

BCA: concepts & framework

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Outline

- BCA's overall objective
- Two key elements
 - Individual is best judge of own interests
 - Aggregate across people using potential compensation test
 - Evaluation of distribution across people is separate component
- Monetary values of outcomes
 - WTP vs WTA
 - Empirical methods

Overall objective of BCA

- Determine whether a policy is “efficient”
 - Produces the maximum possible value from its inputs
 - Value of outputs (benefits) exceeds value of inputs (costs)
 - If benefits exceed costs, then in principle everyone can be better off with the policy than without
- Benefits = improvement in wellbeing
 - As evaluated by affected individuals
 - Monetary value = the amount of money having the same effect on wellbeing as the effect of the policy
- Costs = opportunity cost of resources used
 - Benefits that could have been produced by putting resources to their best alternative uses
 - What is given up by using resources for this policy

Two steps in economic evaluation of policies

- Predict outcomes (policy vs alternatives)
 - Needed for any evaluation based on consequences
- Evaluate outcomes
 - Which policy provides the most good for the greatest number?
 - 1) What is good?
 - Whose preferences or judgments?
 - 2) When does improving outcomes for some justify worsening (or failing to improve) outcomes for others?
 - Problem of aggregation
 - Two key elements of BCA are answers to these questions

1) Individual is best judge of own interests

- Monetary values of outcomes are based on affected individual's preferences
 - “Consumer sovereignty”
 - BCA is populist
 - Adopts the preferences of affected individuals
 - Not the preferences of political leaders, bureaucrats, etc.
- “Best judge” suggests most accurate judge
 - Assumes informed, considered preferences
 - People are not always well-informed & thoughtful
 - Alternative: individual is most legitimate judge of own interests
 - Respect for individuals' autonomy
 - Question: should estimates of individual preferences be “corrected”?
 - Inadequate information?
 - Inadequate consideration?

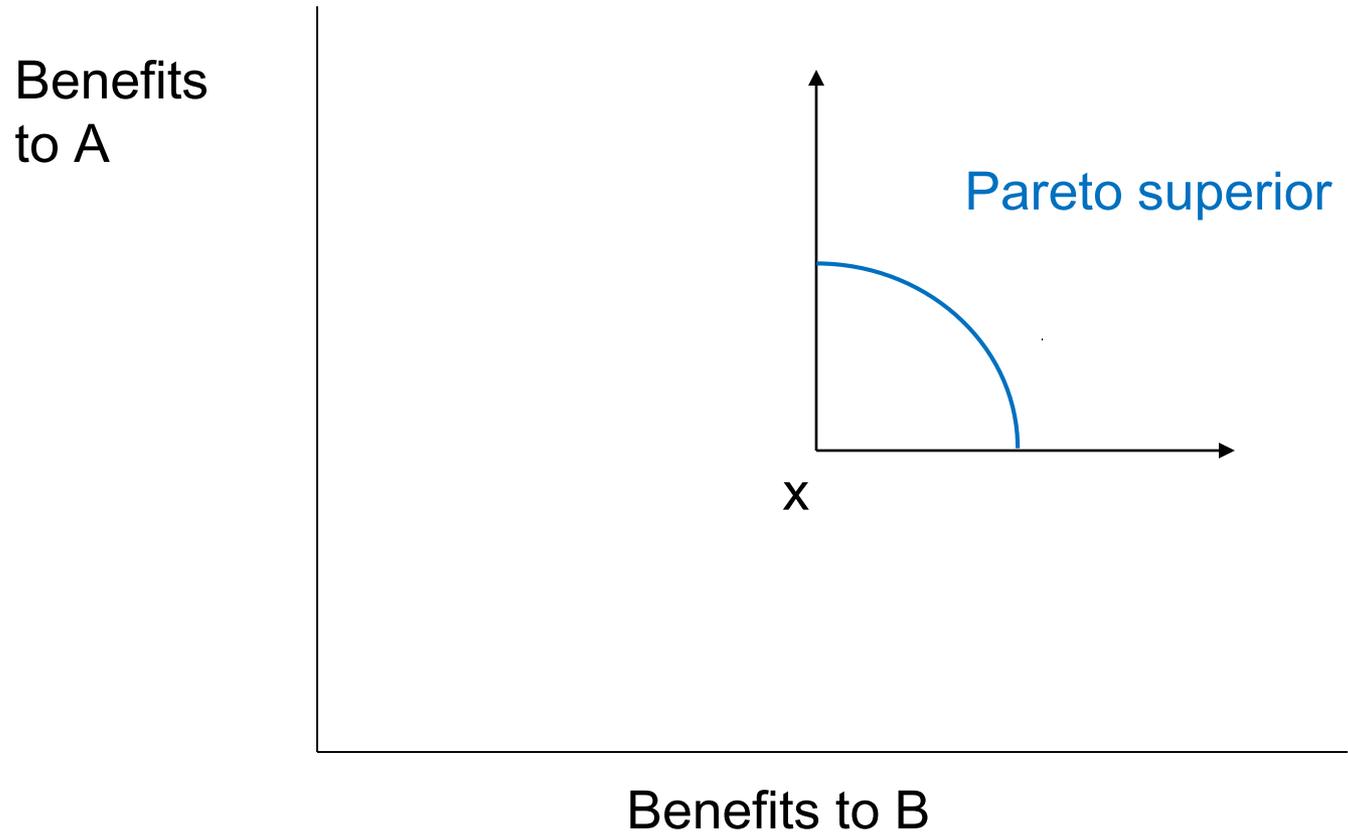
2) Aggregation across people

- When is it permissible to impose harms on some people (or to forgo benefits to some) to help others?
 - Utilitarian calculus: maximize the population sum of utility (wellbeing)
 - Prioritarian: give extra weight to those who are worse off
- No objective method to compare changes in wellbeing between people
 - Who benefits more from
 - \$1000 ?
 - Preventing a painful headache ?
- Practical methods for interpersonal comparison
 - Money → Benefit-cost analysis (BCA)
 - QALYs or DALYs → Cost-effectiveness analysis (CEA)
 - Monetary or other measures could be weighted (as in prioritarianism)

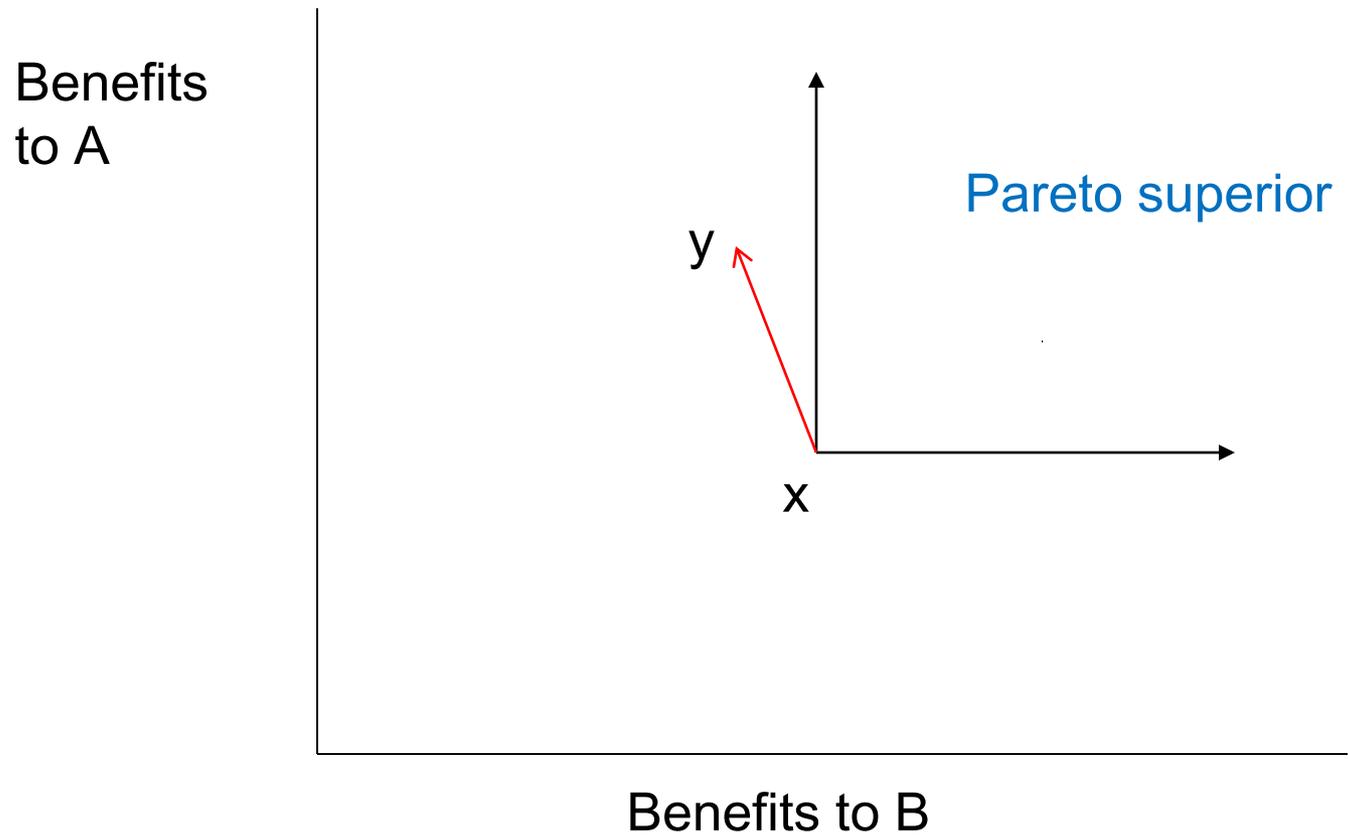
2) Kaldor-Hicks potential compensation test

- Pareto improvement
 - Wellbeing is better for some people, not worse for anyone
- Potential Pareto improvement
 - The people whose wellbeing is improved could pay money to those whose wellbeing is reduced, so that policy + compensation is a Pareto improvement
- BCA tests for potential Pareto improvement

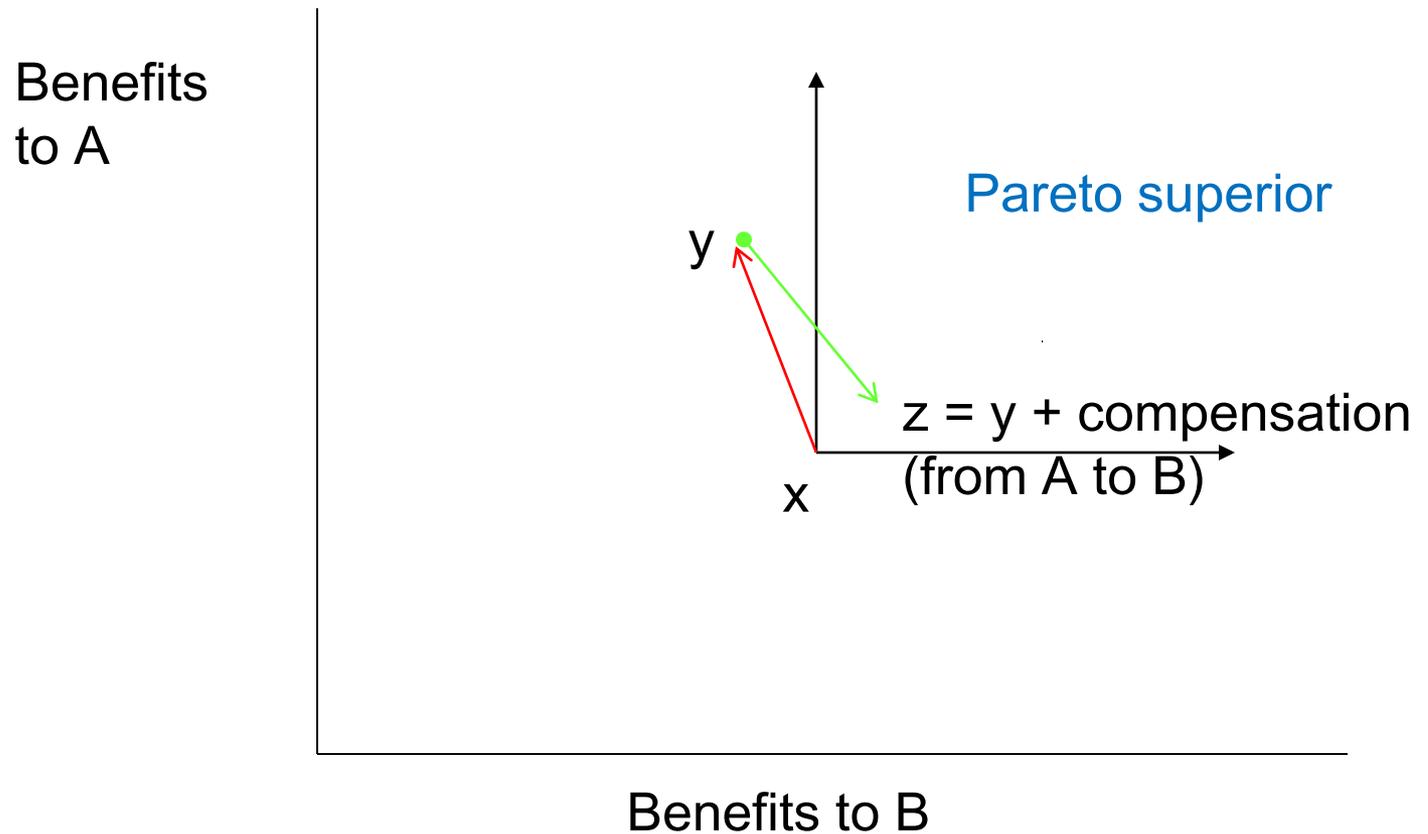
Pareto improvement



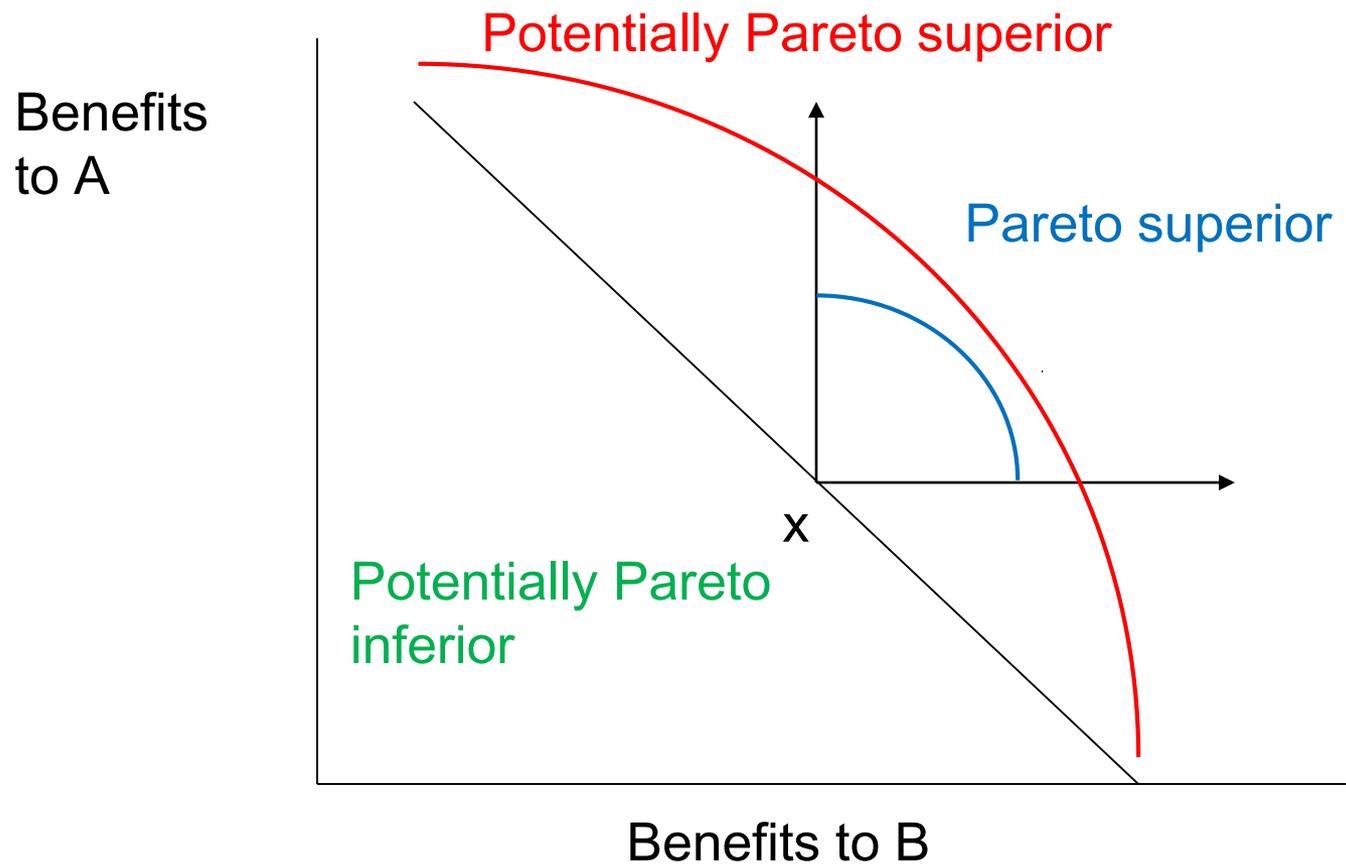
Potential Pareto improvement



Potential Pareto improvement



Potential Pareto Improvement



Monetary valuation

- Change in wealth that has the same effect on wellbeing as the policy outcome
- Two possibilities (for improved outcome)
 - Willingness to pay (WTP) for the improvement
 - Payment (reduction in wealth) compensates for improved outcome
 - Wellbeing with improved outcome and reduced wealth is the same as with original outcome and wealth
 - Willingness to accept compensation (WTA) to forgo the improvement
 - Increase in wealth is equivalent to improvement
 - Both produce the same increase in wellbeing
- $WTA \geq WTP$
 - For small changes in outcome, should be nearly equal
 - For large changes, choice of measure matters
 - BCA depends on starting point, does not provide unique social preference order (Arrow impossibility theorem)

Empirical methods for monetary valuation

- Revealed preference
 - Market prices
- Stated preference
- Experiments

Revealed preferences

- Observe people's behavior (choices)
 - Infer preferences on assumption they prefer choice made to available alternatives
- Strengths
 - Individual bears consequences of choice
 - Has incentive & opportunity to learn about alternatives & to consider choice carefully
- Weaknesses
 - Applicable only when settings exist in which choices are informative about outcome to be valued
 - Investigator may not know what alternatives were available & considered, or what information individuals had

Stated preferences

- Survey people about choices in hypothetical situations
 - Often presented as discrete choice
 - “Which of the described alternatives would you choose?”
 - Infer preferences assuming people would prefer selected choice to alternatives if they faced the consequences
- Strengths
 - Flexibility: can ask about goods that do not exist, can survey population of interest
 - Investigator knows (and controls) the alternatives and available information
- Weaknesses
 - No significant consequences of choice
 - Limited incentive to choose carefully (or report honestly)

Experiments

- Observe choices in artificial “laboratory” setting
 - Individuals bear consequences (usually monetary)
- Strengths
 - Flexibility: can ask about goods that do not exist, can survey population of interest
 - Investigator knows (and controls) the alternatives and available information
- Weaknesses
 - Consequences of choice often modest, so limited incentive to choose carefully
 - Choices in artificial setting may not predict real world
 - Preferences for money differ between money received in experiment and other income sources

Rationale / justification for BCA

- Maximize economic efficiency
 - Kaldor-Hicks compensation test
 - If used consistently over many policy decisions, everyone gains on average (?)
 - Redistribution more efficient through tax & transfer programs than by distorting other policies
- Approximation of (ideal) utilitarian or prioritarian calculus
 - Can weight net benefits (= benefits – costs) depending on who bears them
- Cognitive aid to evaluating policy
 - Comprehensive accounting for multiple effects in consistent format
 - Avoid giving too much weight to a few “salient” effects
- Transparent exposition
 - Rigorous, reproducible method for aggregating effects
 - Important assumptions are reported, open to inspection, challenge, and revision