

Index

Abbreviations used in the index:

CE – choice experiment
CPRS – Carbon Pollution Reduction Scheme
CV – contingent valuation
WTA – willingness to accept
WTP – willingness to pay

- Abbott, Tony 8
acid rain abatement, WTP 29
age of survey respondents 49
 and preference uncertainty 106, 108,
 114, 115, 124
 and WTP for CPRS 71, 79
air travel carbon offset preferences
 33–4
Akter, S. 33–4, 115
alarmist learning 27
Allais Paradox 18
alternative specific constant (ASC) 44,
 86, 88–9, 91–3, 95–6
ambiguity 12
ambiguity aversion 27
ambivalence 106
anchoring effect 133
anthropogenic climate change, *see*
 climate change
asymptotic variance–covariance (AVC)
 42
attitudinal question 37, 138
attitudes of respondents
 attitude heuristic 106
 impact on preference uncertainty
 109
attribute level and preference
 uncertainty 110
attribute level balance 44
auction system 2
Australia
 and climate change 7–9
 temperature change scenarios
 38
 balanced design 44
Bateman, I.J. 23
Bayesian belief updating pattern 96
Bayesian *D*-error 43
Bayesian efficient design 43, 46
Bayesian updating model 21, 27, 29,
 84–6, 100
Bayesian updating of policy
 uncertainty 84–7
behavioural decision literature 19, 24,
 136
bequest value 14
Berk, R.A. 26
Bernoulli, D. 17
Berrens, R.P. 27, 74
Bishop, R.C. 33, 69, 112
bootstrapping 81
Bradley, M. 24
Brazell, J.D. 24
Brouwer, R. 34, 121, 125, 126
Burghart, D.R. 31
Cameron, T.A. 27–8, 37, 62, 69, 74, 75,
 85, 128, 130, 131, 132
cap and trade 8
carbon footprint 58, 111
carbon offset
 familiarity with 53, 54
Carbon Pollution Reduction Scheme
 (CPRS) 7–8
 awareness of 53–4
 effectiveness estimates 56
 welfare estimates 97–9
 WTP for 61–76, 77–83, 128–9

- carbon tax 1, 2, 4, 8
- carbon travel tax 34, 115
- Caussade, J.S. 24
- CE survey, *see* choice experiment survey
- certainty learning 133
- Chaiken, S. 23
- Champ, P.A. 33, 112
- Chew, S.H. 19
- children in household, and WTP for CPRS 71, 79
- Chi-square test 49
- China 6, 7, 59, 77, 144–5
- choice experiment (CE) survey 84–101, 130–31
 - compared with CV survey 131–2
 - limitations 135
 - preference uncertainty 116–24, 133–5
 - repeated choices 24
- choice scenario(s) 31–2, 44
- climate change
 - effects 1, 54–6
 - and stated preference studies 26–8
 - and uncertainty, *see* climate change uncertainty
- climate change mitigation
 - Australia 7–9
 - familiarity with 53–4
 - global initiatives 5–7
 - individual actions 57–9
 - valuation 2–3
- climate change uncertainty 1–9
 - CE study 84–101
 - CV study 61–76
 - taxonomies 4–5
- Coalition Party, Australia 8
- cognitive process 22, 106
- cognitive psychology 11, 22, 102, 137
- cognitive uncertainty 15, 22
- Commonwealth Treasury 9, 74, 129
- compensating surplus 97–9, 101
- conditional logit (CL) model 88
- confidence interval(s) 4, 27, 34, 37, 97
- construct validity 61, 65, 72, 75, 82, 119
- contingent valuation (CV) survey
 - 61–76, 128–30
 - compared with CE survey 131–2
 - preference uncertainty 110–15
- convolution-based Poe test 81, 99
- Copenhagen Accord 6
- Copenhagen Summit 6, 8
- cost–benefit analysis 2, 13
- costs of decarbonisation 2
 - Australia 9
- CPRS, *see* Carbon Pollution Reduction Scheme
- cross-section error 118
- CV survey, *see* contingent valuation survey
- D*-error 43, 46
- Daly, A. 24
- data collection 36–48
- Day After Tomorrow, The* (film) 57
- Db*-error 43, 46
- Db*-optimal experimental design 43, 46
- decarbonization costs 2, 9
- decision-making theories 17–21
- decision weight 19–20
- Dequech, D. 12
- determinants of preference uncertainty 132–5
- dichotomous-choice (DC) CV survey 23, 29, 32
- diminishing sensitivity principle 19
- direct use values 13
- discovered preference hypothesis 23
- dissonance 106
- double-bounded (DB) 30, 33
- Durban Climate Change Conference 6–7
- economics of stated preference techniques 12–15
- education level of respondents 50
 - and actions to reduce GHG emissions 58–9
 - and preference uncertainty 119, 124, 134–5
 - and support for CPRS 95–6, 90
- efficient design 43, 46
- Ekstrand, E. 33, 102, 111, 112, 125
- Ellsberg, D. 12, 18–19
- Ellsberg Paradox 18–19
- emissions reduction 1–2
 - Australia 7–8
 - global agreements 5–7
 - individual actions 57–9

- emissions trading scheme 1–2
 employment status of survey
 respondents 50–51
 endangered species 28, 33
 energy sources of survey households 51
 environmental risk, stated preference
 studies 28–32
 environmental treaty 5
 environmental uncertainty 108
 existence value 13–14
 expected utility theory 17
 experimental design 42–6
 experimental economics 11
 externalities 13
 negative 13
 positive 13
- ‘fat tail’ 68, 69
 fatigue effects in repeated CE surveys
 24
 Festinger, L. 106
 focus group discussion sessions 41, 48
 follow-up DC certainty scale 33
 ‘Fourth Assessment Report’ 4, 132
 Fovell, R.G. 26
 fractional factorial orthogonal design
 46
 fundamental uncertainty 12
 future generations 2, 6, 14, 26, 79, 137,
 147
 fuzzy random utility model 22
 fuzzy set theory 21
- Garnaut Climate Change Review 42
 global cooperation on climate change
 5–7
 estimation of likelihood 56–7
 and WTP for CPRS 77–83, 129–30
 ‘global public good’ 5
 global warming 1, 5, 31, 57
 grandfathering system 2
 Green Party 8
 greenhouse gas emissions, *see*
 emissions reduction
- Hanemann, W.M. 22
 Heberlein, T.A. 69
 Hensher, D. 44
 heuristic systematic model of
 information processing 23
- heuristics and biases approach 19
 Ho, J.L.Y. 12
 Hoehn, J.P. 29–30, 130
 Hogarth, R.M. 22
 household income of survey
 respondents 50
 and support for CPRS 90
 Howes, Stephen 42
 hypothesis test 78, 82, 89, 122–4
- implicit prices 31, 99, 123
Inconvenient Truth, An (film)
 impact on individual actions to
 reduce emissions 57
 impact on support for CPRS 71,
 79
- independence axiom 17
 indirect use values 13
 Intergovernmental Panel on Climate
 Change (IPCC) 1, 4, 5
 Internet surveys 46–7
 IPCC (Intergovernmental Panel on
 Climate Change) 1, 4, 5
 irrational belief persistence 94–5
- Johansson, P.-O. 28, 29
 Jotzo, Frank 42
- Kahn, B.E. 20, 30
 Kahneman, D. 19–20
 Keynes, J.M. 11
 Knight, F.H. 11
 knowledge and familiarity 108
 Krinsky, I. 81
 Kyoto Protocol 6, 7
 and Australia 7–8
 familiarity with 53
 support for 27
- Labour Party, Australia 8
 learning effect 24, 125
 Lee, J.J. 28, 74
 legally binding multilateral agreement
 5, 6
 Li, C. 21, 32
 linear regression model 42
 Loomis, J. 33, 102, 111, 112, 125
 Louviere, J.J. 24
 Lowe, T. 57
 Lundhede, T.H. 34

- Macmillan, D.C. 29
Manski, C.F. 14
marine resource conservation, WTP
 for 32
market failure 13
Mattson, L. 21, 32
McFadden, D. 14
media impacts on individual actions to
 reduce emissions 57
Meyer, R.J. 24
Morgenstern, O. 17
multidimensional uncertainty 3
‘myside bias’ 94–5
- negative externalities 13
Neumann, J. von 17
No-certainty model 114
Nolan, J.M. 57
non-consumptive 13, 14
non-excludable 13
non-expected utility (NEU) theory
 19
non-linear 42
non-market valuation techniques 14
non-nested likelihood ratio test 72, 75
non-rivalrous 12
non-use values 13–14
normal distribution 43, 91, 93, 103–5
nuclear waste transportation risk,
 WTA compensation 30
numerical certainty scale method 32
- one-sided hypothesis test 82
open-ended WTP 28
operational definition 11, 12
ordered probit regression 34, 102, 110,
 112–13, 115, 118–21, 125–6, 133
ordinary ordered probit regression 118,
 121, 125–6
orthogonal design 42, 46
Ortúzar, J. de D. 24
outcome ambiguity 12
owl preservation, WTP for 33
- parts per million (ppm) 2, 40, 48,
 97–100
payment card method 28
payment vehicle 40
personal (subjective) probability 17
pilot survey 43, 47–8
- Poe, G.L. 81
policy uncertainty 3, 4–5, 15, 77–83
 Bayesian updating 84–7
 impact of prior beliefs on support
 for CPRS 84–101, 130–31
 and WTP for CPRS 61–76, 127–30
 see also scientific uncertainty
political uncertainty 5, 77–83
polluter pays principle 40
polychotomous choice method 32–3
pooled model 107
positive externalities 13
posterior beliefs 27, 85, 94, 136
preference learning 133
preference uncertainty 3, 5, 15, 16
 analytical model 102–10
 CE survey 116–24, 133–5
 CV survey 110–15
 determinants 102–26, 132–5
 in stated preference studies 32–4
 theories 21–4
prior beliefs, *see* subjective beliefs
probabilistic ambiguity 12
probability distribution function
 (PDF) 11, 20–21, 68, 85
probability weight 19–20
probit regression model 34, 57–8,
 69–70, 80, 112, 119, 121, 125–6
property rights 13
prospect theory 19
prospective reference theory 21
protest response 33
public good 5, 12–14
public land access fee preferences
 33
public survey 26, 29, 37, 48, 74, 131
- quadratic effect 34
quadratic relationships 125–6, 133
questionnaires 37–42
 CV survey 146–7
 household preferences for CPRS in
 Australia 138–45
 socio-demographic questions
 158–9
 three-option CE question 148–52
 two-option CE question with
 numerical certainty scale
 question 153–7
- Quiggin, J. 19

- Randall, A. 29–30, 130
 random-effect/parameter error component (REC) model 88–9, 93
 random effects ordered probit model 118, 126
 Ready, R. 33
 repeated choice question(s) 24, 34–5, 110, 121–2, 124–5
 revealed preference (RP) techniques 14
 Riddel, M. 30, 37
 risk 11
 risk aversion 29
 risk ladder 30
 Robb, A.L. 81
 Roberts, D.C. 31–2
 Rodriguez, G. 24
 Rudd, Kevin 7, 8
- Samnaliev, M. 33, 111
 sample split(s) 29, 31–2, 47–8, 131–3
 Sarin, R.K. 20, 30
 Savage, L.J. 17
 scenario uncertainty 3, 4, 15
 and WTP to support CPRS 61–76, 127–30
 scientific uncertainty 4–5, 61–76
 Scotland, WTP for acid rain abatement 29
 Shaw, W.D. 30, 37
 shifted design 44
 single-bounded CV 27
 social welfare 3, 99, 101, 137
 sociodemographic characteristics of survey respondents 49–51
 split sample treatment 29, 31
 Stanovich, K.E. 94
 stated preference studies 26–35
 climate change studies 26–8
 environmental risk and uncertainty 28–32
 preference uncertainty 32–4
 see also choice experiment survey; contingent valuation survey
 stated preference techniques 2–3
 economics of 12–15
 and uncertainty 15–16
 stochastic error 21
 strong uncertainty 12
 structural uncertainty 5
 subjective beliefs 84–91
 impact on decision making 94–5, 96, 130–31
 on success of CPRS 89–90
 subjective expected utility theory 17
 subjective probability 17
 Sun, L. 21–2
 Sweden, WTP for conservation programmes 28–9
 Sydney 36, 47, 49–50, 74, 129
 systematic information processing 23
- taxonomies
 of climate change 4–5
 of uncertainty 15–16
 temperature change
 scenarios, Australia 38
 survey respondents' estimation of 56
 Toplack, M.E. 94
 tradable emissions permits 1, 8
 trade-off 2, 132
 Tversky, A. 19–20
- UK 1
 uncertainty
 and climate change 1–9
 and decision-making theories 17–21
 definition 11–12
 and stated preference techniques 11–25, 26–35
 strong 12
 structural 5
 taxonomy 15–16
 weak 12
 see also policy uncertainty; preference uncertainty; scenario uncertainty
 UNFCCC (United Nations Framework Convention on Climate Change) 1, 5–6
 United Nations Framework Convention on Climate Change (UNFCCC) 1, 5–6
 use values 13, 14
 USA
 WTA compensation for nuclear waste transportation risk 30
 WTP for wetland restoration plan 29–30

- utility functions 91–6
- utility models 22
- valuation question 31–2, 36–8, 60, 130
- van Kooten, G.C. 21–2
- Viscusi, W.K. 20, 21, 28, 128
- von Neumann, J. 17
- Vuong, Q.H. 72, 75
- weak uncertainty 12
- web-based survey 27, 74
- weight of argument 11
- welfare estimates of CPRS 97–9
- wetland restoration 29
- Wielgus, J. 32
- wildlife habitats 26
- willingness to accept (WTA)
 - compensation for nuclear waste
 - transportation risk 30
- willingness to pay (WTP)
 - for acid rain abatement 29
 - for climate change mitigation 26–8, 40, 73–4
 - for conservation programmes 28–9
 - for CPRS 61–76, 77–83
 - for Kyoto Protocol ratification 27
 - for marine resource conservation 32
 - for owl preservation 33
 - for support for CPRS 67–9
 - for wetland restoration plan 29–30
- wind energy programme preferences 33
- 'yes' and 'no' model 107
- Zeckhauser, R.J. 20, 28, 128
- Z-test 49, 96, 123

