

<b>School/Department:</b>	Erasmus School of Health Policy & Management / Department of Health Economics
<b>Project Title:</b>	Time preferences in health
<b>Abstract:</b>	<p>In recent years, the supervisor (Arthur Attema) has developed and tested new methods to measure time preferences for both monetary and health outcomes, while controlling for the distorting effect of utility curvature (e.g. Attema et al. 2010, 2012, 2016; Attema and Lipman 2018). This is pioneering work, still at its early stages. In the current project, the candidate will develop this methodology further. This includes both the creation of theoretical models, and design and administration of new experiments. Of particular interest are the study of time inconsistency (present bias), differences in time preferences for gains and losses, the relation of time preferences to healthy behavior and health state valuations, and the role of time discounting in health economic evaluations. In addition, the candidate may consider the related topics of decision under risk, decision under ambiguity, and societal preferences for health.</p> <p>References:</p> <ol style="list-style-type: none"> <li>1. Attema AE, Bleichrodt H, Gao Y, Huang Z, Wakker PP (2016). Measuring discounting without measuring utility. <i>American Economic Review</i>, 106 (6), 1476-1494.</li> <li>2. Attema AE, Bleichrodt H, Rohde KIM, Wakker PP (2010). Time-tradeoff sequences for analyzing discounting and time inconsistency. <i>Management Science</i>, 56 (11), 2015-2030.</li> <li>3. Attema AE, Bleichrodt H, Wakker PP (2012). A direct method for measuring discounting and QALYs more easily and reliably. <i>Medical Decision Making</i>, 32 (4), 583-593.</li> <li>4. Attema AE, Lipman SA (2018). Decreasing impatience for health outcomes and its relation with healthy behavior. <i>Frontiers in Applied Mathematics and Statistics</i>, 4 (16).</li> </ol>

<p><b>Requirements of candidate:</b></p>	<p><b>Background:</b> The successful applicant for this position is expected to have a recent or almost completed Master's degree in (health/behavioural) economics or econometrics. The ideal candidate has advanced mathematical skills and a strong economic and psychological intuition. This will enable the candidate to build a bridge between theoretical work and applied work in clever experiments. Knowledge of programming languages is a plus. Applicants must have excellent communication and writing skills in English, and have a strong motivation for doing methodological research in the field of health economics.</p> <p><b>Master's degree:</b> Yes</p> <p><b>EUR English requirement:</b> IELTS: 7.0 (min. 6.0 for all subs.); or TOEFL: 100 (min. 20 for all subs.)</p>
<p><b>Supervisor information:</b></p>	<p>Applicant and daily supervisor: Dr. Arthur Attema E-mail: <a href="mailto:attema@eshpm.eur.nl">attema@eshpm.eur.nl</a> Website: <a href="https://www.eur.nl/people/arthur-attema/">https://www.eur.nl/people/arthur-attema/</a></p> <p>Formal promotor: Prof. Werner Brouwer (ESHPM) Co-promotor: Prof. Kirsten Rohde (ESE)</p> <p><i>Recent publication list Arthur Attema (last 5 years)</i></p> <ol style="list-style-type: none"> <li>1. <b>Attema AE</b>, Bleichrodt H, l'Haridon O (in press). Ambiguity preferences for health. <i>Health Economics</i>.</li> <li>2. Lipman SL, Brouwer WBF, <b>Attema AE</b> (in press). "A QALY loss is a QALY loss is a QALY loss: A note on independence of loss aversion from health states." <i>The European Journal of Health Economics</i>.</li> <li>3. Rouyard T, <b>Attema AE</b>, Baskerville R, Leal J, Gray A (2018). Risk attitudes of people with 'manageable' chronic disease: an analysis under prospect theory. <i>Social Science &amp; Medicine</i>, 214, 144-153.</li> <li>4. <b>Attema AE</b>, Brouwer WBF, Pinto JL (2018). Peer effects in health valuation: The relation between rating of contemporaries' health and own health. <i>Health and Quality of Life Outcomes</i>, 16: 148.</li> <li>5. <b>Attema AE</b>, Brouwer WBF, Claxton K (2018). Discounting in economic evaluations. <i>Pharmacoeconomics</i>, 36 (7), 745-758.</li> <li>6. <b>Attema AE</b>, Bleichrodt H, l'Haridon O, Perreti-Wattel P, Seror, V (2018). Discounting Health and Money: New evidence using a</li> </ol>

	<p>more robust method. <i>Journal of Risk and Uncertainty</i>, 56 (2), 117-140.</p> <ol style="list-style-type: none"> <li>7. <b>Attema AE</b>, Lipman SA (2018). Decreasing impatience for health outcomes and its relation with healthy behavior. <i>Frontiers in Applied Mathematics and Statistics</i>, 4 (16).</li> <li>8. <b>Attema AE</b>, Krol HM, van Exel NJA, Brouwer WBF (2018). New findings from the TTO for income approach to elicit willingness to pay for a QALY. <i>The European Journal of Health Economics</i>, 19 (2), 277-291.</li> <li>9. Jonker MF, <b>Attema AE</b>, Versteegh MM, Donkers B, Stolk EA (2017). Are health-state valuations from the general public biased? A test of health state reference dependency using self-assessed health and an efficient discrete choice experiment. <i>Health Economics</i>, 26 (12), 1534-1547.</li> <li>10. <b>Attema AE</b> (2017). De meting van maatschappelijke voorkeuren voor gezondheid(szorg) vanuit een gedragseconomisch perspectief. <i>TPEdigitaal</i>, 11 (2), 36-48. (In Dutch).</li> <li>11. <b>Attema AE</b> (2017). Economische inzichten in stimulatie van gezond gedrag: de voor- en nadelen van een financiële prikkel. <i>Nederlands Tijdschrift voor Geneeskunde</i>, 161, D1933. (In Dutch).</li> <li>12. Tilling C, Krol HM, <b>Attema AE</b>, Tsuchiya A, Brazier J, van Exel NJA, Brouwer WBF (2016). Exploring a new method for deriving the monetary value of a QALY. <i>The European Journal of Health Economics</i>, 17 (7), 801-809.</li> <li>13. <b>Attema AE</b>, Bleichrodt H, Gao Y, Huang Z, Wakker PP (2016). Measuring discounting without measuring utility. <i>American Economic Review</i>, 106 (6), 1476-1494.</li> <li>14. <b>Attema AE</b>, Brouwer WBF, l'Haridon O, Pinto JL (2016). An elicitation of utility for quality of life under prospect theory. <i>Journal of Health Economics</i>, 48, 121-134.</li> <li>15. Krol HM, <b>Attema AE</b>, van Exel NJA, Brouwer WBF (2016). Altruistic preferences in time tradeoff: Consideration of effects on others in health state valuations. <i>Medical Decision Making</i>, 36 (2), 187-198.</li> <li>16. <b>Attema AE</b>, Brouwer WBF, l'Haridon O, Pinto JL (2015). Estimating sign-dependent societal preferences for quality of life. <i>Journal of Health Economics</i>, 43, 229-243.</li> <li>17. <b>Attema AE</b> (2015). Incorporating sign-dependence in health-related social welfare functions. <i>Expert Review of Pharmacoeconomics &amp; Outcomes Research</i>, 15 (2), 223-228.</li> </ol>
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	<p>18. <b>Attema AE</b>, Brouwer WBF (2014). Deriving time discounting correction factors for TTO tariffs. <i>Health Economics</i>, 23 (4), 410-425.</p> <p>19. <b>Attema AE</b>, Brouwer WBF, van Exel NJA (2014). Your right arm for a publication in AER? <i>Economic Inquiry</i>, 52 (1), 495-502.</p> <p>20. <b>Attema AE</b>, Versteegh MM (2013). Would you rather be ill now, or later? <i>Health Economics</i>, 22 (12), 1496-1506.</p> <p>21. <b>Attema AE</b>, Brouwer WBF, l'Haridon O (2013). Prospect theory in the health domain: A quantitative assessment. <i>Journal of Health Economics</i>, 32 (6), 1057-1065.</p> <p>22. <b>Attema AE</b>, Brouwer WBF (2013). In search of a preferred preference elicitation method: a test of the internal consistency of choice and matching tasks. <i>Journal of Economic Psychology</i>, 39, 126-140.</p> <p>23. <b>Attema AE</b>, Edelaar-Peeters Y, Versteegh MM, Stolk EA (2013). Time trade-off: one methodology, different methods. <i>The European Journal of Health Economics</i>, 14 (Suppl 1), S53-S64.</p> <p>24. Versteegh MM, <b>Attema AE</b>, Oppe M, Devlin NJ, Stolk EA (2013). Time to tweak the TTO: results from a comparison of alternative specifications of the TTO. <i>The European Journal of Health Economics</i>, 14 (Suppl 1), S43-S51.</p> <p>25. <b>Attema AE</b>, Versteegh MM, Oppe M, Brouwer WBF, Stolk EA (2013). Lead time TTO: Leading to better health state valuations? <i>Health Economics</i>, 22 (4), 376-392.</p> <p><i>Recent publication list Werner Brouwer (last 5 years)</i></p> <p>1. W.B.F. Brouwer, P.H.M. van Baal, N.J.A. van Exel &amp; M.M. Versteegh (2018). When is it too expensive? Cost-effectiveness thresholds and health care decision-making. <i>European Journal of Health Economics (HEPAC)</i>. doi: 10.1007/s10198-018-1000-4</p> <p>2. A.E. Attema, W.B.F. Brouwer &amp; J.L. Pinto-Prades (2018). Peer effects in health valuation: The relation between rating of contemporaries' health and own health. <i>Health and Quality of Life Outcomes</i>, 16:148. doi: 10.1186/s12955-018-0978-8</p> <p>3. A.E. Attema, H.M. Krol, N.J.A. van Exel &amp; W.B.F. Brouwer (2018). New findings from the time trade-off for income approach to elicit willingness to pay for a quality adjusted life year. <i>Open external European Journal of Health Economics (HEPAC)</i>, 19 (2), 277-291. doi: <a href="https://doi.org/10.1007/s10198-017-0883-9">https://doi.org/10.1007/s10198-017-0883-9</a></p> <p>4. F.C.W. van Krugten, M. Goorden, A.J.L.M. van Balkom, J. Spijker, W.B.F. Brouwer &amp; L. Hakkaart-van Roijen (2018). Indicators to facilitate the early identification of patients with major depressive disorder in need of highly specialized care: A concept mapping</p>
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	<p>study. <i>Open external Depression and Anxiety</i>, 35 (4), 346-352. doi: <a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/da.22741">https://onlinelibrary.wiley.com/doi/abs/10.1002/da.22741</a></p> <p>5. P.H.M. van Baal, A. Morton, D. Meltzer &amp; W.B.F. Brouwer (2018). Future unrelated medical costs need to be considered in cost effectiveness analysis. <i>European Journal of Health Economics (HEPAC)</i>. doi: 10.1007/s10198-018-0976-0</p> <p>6. V.T. Reckers, N.J.A. Van Exel &amp; W.B.F. Brouwer (2018). Looking back and moving forward: On the application of proportional shortfall in healthcare priority setting in the Netherlands. <i>Open external Health Policy</i>, 122 (6), 621-629. doi: 10.1016/j.healthpol.2018.04.001</p> <p>7. V.T. Reckers, N.J.A. Van Exel &amp; W.B.F. Brouwer (2018). Who should receive treatment? An empirical enquiry into the relationship between societal views and preferences concerning healthcare priority setting. <i>Open external PLoS One (online)</i>, 13 (6):e0198761. doi: 10.1371/journal.pone.0198761</p> <p>8. A.E. Attema, W.B.F. Brouwer &amp; K. Claxton (2018). Discounting in economic evaluations. <i>Open external Pharmacoeconomics (Print)</i>, 36 (7), 745-758. doi: 10.1007/s40273-018-0672-z</p> <p>9. S.J. Schawo, W.B.F. Brouwer &amp; L. Hakkaart - van Roijen (2017). Clinicians' Views on Therapeutic Outcomes of Systemic Interventions and on the Ability of the EQ-5D to Capture these Outcomes. <i>Journal of Mental Health Policy and Economics</i>, 20 (3), 131-136.</p> <p>10. S. Wouters, N.J.A. van Exel, K.I.M. Rohde, J.J. Vromen &amp; W.B.F. Brouwer (2017). Acceptable health and priority weighting: discussing a reference-level approach using sufficientarian reasoning. <i>Social Science &amp; Medicine</i>, 181 (May), 158-167. doi: <a href="http://dx.doi.org/10.1016/j.socscimed.2017.03.051">http://dx.doi.org/10.1016/j.socscimed.2017.03.051</a></p> <p>11. F. Van Nooten, K. Houghton, J. van Exel, M. van Agthoven, W.B.F. Brouwer &amp; D. Stull (2017). A (latent) class of their own: Response patterns in trading-off quantity and quality of life in TTO exercises. <i>Value in Health</i>, 20 (10), 1403-1410.</p> <p>12. M.Q.N. Hackert, N.J.A. van Exel &amp; W.B.F. Brouwer (2017). Valid Outcome Measures in Care for Older People: Comparing the ASCOT and ICECAP-O. <i>Open external Value in Health</i>, 20 (7), 936-944. doi: 10.1016/j.jval.2017.03.012</p> <p>13. M. Gheorghe, S. Picavet, M. Verschuren, W.B.F. Brouwer &amp; P.H.M. van Baal (2017). Health losses at the end of life: a Bayesian mixed beta regression approach. <i>Open external Journal of the Royal Statistical Society. Series A. Statistics in Society</i>, 180 (3), 723-749. doi: 10.1111/rssa.12230</p>
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	<p>14. S. Wouters, N.J.A. van Exel, R. Baker &amp; W.B.F. Brouwer (2017). Priority to end of life treatments? Views of the public in the Netherlands. <i>Open external Value in Health</i>, 20 (1), 107-117.</p> <p>15. E.J. van de Wetering, N.J.A. van Exel &amp; W.B.F. Brouwer (2017). The risk of conditional reimbursement: Stopping reimbursement can be more difficult than not starting in the first place! <i>Value in Health</i>, 20 (1), 118-125.</p> <p>16. D.R. Rappange, N.J.A. van Exel &amp; W.B.F. Brouwer (2017). A short note on measuring subjective life expectancy: Survival probabilities versus point estimates. <i>Open external The European Journal Of Health Economics</i>, 18 (1), 7-12.</p> <p>17. R.J. Hoefman, N.J.A. van Exel &amp; W.B.F. Brouwer (2017). Measuring care-related quality of life of caregivers for use in economic evaluations: CarerQol tariffs for Australia, Germany, Sweden, the UK and the US. <i>Open external Pharmacoeconomics (Print)</i>, 35 (4), 469-478. doi: 10.1007/s40273-016-0477-x</p> <p>18. F.E. van Nooten, W.B.F. Brouwer, N.J.A. van Exel, K. Houghton, M. van Agthoven &amp; D.A. Stull (2017). A (Latent) Class of Their Own: Response Patterns in Trading Off Quantity and Quality of Life in Time Trade-Off Exercises. <i>Open external Value in Health</i>, 20 (10), 1403-1410. doi: <a href="http://dx.doi.org/10.1016/j.jval.2017.06.008">http://dx.doi.org/10.1016/j.jval.2017.06.008</a></p> <p>19. S.J. Schawo, C.A.M. Bouwmans - Frijters, E. van der Schee, V. Hendriks, W.B.F. Brouwer &amp; L. Hakkaart - van Roijen (2017). The search for relevant outcome measures for cost-utility analysis of systemic family interventions in adolescents with substance use disorder and delinquent behavior: a systematic literature review. <i>Open external Health and Quality of Life Outcomes</i>, 15:179. doi: 10.1186/s12955-017-0722-9</p> <p>20. P.H.M. van Baal, A. Morton, D.O. Meltzer &amp; W.B.F. Brouwer (2017). Should cost effectiveness analyses for NICE always consider future unrelated medical costs? <i>Open external BMJ-British medical journal</i>, Nov 10, 359-359. doi: 10.1136/bmj.j5096</p> <p>21. M.M. Versteegh &amp; W.B.F. Brouwer (2016). Patient and general public preferences for health states: A call to reconsider current guidelines. <i>Open external Social Science &amp; Medicine</i>, 165, 66-74. doi: <a href="http://dx.doi.org/10.1016/j.socscimed.2016.07.043">http://dx.doi.org/10.1016/j.socscimed.2016.07.043</a></p> <p>22. H. Al-Janabi, N.J.A. van Exel, W.B.F. Brouwer, C. Trotter, L. Glennie, L. Hannigan &amp; J. Coast (2016). A framework for including health spillovers in economic evaluation. <i>Open external Medical Decision Making</i>, 36 (2), 176-186. doi: <a href="http://dx.doi.org/10.1177/0272989X15605094">http://dx.doi.org/10.1177/0272989X15605094</a></p> <p>23. H.M. Krol, J. Papenburg, S.S. Tan, W.B.F. Brouwer &amp; L. Hakkaart-van Roijen (2016). A Noticeable Difference? Productivity</p>
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	<p>costs related to paid and unpaid work in economic evaluations on expensive drugs. <i>Open external European Journal of Health Economics (HEPAC)</i>, 17 (4), 391-402. doi: <a href="http://dx.doi.org/10.1007/s10198-015-0685-x">http://dx.doi.org/10.1007/s10198-015-0685-x</a></p> <p>24. H. Mason, N.J.A. van Exel, R. Baker, W.B.F. Brouwer &amp; C. Donaldson (2016). From representing views to representativeness of views: Illustrating a new (Q2S) approach in the context of health care priority setting in nine European countries. <i>Open external Social Science &amp; Medicine</i>, 166, 205-213. doi: 10.1016/j.socscimed.2016.08.036</p> <p>25. E.J. van de Wetering, N.J.A. van Exel &amp; W.B.F. Brouwer (2016). Health or Happiness? A note on the relative value of health and happiness in rationing decisions. <i>Open external Value in Health</i>, 19 (5), 552-557. doi: <a href="http://dx.doi.org/10.1016/j.jval.2016.02.003">http://dx.doi.org/10.1016/j.jval.2016.02.003</a></p> <p>26. D.R. Rappange, W.B.F. Brouwer &amp; N.J.A. van Exel (2016). Rational expectations? An explorative study of subjective survival probabilities and lifestyle across Europe. <i>Open external Health Expectations</i>, 19 (1), 121-137. doi: 10.1111/hex.12335</p> <p>27. F.E. van Nooten, N.J.A. van Exel, D. Eriksson &amp; W.B.F. Brouwer (2016). "Back to the future": Influence of beliefs regarding the future on TTO answers. <i>Open external Health and Quality of Life Outcomes</i>, 14, 4. doi: <a href="http://dx.doi.org/10.1186/s12955-015-0402-6">http://dx.doi.org/10.1186/s12955-015-0402-6</a></p> <p>28. M.M. Versteegh, S. Knies &amp; W.B.F. Brouwer (2016). From Good to Better: New Dutch Guidelines for Economic Evaluations in Healthcare. <i>Open external Pharmacoeconomics (Print)</i>, 34 (11), 1071-1074. doi: <a href="http://dx.doi.org/10.1007/s40273-016-0431-y">http://dx.doi.org/10.1007/s40273-016-0431-y</a></p> <p>29. P.H.M. van Baal, D. Meltzer &amp; W.B.F. Brouwer (2016). Future costs, fixed healthcare budgets and the decision rules of cost-effectiveness analysis. <i>Health Economics</i>, 25 (2), 237-248. doi: <a href="http://dx.doi.org/10.1002/hec.3138">http://dx.doi.org/10.1002/hec.3138</a></p> <p>30. A. Morton, A.L. Adler, D. Bell, A. Briggs, W.B.F. Brouwer, K. Claxton, N. Craig, A. Fischer, P. McGregor &amp; P.H.M. van Baal (2016). Unrelated Future Costs and Unrelated Future Benefits: Reflections on NICE Guide to the Methods of Technology Appraisal. <i>Health Economics</i>, 25 (8), 933-938. doi: 10.1002/hec.3366</p> <p>31. A.E. Attema, W.B.F. Brouwer, O. l'Haridon &amp; J.L. Pinto-Prades (2016). An elicitation of utility for quality of life under prospect theory. <i>Open external Journal of Health Economics</i>, 48, 121-134. doi: <a href="http://dx.doi.org/10.1016/j.jhealeco.2016.04.002">http://dx.doi.org/10.1016/j.jhealeco.2016.04.002</a></p> <p>32. P.P. Barros, W.B.F. Brouwer, S. Thomson &amp; M. Varkevisser (2016). Competition among health care providers: helpful or</p>
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