

Subject index

A

ACF see autocorrelation function
additive outlier model 123
ADF test see augmented
 Dickey–Fuller test
Adjusted R-squared label 18
ado-file 361
adopath command 362, 364
AIC see Akaike information criterion
air pollution 11
Akaike information criterion 64, 84
AMES see average marginal effects
analysis of variance F statistic 20
Anderson–Hsiao model 280
AO model see additive outlier model
ARCH see autoregressive conditional
 heteroskedasticity
arch command 234
Arellano–Bond model 280
arfima command 351
ARFIMA model see autoregressive
 fractional integration moving-
 average model
arima command 61, 180
ARMA model see autoregressive
 moving-average model
ARMA-X model see
 autoregressive moving-average
 model that includes additional
 explanatory variables
AR(p) model 59
ASCII text file 368
assert command 369
asymmetric GARCH model 239
asymptotic efficiency 38
asymptotic normality 36
asymptotic properties 35

asymptotic unbiasedness 35
augmented Dickey–Fuller test 113
 lag length selection 114
autocorrelation 23
autocorrelation function 61, 65
autoregressive conditional
 heteroskedasticity 232
autoregressive fractional integration
 moving-average model 351
autoregressive model 59
autoregressive moving-average model . .
 55, 61
autoregressive moving-average model
 that includes additional
 explanatory variables 61
average marginal effects 321

B

backslash 362
bcal command 380
bilinear time-series model 203
binomial logit model 312
binomial probit model 312
biofuels 143
Blundell–Bond model 280
Box–Jenkins models 55
Box–Pierce Q test 23
Breusch–Godfrey test 23
Breusch–Pagan test 21
built-in command 361
byable 379

C

capital asset pricing model 242
CAPM see capital asset pricing model
carbon monoxide 13
casewise deletion 371

- cd command 362
 - censored regression model 313
 - center** command 380
 - Cerrillos 12
 - Chile 11
 - choropleth map 9, 284
 - circsummarize** command 14, 384
 - circular 384
 - circular** package 14
 - circular statistics 13
 - classical decomposition 2
 - clemao1** command 124
 - clemao2** command 124
 - Clemente–Montañés–Reyes test 124
 - clemio1** command 124
 - clemio2** command 124
 - cluster-robust standard errors 29
 - clustering 231
 - CO₂ 8
 - cointegration 129
 - collapse** command 371
 - comma-delimited file 368
 - comma-separated values file 368
 - compress** command 366
 - consistency 35
 - contiguity weights 288
 - contract** command 371
 - convergence in probability 35
 - correlate** command 379
 - correlated random-effects model ... 274
 - Cramér–Rao lower bound 38
 - CRE model see correlated random-effects model
 - crush spread 130
 - .csv files...see comma-separated values file
 - Cumby–Huizinga test 23
 - current working directory 362
 - CWD.....see current working directory
 - cyclical component 189
- D**
- D. difference operator 382
 - Dalton minimum 225
 - delimiters 368
 - delta method 42, 301
 - marginal effect of probit model ... 322
 - dereferencing 374
 - describe** command 373
 - destring** command 372
 - deterministic trend 6
 - DF-GLS test see generalized least-squares version of the augmented Dickey–Fuller test
 - dfgls** command 119
 - dfuller** command 113
 - Dickey–Fuller distribution 113
 - Dickey–Fuller test 112
 - dictionary file 367
 - Diebold–Mariano test 159
 - difference operator see D. difference operator
 - discrete data 9
 - discrete Fourier transform 346
 - dmariano** command 159
 - Doornik–Hansen test 25
 - DPD model see dynamic panel-data model
 - Durbin–Wu–Hausman test 49
 - dynamic forecast 154
 - dynamic model 55
 - dynamic panel-data model 279, 280
- E**
- egen**
 - command 378
 - count()** function 379
 - egen max()** function 379
 - mean()** function 379
 - min()** function 379
 - egen rowfirst()** function 379
 - rowlast()** function 379
 - rowmax()** function 379
 - rowmean()** function 378
 - rowmin()** function 379
 - egen rowmiss()** function 379
 - egen rownonmiss()** function..379
 - rowsd()** function 379

- egen*, *continued*
- `rowtotal()` function 379
 - `total()` function 379
- egranger* command 140
- El Niño 4
- El Niño Southern Oscillation 4
- Elliott–Rothenberg–Stock test 119
- embedded spaces 368
- encode* command 260
- Engle–Granger regression 135
- environmental Kuznets curve 78
- environmental risk 229
- ESTAR model .. see exponential smooth transition model
- estat*
- `archlm` command 233
 - `aroots` command 71
 - `duration` command 225
 - `hettest` command 22
 - `imtest` command 22
 - `ovtest` command 201
 - `period` command 190
 - `transition` command 225
- estimates store* command 273
- ethanol 143
- Euclidian distance 287
- ex ante forecast 154
- ex post forecast 154
- exact identification 45
- excess return 231
- exogeneity 45
- expectation maximization algorithm...
..... 224
- exponential smooth transition model ..
..... 213
- F**
- F. lead operator 382
- factor variables 16
- fcast compute* command 157
- first-order conditions 40
- fixed effects 264
- fixed format 368
- foreach* command 377
- forecast accuracy 158
- forecast error variance decomposition..
..... 94
- foreign direct investment 256
- forvalues* command 377
- forward slash 362
- fractional cointegration 354
- fractional integration 339, 340
- free format 368
- G**
- gamma distribution 172
- gamma function 237
- GARCH .. see generalized autoregressive conditional heteroskedasticity
- generalized autoregressive conditional heteroskedasticity 232
- generalized error distribution 237
- generalized least-squares version of the augmented Dickey–Fuller test 119
- generalized linear model 171
- generalized method of moments 45
- generate* command 378
- Geweke–Porter–Hudak estimator ... 347
- ghansen* package 144
- giacross* command 159
- GLM see generalized linear model
- glm* command 172
- global* command 375
- global macro 378
- GMM see generalized method of moments
- GPH estimator
... see Geweke–Porter–Hudak estimator
- gphudak* command 347
- Granger causality 85
- green bonds 229
- H**
- HAC standard errors
..... see heteroskedasticity- and autocorrelation-consistent standard errors
- Hannan information criterion 84

Hannan–Quinn information criterion ..
 64

Hansen–Sargan *J* test 46

`hausman` command.....272

Hausman test49, 272

`help` command 361

Hessian matrix 40

heteroskedasticity.....21

heteroskedasticity tests 21

heteroskedasticity- and
 autocorrelation-consistent
 standard errors 28

HIC .. see Hannan information criterion

`histogram` command.....2, 34

HQIC .. see Hannan–Quinn information
 criterion

humpback whale..... 310

hybrid model..... 274

I

$I(1)$108

`if` qualifier 374

`import`
`dbase` command 367
`delimited` command 368, 369,
 372, 381
`excel` command.....367, 370
`sas` command..... 367
`sasxport8` command..... 367
`spss` command.....367

`in` qualifier 374

in-sample forecast 154

incidental parameter problem..... 266

`infile` command.....368

information matrix 41

innovational outlier model 123

integrated GARCH 233

interval forecast 154

intracluster correlation.....29

IO model.....see innovational outlier
 model

`ivreg2` command.....47

`ivregress` command..... 28

J

J statistic 46

Jarque–Bera test 25

Johansen algorithm.....138

joint hypothesis test 19

K

Kalman filter177

Kalman gain 178

`kpss` command 345

KPSS test ... see Kwiatkowski, Phillips,
 Schmidt, and Shin test

Kwiatkowski, Phillips, Schmidt, and
 Shin test 117, 345

L

L. lag operator382

lag operator.....see L. lag operator

Lagrange multiplier test 44

lead operator see F. lead operator

leptokurtosis.....237

`levpredict` command.....170

likelihood-ratio test 43

linear probability model 312

linear regression 11

linear regression model
 diagnostics.....20–26
 explanatory variable diagnostics ..
 18–20

link function.....171

load-weighted price 56

`local` command.....374

local level model.....185

local linear trend 185

local macro.....378

local Whittle estimator 351

log price relative.....231

log-likelihood function 39

logistic smooth transition model ... 213

`logit` command.....318

lognormal distribution 33

`lomodrs` command.....344

long memory 339

longitudinal data.....7, 255

loop constructs 377
 LSTAR model see logistic smooth
 transition model

M

Mac OS X spreadsheet dates 370
 macro 374
 macro evaluation 374
 MA(q) model see moving-average
 model
 marginal effects 321
 margins command 383
 Markov switching model 220
 Mata 376
 matrix list command 376
 matrix command 376
 Maunders minimum 198
 maximum likelihood estimator 38
 mean absolute error 159
 mean absolute percentage error 159
 mean squared error 159
 method of moments 44
 MGARCH see multivariate general-
 ized autoregressive conditional
 heteroskedasticity
 mgarch dcc command 248
 mgarch dvec command 246
 missing() function 371
 missing string value 371
 mkspline command 121
 mlexp command 42
 modlpr command 349
 Moran scatterplot 292
 moving-average model 60
 mswitch command 222
 mswitch ar command 222
 mswitch dr command 222
 multivariate generalized
 autoregressive conditional het-
 eroskedasticity 242
 multivariate GARCH models
 vech 246
 mvdecode command 372
 mvencode command 372
 mvtest normality command 26

N

nested loop 377
 nested macros 375
 net install command 363
 newey command 28
 nonlinearity 3
 nonstationarity 6
 normal equations 15, 40
 normality 24
 numlist 373

O

observation equation 181
 ODBC see Open Data Base
 Connectivity
 odbc command 367, 370
 odds ratio 323
 ologit command 327
 OLS see ordinary least squares
 Open Data Base Connectivity 370
 oprobit command 327
 option pricing 7
 order command 373
 order of integration 108
 ordered logit model 313
 ordered probit model 313
 ordinary least squares 15
 out-of-sample forecast 154
 outer product of gradient 42
 overidentification 45

P

p-value 18
 PACF see partial autocorrelation
 function
 panel data 7, 255
 Nickell bias 279
 partial autocorrelation function .. 63, 65
 periodicity 2
 periodogram 346
 Phillips modified log-periodogram test
 349
 Phillips-Perron test 116
 platykurtosis 237
 plim 35

- PM2.5 11
point forecast 154
pollution abatement costs 256
pollution haven hypothesis 255
pooled ordinary least-squares model ...
..... 262
population regression function 14
pperron command 116
predict command 366
premature deaths 11
preserve command 371
probit command 318
productivity 99
profile.do do-file 362
pwcorr command 379
- Q**
quantile plot 26
quasi-maximum likelihood estimator ..
..... 43
- R**
R/S statistic 343
 R^2 17
random effects 264
random walk model 185
range over scale statistic 343
real() function 372
recursive forecast 155
regress command 16
regression disturbances 14
regression residual 15
regulatory compliance 284
relative difference 377
reldif() function 377
replace command 378
RESET test 201
reshape command 259
restore command 371
retransformation bias 166
risk free rate 231
Robinson log-periodogram regression
estimator 349
roblpr command 349, 354
robust standard errors 27
- root mean squared error 17, 159
rossek command 160
rowwise functions 378
- S**
S. seasonal difference 382
sample regression function 15
sandwich estimator 43
Santiago 12
sarima() option 73
save command 362
SBIC see Schwarz or Bayesian
information criterion
scalars 375
Schwarz or Bayesian information crite-
rion 64,
84
sea level rise 176
search command 361, 363
seasonal component 188
seasonal difference operator see S.
seasonal difference
seasonal fluctuations 2
seasonal ARMA model 71
seemingly unrelated regression 83
self exciting threshold autoregressive
model 208
sensitivity 325
SETAR model
..... see self exciting threshold
autoregressive model
shapefile 288
smooth transition model 212
SO₂ 8
sort command 373
Southern Oscillation 4
Southern Oscillation Index 4
space-delimited files 368
spatial
autoregressive model 294
dependency parameter 287
error model 295
lag 292
lag model 295
model 283

- spatial, *continued*
 relationships 8
 weighting matrix 283
spbalance command 257
 specificity 325
 spillover effects 300
spmatrix command 288
spregress command 297
spset command 297
 SQL see structured query language
ssc command 363, 378
 SSC Archive 361
sspace command 178, 179
sspace postestimation command
 179
 standard error of regression 17
 standard errors
 cluster-robust 29
 independently and identically dis-
 tributed 27
 Newey–West 28
 White 27
Stata Journal 361, 363
 Stata Technical Bulletin 363
 state equation 181
 state-space form 175
 stationarity 55
statsmat command 377
 stochastic trend 6
 string missing values 371
strL datatype 365
 structural breaks 121
 structural vector autoregressive model
 94–101
 structured query language 367, 370
 sunspots 3, 198
 SUR see seemingly unrelated
 regression
sureg command 83
 sustainability index 229
 SVAR model see structural vector
 autoregressive model
- T**
t test 18
t test of significance 18
 tab-delimited file 368
tabstat command 377
 TAR model see threshold
 autoregressive model
 temperature 2, 13
 temperature anomaly 5
testparm command 268
 text files 368
texteditors command 368
 Theil's U 159
 thermal inversion 12
 threshold autoregressive model 208
 time-series operators 382
 time-varying conditional covariance ...
 244
tobit command 331
 Tobit model 313
 trace test 142
 trend, seasonal, cyclical, and irregular
 components 2
tsset command 257, 381–383
- U**
ucm command 184
 unbalanced panel 255
 unit root 108
 unit-root tests
 structural breaks 124–126
 univariate GARCH model
 forecasting 235
 unobserved component time-series mod-
 els 184
 unobserved heterogeneity 7, 264
update command 362
urcovar command 121
use command 362
- V**
v23 command 203
 V23 test 201
 VAR see vector autoregression
var command 83

variance–covariance estimators 16
varlist 373
 VARMA model see vector
 autoregressive moving-average
 model
varsoc command 66, 84
 VCE see variance–covariance
 estimators
vec command 138
 VECM see vector error-correction
 model
vecrank command 142
 vector autoregression 77
 vector autoregressive forecast 156
 vector autoregressive model 80–94,
 281
 vector autoregressive models
 forecast error variance decomposi-
 tion 92
 Granger causality test 85
 impulse–response analysis 87
 vector autoregressive moving-average
 model 77, 79, 80
 vector error-correction model 129
 forecast 157
version command 361
 volatility 6
 volatility models
 dynamic conditional correlation . . .
 248–252
 exponential generalized autoregres-
 sive conditional heteroskedas-
 ticity 240
 threshold ARCH 239

W

Wald test 44
 weak stationarity 105
 weather derivatives 7
while command 377
 White test 22
 wide and long forms 258
 wildcards 373, 378
 willingness to pay 311
 wind direction 13

wind speed 13, 152
 WTP see willingness to pay

X

xi command 275
xtabond2 command 280
xthybrid command 275
xtreg, be command 266
xtreg, fe command 266
xtset command 257, 383
xtsum command 265

Z

z statistic 48
 zero conditional mean 15