

Index

- Additive income random utility maximizing (AIRUM), 211
- Aggregate demand, 206
- Aggregate shares, 4, 59, 71, 76, 308
- Aggregation
 - of alternatives, 320
 - of preferences, 206
 - spatial, 322
- Amemiya's principle, 347
- Approximation theory, 220
- Arctan model, 33, 94
- Assumptions, 12, 41, 44, 105, 450
- Asymptotic bias, 94
- Asymptotic covariance matrix, 14, 16, 69, 87, 96
- Asymptotic efficiency, 15, 71, 82, 99, 107
- Asymptotic normality, 45, 69, 81, 91, 107, 452
- Attributes, xviii, 4, 202
- Auxiliary sample, 60, 85
- Average duration, 128

- Bayesian method, 307
- Behaviorally dynamic model, xxi, 114, 121, 179
- Bernoulli model, 114, 124
 - fixed effect, 133
 - independent trials, 124
 - random effect, 127
- Beta distribution, 307
- Branch, of preference tree, 231

- Cascade model, 227
- Censored dependent variable, 346, 352, 358, 422
- Censoring rule, 8
- Chain, 428
- Characteristic function, 220
- Choice-based sample (CBS), 7, 11, 51, 54, 55, 74, 403
 - pseudomaximum likelihood, 19
 - WESML, 18
- Choice model
 - arctan, 33, 94
 - cascade, 227
 - continuous logit, xxi, 320, 328
 - DOGIT, 216, 227
 - elimination, 219, 225, 232
 - EBA, 226, 233, 250
 - EBS, 268
 - fixed coefficient choice, 273
 - fully competitive, 227
 - general dynamic discrete choice, 121
 - generalized extreme value (GEV), 226
 - hierarchical elimination by aspects (HEBA), 233, 250
 - linear-in-parameters independently identically distributed (LIIID), 274
 - logit, 33, 75, 84, 94, 219, 221
 - Luce, 221, 243
 - maximum, 205, 227
 - multinomial logit, 3, 34, 53, 221, 243, 249
 - multinomial probit, xviii, 223, 234, 249, 250, 309
 - nested multinomial logit (NMNL), 238, 252, 324
 - PRETREE, 233
 - probit, 33, 93, 189, 219, 348
 - psychophysical, 198
 - random coefficients covarying disturbance (RCCD), 275
 - random coefficient choice, 273
 - random preference, 202
 - random utility, xviii, 202
 - strict utility, xviii
 - tree extreme value (TEV), 234, 242, 250
 - Tversky, 225
 - universal logit, 227
- Choice probability, 4, 201, 208
- Choice set, xvii, 201
- Clark approximation, 236, 312
- Community preferences, 208
- Components of variance, 116, 181, 185
- Computation, xviii, 32, 76, 147, 249, 252, 305, 341
- Concentrated likelihood, 67
- Conditional demand function, 164
- Conditional indirect utility function (IU), 207
- Conditional likelihood, 22, 25, 29, 183, 187
- Consistency, 36, 69, 79, 81, 91, 107, 451
- Constrained maximum likelihood, 14, 82
- Consumer surplus, 214, 332
- Consumer theory, 199
- Contagion, 166
- Contingency tables, xix, 4, 6
- Continuous endogenous variable, 351
- Continuous logit, xxi, 320, 328
- Credit constraints, 435
- Credit screening, 438
- Cross-section sample, 125
- Cumulative distribution function, 204

- Debt demand and supply, 443
- Destination zone, 322
- Direct utility (DU) assumption, 206
- Discrete choice analysis, xvii, xxii, 2, 52, 199

- Discrete multivariate analysis, xix
 Discrete-time, discrete outcome stochastic process, 114
 Discrete simultaneous system, xvii, xxi, 116, 352, 358, 392, 446
 Discriminant analysis, xx, 3, 6, 18, 35
 Dissimilarity parameter, 239
 Distributed lag model, 161
 DOGIT model, 216, 227
 Dominant sample design, 32
 Dummy endogenous variable, 116, 119
 Duration, 125, 128
 Dynamic discrete choice, xx, 114, 121, 179

 Efficient sample design, 33
 Elemental alternative, 321
 Elimination models, 219, 225, 232
 by aspect (EBA), 226, 233, 250
 by strategy (EBS), 268
 Empirical Bayes density, 135
 Empirical distribution, 65
 Endogenous censored sample, xxii, 346, 352, 358
 Endogenous sampling, 7, 54, 367
 Endogenous stratification, 365
 Enriched sample, 57, 74, 76
 Equal credit opportunity act (ECO), 435
 Equal share sample design, 33
 Ergodic process, 182
 Exchangeable random variables, 125
 Exogenous stratified sampling, 7, 9, 54
 Exogenous variable, 52
 Experiment, 280
 Extreme value distribution, 232, 226

 Factor analytic scheme, 118, 167
 Fine partition sampling, 7, 10
 Fixed cost renewal model, 144
 Fixed coefficient choice model, 273
 Fixed effect scheme, 118, 133, 180, 186
 Fixed effect logit model, 180
 Full information maximum likelihood (FIML), 246, 252
 Fully competitive model, 227
 Functional form, 218

 General model of dynamic discrete choice, 121
 General stratified sample, 28
 conditional maximum likelihood, 29
 WESML, 29
 Generalized choice-based sample, 57, 75
 Generalized extreme value (GEV) model, 226

 Geometric decay, 140

 Hartley-Mallela switching regression model, 446
 Habit persistence, 145
 Hadamard product, 123
 Heirarchical elimination by aspects (HEBA), 233, 250
 Heirarchical elimination system (HES), 232
 Heterogeneity, 119, 127, 134, 141, 150, 154
 Hybred sampling, 57

 Identification, 12, 58, 131, 141, 145, 149, 159, 276, 396
 Importance sampling, 342
 Incidental parameters, 179, 185
 Inclusive value, 229, 240
 Income maintenance experiment, 379
 Independence from irrelevant alternatives (IIA), 221
 Indirect utility (IU), 207
 Intrapersonal random utility, 205
 Internal consistency, 423
 Intrinsic attributes, 206

 Kernel, of likelihood, 10

 Labor supply, 116
 Lagged latent variables, 145
 Lagrangian problem, 19, 22
 Latent Markov model, 122
 Latent variable, xxiii, 119, 217, 218, 181, 347
 Likelihood, 9, 64, 372
 concentrated, 67
 conditional, 22, 25, 29, 183, 187
 constrained, 14, 82
 pseudolikelihood, xix, 19, 67
 quasi-likelihood, 450
 Limited dependent variable, 347, 352, 358, 392, 422
 Linear-in-parameters independently identically distributed (LIPID), 274
 Linear model system, xxi, 116
 Lipschitzian, 220
 Logit, 33, 75, 84, 94, 219, 221
 Log linear probability model, 3, 18, 34
 Luce model, 221, 243

 Market clearing, 444
 Market wage, 120
 Markov process, 114, 117, 140, 171, 181, 189

- Maximum likelihood, xix, 7, 14, 19, 61, 66, 82
- Maximum model, 205, 227
- Maximum stationary value, 86
- MIMIC model, 118, 130
- MIT-TRANS model, 336
- MM estimator, 22, 25, 99, 109
- Mobility studies, xx
- Model, 243, 329
 - arctan, 33, 94
 - behaviorally dynamic, xxi, 114, 121, 179
 - Bernoulli, 114, 124
 - cascade, 227
 - continuous logit, xxi, 320, 328
 - distributed lag, 161
 - DOGIT, 216, 227
 - elimination, 219, 225, 232
 - EBA, 226, 233, 250
 - EBS, 268
 - fixed cost renewal, 144
 - fixed coefficient choice, 273
 - fixed effect logit, 180
 - fully competitive, 227
 - general dynamic discrete choice, 121
 - generalized extreme value (GEV), 226
 - hierarchical elimination by aspects (HEBA), 233, 250
 - latent Markov, 122
 - linear, xxi, 116
 - linear-in-parameters independently identically distributed (LIIID), 274
 - logit, 33, 75, 84, 94, 219, 221
 - log linear probability, 3, 18, 34
 - Luce, 221, 243
 - maximum, 205, 227
 - MIMIC, 118, 130
 - mover-stayer, 115
 - multinomial logit, 3, 34, 53, 221, 243, 249
 - multinomial probit, xviii, 223, 234, 249, 250, 309
 - multivariate probit, 119, 120
 - nested multinomial logit (NMNL), 238, 252, 324
 - Pólya, 114, 117, 140, 152
 - polynomial lag, 145
 - PRETREE, 233
 - probit, 33, 93, 189, 219, 348
 - psychophysical, 198
 - quantal response, xviii, xx, 2, 273
 - random coefficients covarying disturbance (RCCD), 275
 - random coefficient choice, 273
 - random effect, 127
 - random factor, 118
 - random preference, 202
 - random utility, xviii, 202
 - stimulus-response, 163
 - stock demand, 439
 - strict utility, xviii
 - switching, 352, 446
 - Thurstone, 223
 - tobit, xxi, 348, 355, 422
 - tree extreme value (TEV), 234, 242, 250
 - Tversky, 225
 - universal logit, 227
 - urn, 151
 - weighted probit, 407
- Monte Carlo, 179, 189, 305, 321
- Most efficient IV estimator, 361
- Mover-stayer model, 115
- Multinomial logit (MNL), 3, 34, 53, 221, 243, 249
- Multinomial probit (MNP), xviii, 223, 234, 249, 250, 309
- Multiple factors, 172
- Multivariate normal, 18
- Multivariate probit, 119, 120
- Negative income tax experiment, 439
- Nerlove process, 189
- Nested multinomial logit (NMNL), 238, 252, 324, application, 242
- Nonstationary disturbance, 126, 170
- Observationally dynamic, xxi
- One-factor scheme, 127, 130, 142, 168
- Option equation, 402
- Order independence, 222
- Origin zone, 322
- Panel data, 114, 125
- Partial observability, 396
- Path analysis, xxiii
- Permanent variance, 130
- Physician behavior, 392
- Pólya scheme, 114, 117, 140, 152
- Polynomial lag, 145
- Population choice probability, 4, 201, 208
- Population density, 4
- Population shares, 4, 59, 71, 76, 308
- Positivity, 12
- Prediction accuracy, 292
- Preference tree, 230, 250
 - branch, 231
 - mode, 231
- PRETREE model, 233
- Probit, 33, 93, 189, 219, 348
- Pseudolikelihood, xix, 19, 67
- Pseudorandom variable, 307
- Psychometrics, xviii
- Psychophysical models, 198

- Quantal response, xviii, xx, 2, 273
 Quasi-likelihood, 450
 Quasi-recursive, 432
- Random coefficients, xviii
 Random coefficients covarying disturbance (RCCD), 275
 Random coefficient choice model, 273
 Random effect model, 127
 Random factor model, 118
 Random preference model, 202
 Random sample enumeration, 308
 Random utility model, xviii
 Random utility maximization (RUM), 202
 Reduced form, 348, 395, 447
 Referral equation, 411
 Regime, 393
 Regime-based sampling, 403
 Regularity, 12, 204
 Relative efficiency, 82, 105, 374
 Renewal process, 114, 117, 122, 144, 152
 Reservation wage, 120
 Response probability, 4
 Roy's identity, 207
 Runs test, 141
- Saddle-point problem, 19
 Sample cost, 30
 Sample design, xix, 8, 31
 Sample separation, 358, 396
 Sample selection bias, 36, 94, 157, 365, 396
 Sampling rule, xix
 auxiliary sample, 60, 85
 choice-based sample (CBS), 7, 11, 51, 54, 55, 74, 403
 cross-section sample, 125
 endogenous sample, 7, 54, 367
 enriched sample, 57, 74, 76
 equal share sample, 33
 exogenous stratified sample, 7, 9, 54
 fine partition sample, 7, 10
 general stratified sample, 28
 generalized choice-based sample, 57, 75
 hybrid sample, 57
 importance sampling, 342
 regime-based sample, 403
 stratified sample, 6, 8, 54, 55
 supplemented sample, 60, 90
 truncated sample, xxi
 uniform sample, 341
 Sequential decision making, 163
 Sequential estimation, 241, 253
 Sequential logit. *See* Nested logit
 Serial correlation, 161, 179
- Shopping destination, 329
 Similarity judgments, 230
 Simulated frequency, 305
 Simple scalability, 223
 Simultaneous equation system, xxi, 116, 346
 probit, 422, 426
 tobit, 422
 Social indirect utility, 206, 209
 Social surplus (SS), 211, 222, 224, 227, 234, 241
 Spatial aggregation, 322, 325
 Spatial choice, 320, 325
 Spurious state dependence, 115
 Standardized multivariate normal, 123
 State dependence, 115, 119, 138, 154
 Stationary, 137, 138, 179, 184
 Statistical assumptions, 12, 41, 44, 105, 450
 Stimulus-response model, 163
 Stochastic disturbance, 120
 Stochastic matrix, 27
 Stochastic revealed preference, 204
 Stock demand model, 439
 Stopping rule, 307
 Stratified sampling, 6, 8, 54, 55
 Stratum, 6
 Strict utility model, xviii
 Strictly differentially quasi-concave, 207
 Strong axiom of revealed (stochastic) preference, 204, 205
 Strong consistency, 451
 Strong stationarity, 138
 Structural, 138, 144, 150, 163
 Structural parameters, 348
 Supply of debt, 437
 Supplemented sample, 60, 90
 Switching, 352, 358, 392, 402, 446
- Thurstone model, 223
 Time inhomogenous stochastic process, 125
 Tobit, xxi, 348, 355, 422
 Transition probability, 225
 Transitory variance, 130
 Translation-invariant probabilistic choice system (TPCS), 212
 Transportation Resource Allocation Study (TRANS), 321
 Travel demand, 320
 Travel mode, 243
 Tree extreme value (TEV), 234, 242, 250
 Triangle inequality, 204
 Trinary condition, 235
 Trip length distribution, 321, 333

- Truncated endogenous variable, 346, 352, 358, 392, 422
- Truncated sampling, xxi
- Two-stage method, 347, 401
- Tversky model, 225

- Unconditional indirect utility, 208
- Unemployment, 115
- Uniform sampling, 341
- Unique solvability, 423
- Universal logit, 227
- Unobserved variable, xxiii, 119, 217, 218, 281, 347
- Urn model, 151
- Utility function, 206, 274
- Utility maximization, 204

- Weak stationarity, 138, 170
- Weibull distribution, 222
- Weighted least squares, 373
- Weighted probit, 407
- Welfare analysis, 214
- WESML, 18, 29, 99, 109, 403
- Williams-Daly-Zachary theorem, 210