

Vulnerability Analysis and Risk Management for Water-Related Hazards

PART II: “Socio-economic valuation of risk perception”

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Exam structure (for Part I)

- 1 open questions (short and specific)
- 2 multiple choice questions
- No questions about case studies
- Formulae for the econometric models will not be asked (but important to remember the concepts associated with them)

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Example of open question

Describe the different types of costs included in travel cost analysis.



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Answer



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5. Travel costs and other costs

- Once the data are assembled and organized, the trip costs to all sites for each respondent are computed. Trip cost is the sum of the expenses required to make a trip.
- Typical costs for a day trip include:
 1. Travel cost
 2. Access fees
 3. Equipment cost
 4. Time cost



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5. Travel costs and other costs

- Travel cost, is typically computed using a per-mile operating cost times round-trip mileage to the site. For example, the American Automobile Association's 2015 average cost per mile for operating a vehicle (average of all sedans) is about 15 cents (\$0.15), which includes the cost of gas, maintenance, and tires.
- The round-trip distance to the sites is usually calculated using a software package.
- Tolls, if any, are added to the travel costs.
- Because travel costs may be shared by several people, efforts are sometimes made to apportion the costs. For example, the researcher might ask respondents to report the number of people sharing travel costs on their last trip and divide the cost equally.



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5. Travel costs and other costs

- If sites have an access fee, that fee is included in the trip cost. Sometimes sites will offer annual or weekly passes, senior discounts, or free admission for children. Making adjustments for seniors and children is easy, but accounting for discounts is more difficult and usually ignored. Typically, the daily fee is used.
- Equipment costs are often excluded from the trip cost estimate because they are difficult to estimate and are generally negligible portions of trip cost when accounting for the fact that equipment can be used for multiple visits. Also, they vary a lot for different types of recreational activities, thus making computation difficult.



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5. Travel costs and other costs

- One of the most crucial issues is the estimation of the cost of time associated to the trip.
- Time spent traveling to and from the site and time spent on the site constitutes time that could have been devoted to other activities. The value of those lost opportunities (opportunity cost) is the time cost of the trip. Time cost often accounts for a sizable portion of the total trip cost.
- The estimation of the time cost is commonly got by multiplying the hourly wage by the travel time to the site (related to income). A fraction of the imputed wage is sometimes used ranging from one-third to the full wage. Alternative approaches are proposed.



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Example of question

Describe the elicitation formats in Contingent Valuation



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Answer



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5.1 Select a Response Format

1) Open-ended question:

"If passage of the proposal would cost you some amount of money every year for the foreseeable future, what is the highest amount that you would pay annually and still vote for the program? (WRITE IN THE HIGHEST DOLLAR AMOUNT AT WHICH YOU WOULD STILL VOTE FOR THE PROGRAM)"

2) Dichotomous-choice question:

"Would you vote for this proposal if the proposal would cost you \$_____ every year for the foreseeable future?"

Respondents can answer "yes" or "no". If yes, propose higher bid, if no lower. Total of two bids.

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5.1 Select a Response Format

3) Iterative bidding-game:

"Would you pay X\$" for the specified policy?

If respondents answer "yes" to the starting bid, then the bid is increased until they say "no," and decreased until they answer "yes" if the initial response was "no".

4) Payment-card:

"If the passage of the proposal would cost you these amounts every year for the foreseeable future, what is the highest amount you would pay and still vote for the program? (CIRCLE THE HIGHEST AMOUNT THAT YOU WOULD STILL VOTE FOR THE PROGRAM)"

10€	50€	\$1	\$5	\$10	\$20
\$30	\$40	\$50	\$75	\$100	\$150
\$200	MORE THAN \$200				

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Example of multiple-choice question

Which of those is a revealed preferences method?

1. Contingent Valuation
2. Choice Experiment
3. Hedonic price
4. Benefit transfer



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