Equity and Efficiency
Paradigms & Policy Issues

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Technology & Policy Program

Equity Examples - Cake

- Resource Distribution - Cake
  - equal slices, unequal invitations
  - unequal slices for unequal ranks, but equal slices for equal ranks
  - unequal slices but equal blocs
  - unequal slices but equal meals
  - unequal slices but equal value to recipients
  - unequal slices but equal starting resources
  - unequal slices but equal statistical chances
  - unequal slices but equal votes

- Three Dimensions Of Equity
  - Recipients - who received
  - The Item - what is being distributed
  - The Process - how is the resource distribution established and carried out

- Reveals The Underlying Issues
Concepts of Equality
"Same size share for everybody"

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Issue</th>
<th>Dilemma</th>
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</thead>
<tbody>
<tr>
<td>Recipients</td>
<td>1. Membership the boundaries of community</td>
<td>unequal invitations/equal slices</td>
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<td></td>
<td>2. Rank-base distribution internal subdivisions in society</td>
<td>equal ranks-equal slices/unequal ranks-unequal slices</td>
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<tr>
<td>Items</td>
<td>3. Group-based distribution major internal cleavages in society</td>
<td>equal blocs/unequal slices</td>
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<td>4. Boundaries of the item</td>
<td>equal meals/unequal slices</td>
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<td>5. Value of the item</td>
<td>equal value/unequal slices</td>
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<td>Process</td>
<td>6. Competition opportunity as starting resources</td>
<td>equal forks/unequal slices</td>
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<td>7. Lottery opportunity as a statistical chance</td>
<td>equal chances/unequal slices</td>
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<td></td>
<td>8. Voting opportunity as political participation</td>
<td>equal votes/unequal slices</td>
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Justice

- Justice
  - Justice is process
    - Historical Process Justice
    - Voluntary and fair process
    - What is a fair process; what is fair about ab initio distributions/transactions
  - Justice is social construct
    - End-Result Justice
    - Social goods must be distributed equitably
    - What are the characteristics of goods that make them "social;" what are the characteristics of individuals that make them a member of society
  - Justice is innate/universally defined
    - Universal standards of justice, independent of context
    - Unjust allocations must be rectified according to these standards
Liberty, Property & Motivation

- Liberty
  - Freedom from constraint on action
  - Freedom to act as one wants

- Property
  - An individual construct
  - A social construct

- Human Motivation
  - Need Motivates
  - Need Inhibits

Dichotomy?

Social Conservatism

- (Distributive) Justice
  - Fair Process
- Liberty
  - Freedom to act
- Property
  - Individual creation
- Need Motivates

"To justify income redistribution, it is necessary to show that individuals somehow do not have a just title to the income they earned"

Social Liberalism

- (Distributive) Justice
  - Fair shares of social resources
- Liberty
  - Freedom from constraints
- Property
  - Social creation
- Need Inhibits

"All social values -- liberty and opportunity, income and wealth and the bases of self respect -- are to be distributed equally unless an unequal distribution of any, or all, of these values is to everyone's advantage"
Efficiency

- "Getting the most for a given input"
- Comparative, By Definition
- Issues
  - Who gets the benefits and bears the burdens?
  - How to measure the values and costs of a policy?
  - What mode of organization will yield efficiency?

Benefits and Costs - How?

- Multiple benefits; multiple results of action
- Who should be served?
- Can we distinguish benefits and costs? Should we?
- What resolution/completeness criteria should be applied (when do we stop counting)
- Direct costs, or costs including opportunity costs
- Efficiency vs. waste (e.g. speed vs. utilization)
- Duplication
**Benefits and Costs - How?**

Output – Who determines what is the correct output goal, or objectives of a program?
- How should we value and compare multiple objectives?
- How do different objectives or outputs benefit different constituencies or groups?

Input – How should we count inputs (e.g. labor costs) that are simultaneously outputs to somebody else (e.g. jobs for the local community)?
- How should we decide which of the many benefits/outputs of any input to count in the equation?
- How should we count the virtually unlimited opportunity costs of resources used as inputs?

**Efficiency Gets Us Into "Value"**

- A slippery concept

- How to measure?

- A current answer: the marketplace

- A social construct, circumscribed by the government
  - Framework for enforcement of transactions
  - Definition of property (what can, and cannot, be owned)

- Marked by
  - Voluntary exchange
  - With information
Markets, However, Embed Two Kinds of Value

- Market Value
  - Prices or exchange value

- Consumer Value
  - Value to the trader(s)

- Under specific conditions, markets are efficient
  - i.e., consumer value is maximized

- Why? Because no transaction takes place that does not leave at least one participant better off
  - Could force to make one worse off, but violation of voluntary transaction
  - Could make an ignorant action, but violation of information availability

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Pareto Efficiency

- Consider a simple two good economy, with resources (or goods) A & B

- Lines of constant "well being" or "consumer satisfaction" can be posited

- These lines of constant value, or "utility," show the relative value of having different combinations of a resource
Suppose We Have Two Subjects, With Unique Utility Maps

Pareto Efficiency - 2

- Now, Constrain the Resources, A & B
  - Either one subject or the other can have them

- The Two Utility Maps Can Be Flipped and Combined
  - An Edgeworth Box

- The Points Of Tangency Between the Two Maps Are Special
  - No change in resource allocation can be made without making at least one subject worse off
Why?

- Assume that the initial resource allocation is the point marked by the black square.
- ALL points inside of the shaded area are resource allocations that make BOTH subjects better off (on a higher iso-utility curve).
- At the points of tangency, the "size" of this shaded area goes to zero.
  - There are no alternative allocations that make both subjects better off.
- Pareto Optimal Point.

Pareto Efficiency ==> Contract Curve

- The Set of Pareto Efficient Points Is Known As the "Contract Curve".
  - Starting anywhere in the resource space and
  - Assuming rational exchanges of resource
  - Will always end up somewhere on the contract curve.
So, Why Isn't Efficiency Easy?

- Utility Maps Are Not Easy (If Possible)
- Life Gets Complex Outside the Edgeworth Box (multiple participants, objectives)
- Preferences Are Not Aggregable
- Moreover, Preferences Are Subject To Manipulation
  - Social Pressures
  - Market Actors (advertising, etc.)
  - Loyalty
- And Markets Have Limits
  - They don't price everything that has value
  - They are subject to failures of the basic assumptions that are required to achieve to efficiency

What makes a market efficient?

- Large number of buyers and sellers (no individual market power)
  - Otherwise prices can be influenced-monopoly/oligopoly - monopsony/oligopsony
  - Sometimes unavoidable
  - Regulable?
- Complete information available to all (no information asymmetry)
  - Potential costs of acquisition
  - Tactically useful; asymmetric motivation
- Decisions of the parties in the exchange only effect the parties (no externalities)
  - Independence assumption
  - "commons" problems
  - "social costs"
- Resources exchanged are consumed/used up individually (excludable & rivalrous goods)
  - examples: national defense; intellectual property?
  - individual action is inadequate
Efficiency - Equity Tradeoffs

- Motivation - How to motivate action if equality is the expected outcome?

- Maintenance - Equality via positive intervention requires tireless and intrusive institutions that will stifle the development of new ways of doing things

- Waste - These institutions are not productive, in an economic sense; a "deadweight loss"

- Equity and Efficiency Ultimately Become A Kind Of Balancing Act For The Policymaker

A Tradeoff -- Really?

<table>
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<tr>
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<td>Maintaining equality eliminates people's motivation to work</td>
<td>The desire to work is inherent in human self-esteem</td>
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<td>Maintaining equality requires government interference with individual choice, while free choice is necessary for efficiency</td>
<td>Redistribution does not stifle innovation/experimentation. In fact, some security can encourage risk taking.</td>
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<td>Maintaining equality requires a large, and therefore inefficient, bureaucracy</td>
<td>Administration is a productive activity in and of itself</td>
</tr>
<tr>
<td>A tradeoff between equity and efficiency is inevitable</td>
<td>Society can have both through managing political and policy choices</td>
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