

Aggregation of individual willingness to pay responses for ecosystem services in decision making

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CBA: monetary costs versus monetary benefits

- CBA requires that explicit monetary values are placed on the costs and benefits of a project or policy
- However, non-market benefit values are often measured for individual respondents (individual Willingness-To-Pay (WTP) estimates)
- CBA, therefore, requires the aggregation of individuals' benefits

Individual WTP responses

- Much emphasis is placed on the precision of the individual WTP responses
- Aggregation of these responses is often considered less important
- However, aggregation (or defining the extent of the market for the good under consideration) can have major implications for the outcome of a CBA

Four methods for aggregation:

- Using an administrative area, such as a province, or municipality
 - Rather arbitrary and often without empirical foundation
- Distance and project dependent
 - Draw a circle around the project; within this circle, everyone is affected by the project (guidelines)
 - Estimate distance-decay function
- Gravity models
 - Relevant for use-values

Distance-decay method

- The value for the public good under consideration is likely to decay with increasing distance from that good
- Individual WTP responses are often based on surveys in areas around the good
 - Over-estimation of aggregate values by using sample means
- Moreover, self-selection bias: individuals with relatively high values select themselves to fill out the surveys

Approach

- This year: Literature review on aggregation, and publication in Dutch Journal (ESB)
 - Hardly any information about aggregation in the Dutch literature or policy documents
- Next year: Literature review Dutch distance decay functions
 - Show empirically how distance effects have an impact on the aggregation of WTP responses
 - To determine critical distances to be used in Dutch CBA's

Propositions

- For policymakers who use CBA, not only the individual WTP responses are relevant, but perhaps even more important is how to aggregate these values
- Despite its importance for the outcome of a CBA, the issue of aggregation has not received much attention in Dutch policy documents (*OEI-Leidraad*, etc.).
- Given the increasing use of CBA in decision-making, this really needs to change
- In addition to socio-economic variables, aggregation is distance and project dependent

Thank you....

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