibility, because it contains fewer implicit values. Welfare functions can be used within equality measures, but not vice versa.

i) Dalton's Measure Dalton took the ratio between the actual level of social welfare and the welfare if income was evenly distributed as an appropriate measure of inequality. It assumes that utility can be aggregated across individuals.

$$D = [\ \Sigma_{i=1}^{n}\ U(y_i)]\ /nU(u)$$

This measure unfortunately is susceptible to linear transformations of the utility function, limiting its usefulness because values will vary, depending on who conducts a study.

ii) Atkinson's Measure (Atkinson 1970) As an alternative, Atkinson altered Dalton's attempt by focusing on the level of evenly

distributed income per head which would give the same level of social welfare as the present distribution. He called this the Equally Distributed Equivalent Level of Income (Y_{EDE}).

$$Y_{EDE} = n\ U(y) = \Sigma_{i=1}^{n}\ U(y_i)$$

The measure of inequality thus becomes

$$I = 1 - \frac{Y_{EDE}}{u}$$

or 1 minus the ratio of the equally distributed equivalent level of income to the mean of the actual distribution. Because Atkinson assumes each U(y) is concave, Y_{EDE} can never be larger than u. Responses will vary between 0 (perfect equality) to 1 (complete inequality).

iii) Sen's Alternative Measure (Sen 1973) Sen noted that Atkinson's measure rests on the utilitarian assumption that individuals' utility functions can be added up to a social welfare function. Relaxing this additive formula, and assuming symmetry and quasi-concavity, Sen takes social welfare W to be of the form $W = W(y_1, y_2, \ldots . y_n)$. This form does not require W to be a function of individual utilities.

A more generalized normative measure of inequality thus is based on the generalized equally distributed equivalent income (Y_f).

$$Y_f = W(y_1, y_2, \ldots . y_n)$$

The new measure is thus:

$$N = 1 - \frac{Y_f}{u}$$

and is equivalent to Atkinson's if the welfare function is of the form:

$$W = \sum_{i=1}^{n} U(y_i)$$

V. The "Tradeoff"

The tradeoff between efficiency and equality has received much attention by economists, ostensibly to provide policy pathways and to offer quantitative estimates of the costs involved. Okun's Equality and Efficiency: The Big Tradeoff offers the most well known discussion of the elements involved. Diagrams of efficiency and social welfare functions have been used to conceptualize and illustrate the tradeoff. Various measures have been suggested. Policy perspectives on the tradeoff have been proposed.

With the careful evaluation of efficiency and equality behind us, we now have the tools to look at this literature appraisingly, and to discover the efficiency- equality tradeoff in a more realistic light. The different popular approaches to efficiency and equality will be explored in part A, before critiquing, in part B, the arguments beneath these perspectives. An alternative perspective, developed throughout this paper, will be synthesized and expressed in part C.

A. The Tradeoff as Portrayed in the Literature

1. Okun

Okun provides the most eloquent exposition in the literature, baldly claiming that the tradeoff is "our biggest socioeconomic tradeoff, and it plagues us in dozens of dimensions of social policy." (1975:2) He tries to explain the observable social inconsistency towards equality: society tends to accept far more equality in the distribution of its sociopolitical assets than in the distribution of its economic assets. (1977:14) Okun argues that this dissimilar concern is a reflection of the different costs associated with political equality and with economic equality. Balancing acceptable costs against benefits, both normative considerations, provides the fulcrum of the tradeoff.

With political rights predicated on the basis of equality, one person-one vote, for example, the benefits outweigh the costs. Hence society supports such equality, despite the existence of some costs. There are economic costs involved with political equality, because votes are not bought or sold, and cannot thus be allocated on the basis of strength of desire. "(It) preclude(s) prices that would promote economizing, choices that would invoke comparative advantage, incentives that would augment socially productive effort, and trades that potentially would benefit buyer and seller alike." (Okun 1975:10) Political equality is not efficient.

With economic equality, the costs take a much higher toll on society, Okun argues, and provide less benefit. (1975:47) The

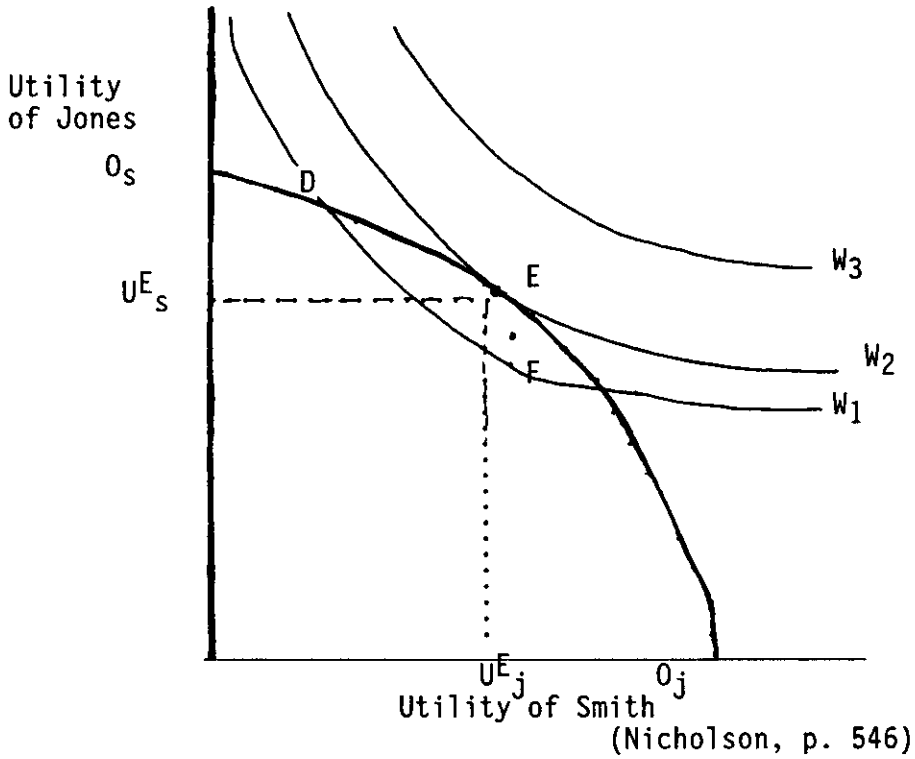
benefits of economic equality are overshadowed by the greater costs, explaining why people tolerate less economic equality than political equality.

> While the provision of equal political and civil rights often imposes costs on society, the attempt to enforce equality of income would entail a much larger sacrifice. In pursuing such a goal, society would forgo any opportunity to use material rewards as incentives to production.
>
> (1975:48)

The primary basis for the tradeoff, according to Okun, rests in balancing these great economic costs against social preferences for equality. Greater economic equality can only be purchased by reducing incentives and thus production, leading Okun to assert that "any insistence on carving the pie into equal slices would shrink the size of the pie. That fact poses the tradeoff between equality and economic efficiency." (1975:48)

2. Diagrammatically

The tradeoff Okun describes is frequently presented graphically with the utilities of two consumers on the axes. The Pareto frontier, O_s O_j, similar to a production possibilities curve, is composed of Pareto efficiency points, and represents the utilities from all the various possible distributions of resources.



(Nicholson, p. 546)

Figure 6

The indifference curves are levels of social welfare. The most optimal allocation of resources is at E according to this regimen. Tradeoffs between equity (the social welfare curves can represent non-equality definitions of equity under this scheme) and efficiency occur when points other than tangency are selected.

> For example, suppose that without income transfers only points such as D could be achieved. Perhaps initial endowments of the goods are so skewed that even perfectly efficient trading would insure a relatively unequal outcome of utilities. On the other hand, perhaps income transfers could cause the "inefficient point of F to be achieved. What has been sacrificed in efficiency has therefore more than been compensated for (in terms of social welfare) by increased equity.
>
> Nicholson, p. 547

3. Measures

a. Based on Labor Supply Elasticities

Browning and Johnson (1984) attempted to create a measure for leakages, claiming that "identifying the magnitude of this tradeoff is probably the most important contribution economics can make to the evaluation of distributional policies." (Browning and Johnson 1984:175) They investigated the "leakages" from a tax transfer system by measuring changes in disposable income, using labor supply elasticities and econometric simulation. Their most striking conclusion is that "the marginal tradeoff between equality and efficiency is quite severe even when labor supply elasticities are low and despite a modest total welfare cost of the current tax-transfer system." (p. 176)

b. Based on Welfare Economics

Measures of efficiency and equality have also been suggested from Welfare Economics. (Arrow and Kalt 1979; Bergson 1980; Sen 1976; Jorgenson 1985) These have involved various uses of consumer

surplus, rank-order weighting, and assumptions about preference structures and equity to create social welfare functions. These derived functions seem to provide the means of comparison between different policy possibilities.

Such measures should not be considered measures of the tradeoff, because they are meant for comparison purposes, to ordinally differentiate between policy alternatives. Each suggested function contains an implicit assumption about what is socially optimal, and offers a method of ordinally ranking policy possibilities against these welfare assumptions. They, by and large, do not attempt to measure the costs involved in moving from one equitable policy to another more equitable.

4. Policy Perspectives

Some economists have not only perceived a tradeoff between efficiency and equality, but also argue that certain policies are necessary because of some pragmatic nature of either norm. Shavell (1981) and others, who I have labelled "redistributers," argue that policies should maximize income without regard for distributional weights, and then use taxes to transfer that wealth equitably. Efficiency would therefore be the main goal of policy.

Keenan and Rubin (1985) and others, who I have labelled pessimists, argue instead that given the social nature of decision-making, the tradeoff cannot be exploited by policy. Voters will simply correct any government policy to return it to conformity with their wishes. Policy considerations about equity are thus ineffect-

ive, leading Keenan and Rubin to also stress efficiency as policy's principle thrust.

a. Redistributers

Shavell (1981) and others have argued that social welfare is optimized by first maximizing total income without regard for the pattern of distribution, and then redistributing that income equitably. Shavell attempts to incorporate the influence legal rules have into the tradeoff, arguing that if a rule produces work disincentives, society is better off by making the rule "more efficient."

> Suppose that under a liability rule some (a positive fraction) or all individuals are led to exercise an inefficient level of care (perhaps because the rule is to some extent based on income). Then by adoption instead of an efficient liability rule and by appropriate modification of the income tax schedule, everyone can be made strictly better off.
>
> p. 416

The disincentives of equality are greater than those of taxation (and redistribution), Shavell believes, where economies with equal distribution produce less income than those with unequal initial distribution but equal secondary distribution. The socially optimal policy is thus to base rules on efficiency criterion, and then use tax transfers to produce final equitable income distributions.

Shavell notes some of the major qualifications of this premise: if the income tax structure is not altered for every rule change, then the argument does not hold. He recognizes that this constant

adjusting is not practical, but suggests the efficiency results depend on the individual's "expectation that the income tax would be (or could be) altered in response to changes in legal rules whenever these changes resulted in a 'sufficiently important' shift in the distribution of income." (p. 417)

b. Pessimists

Keenan and Rubin (1985) take decisions about the tradeoff further into a social context, by focusing on the social means of resolving distribution questions. They argue that "there is little ability to exploit this tradeoff if the political system has already established a comprehensive means of pure income redistribution reflecting the choices of voters." (p. 425) If the allocative branch of government tries to change the distribution of income, Keenan and Rubin argue that the distribution branch will simply correct these actions to again conform with the voters' wishes. There can be a tradeoff between efficiency and equality, but it cannot be exploited due to voters' political power. From this perspective, effective policy can only be based on efficiency.

B. Doubts About and Critique of the Tradeoff

The tradeoff is not as clear or precise as it is represented in the literature. The main arguments for a tradeoff between efficiency and equality actually contend that any tradeoff is between economic incentives and equality, not efficiency and equality. The uniqueness of efficiency to a market structure and lack of numeraire makes the concept of comparing efficiency across different market structures, much less trading efficiency for equality, incoherent. The simple tradeoff suggested by many dissolves in an unexploitable plethora of confusion and complexity, replete with subtle nuances and interconnections which are overlooked or assumed away. Furthermore, stressing the efficiency-equality tradeoff as the basis of policy totally disregards goals which are equally important in society's eye.

1. Incentives are not Synonymous with Efficiency

The tradeoff most often posited and profusely argued is between incentives (and costs of adjustment) and equality, without regard for efficiency. In further elaboration of his ideas, Okun describes the tradeoff between equality and efficiency as between "a social preference for equality (or at least for more equality than market-determined incomes provide), and... a cost of altering the market-determined distribution." (1977:21) In altering market distributions there undoubtedly is a cost, but this is <u>not</u> an efficiency cost. Alterations of distribution produce a new institutional

framework, with a correspondingly new efficiency which cannot be compared to the previous efficiency.

The tradeoff Okun, Dworkin, Shavell and others describe is actually between equality, and incentives and the costs of adjustment. There is an incentive effect, but this is not the same as efficiency, and should not be addressed under this rubric. To speak of efficiency is to mislabel the problem and to bathe it in a falsely positive light.

This misdirection of attention shifts analysis from incentives, a modifiable component of the economy, towards efficiency, which is held as a goal of economic performance. The incentive problem is not easy to fix, but at least there is the potential for resolution.

2. There is No Exploitable Incentive-Equality Tradeoff

The disincentive effect of equality is a strong theme in many individuals' writing, (Okun 1975:8; Dworkin 1981:284; Knight 1951:61; Gordon 1980:105; Shavell 1980; Scitovsky 1971:288) reflecting concern that equality would reduce production. There is little doubt that there would be an incentive effect from such a change, but the extent of it is difficult to ascertain because other factors are simultaneously involved.

Simply replacing the word "efficiency" with "incentives" does not resurrect or restore legitimacy to the tradeoff because altering the equality of income distribution changes production incentives, labor supply incentives, effective demand, and the other institu-

tional factors in varying magnitudes and directions, depending on the alteration and the existing institutional structure. It is not directly evident, as such a tradeoff would allege, that more equality will decrease production. Over some range production would surely increase.

Other costs of adjustment are also involved. These include the short run administrative expenses required to alter the institutional framework, the long run compliance costs, as well as other less quantifiable costs.[4] The administrative costs are composed of the temporary bureaucratic infrastructure necessary for change, remuneration for any tangible assets seized under Eminent Domain laws, and information diffusion campaigns to let citizens know the reasons and rules for change. The long run compliance costs would be determined by the enforceability and popularity of any changes.

Measures based on labor supply elasticities, such as Browning and Johnson's, actually attempt to distinguish the disincentive effects of income changes resulting from factors such as taxation, not of efficiency. The measures indicate how the supply of labor would change given a change in income. This is clearly not "efficiency". The use of labor supply elasticity estimates, which are prone to wide ranges of estimation, further raises doubts about the usefulness of such measures. "For policy purposes," according to

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[4]Browning and Johnson (1984) suggest further costs would include 1) effects on composition of income and expenditures due to narrow measures of taxable income (the "loophole" problem); 2) effects on family size and composition; 3) effects on human capital accumulation; 4) effects on consumption patterns due to the use of in- kind transfers. (p. 201)

labor economist Mark Killingsworth, the "range of estimates (from labor supply elasticities) is simply too wide to be of much practical value." (1985:128) The measures gleaned from Browning and Johnson's method would vary drastically, depending on which labor supply elasticity estimate was utilized.

3. Policy Choices do not occur in a Vacuum

It is imperative to recognize the social context in which policy choices occur, because it is this social context which helps define and structure the opportunity sets of individuals. The efficiency and equality of a given situation are implicitly formed by the institutional structure of the economy. Using these two concepts without recognizing their underlying structural basis misrepresents the difficulty of swapping one for the other. Technically, of course, efficiency can never by traded because it is unique to a given institutional structure and is incomparable.

Any relationship is so complex and amorphous in actuality, involving incentives, effective demand, power, and other structural elements, that it cannot be measured, much less traded. These are correlated with each other; income affects political power, and vice versa (Galbraith 1973; Shaffer 1975:3); individual utilities are related, making ones satisfaction with life determined, in part, on the income of neighbors and reference groups (Gordon 1980:76; Thurow 1981:18); the working rules govern the distribution of power and the distribution of power governs the development of the working rules

(Samuels 1981:36); the distribution of power helps determine who can exploit opportunities or appropriate the benefits of change; and economic incentives affect production decisions, but similarly workers' satisfaction with the fairness of the economic system also influences production. Output itself cannot be defined independently from the structural framework of the economy, torpedoing Shavell's superficially easy comparison of output between structures. Any tradeoff which exists collapses in this barely scratched unexploitable morass of interdependencies.

Keenan and Rubin begin trying to place efficiency and equality into such a social context, but they do not extend it beyond political power to other social influences. Even though their conception ignores the unique nature of efficiency, it at least recognizes that political power plays a key role in policy effectiveness. Unfortunately, their analysis applies to few societies because of their strict assumptions that political power is equally distributed and that the political system is frictionless. In U.S. society, with its plethora of special interest groups, unequal distribution of political power, relatively slow process of political change, and varying costs of information acquisition, their analysis is unrealistic.

4. Efficiency cannot be Traded

With efficiency unique to its institutional framework, changes in the market structure allowing more equality produce a new efficiency incomparable with the previous, ex ante efficiency.

Final costs and prices are reflections of the institutional framework, and thus provide no basis for comparison. An economy which suddenly created a more equal distribution of resources would simultaneously develop new relative prices reflecting the changed effective demands of individuals. These new relative prices would simply mirror the new distribution of income, individual preferences, rules and regulations, and other elements of the institutional framework, and would be efficient. Pre- and post- efficiencies cannot be compared because of their unique natures, with different patterns of relative prices and other institutional elements in each case. No numeraire exists between structures, leaving the concepts of "giving up" or measuring efficiency for equality without foundation.

5. The Diagram is Contradictory

The diagrammatic representation of the tradeoff fails because it assumes that efficiencies are comparable, disregarding the uniqueness of efficiency to a given institutional structure. Similarly, it assumes that individual utilities can be known and compared. This is puzzling, given that our inability to perform interpersonal comparisons of utility was the impetus for Pareto Optimality. The contradiction would be laughable, except it is taken as serious: the Pareto criterion, which was created as a second-best alternative to unachievable interpersonal comparisons of utility, is used as the basis for interpersonal comparisons. If comparisons are possible, why bother to use Pareto Optimality? Or if

they are impossible, how can the use of Pareto Optimality justify making such comparisons in the diagram? It is precisely the inability of objectively comparing utilities which makes the patterns of income distribution so difficult to evaluate.

6. Other Social Goals Exist

There is no doubt that economic efficiency and equality are important social goals in the United States. They are not, however, the only ones. Reducing social choice down to these two oversimplifies the needs and goals of society, and not only implies that efficiency and equality are better than other goals society embraces, but that they are also diametrically opposed. Simplifications are necessary for complex analytical techniques, but they distort the subject matter. Over emphasis on efficiency and equality slights other goals analysts should be equally concerned about.

The most clear illustration of focusing too intently upon a tradeoff are the recent federal affirmations of efficiency. The idea that businesses are much more efficient than government have became warmly embraced, offering rationale for the dismantlement of the government. Politicians run for government on the basis of their extensive business experience, which would allow them to "run government like a business"[5] Federal programs are parceled out, because "the private sector can do it better." U.S. Forest Service

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[5]William Chrysler, candidate for the Republican Gubernatorial nomination for Michigan in 1986.

campgrounds, weather satellites, the Postal Service, the Space Shuttle system, and Federal prison systems, for example, have been placed under or suggested for the management by private entrepreneurs. The reasons these were originally created or controlled by government were disregarded by the efficiency yardstick the administration wielded.

Most Americans did not disagree in principle with the elimination of poverty, but they questioned the effectiveness with which government could do it. Entitlement programs were subjected to budget cuts, even in the midst of the largest recession since the Great Depression. The public focus had shifted from its earlier concern with equality to mere questions of how efficiently policy was operating.

7. Pragmatic Problems with the "Efficient" Solution

Choosing efficiency (or equality) as the sole objective of policy is not a decision made by objective means. Van Kooten says that "putting forth the efficient solution" implies that the economist "has done one or more of the following: 1) Embraced utilitarian philosophy and, hence, the ability to (cardinally) measure individual welfares; 2) accepted one of the compensation tests and the status quo as the appropriate income distribution; or 3) is ignorant of the philosophical arguments and, thus, does not know what he is doing." (Van Kooten:32)

Advocates of allowing a distribution which maximizes output and then redistributing that created wealth, such as Shavell, similarly

discount the pragmatic difficulties of implementing the second distribution. Because of ideology and mores, individuals believe the income they initially receive and appear to earn is theirs alone. Individual claims on production are stressed in this culture as a means to inspire individual effort and achievement, while the overwhelmingly social nature of production is ignored. This lack makes people blind to the way others have created the opportunities they exploit, and to other interrelations within the economy. Social claims on income are thus not easily accepted in the United States, except for the provision of public goods and services.

While the social nature of production is kept relatively hidden, as is the resulting social claims on output, the transfer of resources is very visible. If endowments were organized to maximize output, attempts to "redistribute" that income would be perceived as unfair even though such transfers would be socially equitable. It is unlikely that the greater wealth produced through unfair endowments would be distributed fairly because of this.

C. An Alternative Perspective

There is an inverse relationship between efficiency and equality, but it is not as straightforward as commonly portrayed, nor as simple as most of its proponents believe. When the structural context is considered, it becomes apparent that both efficiency and equality are jointly determined via the institutional framework. To try to trade one for the other ignores the way structural constraints create both simultaneously, and focuses on a relatively minor point. Once a person starts playing a game, of course they want to be as good at it as possible. Society similarly would want to play it as efficiently and equitably as the given rules permit. This is the wrong time, however, to ask if the results are what decision-makers desire. Instead it is imperative to consider the possible results when deciding the game and rules by which to play. To speak of a tradeoff once the game and rules have been agreed upon is too late, and it belittles the real choices which face us.

Confronting efficiency and equality in policy alternatives requires stating the value assumptions utilized openly and clearly, and recognizing the institutional framework and complexities involved. Efficiency and equality are both normative concepts, requiring value judgments for use. Economists cannot escape making value decisions by neglecting equality for efficiency. This does not nullify economic analysis, but forces us to face up to the difficulties which have always been present. After reviewing the state of Welfare Economics, Chipman and Moore conclude that "after

35 years of technical discussions, we are forced to come back to (Lionel) Robbin's 1932 position. We cannot make policy recommendations except on the basis of value judgments, and these value judgments should be made explicit."[6] All the mathematical machinations in modern mainstream economics have not helped economists avoid making value decisions: they have only disguised the decisions which are being made from the public, policy makers, and from economists themselves.

Since it is necessary to make value decisions, objectivity necessitates the clear disclosure of what value decisions have been made in analysis. The normative biases of the economist should be openly stated, in part to insure that policy makers do not perceive advice as unbiased.

Any tradeoff which exists between equality and the efficient utilization of resources is buried so deeply within the social structure that it cannot be exploited. The easy tradeoff many allege dissolves in a tangle of interrelationships and dependencies. The only path through the various possibilities stems from confronting the institutional structure directly. It must consider the mutual effects of equality with the distribution of rights, political power, social mores, reference groups, factor endowments, working rules, and effective demand, as well as production incentives.

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[6]Chipman, John S. and James C. Moore. "The New Welfare Economics 1939-1974." International Economic Review. Vol. 19 (October 1978). pp. 547-548, in Van Kooten, p. 31.

VI. Bibliography

Ahearn, Mary, Jim Johnson, Roger Strickland. (1985). "The Distribution of Income and Wealth of Farm Operator Households." AJAE. Vol. 67:5 (December).

Akino, Masakatsu and Yujiro Hayami. (1975). "Efficiency and Equity in Public Research: Rice Breeding in Japan's Economic Development." AJAE. Vol. 57. pp. 1-10.

Arrow, K.J., and J.P. Kalt. (1979). Petroleum Price Regulation: Should We Decontrol. American Enterprise Institute.

Atkinson, Anthony B. (1975). The Economics of Inequality. Clarendon Press. Oxford.

Atkinson, Anthony B. (1970). "On the Measurement of Inequality." Journal of Economic Theory. Vol. 2. pp. 244-263.

Ayer, Harry W. and G. Edward Schuh. (1972). "Social Rates of Return and Other Aspects of Agricultural Research: The Case of Cotton Research in Sao Paulo, Brazil." AJAE. Vol. 54. pp. 557-69.

Bain, J. (1968). Industrial Organization. John Wiley. 2nd ed.

Bator, Francis M. (1957) "The Simple Analytics of Welfare Maximization." American Economic Review. (March). pp. 22-36.

Barkley, Paul W. (1968). "Discussion: Personal Distribution of Farmers' Income by Source and Region" AJAE. Vol. 50:5 (December). pp. 1396-1398.

Basu, Kaushik. (1984). The Less Developed Economy: A Critique of Contemporary Theory. Basil Blackwell Inc. New York, NY.

Bergson, A. (1980). "Consumers Surplus and Income Redistribution." Journal of Public Economics. Vol. 14:1 (August). pp. 31-47.

Bergsten, Gordon S. (1985). "On the Role of Social Norms in a Market Economy." Public Choice. Vol. 45. pp. 113-137.

Boadway, Robin W. and David E. Wildasin. (1984). Public Sector Economics. 2nd Edition. Little, Brown & Co. U.S.A.

Boyne, David H. (1965). "Changes in the Income Distribution in Agriculture" J. of Farm Economics Vol. 47:5 (December).

Brandow, George. (1977). "Appraising the Economic Performance of the Food Industry", in Lectures in Agricultural Economics. Economic Research Service. USDA.

Breimyer, Harold F. (1976). Economics of the Product Markets of Agriculture. Iowa State University Press. Ames, Iowa.

Bronfenbrenner, Martin. (1971). Income Distribution Theory. Aldine-Atherton, Inc. Chicago.

Browning, Edgar K. and Jacquelene M. Browning. (1983). Microeconomic Theory and Applications. Little, Brown and Company. Boston.

Browning, Edgar K., and William R. Johnson. (1984). "The Trade-Off Between Equality and Efficiency." Journal of Political Economy. Vol. 92 No. 2 (April). pp. 175-203.

Bryant, Keith W., D.L Bawden, W.E. Saupe. (1981). "The Economics of Rural Poverty- A Review of the Post-World War II United States and Canadian Literature." in A Survey of Agricultural Economic Literature, Vol 3. Lee R. Martin, editor. University of Minnesota Press. Minneapolis. pp. 3-150.

Buchanan, James M. (1977). "Political Equality and Private Property: the Distributional Paradox." in Gerald Dworkin, et al., Markets and Morals. Hemisphere Publishing Corp. Washington, D.C.

Burkhead, Jesse, and Jerry Miner. (1971). Public Expenditure. Aldine Atherton, Inc. Chicago.

Calabresi, Guido, and Philip Bobbit. (1978). Tragic Choices. W.W. Norton and Company. New York.

Carter, Michael R. (1985). "A Wisconsin Institutionalist Perspective on Microeconomic Theory of Institutions: The Insufficiency of Pareto Optimality." Journal of Economic Issues. XIX:3 (September). pp. 797-813.

Coffey, Joseph D. (1968). "Personal Distribution of Farmers' Income by Source and Region" AJAE. Vol. 50:5 (December). pp. 1383- 1396.

Daniels, Norman, ed. (1974). Reading Rawls: Critical Studies on Rawls' A Theory of Justice. Basic Books, Inc. New York.

Deanne, Maurice. (1984). The Evolution of Economic Ideas. Cambridge University Press. Cambridge.

Dobb, Maurice. (1973). Theories of Value and Distribution Since Adam Smith. Cambridge University Press. Cambridge.

Dworkin, Ronald. (1981a). "What is Equality? Part 1: Equality of Welfare." Philosophy and Public Affairs. 10:3 (Summer). pp. 185-246.

_____ (1981b). "What is Equality? Part 2: Equality of Resources." Philosophy and Public Affairs. 10:4 (Fall). pp. 283-345.

Edwards, Clark, and David H. Harrington. (1984). "The Future Productive Capacity of U.S. Agriculture: Economic, Technological, Resource, and Institutional Determinants." AJAE. (December).

Feyerabend, Paul. (1975). Against Method. Verso. Great Britain.

French, Ben C. (1977). "The Analysis of Productive Efficiency in Agricultural Marketing: Models, Methods, and Progress." in A Survey of Agricultural Economic Literature, Vol. I. Lee R. Martin, editor. University of Minnesota Press. Minneapolis.

Fried, Charles. "Difficulties in the Economic Analysis of Rights". (1977). in Gerald Dworkin, et al. Markets and Morals. Hemisphere Publishing Corporation. Washington, D.C.

Furubotn, Eirik G. and Svetozar Pejovich. (1972). "Property Rights and Economic Theory: A Survey of Recent Literature." JEL. Vol. X:5 (December).

Galbraith, J.K. (1973). "Power and the Useful Economist." AER. pp. 1-11.

Gardner, Bruce. (1983). "Efficient Redistribution Through Commodity Markets." AJAE. 65:2 (May). pp. 225-234.

Gordon, Scott. (1977). "Social Science and Value Judgments." The Canadian Journal of Economics. Vol. X:4 (November). pp. 529-546.

_____ (1980). Welfare, Justice, and Freedom. Columbia University Press. New York.

Hayami, Yujiro, and Robert W. Herdt. (1977). "Market Price Effects of Technological Change on Income Distribution in Semisubsistence Agriculture." AJAE. 59:2 (May). pp. 245-256.

Hayek, F.A. (1960). The Constitution of Liberty. University of Chicago Press. Chicago, Ill.

Helmberger, Peter G., Gerald R. Campbell, and William D. Dobson. (1981). "Organization and Performance of Agricultural Markets." in A Survey of Agricultural Economic Literature, Vol. III. Lee R. Martin, editor. University of Minnesota Press. Minneapolis.

Hendry, David F. (1980). "Econometrics- Alchemy or Science?" Economica. 47:188 (November). pp. 387-406.

Hirschman, Albert. (1981). Essays in Trespassing: Economics to Politics and Beyond. Cambridge University Press. New York, N.Y.

Hochman, Harold M. and James D. Rodgers. (1969). "Pareto Optimal Redistribution." AER. LIX:4 (September). pp. 542-557.

Jesse, E.V. (1978). "Measuring Market Performance: Quantifying the Non- Quantifiable." NC Project 117. WP-15.

Johnson, Glenn L. (1983). "Synoptic View." Growth and Equity in Agricultural Development. Allen Maunder and Kazushi Ohkawa editors. Gower. Oxford.

_____ (1986). "Economics and Ethics." Centenniel Review. Vol. XXX:1. pp 69-108.

Jorgenson, Dale W. (1985). "Efficiency versus Equity in Economic Policy Analysis." The American Economist. XXIX:1 (Spring). pp. 5-14.

Just, Richard E. and Darrell L. Hueth. (1979). "Welfare Measures in a Multi-Market Framework." American Economic Review. 69:5 (December). pp. 947-954.

Keenan, Donald C., and Paul H. Rubin. (1985). "The Limits of the Equity-Efficiency Tradeoff." Public Choice. 47:425-436.

Killingsworth, Mark K. (1985). Labor Supply. Cambridge University Press. U.S.A.

Kilmer, Richard L. and Walter J. Armbruster. (1984). "Methods For Evaluating Economic Efficiency In Agricultural Marketing." Southern Journal of Agricultural Economics. Vol 16:1 (July).

King, Robert P. and Derek Byerlee. (1978). "Factor Intensities and Locational Linkages of Rural Consumption Patterns in Sierra Leone." AJAE. Vol. 60:2 (May).

Knight, Frank H. (1946). Risk, Uncertainty and Profit. Houghton Mifflin Co. New York. (originally 1921). pp. 205-208.

_____ (1951). The Ethics of Competition and Other Essays. George Allen and Unwin Ltd. London.

Kuhn, Thomas. (1970). The Structure of Scientific Revolutions. 2nd Ed. University of Chicago Press. Chicago.

Lang, Mahlon George. (1980). "Economic Efficiency and Policy Comparisons." AJAE. pp. 772-777.

Leamer, Edward E. (1983). "Let's Take the Con out of Econometrics." AER. 73:1 (March). pp. 31-43.

Leibenstein, Harvey. (1979). "A Branch of Economics is Missing: Micro- Micro Theory." Journal of Economic Literature. (June) pp. 477-502.

Leontief, Wassily. (1971). "Theoretical Assumptions and Nonobserved Facts." AER. 61:1 (March). pp. 1-7.

Lerner, Abba P. (1972). "The Economics and Politics of Consumer Sovereignty." AER. pp. 258-266.

Lipsey, R.G. and Kelvin Lancaster. (1956-57). "The General Theory of Second Best." Review of Economic Studies. Vol. 24.

Little, I.M.D. (1950). A Critique of Welfare Economics. Oxford University Press. London.

Lowe, Adolph. (1969). "Toward a Science of Political Economics." Economic Means and Social Ends., ed. R.L. Heilbroner. Prentice-Hall, Inc. Englewood Cliffs, N.J.

Marglin, Stephen A. (1984). Growth, Distribution, and Prices. Howard University Press. Cambridge, Mass.

Marion, B.W. and C.R. Handy. (1973). Market Performance: Concepts and Measures. Agricultural Economics Report No. 224. Economic Research Service. USDA.

McAleer, Michael, Adrian R. Pagan, and Paul A. Volker. (1985). "What will take the Con out of Econometrics?" AER. 75:3 (June). pp. 293-307.

McClennen, E.F. (1983). "Rational Choice and Public Policy: A Critical Survey." Social Choice and Practice. 9:2-3 (Summer-Fall). pp. 335-379.

McCloskey, Donald N. (1983). The Rhetoric of Economics. The University of Wisconsin Press.

McNiel, Douglas W. (1980). "Economic Welfare and Food Safety Regulation: The Case of Mechanically Deboned Meat." AJAE. 62:1 (February). pp. 1-9.

Meade, J.E. (1969). Efficiency, Equality and the Ownership of Property. George Allen & Unwin ltd. London. Second Impression.

Morgenstern, Oskar. (1950). On the Accuracy of Economic Observations. Princeton University Press. Princeton, N.J.

Mueller, Dennis C. (1976). "Public Choice: A Survey." Journal of Economic Literature. Vol 14:2 (June). pp. 395-433.

Negishi, Takashi. (1960). "Welfare Economics and Existence of an Equilibrium for a Competitive Economy." Metroeconomica. Vol. 12. pp. 92-97.

Nelson, Glenn L. (1986). "Rural and Community Economics: Alternative Frameworks for Research." Paper presented at the AAEA annual meetings.

Nicholson, Walter. (1978). Microeconomic Theory. Dryden Press. Hinsdale, Ill.

Nozick, Robert. (1974). "Distributive Justice," in Anarchy, State and Utopia. Basic Books. New York, N.Y. pp. 149- 231.

Okun, A. (1975). Equality and Efficiency: The Big Trade off. The Brookings Institution. Washington, D.C.

Olson, Mancur. (1977). The Logic of Collective Action. Harvard University Press. U.S.A. Seventh Printing.

Parker, Russell C. and John M. Connor. (1979). "Estimates of Consumer Loss Due to Monopoly in the U.S. Food Manufacturing Industries." AJAE. 61:4 (November). pp. 626-639.

Parsons, Kenneth H. (1958). "The Value Problem in Agricultural Policy." Agricultural Adjustment Problems in a Growing Economy. E. Heady, et al, editors. Iowa State College Press. Ames. pp. 285-299.

_____ (1985). "John R. Commons: His Relevance to Contemporary Economics." Journal of Economic Issues. XIX:3 (September). pp. 755-778.

Pasinetti, Luigi L. (1977). Lectures on the Theory of Production. Columbia University Press. New York.

Pen, Jan. (1971). Income Distribution. Allen Lane the Penguin Press. London.

Penn, J.B. (1984). "Agriculture Structural Issues and Policy Alternatives For The Late 1980's." AJAE. (December).

Polanyi, Michael. "Scientific Thought and Social Reality: Essays by Michael Polany," Fred Schwarz, ed. Psychological Issues. Vol. VIII, No. 4. Monograph number 32.

Posner, Richard A. (1973). "Economic Justice and the Economist." The Public Interest. Number 33 (Fall). pp. 109-119.

_____ (1981). The Economics of Justice. Harvard University Press. Cambridge, Mass.

Randall, Alan. (1972). "Welfare, Efficiency, and the Distribution of Rights." in Perspectives of Property, Wunderlich, Gene, and W.L. Gibson, Jr., ed. Institute for Research on Land and Water Resources. Pennsylvania State University.

_____. (1974). "Information, Power and Academic Responsibility." AJAE. Vol. 56:2. pp. 227-234.

Rawls, John. (1971). A Theory of Justice. Belknap Press of Harvard University Press. Cambridge, Mass.

Robinson, Joan. (1962). Essays in the Theory of Economic Growth, St Martin's Press, Inc. New York.

_____. (1973). Collected Economic Papers. Basil Blackwell. Oxford.

_____. (1980). What Are The Questions? And Other Essays, M.E. Sharpe, Inc. Armonk, N.Y.

Robinson, Kenneth L. (1965). "The Impact of Government Price and Income Programs on Income Distribution in Agriculture." Journal of Farm Economics. Vol 47:5 (December). pp. 1225- 1234.

Rothenberg, Jerome. (1961). The Measurement of Social Welfare. Prentice-Hall, Inc. Englewood Cliffs, N.J.

Sahota, Gian S. (1977). "Personal Income Distribution Theories of the Mid-1970's." Kyklos. Vol 30:4.

Samuels, Warren J. (1981). "Welfare Economics, Power, and Property." in Law and Economics: An Institutional Perspective. Martinus Nijhoff Publishing. Boston.

Samuelson, Paul A. (1963). Foundations of Economic Analysis. Harvard University Press. Cambridge.

Saposnik, Rubin. (1984). "Efficiency and Equality in a Simple Neoclassical Economy." Southern Economic Journal. Vol 51:2 (October).

Scherer, F.M. (1980). Industrial Market Structure and Economic Performance. Rand McNally, 2nd ed.

Schmid, A. Allan. (1986). "Neo-Institutional Economic Theories." Agricultural Economics Staff Paper Number 86-49. Michigan State University.

Schmitz, Andrew and David Seckler. (1970). "Mechanized Agriculture and Social Welfare: The Case of the Tomato Harvester." AJAE. Vol. 52. pp. 569-577.

Schon, Donald A. (1974). "Planning and Managing Change." The Bureaucrat. Vol. 3 No. 2 (July). pp. 153-161.

Scitovsky, Tibor. (1951). "The State of Welfare Economics." AER. Vol 41. pp. 303-315.

_____ (1971). Welfare and Competition. George Allen and Unwin ltd. London.

Scobie, Grant M. and Rafael Posada T. (1978). "The Impact of Technical Change on Income Distribution: The Case of Rice in Colombia." AJAE. Vol 60:1 (February). pp. 85-92.

Seidman, Robert B. (1973). "Contract Law, the Free Market, and State Intervention: A Jurisprudential Perspective." Journal of Economic Issues. Vol. VII:4. pp. 553-573.

Sen, Amartya. (1973). On Economic Inequality. Clarendon Press. Oxford.

_____ (1974). "Rawls versus Bentham: An Axiomatic Examination of the Pure Distribution Problem" in Reading Rawls: Critical Studies on Rawl's A Theory of Justice. edited by Norman Daniels. Basic Books. New York, N.Y.

_____ (1976). "Real National Income." Review of Economic Studies. Vol. 43:133 (February). pp. 19-40.

_____ (1979a). "Personal Utilities and Public Judgments: Or What's Wrong with Welfare Economics." Economic Journal. Vol. 89:763 (September). pp. 537-558.

_____ (1979b). "The Welfare Basis of Real Income Comparisons: A Survey." Journal of Economic Literature. Vol. 17:1 (March). pp. 1-45.

Shaffer, James D. (no date). "Property, Market Structure and Efficiency." Michigan State University.

_____ (1975). "On the Structure of Power in the United States Political Economy: Some Issues and Alternatives." Increasing Understanding of Public Problems and Policies. Farm Foundation. Chicago. pp. 14-30.

_____ (1980). "Food System Organization and Performance: Toward a Conceptual Framework." AJAE. Vol 62:2. pp. 310-318.

_____ (1984). "Elements of a Paradigm for Rural Development: Discussion." AJAE.

_____ (1985). "Does the Concept of Economic Efficiency meet the Standards for Truth in Labeling when used as a Norm in Policy Analysis?". Dept of Agricultural Economics, Michigan State University Staff Paper # 85-67.

Shavell, Steven. (1981). "A Note on Efficiency vs. Distributional Equity in Legal Rulemaking: Should Distributional Equity Matter Given Optimal Income Taxation?" American Economic Review. Vol. 71 No. 2 (May). pp. 414-418.

Silberberg, Eugene. (1978). The Structure of Economics: A Mathematical Analysis. McGraw-Hill, Inc. U.S.A.

Sosnick, S. (1964). "Operational Criteria for Evaluating Market Performance." in Market Structure Research. Paul Farris, editor. Iowa State University Press.

Stigler, George J. (1949). "The Economists and Equality." Five Lectures on Economic Problems. London School of Economics and Political Science. New York. pp. 1-11.

Tarascio, Vincent J. (1968). Pareto's Methodological Approach to Economics. University of North Carolina Press, Chapel Hill.

Thompson, Robert L. (1984). "U.S. Public Policies and Institutions in an Unstable Future." AJAE. (December).

Thurow, Lester C. (1973a). "Toward a Definition of Economic Justice." The Public Interest. Number 31 (Spring).

_____ (1973b). "A Reply." The Public Interest. Number 33 (Fall). pp. 120-127.

_____ (1981). The Zero-Sum Society. Penguin Books. U.S.A.

_____ (1983). Dangerous Currents: The State of Economics. Vintage Books. New York.

Tobin, James. (1980). Asset Accumulation and Economic Activity, Lecture II. Chicago University Press. Chicago.

Tullock, Gordon. (1983). Economics of Income Redistribution. Kluwer Nijhoff Publishing. U.S.A.

Van Kooten, G.C. (1986). "Ethics and Economics: Touchstones of Economic Reality." John A. Edward's Philosophy of Economic Thought Conference. Oregon State University. Corvallis.

Wellford, H. (). Sowing the Wind. Bantam Books.