

ECON 0704: Econometric Methods
[50 marks: Credit 4]

Module 1	Multiple Linear Regression Model
Unit 1	The Least Squares Assumptions – Estimation – Finite-sample properties of OLS estimator - Large Sample Properties of OLS estimator
Unit 2	Hypothesis testing and interval estimation – Prediction.
Unit 3	Dummy variable analysis
Unit 4	Maximum Likelihood estimation - Large sample tests
Unit 5	Nonspherical disturbances - Heteroscedasticity-Autocorrelation - GLS estimation - Heteroskedasticity - Autocorrelation-Consistent Standard Errors
Module 2	Regression Diagnostics
Unit 1	Multicollinearity - detection and remedial measures.
Unit 2	Omitted variable bias and functional form misspecification - Regression Specification Error test (RESET)
Unit 3	Measurement error - Endogeneity - Instrumental Variable (IV) estimators

References:

- Johnston, J. and J. Dinardo: Econometric Methods, McGraw Hill.
- Wooldridge, J. M.: Econometrics, CENGAGE Learning.
- Stock and Watson, Introduction to Econometrics, Pearson.

ECON 0791: Data Management and Analysis
[50 marks: Credit 4]

Module 1	Data management
Unit 1	Introduction to R and RStudio, Base R and Tidyverse (dplyr, ggplot2, tidyr)
Unit 2	Preparing for Multivariate analysis: Missing data, Variable generation and Recoding, Exploratory data analysis, Cleaning and merging data.
Module 2	Data analysis
Unit 1	Multiple Regression Analysis
Unit 2	Regression Diagnostics

References:

- Wickham, H, and Golemund, G: R for Data Science. <https://r4ds.had.co.nz/index.html>
- Golemund, G : Hands on Programing with R <https://rstudio-education.github.io/hopr>
- Colonescu, C. Principles of Econometrics with R <https://bookdown.org/ccolonescu/RPoE4/>
- Kleiber, C and Zeileis, A.(2008) Applied Econometrics with R, Springer. Online Link: https://www.hds.utc.fr/~tdenoeux/dokuwiki/_media/en/kleibzeil_aer.pdf
- Hanek, C, Arnold, M, Gerber, A and Schmelzer, M. Introduction to Econometrics with R <https://www.econometrics-with-r.org/index.html>

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ECON 1091: Quantitative Finance
[50 marks; Credit 4]

- Module 1** Financial Statement Analysis
Assessing company health using corporate data-base
- Module 2** Valuation of Financial Asset
Unit 1 Pricing of stocks, Fundamental and technical analysis, Real-sector financial sector interdependence, Testing and denial of Efficient Market Hypothesis
Unit 2 Applications related to money market
- Module 3** Portfolio Selection problem
Portfolio construction, evaluation and revision
- Module 4** Econometrics for finance
Unit 1 Univariate financial time series: linear and non-linear stochastic models and forecasting
Unit 2 Modelling financial returns distribution
Unit 3 Multivariate financial time series
Unit 4 Modelling long-run relationships in finance
Unit 5 Modelling volatility and correlation
Unit 6 Logit, Probit and Panel data applications
Unit 7 Application of Survival Analysis
- Module 5** Applications in International Finance
Unit 1 Testing Parity conditions in international finance, Derivative pricing
- Module 6** Special topics
Unit 1 Stochastic processes, non-linearity and chaos in financial time-series data, other contemporary issues

Data base: RBI website, Economic Survey, International Financial Statistics, PROWESS

Econometric software to be used: EViews, R

References:

- Brooks, C. (2008), Introductory Econometrics for Finance, Cambridge University Press, 2nd edition.
- Mills, T.C. (2005), The Econometric Modelling of Financial Time Series, Cambridge University Press, 2nd Edition.

ECON 1092: Project Part II
[150 marks; Credit 12]

Students need to complete a project under the guidance of an Internal Supervisor.

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FIFTH SEMESTER

ECON05C11: INDIAN ECONOMY I

Credit - 06 [Theory: 04; Practical/ Applications: 02]

Theory

Credit: 04

Contact hours per week: 04

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.

1. Economic Development since Independence

- Major features of the economy at independence; growth and development under different policy regimes; regional disparities in growth rates
- Sector-wise growth profile and changes of its contribution in GDP, structural change in employment.
- Five Years Plans: Objectives, sources of plan financing, an assessment of performance of different plans
- Trend of savings and capital formation; measures of mobilization of domestic savings; relation between savings rate, growth rate and ICOR

2. Population and Human Development

Demographic trends and issues; education; health and malnutrition.

3. Growth and Distribution

- Different concepts of poverty and its measures; different estimates of poverty; recent controversy of poverty reduction; economic reforms and poverty in India; assessment of the poverty alleviation policies since independence.
- Growth and inequality; trend of nature and causes of income inequality in India; rural urban disparity in income and wealth inequality; public measures to combat inequality in income and wealth; growth of large industrial houses and middle class.
- Estimates of unemployment and its trend; unemployment rates and growth rates; changing dimensions of unemployment; Government plans and programs for reducing unemployment. Employment Guarantee Act-2005

4. International Comparisons

Comparison of trends of India's key macroeconomic and socio-demographic indicators with other countries

Readings

- Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
- Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
- Rakesh Mohan, 2008, Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
- S.L. Shetty, 2007, India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India's Development*.

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FOURTH SEMESTER

ECON04SEC2

ANALYZING CONTEMPORARY ECONOMIC ISSUES

Credit - 04

Course Description

The course proposes to develop the capacity of students to analyze and appreciate contemporary economic issues and policy pronouncements. Students will be expected to present their analysis in the form of a written report. The course will start with an introduction to the basic principles of report writing. Subsequent modules will involve inter-active lectures, group discussions, and group presentations.

1. Guidance for project writing

- a. Identifying the topic
- b. Review of Literature
- c. Writing Project Report – Referencing Styles and use of referencing software

2. Analyzing economics in the news

Writing article about contemporary economic event (National &/or Global) using knowledge of economic theory

3. Analysis of contemporary Indian Economic Data and Policies

Economic survey, budget, annual policy data, RBI, Monthly Economic Data - Ministry of Finance

Readings

1. The Key to Budget Documents, Budget at a Glance, Macroeconomic Framework Statement, Medium Term Fiscal Policy Statement and Fiscal Policy Strategy Statement, all available at indiabudget.nic.in.
2. Economic and Social Classification of the Budget, available at <http://finmin.nic.in/reports/FunClass201415.pdf>.
3. <http://www.unionbudget.nic.in>
4. Pranab Mukherjee (2012), "Budget Making", in K. Basu and A. Maertens (eds), The New Oxford Companion to Economics in India, OUP.
5. Finance Commission Report - <http://finmin.nic.in>
6. The Economists, <https://www.economist.com/>

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