






Sample Posts on RADG

[RADG] Am I speaking decision analysis or benefit-cost analysis?



Scott Farrow via RADG <radg@mailmanlists.gdn>
To: radg@mailmanlists.gdn
Cc: Scott Farrow

 You replied to this message on 12/2/2023 2:05 PM.

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Sat 12/2/2023 6:20 AM

Trying out the new list (I'm an economist but also been active in SRA and sometimes publish in RA.)

On the old list-serv I asked whether people thought decision-analysis was equivalent to benefit-cost analysis and I got a variety of answers with no consensus. I think there is an unappreciated equivalency (under certain conditions) that doesn't appear in standard textbooks. I'm curious if you agree.

Simplest case: Consider an expected value, multiple criteria, decision tree. The criteria are monetized and each branch outcome can have values for multiple criteria. Decision Analysis (when criteria are monetized), aggregates the criteria for each outcome (row aggregation), and then folds back to reach an Expected Value with sub-aggregates at various nodes but also potential for expected value of each outcome.

In contrast, benefit-cost analysis uses the criteria to aggregate over outcomes (column aggregation, values and probabilities), and then adds up the expected value of the summed criteria to get the total Expected Value.

Result, and differences: The bottom line Expected Value is the same for "standard" decision analysis or benefit-cost analysis, but there are different sub-aggregates that can be informative to decision-makers (over outcomes or over criteria).

A difference: benefit-cost analysis tries to monetize everything and has some standard practices for doing so; decision analysis seems less uniform on how it treats values.

Corollary: Decision-analysts can be as professionally active in the benefit-cost analysis of regulations as are benefit-cost people (if they are willing to monetize criteria:)

Proof available on request (or see Farrow, Net Benefits and Residual Costs from US Border Management, J. Benefit-Cost Analysis).

[RADG] Re: Am I speaking decision analysis or benefit-cost analysis?



Adam Finkel via RADG <radg@mailmanlists.gdn>
To: Scott Farrow via RADG
Cc: Scott Farrow; Adam Finkel

Reply Reply All Forward ...

Sat 12/2/2023 11:22 AM

Scott-- I confess I've never quite understood your mental picture of "rows and columns," but I agree that both DA and CBA *can* generate an identical Expected Monetary Value.

I'd just supplement this with three terse observations:

1) expected value alone is a constipated, and often misleading criterion-- it doesn't allow for consideration either of uncertainty in the aggregate (what is the *range and probability distribution* of net benefit) or of interindividual variability in how that aggregate is apportioned (who will be safe and who will be sorry?) So to agree that both methods can produce the same misleading value isn't IMO a big selling point of either.

2) neither method has to "monetize everything," or anything. In particular, since the effect on personal welfare of a given increment of cost (or a decrement of cost) depends strongly on the person's wealth (diminishing marginal utility of money), converting health/environmental harms to money only encourages CBA practitioners to leave the "cost side" in units of money. But both sides of the ledger should be expressed in units of welfare. It would be preferable, arguably, to "harmize money" and compare it to harm than to "monetize harm" and compare it to money.

3) Both CBA and DA have overwhelmingly tended to array and compare narrow, unambitious solutions (most often, "should we pay \$X to reduce exposure to Y ppm, or \$[X+N] to reduce exposure to [Y-M] ppm?") I've written several articles (this one has concurrent commentaries pro and con) about combining DA, CBA, and "solution-focused thinking" so we could someday ask more fundamental questions of the form "what human need are we trying to provide, and how can we do so with the minimum total of [cost plus externalities]?"

Here's the article and a link to a 6-minute video about the concept:

<https://jmp.sh/nAieoXoT>

<https://www.youtube.com/watch?v=n7XkdbpYWHk>

Adam

Adam M. Finkel, Sc.D., CIH
Clinical Professor of Environmental Health Sciences
University of Michigan School of Public Health

Webpages: <https://sph.umich.edu/faculty-profiles/finkel-adam.html> ; <https://jumpshare.com/b/vzUf0OktQKzdDwGjZWAz> (risk assessment articles); <https://jumpshare.com/b/ROrICFmpHwwuS87ewCnt> (CD of choral music lullabies recorded 2000)

[RADG] Re: Am I speaking decision analysis or benefit-cost analysis?



tcoxdenver--- via RADG <radg@mailmanlists.gdn>
To: radg@mailmanlists.gdn
Cc: Scott Farrow; tcoxdenver@aol.com

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Sat 12/2/2023 1:05 PM

Scott, what are the rows and columns? (I think you are not referring to standard normal-form decision analysis with acts as rows, states of nature as columns, consequences or outcomes in cells, and utility functions -- possibly MAUT ones -- defined for the consequences or outcomes.)

I think MAUT provides some useful insights into possibilities and impossibilities for coherent aggregation formulas for deriving NM utilities from vectors or time series of consequences (Keeney & Raiffa style) and also for aggregating individual utilities and probabilistic beliefs. The latter leads to a bunch of interesting impossibility theorems suggesting that coherent social utilities and preferences only exist under restrictive conditions (e.g., if there is not too much disagreement in preferences, risk attitudes, or beliefs).

To me, these decision-analytic results call into question the possibility of sound risk-benefit-cost analysis (RBCA) as a guide to normatively desirable (e.g., ex post Pareto-efficient, non-dictatorial, budget-balancing, etc.) collective decision making when there is substantial disagreement in values or beliefs (perhaps due to differences in private information or risk perceptions). I suspect that a more practically useful approach to collective decision-making may depend on applying insights from behavioral decision analysis and behavioral game theory that suggest that real people and communities can, and sometimes do, transcend the limitations of merely rational agents in jointly reaching mutually preferred outcomes -- but this is a different framework from (R)BCA. It depends on concepts such as trust, shared norms, formation and preservation of social capital, and other ideas that go beyond either traditional BCA or traditional (SEU) decision analysis.

[RADG] Re: Am I speaking decision analysis or benefit-cost analysis?



Peter M. Sandman via RADG <radg@mailmanlists.gdn>
To 'tcoxdenver--- via RADG'
Cc Peter M. Sandman

[↩ Reply](#) [↩ Reply All](#) [→ Forward](#) [⋮](#)

Sat 12/2/2023 1:43 PM

In support and extension of Tony's last paragraph:

When people are outraged, they often prioritize venting their outrage and wreaking vengeance on their "enemies" over even their own self-interest, let alone compromise. [Ameliorating their outrage](#) is a precondition both to their participation in a possible win-win negotiation and to their acceptance of a risk-benefit-cost analysis.

(Of course I would say that, since helping clients find ways to ameliorate their stakeholders' outrage was my stock-in-trade as a consultant.)

All the best.

--Peter

Peter M. Sandman
275 Conover Street, Apt. 4N
Brooklyn, NY 11231-1037
(718) 208-6271
peter@psandman.com
www.psandman.com

Mailing address:
500 Westover Drive
PMB [Private Mail Box] 11067
Sanford, NC 27330-8941