

[Summary]

Time Series Models

Subject:

Course:

Paper No. & Title:

Unit No. & Title:

Business Economics

B. A. (Hons.), 5th Semester, Undergraduate

Paper – 531 Elective Paper Q1 – Advanced Econometrics

Unit – 3 Time Series Models

Lecture No. & Title:

Lecture – 2 Time Series Models

Summary

In this study, first of all we want to introduce a time series with its components-trend, seasonal, Cyclic and random factors. Different methods of separating trend component are discussed. In particular MA method, Iterated MA method, least squares method, variate difference method, fitting of growth Curves are indicated.

For separating seasonal component, moving average method, method of seasonal index are shown and references are done for other methods also. Cyclical component can be separated in a way similar to trend component in general and then what is left out (remaining) is the irregular component. A reference to multiplicative model is given with its method of separating components in brief.

A very important task is the study of stationary time series. For its analysis and testing problems, the concept of stationary stochastic process is given and it is shown how stationary and non-stationary series are related. A concept of Random walk with and without drift is given.

For examining stationary time series, concepts of autocorrelation function and correlogram is presented and it is shown how correlogram analysis is useful.

A reference for different tests for stationarity is given by means of Bartlett's Q test static, and LB statistic. Unit Root test is defined and for its applicability DF test is discussed. A brief reference to cointegration and its test is also presented.

(<u>Note</u>:we have not discussed other models useful for forecasting techniques due to limitation of the Syllabus)