Monetary Valuation of Environmental Goods: Alternatives to Contingent Valuation

Baarsma, B.E.

Citation for published version (APA):
## Contents

**Preface** vii

**Chapter 1** Introduction 1

1.1 A précis of the plot 1

1.2 A critique of monetising the environment 4

1.3 An overview 7

**Part I** Theory 11

**Chapter 2** Monetary Valuation and Economic Theory 11

2.1 Neoclassical welfare economics 11

2.1.1 Neoclassical basis of monetary valuation methods 14

2.1.2 Problems with neoclassical assumptions about behaviour 20

2.1.2.a Assumptions of choice 21

2.1.2.b Rationality assumption 23

2.1.2.c Strict convexity of indifference curves 26

2.1.2.d Assumption of local non-satiation 28

2.1.2.e Consumer sovereignty 30

2.1.2.f Well-structured preferences 31

2.1.2.g Ceteris paribus, time dimensions and complete certainty 34

2.1.2.h Conclusion 35

2.2 Other economic approaches to monetary valuation 36

2.2.1 Institutional economics 37

2.2.2 Ecological economics 45
Chapter 3  The Contingent Valuation Method  53
  3.1  A classification of valuation methods  53
  3.2  Introduction to the contingent valuation method  56
  3.3  Use and popularity of the contingent valuation method  60
  3.4  A critique of the contingent valuation method  65
      3.4.1  Embedding effects  66
      3.4.2  Endowment effects  71
      3.4.3  Overestimation  77
      3.4.4  Aggregation issues  82
  3.5  Concluding remarks  85

Chapter 4  Alternatives to Contingent Valuation  91
  4.1  Introduction  91
  4.2  Conjoint measurement  93
      4.2.1  Conjoint measurement as used in this thesis  97
      4.2.2  Advantages of conjoint measurement over the CVM  101
  4.3  Welfare evaluation method  104
  4.4  Well-being evaluation method  108
  4.5  Closure  112

Part II  Empirical studies

Chapter 5  The IJburg Experiment: CVM versus Conjoint Measurement  117
  5.1  Introduction  118
  5.2  Hypotheses  119
  5.3  Referendum IJburg  121
  5.4  Construction of the questionnaire  124
      5.4.1  Construction of the contingent valuation question  124
      5.4.2  Construction of the conjoint measurement question  125
  5.5  Response  128
  5.6  Representativeness of the sample  131
  5.7  Differences between CM and CVM subsamples  132
  5.8  Order effects  134
  5.9  Results of the contingent valuation question  138
      5.9.1  Mean and total willingness to pay  140
      5.9.2  Determinants of the willingness to pay  142
      5.9.3  Starting point bias  144
Chapter 5

5.10 Results of the conjoint measurement question
5.10.1 The analysis based on rank orderings
5.10.2 The analysis based on report marks
5.10.3 The analysis based on acceptability
5.10.4 Comparison of the three analyses
5.10.5 Relating report marks to personal characteristics

5.11 Comparison of the CM and CVM results
5.11.1 Comparison of CM and CVM valuation results
5.11.2 Comparison of CM and CVM response behaviour
5.11.3 CVM-vignette in conjoint measurement study

Chapter 6

The Schiphol Experiment: Well-Being Evaluation and Conjoint Measurement

6.1 Introduction
6.2 The measurement of aircraft noise
6.3 The development of a compensation scheme
6.4 Other valuation studies of aircraft noise nuisance
6.5 The response data for the Schiphol survey
6.5.1 Response data per question
6.6 Results of the well-being evaluation method
6.6.1 Explanation of W (Well-being)
6.6.2 Compensations and the value of insulation differentiated for income positions
6.6.3 Compensations and the value of insulation differentiated for housing expenses
6.6.4 Compensations and the value of insulation for the average household
6.6.5 The costs of compensation to society
6.7 Results of the conjoint measurement question
6.7.1 The analysis based on report marks
6.7.2 Relating report marks to personal characteristics
6.8 Conclusions

Appendix A Results of the welfare evaluation method
Appendix B Specification of the unreliability of the Ku values lower than 20
Appendix C Total number of residences in the Schiphol region and Ku values
<table>
<thead>
<tr>
<th>Chapter 7</th>
<th>Conclusions and Summary</th>
<th>233</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Monetary valuation of the environment</td>
<td>233</td>
</tr>
<tr>
<td>7.2</td>
<td>Debate regarding the pros and cons of the CVM</td>
<td>235</td>
</tr>
<tr>
<td>7.3</td>
<td>Alternatives to the CVM</td>
<td>240</td>
</tr>
<tr>
<td>7.4</td>
<td>Empirical studies</td>
<td>243</td>
</tr>
</tbody>
</table>

Appendix I  The IJburg Questionnaire  251

Appendix II  The Schiphol Questionnaire  259

Bibliography  275

Nederlandse Samenvatting  295