

Contents

1	Introduction to EViews	1
1.1	Introduction	1
1.2	Importing Data into EViews	3
1.2.1	Reading Excel/IBM SPSS Data Variables	5
1.2.2	Saving and Opening an EViews Data File	7
2	A Guideline for Running Regression	11
2.1	EViews Regression	11
2.1.1	Saving the Regression Equation	15
2.1.2	Editing and Saving Regression Graphics	16
2.2	The Cobb-Douglas Function	20
2.2.1	Estimation of the Cobb-Douglas Model	21
2.2.2	Interpret the Regression Equation	22
2.2.3	Testing the Coefficients	24
2.2.4	Comment on the Value of the R^2 and Testing the R^2	25
2.2.5	Multicollinearity and Residual Analysis	25
3	Time Series Analysis	37
3.1	Time Series One: The Real Money Demand (RMD)	38
3.1.1	Informal Method: Plot the Time Series and Generate a Correlogram	38
3.1.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	40
3.2	Time Series Two: The Real GDP (RGDP)	42
3.2.1	Informal Method: Plot the Time Series and Generate a Correlogram	42
3.2.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	43
3.3	Time Series Three: Interest Rates (INT)	44
3.3.1	Informal Method: Plot the Time Series and Generate a Correlogram	44

3.3.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	46
3.4	Time Series Four: The First Difference of the RMD-DRMD	47
3.4.1	Informal Method: Plot the Time Series and Generate a Correlogram	47
3.4.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	49
3.5	Time Series Five: The First Difference of the RGDP-DRGDP	50
3.5.1	Informal Method: Plot the Time Series and Generate a Correlogram	50
3.5.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	51
3.6	Time Series Six: The First Difference of INT-DINT	52
3.6.1	Informal Method: Plot the Time Series and Generate a Correlogram	52
3.6.2	Formal Method: Run the Augmented Dickey-Fuller (ADF) Test	54
4	Time Series Modelling	57
4.1	The Property of Stationarity	58
4.1.1	Trend Differencing	58
4.1.2	Seasonal Differencing	60
4.1.3	Homoscedasticity of the Data	60
4.2	Time Series in Practice	60
5	Further Properties of Time Series	73
5.1	Stochastic and Deterministic Trends	73
5.2	The Lag Operator and Invertibility	75
5.3	The Characteristic Equation and Stationarity	78
5.4	Unit Root Tests	80
Appendix 5.1:	The Binomial Theorem	84
Appendix 5.2:	The Quadratic Equation	85
6	Economic Forecasting Using Regression	89
6.1	Forecasting with Regression Models	90
6.2	Step One: Checking the Stationarity of the Series	90
6.3	Step Two: Making Series Stationary	94
6.4	Step Three: The Cointegration Test	99
6.5	Step Four: Model Forecasting	101
6.6	Step Five: Making a Joint Graph of the Dependent Variable and Its Forecast	106
6.7	Step Six: Adding Autocorrelation of the Error Term	108

- 7 Economic Forecasting using ARIMA Modelling** 111
 - 7.1 The Box-Jenkins Methodology 111
 - 7.2 The ARIMA Model 112
 - 7.3 Autocorrelations 113
 - 7.3.1 Autocorrelation Functions 114
 - 7.3.2 Partial Autocorrelation Functions (PACF) 116
 - 7.3.3 Patterns of the ACF and PACF 117

- 8 Modelling Volatility in Finance and Economics: ARCH, GARCH and EGARCH Models** 143
 - 8.1 The ARCH Class of Models 143
 - 8.2 Testing for ARCH Effects 146
 - 8.3 Problems with ARCH Models in Practice 154
 - 8.4 GARCH Models 155
 - 8.5 Application: Modelling Volatility & Estimating a GARCH (1, 1) Model 157
 - 8.6 Cointegration 168
 - 8.7 Concluding Remarks 192

- 9 Limited Dependent Variable Models** 197
 - 9.1 The Linear Probability Model 198
 - 9.2 The Logit Model 201
 - 9.3 Applying the Logit Model 202
 - 9.4 The Logit Model in EViews 203

- 10 Vector Autoregression (VAR) Model** 211
 - 10.1 The VAR Methodology 212
 - 10.2 The Estimation Process 213
 - Appendix 10.1: The Wald Test 234

- 11 Panel Data Analysis** 237
 - 11.1 Panel Stationary Approach 238
 - 11.1.1 The LGDP Panel Data 239
 - 11.1.2 The LGEX Panel Data 240
 - 11.1.3 The First Difference of the Data 241
 - 11.1.4 The DLGDP Panel Data 242
 - 11.1.5 The DLGEX Panel Data 243
 - 11.2 The Panel ECM Model 246
 - 11.2.1 Pooled OLS regression 248
 - 11.2.2 The Fixed Effects Least Squares Dummy Variable (LSDV) Model 249
 - 11.2.3 Model Testing 253
 - 11.2.4 Limitations of the Fixed Effects LSDV Model 254
 - 11.3 The Random Effects Model (REM) or Error Components Model (ECM) 255
 - 11.4 Fixed Effects Model vs. Random Effects Model 257
 - 11.5 The Final Result 259

12 Capital Asset Pricing Model (CAPM)	261
12.1 The CAPM Equation	261
12.2 Residual Analysis	267
References	275
Index	277