



# *Some Summary Thoughts and Comments*

*Robert Haveman*  
*University of Wisconsin-Madison*

Conference on Strengthening Benefit-Cost Methodology for Evaluation  
of Early Childhood Interventions

March 4-5, 2009  
Washington, DC

# Basic Early Childhood BCA Issues

- Correctly defining the intervention (I) to be evaluated
- Developing a comprehensive catalogue of +/- impacts of I
- Understanding the linkage between I and each impact—the production/cost function issue
- Measuring accurately each of the relevant Benefit and Cost linkages
- Assessing carefully costs of I
- Evaluating time trajectories for each estimated +/- impact
- Choosing a discount rate, or not
- Assessing the uncertainty surrounding each years +/- impact
- Deciding how to value uncertainty
- Can we find ‘generalizable’ benefit and cost estimates?

# Correctly Defining the Intervention: I's are not Identical

- Recall Levin's slide "What is a quality preschool program?"
  - session length, personnel ratios/qualifications, range/intensity of services, facilities, transportation, age range served, enrollments (economies of scale), home visits
- Both costs and benefits are dependent on program specification
- Both specific services and the setting need to be accurately identified and measured
  - care or instruction of x quality for y hours per period; classroom with z qualities
- The target group needs to be identified
  - age of children by family type and income level

# Establishing a Comprehensive Benefit-Cost Accounting Framework

- All of the relevant **cost** and **gain** categories need to be identified
- All of market, nonmarket, and public goods effects need to be assessed
- What is the value of the service or costly effects to people affected?—Willingness to Pay is the basic criterion
- Where impacts are nonmarket, shadow pricing (including related market and contingent valuation analysis) may be necessary
- Where impacts are public goods, some other base for a guesstimate must be found
- The effects (within each category) on relevant stakeholders—parents, children, taxpayers, others—should be identified. (Karoly: ‘savings to government’)


# The Linkage between Land and Impacts— Measuring the Production and Cost Functions

- This is the CRITICAL ISSUE: Are only experimental results admissible?
- What to do about less ‘clean’ estimates (regression adjustments, worst-case bounds, non-experimental estimates) Ludwig: ‘Bias can be pretty bad.’
  - Methods are being developed for gaining reliable ITT estimates (e.g., multiple inference adjustment, regression discontinuity)
  - But, these are all a plagued by their own assumptions and potential biases
  - **“Beware of Geeks Bearing Formulae.”** Warren Buffett

# Measuring Accurately the Benefit and Cost Impacts

- Physical impacts are basic, but dollar values are the goal.
- Finding a monetary measure: Basic welfare economics is the guide—surplus changes, deadweight costs/gains
- WHAT IS THE VALUE (WTP) TO PEOPLE OF SERVICES PROVIDED OR COSTS IMPOSED BY A POLICY?
- Many tricky issues (e.g., the case of increased work effort)
  - Benefits are often thought of as the increased earnings from additional work generated by an I
  - NOT correct; need the **net** social gain
  - Incremental earnings are offset by loss in the value of leisure time—only the surplus triangle counts

# Shadow Valuing Benefits when Markets are Missing

- A variety of **nonmarket** and **public goods** impacts of I; these need to be Shadow Valued
  - Case of incremental education: In addition to own earnings: own health, children's attainments, consumption efficiency, offspring health/fertility, community participation etc.
- Revealed preferences—looking to observed choices (travel cost choices, property values, costs as proxy, etc)  
[MIP  MWP] (Freeman, Weimer)
- Stated preference—Contingent Valuation
  - Variety of techniques, each with its own issues and potential biases
  - Do respondents have well-defined preferences, or do they blow hot air?
- Cost-utility Approach—QALY
  - Where does the QALY weight come from? Hmmm.
  - Should QALYs be monetized?



# The Cost Side of the Account

- Costs—including all opportunity costs—must be identified and accurately measured (Levin)
- Analysts tend to give this component short shrift; not as analytically interesting
- Administrative/evaluation/audit; tax burden costs; secondary labor market effects—all need to be included
- Need for studies of difference between estimated and actual costs of programs (ex ante and ex post); how to handle the cost overrun problem?
- The social opportunity costs may be significantly lower in today's economic environment than the stated program costs—shadow price of labor when there are unemployed resources is less than the market price

# Determining Future Trajectories for Each Estimated +/- Impact

- Immediate impacts not enough; need to project future outcomes.
- If projection is goal, what is the projection model, and **is it reliable?**
- Pick parameters from other studies (Krueger), or link from early childhood to adolescent to adult (through achievement or hs graduation)
- Leverage information from experiments with long-run estimates
  - Are early measures available? Are samples appropriate? Are measures 'linkable'? Are they the outcome measures that one wants?
  - Note: There are many B and C effects to be estimated, and MANY pathways to be considered.
- Longer-run approaches (Currie): add retrospective questions to, say, PSID; link registry data on relevant outcomes (geographic?)



# Choosing a Discount Rate

- Basic Issue: Is the benefit-cost framework sufficiently robust to be used as the basis for choosing among alternatives that may have far-reaching consequences?
- Can we argue that each generation should be treated equally; does discounting at a positive rate imply intergenerational inequity? (Lind, 1982)
- What if the citizenry is myopic; is this irrational? If not, should analysts also practice hyperbolic discounting? (Thaler/Benartzi, 2004)
- What if the citizenry is loss averse; should analysts place a higher weight on costs than on benefits?

# Assessing Uncertainty Around Each Years +/- Impact

- Estimating standard errors are necessary for statistical inference, but difficulties if multiple outcomes at issue (Anderson)
- Always need a Monte Carlo analysis at the end; need a relative frequency distribution of impacts (Weimer), then decide
- Is the 95 percent test holy? (Kenkel; Lipsky) How about Type II?
- The fundamental question is: How to value uncertainty?
- Risk Aversion: If uncertainty implies a utility loss, uncertainty implies need for reducing benefit estimates; uncertainty implies increasing cost estimates
- Issue: How to value uncertainty; what is the shape of the utility of income function?
- Is uncertainty always a cost? (Arrow-Fisher, ca1970s) With many projects in the public portfolio, uncertainty washes out—use the point estimate

# Generalizability

- Meta-analysis : From ‘common’ I with diverse effect sizes, can we find a reliable general effect?
- Is meta-analysis reliable for determining ‘plug-in’ values?
  - I’s are not really I’s in terms of program, clients and method, with little guidance in choosing
  - Insufficient research studies for any type of I
  - Effect variability across I’s ‘abounds’
    - Between-study variability 10 times within-study sampling error!!!
    - Researcher decisions account for a lot of diversity!!!
- Are planned variations within large scale studies superior to generalizations from multiple studies in planning future research?
  - Bloom: ‘Sure’

# Some Important Research Issues

- Do valuation issues dominate inference issues?
- Are the weaknesses/biases in randomized studies markedly less than weaknesses/biases in non-experimental studies?
- Do changed economic structures/institutions/knowledge invalidate findings from existing long-term evaluations (e.g., Perry)?
- We've focused on valuing direct impacts on children; how about WTP of parents for child benefits?
- How to value marketed effects when relevant markets are notoriously imperfect (e.g., health)?
- How to value public goods effects (e.g., social participation)
- What is society's WTP for desired distributional effects (income class, race, region)? CV? Is WTP pro-rich?
- Peer/sibling /parenting effects
- Generational effects; do we have to discount next-generation effects?



# A Big Question

- The basic presumption of the meeting: Big increases in early childhood spending are coming; can BCA be used to guide allocation among alternative projects/types of intervention?
- Given the lacunae in knowledge/analysis and weaknesses in estimates

Can we think of using expert panels/organizations to settle on 'reliable' dose-response measures, valuation estimates, and 'guesstimates' of relevant unmeasured effects?



# A Really Big Issue

- Basic premise of this meeting: Big increases in early childhood spending are coming; can BCA be used to guide allocation among alternative projects/types of intervention?
  - Are we so far from having reliable guidance from BCA that we should be asking a different question?
- An alternative premise (Bartik): Big increases in early childhood spending are coming; shouldn't we be worrying about monitoring the short-run performance of alternatives so as to guide the next stage of policy?