

# A Multiple Account Approach to Benefit-Cost Analysis

Marvin Shaffer, Simon Fraser University

Blake Shaffer, Stanford University

Jennifer Winter, University of Calgary

# Definition and Role of BCA

- An evaluation of the changes in resource allocation resulting from a particular “project” where a “project” may include:
  - A public or private investment project
  - A change in laws, regulations or rules
  - A broader program or policy of one or more levels of government
- Role is to *inform* public policy debates
  - Monetizes costs and benefits
  - Doesn't necessarily resolve debates

# Traditional BCA

- Identify benefits and costs of a project
  - Aggregate to a single bottom line: net benefit
  - Provides simple ranking of alternatives
  - Typical approach: net benefit  $>0$   $\Rightarrow$  proceed with project
  - Opaque distributional consequences
- Social Benefit-Cost Analysis performs a market valuation of a policy or project, adjusting for social benefits and costs not reflected in market prices and costs.

# Social versus Private

- Determined by the ***reference group***: the set of (only those) persons whose gains and losses are to be included as directly relevant to the project decision
- **Social**: the project reference group is some social group as defined by residency, citizenship or similar criteria
- **Private**: the project reference group is some narrowly defined set of agents
- Separate private and social analyses may be conducted side-by-side for the same project

# Social versus Private

	<b>Social</b> BCA says ACCEPT	<b>Social</b> BCA says REJECT
<b>Private</b> BCA says ACCEPT	Consistent recommendations	?
<b>Private</b> BCA says REJECT	?	Consistent recommendations

# Multiple Account Analysis

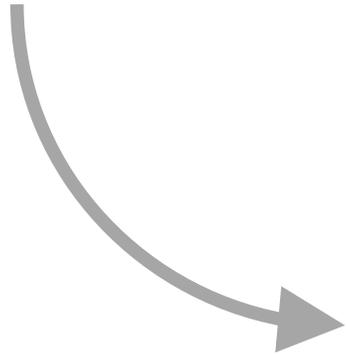
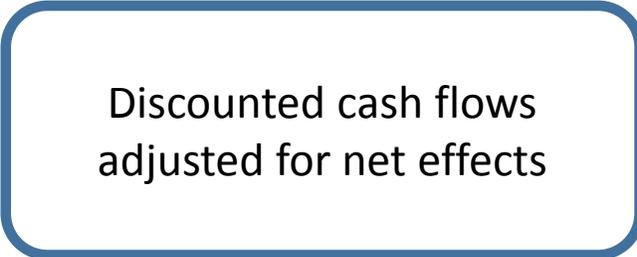
- *Multiple Account Analysis* performs a market valuation, representing social adjustments through the use of various stakeholder accounts
  - Acknowledges the role of **normative judgement** in decision-making
  - Recognizes that **values** are complex
  - Recognizes **not all consequences can be incorporated into a single measure** of net benefit
  - **Transparently identifies complex and imprecise measurement** of social benefits and costs
  - Clearly displays the **distribution** of net benefits across different stakeholders

# Multiple Account Analysis – Typical Accounts

- Market Valuation Account
- Taxpayer Account
- User or Target-Beneficiary Account
- Economic Activity Account
  - Labour Activity
  - Business Activity
- Environmental Account
- Social Account
- Other Considerations – the baseline

## 1. Start with the Market Valuation

Discounted cash flows  
adjusted for net effects



## 2. Social Adjustments by Account

User account

Taxpayer account

Economic activity account

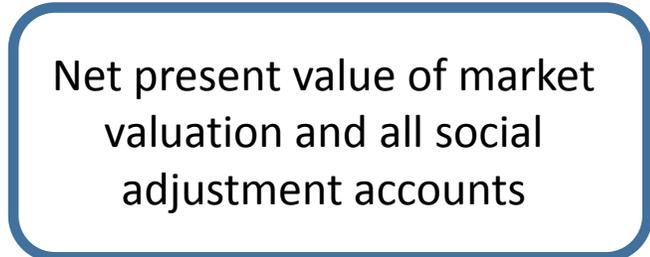
Environmental account

Social account



## 3. Determination of net benefits and distribution

Net present value of market  
valuation and all social  
adjustment accounts



# Benefits of MABCA

- Evaluation framework to systematically identify:
  - Different types of costs and benefits
  - Relative value or significance of consequences to different affected parties
  - Transfers of value between stakeholder groups (i.e., taxes)
  - Trade-offs and critical values associated with alternatives
- Does not monetize all impacts
- Does not provide a single bottom line answer
  - Matrix summary of consequences
  - Describes pros and cons of alternatives
  - Describes distributional effects
- Transparency

# Example: Rapid Transit Project

- Reference group key for determining effects in each account
  - City vs region vs province
- Market Valuation
  - Benefits: incremental revenues from new transit riders, avoided expenditure, subsidies
  - Costs: operating and capital costs, additional needed infrastructure
- Taxpayer
  - Benefits: incremental tax revenue, federal/provincial contribution
  - Costs: incremental expenditure, foregone tax revenue, subsidies, change in road maintenance
- User/Target Beneficiary
  - Benefits: faster commute (transit users and drivers), lower cost of commute vis a vis baseline
  - Costs: cost of commute

# Example: Rapid Transit Project

- Economic
  - Benefits: incremental businesses near transitway
  - Costs: lost activity from taxis, lower fuel purchases
- Environmental
  - Benefits: air quality improvements
  - Costs: land disturbance from transitway
- Social
  - Benefits: less urban sprawl, reduced neighbourhood traffic
  - Costs: noise from buses

# Conclusions

- Multiple Account methodology **transparently** and **explicitly** identifies trade-offs associated with projects and policies
- Helps inform policy debates
- Allows discussion of tradeoffs and distributional consequences