DEPARTMENT OF ECONOMCS
UNIVERSITY OF DELHI

Subject: Common Pool of DSE

Sem.: VI/ VIII

Course & Code: Forecasting Methods for Economics ECON053

Duration (per week): 4 (3 Lectures + 1 Tutorial)

Date & Time 04/12/2025 at 03:00 PM

Venue: 104, Department of Economics, Delhi University

Convenor: Reetika Garg

Present:

Yogesh Malhotra	Dri Venkateswara College
Raushan Kumar	Zakir Hussain Delhi College Evening
Megha Jacob	Jesus & Mary College
Deepika Goel	Aryabhatta College
Deepika Kumari	Shyamlal College
Sonali Chadha	MAC
Narendra Thakur	Dr. Bhim Rao Ambedkar College

Learning Objectives

The Learning Objectives of this course are as follows:

- This course builds on the compulsory Basic Econometrics course and teaches students a broad set of commonly used econometric methods for forecasting econometric variables.
- These include both quantitative and qualitative Forecasting Techniques including VAR, VECM, ARIMA etc.

Learning outcomes

The Learning Outcomes of this course are as follows:

- Students will learn the theoretical and practical basis for forecasting techniques widely used in empirical research and consider their application in a wide range of problems..

Agenda of the Meeting

- To discuss detailed Topic-wise / Unit-wise Reading list
- To discuss Evaluation criteria and Exam pattern

Syllabus

UNIT I: Basics of Forecasting

Tools for forecasting, forecasting methods and applications, forecast horizon

- Diebold - Chapter 3

UNIT II: Quantitative Forecasting Techniques

Definition, Time Series-Naive,Average, Simple Moving Average, Weighted Moving Average, Exponential Smoothing; Forecast Errors Accuracy, Trend Projection, Seasonal Indexes, Holt's, winter's Model, Linear Regression. Smoothing Techniques, Exponential smoothing methods, Decomposition methods.

- Makridakis, Wheelwright and Hyndman – Chapter 2, 3(upto 3.4), 4, 5 (upto 5.3)

UNIT III: Box-Jenkins Methodology: Unit roots; Autoregressive models, moving average models, mixed autoregressive and moving average models; Identification, estimation, diagnostic checking and Forecasting

- Asteriou and Stephen G. Hall – Chapter 13
- DeLurgio – Chapter 7* and 8* (Examples and Applications)

UNIT IV: Forecasting with Multiple Regression Models

- Gujarati and Porter – Chapter 8 (upto 8.9)

UNIT V: Cointegration, Granger Causality, Error Correction

- Asteriou and Stephen G. Hall – Chapter 17 pp. 383-395 (pp.395 onwards*), Chapter 15 pp. 349-351

UNIT VI: Qualitative Forecasting Techniques

Definition, Delphi, Precautions in administering Delphi, Sales force composite, Consumer Panel Survey, Nominal group, and their Drawbacks.

- Makridakis and Wheelwright – Chapter 12

Note: The readings / chapters / pages that are star marked (*) above are optional

Essential Readings

1. Diebold, F.X., Elements of Forecasting, Department of Economics, University of Pennsylvania.4th Edition 2006, Thomson South Western
2. Makridakis, Spyros G., Wheelwright, Steven C. and Hyndman, Rob J, Forecasting: Methods and Applications, 3rd edition 2015 Wiley Publications.
3. Asteriou, Dimitrios and Hall, Stephen G., Applied Econometrics, 4th edition, 2021, Palgrave Macmillan.
4. DeLurgio Stephen A., Forecasting principles and Applications, 1998, 1st edition, International edition, Irwin Mc Graw Hill.
5. Gujarati, D.N. and Porter, D. C., Basic Econometrics, 5th Edition 2009, Irwin Mc Graw Hill.
6. Makridakis, Spyros G., and Wheelwright, Steven C., Forecasting Methods for Management, 5th edition 1989 Wiley New York.

Reading for Teachers

1. Armstrong J.Scott, (eds.) Principles Of Forecasting: A Handbook For Researchers And Practitioners, 2001, Kluwer academic Publishers New York, Boston, Dordrecht, London, Moscow

Other Readings

1. Hyndman, R.J., & Athanasopoulos, G. (2021) Forecasting: principles and practice, 3rd edition, OTexts: Melbourne, Australia.OTexts.com/fpp3.
2. James Stock and Mark Watson, Introduction to Econometrics, 4th Edition, 2019, Pearson.

3. Wooldridge, J. (2014). Introduction to econometrics: A modern approach, 5th ed. Cengage Learning.
4. Badi H. Baltagi, Econometrics, 5th Edition, 2011,Springer.
5. J. Johnston and J. DiNardo (2001), Econometric Methods, Fourth Edition, Irwin McgrawHill
6. G.S. Maddala and Kajal Lahiri, Introduction to Econometrics, 4th Edition, 2012, Wiley.

Evaluation & Assessment

Internal Assessment (IA): 30 marks

- Two class tests / assignments of 12 marks each, lecture attendance will carry 6 marks.

Continuous Assessment (CA): 40 marks

- 20 marks practical application where data is collected and analysed, 15 marks tutorial assignment / projects, tutorial attendance will carry 05 marks.

End Semester (Final) Exam: 90 Marks

It was decided that the End Semester examination will have four sections:

- Section 1 (10 marks): Questions from Unit I – compulsory / no internal choice
- Section 2 (30 marks): Questions from Units II and IV – internal choice
- Section 3 (40 marks): Questions from Units III and V – internal choice
- Section 4 (10 marks): Questions from Unit VI – compulsory / no internal choice