

GOKHALE INSTITUTE OF POLITICS AND ECONOMICS

Deemed to be University u/s 3 of the UGC Act, 1956

PUNE
411004

M.Sc. (ECONOMICS)

COURSE STRUCTURE & SYLLABUS

(Effective from academic year 2018-19)

(Approved by Board of Studies on 21-3-2018; Academic Council on 28-3-2018)

I N D E X

Sr. No.	Course Code No.	Name of the Course
COMPULSORY COURSES		
1	A-01	Microeconomics - I
2	A-02	Microeconomics - II
3	A-03	Macroeconomics
4	A-04	Monetary Macroeconomics
5	A-18	Basic Econometrics
6	A-21	Advanced Econometrics
7	A-20	Economic Growth and Development
8	A-08	Public Economics
9	A-10	International Economics: Pure Theory
10	A-11	International Economics: Money and Finance
11	A-13	Mathematics for Economic Analysis
12	A-23	Population Studies
13	A-15	Accountancy and Financial Statement Analysis
14	A-16	Financial Economics
15	A-19	Statistics and Operations Research
16	A-22	Business Analytics
OPTIONAL COURSES (Any four to be opted)		
1	B-01	Indian Agricultural Economics
2	B-02	Transport Economics
3	B-03	Industry: Organization, Structure and Problems
4	B-05	Economics of Labour
5	B-06	Financial Institutions and Markets
6	B-07	Law and Economics - I
7	B-08	Law and Economics - II
8	B-09	Economic Sociology
9	B-13	Environmental & Resource Economics
10	B-11	Social Exclusion and Inclusive Policy
11	B-12	Political Economy of India's Development
12	B-15	Urban Economics
13	B-14	Behavioural Economics
14	B-16	Linear Economics I
15	B-17	Linear Economics II

A-01: MICROECONOMICS - I

PREAMBLE

This course is the first attempt to develop the theoretical structure of microeconomics. The objective of this course is to develop an understanding of the basic principles of microeconomics. It is intended to improve student's analytical skills and ability to solve problems, which will be useful in several other areas of economics. By the end of this course the student is expected to be familiar with basic concepts of microeconomics and acquire analytical skills to analyse problems of economic policy. Examples and exercises would be covered to provide a flavour of various applications.

It does not require any previous knowledge of microeconomics. Familiarity with calculus and optimisation theory will be helpful. Relevant mathematical tools will be developed during the course whenever necessary.

Module 1: Consumer Theory

Preference relation and its properties. Consumer preferences and representation of preferences by utility functions. Budget constraint, Utility maximization and derivation of demand function, Indirect utility function and its properties, Roy's identity, Expenditure function, Shephard's lemma, Inverse demand functions, The money metric utility functions. Comparative statics, The Slutsky equation, Properties of demand function Comparative statics using first order conditions, The integrability problem. Revealed preferences. Endowments in the budget constraint, Labour leisure trade off. Consumer's surplus, Compensating and Equivalent Variations

Module 2: Theory of Firm

Theory of organisation. Measurements of inputs and outputs, Specification of technology – production Function, Returns to scale and other properties of production sets, Technical rate of substitution and elasticity of substitution. Profit maximization, Comparative statics, Profit function. Hotelling's lemma, Factor demand functions, Supply function. Cost minimisation, Cost functions, Average and marginal cost functions, Short run and long run costs, Marginal cost pricing, aggregation – industry supply function, Shephard's lemma, Conditional factor demand functions. Duality between production and cost functions.

Module 3: Theory of Market I: Perfect Competition, Monopoly, and Monopolistic Competition

Perfect competition: short run and long run market equilibrium. Efficiency and welfare. – Critiques of P. Sraffa, and J. Robinson. Monopoly: Monopoly power, Equilibrium output and prices, Effect on welfare, Price discrimination – first, second, and third degree, Quality choice under monopoly. Monopolistic Competition

Module 4: Game theory (basic introduction)

Description of a game, Normal form representation of game, Extensive form representation of game, Solution concepts—Nash Equilibrium, Mixed strategies, Repeated games, Sequential games, Refinement: Sub-game perfection.

Module 5: Theory of Market II: Oligopoly

Cournot equilibrium, stability, comparative statics, welfare. Bertrand equilibrium. Quantity leadership, Price leadership. Conjectural variations. Spatial competition: Linear city model, Circular city model.

Module 6: Competition Law

Economic issues in competition policy, Sources of market power, Market Structure, Market Power and Definition, Monopoly and Regulation of Monopoly, Anticompetitive Agreements & Cartels, Abuse of Dominance, Merger Control, Case studies of US Antitrust law, EU competition Law and Indian Competition policy.

BASIC READING LIST

- ❑ Ferguson, C. E. (1969), The Neoclassical Theory of Production and Distribution, Cambridge University Press.
- ❑ Gravelle, H. and Rees R. (2003), Microeconomics, 3rd Edition, Prentice Hall
- ❑ Kreps, David (1992), A Course in Microeconomic Theory, Eastern Economy Edition, Prentice Hall of India
- ❑ Varian, Hal R. (1992), Microeconomic Analysis, 3rd Edition, International Student Edition, W. W. Norton and Company
- ❑ Williamson, O. E. and Winter, Sidney G. (Eds) (1993), The nature of the firm; origins, evolution and development, Oxford University Press

ADDITIONAL READING LIST

Module 1

- ❑ Deaton, A. and Muellbauer (1993), Economics and Consumer Behaviour, Cambridge University Press.
- ❑ Gravelle, H. and Rees, R. (2003), Microeconomics, 2003, 3rd Edition, Prentice Hall.
- ❑ Green, H. A. G. (1971), Consumer Theory, Penguin, Harmondsworth.

Module 2

- ❑ Archibald, G. C. (Ed.) (1971), Theory of the Firm, Penguin, Harmondsworth.
- ❑ Bronfenbrenner, M. (1979), Income Distribution Theory, Macmillan, London.
- ❑ Gravelle, H. and Rees R. (2003), Microeconomics, 3rd Edition, Prentice Hall
- ❑ Healthfields and Wibe (1987), An Introduction to Cost and Production Functions, Macmillan, London.
- ❑ Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall

Module 3

- ❑ Archibald, G. C. (Ed.) (1971), Theory of the Firm, Penguin, Harmondsworth.
- ❑ Bain, J. (1958), Barriers to New Competition, Harvard University Press, Harvard.
- ❑ Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall.
- ❑ Tirole, Jean (1996), Theory of Industrial Organisation, Eastern Economy Edition, Prentice Hall of India.
- ❑ Williamson, O. E. and Winter, Sidney G. (Eds) (1993), The nature of the firm; origins, evolution and development, Oxford University Press.

Module 4

- ❑ Gibbons, Robert (1992), Game Theory for applied economists, Princeton University Press.

Module 5

- ❑ Gravelle, H. and Rees, R. (2003), Microeconomics, 3rd Edition, Prentice Hall.
- ❑ Gibbons, Robert (1992), Game Theory for applied economists, Princeton University Press.
- ❑ Tirole, Jean (1996), Theory of Industrial Organisation, Eastern Economy Edition, Prentice Hall of India.

A-02: MICROECONOMICS - II

PREAMBLE

This is the second part of the core Microeconomics Sequence. This course introduces fundamental concepts and topics developed in microeconomic theory. It will cover roughly 4 topics: 1) Theory of General Equilibrium, 2) Economics of Uncertainty, 3) Games of Incomplete Information and 4) Information Economics. The aim is to be as thorough as possible in a single semester time period. The theoretical tools developed in these topics are essential in many different fields in economics.

Module 1: Theory of General Equilibriums

We will focus on GE with certainty.

First Level: Introduction – partial equilibrium vis-à-vis general equilibrium approach. Exposition of basic concepts. An elementary general equilibrium model – the Robinson Crusoe economy. Pure exchange economy – the Edgeworth Boxes, Pareto optimality, contract curve, core, Walras Law, Walras equilibrium. First and second fundamental theorem of welfare economics (graphical exposition).

Second Level: Refreshment of analytic and scarcity properties of preference relation. A more elaborate exposition of the exchange economy: commodities, agents, preferences, utility functions, prices, demand and excess demand functions and their properties. Formal definition

of allocation, Pareto optimal allocation, individually rational Pareto optimal allocation, coalition, and core. Walras equilibrium, its relation with core. Formal proof of first fundamental theorem. Gross substitutability. Price adjustment process. Brouwer's fixed point theorem. Existence of Walras equilibrium and Uzawa equivalence theorem. Social welfare maximization and its relation with Pareto optimality. General conditions for uniqueness, and discussion of stability – Tatonnement process. General equilibrium over time – Arrow Debreu scarcity (introduction only). Re-switching and reverse capital deepening.

Module 2: Economics of Uncertainty

Measures of risk -- Domar-Musgrave index, Roy's safety index, Mean-Variance, Semi variance. Mini-max regret. Lotteries, preference relation over lotteries, N-M expected utility theory – basic axiom and representation theorem; violations of EU theory. Subjective probabilities. Risk aversion – Jensen's inequality, Acceptance set and risk aversion, various measures of risk aversion (Arrow-Pratt measure of absolute risk aversion, relative risk aversion), certainty equivalent and risk premium, Arrow-Pratt approximation of risk premium, Pratt's theorem, DARA, CARA, IARA, DRRRA, IRRRA, CRRA classes of utility functions and their comparative static properties; Applications to various settings and comparative static results. Stochastic dominance criterion of ordering risky prospects, and equivalence between expected utility criterion and stochastic dominance criterion.

Module 3: Games of Incomplete Information

Static Bayesian games and Bayesian equilibrium – theory and examples.

Module 4: Information Economics

Introduction. The elements of the problem. Types of Asymmetric information problems – moral hazard, adverse selection, signalling.

Static Moral Hazard: Full information Benchmark, Hidden action in a Two action-Two outcome model as well as in a simple Continuous action and continuous outcome case, Solution through First order approach and its validity, Value of information and characteristics of the Optimal contract

Adverse selection and Signalling: Akerlof's Model of Lemons, Brief exposure to Mechanism Design and Revelation Principle, Intuition behind Spence-Mirrlees Single Crossing Condition. Signalling in the Spence's Model of Education, the notions of Pooling and Separating Equilibria.

BASIC READING LIST

② Mas-Colell, Andrew Michael., Whinston, D. and Green, Jerry R. (1995), Microeconomic Theory, Oxford University Press.

② Varian, Hal R. (1992), Microeconomic Analysis, 3rd Edition, International Student Edition, W. W. Norton and Company.

ADDITIONAL READING LIST

Module 1:

- ❑ Broadway, R. W. and Bruce, N. (1984), Welfare Economics, Basil Blackwell, London.
- ❑ Debreu, G. (1959), Theory of Value, An Axiomatic Analysis Of Economic Equilibrium, John Wiley & Sons.
- ❑ Ellickson, Bryan (1993) Competitive Equilibrium; Theory and Applications, Cambridge University Press.
- ❑ Green, H. and Walsh, V. (1975), Classical and Neo-Classical Theories of General Equilibrium, Oxford University Press, London.
- ❑ Hansen, B. (1970), A Survey of General Equilibrium Systems, McGraw Hill, New York.
- ❑ Hilderbrand, W. and Kirman, A. P. (1988), Equilibrium Analysis; Variations on Themes by Edgeworth and Walras, North- Holland.
- ❑ Kreps, David (1988), Notes on theory of choice, Westview Press.
- ❑ Martin, J. Osborne and Ariel Rubinstein (1994), A course in game theory, MIT Press.
- ❑ Quirk, J. and Saposnik, R. (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw Hill, New York.
- ❑ Starr, Ross M. (1997), General equilibrium theory; An introduction, Cambridge University Press.
- ❑ Weintrub, E. R. (1974), General Equilibrium Theory, Macmillan, London.

Module 2:

- ❑ Arrow, K. J. and Intriligator, M. D. (1981), Handbook of Mathematical Economics, Vol. I, North Holland, Amsterdam.
- ❑ Borch, K. H. (1968), The Economics of Uncertainty, Princeton University Press, Princeton.
- ❑ Diamond and Rothschild (Eds.) (1978), Uncertainty in Economics, Academic Press, New York.

Module 3:

- ❑ Fudenberg, D. and Tirole, J. (1996), Game Theory, MIT Press.
- ❑ Gibbons, R. (1992), Game theory for applied economists, Princeton University Press.
- ❑ Osborne, Martin J. and Rubinstein, Ariel (1994), A course in game theory, MIT Press.

Module 4:

- ❑ Bolton, Patrick and Dewatripont, Mathias (2005), Contract theory, MIT Press.
- ❑ Fudenberg, D. and Tirole, J. (1996), Game Theory, MIT Press.
- ❑ Gibbons, R. (1992), Game theory for applied economists, Princeton University Press.
- ❑ Osborne, Martin J. and Rubinstein, Ariel (1994) A course in game theory, MIT Press.

A-03– MACROECONOMICS

Objective

The objective of the paper is to familiarize the students about the contribution of various schools of thought in macroeconomics. The course structure covers the major debates and intends to provide wider vision of the present discourses in macroeconomics. The course will help to develop aptitude to relate concepts with research and policy.

Module 1: Macroeconomic Measurement

1. An overview of National Accounting
 - Conventions about National Accounting Sectors
 - Concept of value added by production
 - National Product at market price and factor cost
 - Gross and Net Production
2. Methods of Income estimation
 - The Product Approach
 - The Expenditure Approach
 - The Income Approach
3. Accounting for environmental and Social Dimensions
 - Physical quality of life index and Human Development Index
 - Environmentally Adjusted Net Domestic Product

Module 2: Background Concepts:

History of macroeconomic thought- Classical, Keynesian and schools of thought after Keynes.

Behavioral foundations of Macro Economics:

Consumption Function: Keynes Psychological Law and Kuznet's consumption puzzle, Fisher's inter-temporal Choice Model, Permanent Income Hypothesis, Life Cycle Hypothesis and Relative Income Hypothesis.

Investment Function: Neo-Classical Theory of Investment, Stock Market and Tobin's q-ratio, Accelerator Theory of Investment (simple and flexible acceleration models)

The Monetarist School: The quantity theory of money approach

Module 3: Rational Expectations and new Classical Macroeconomics:

The basic concepts – the Phillips curve and Lucas Supply equation

Module 4: Real Business Cycle School:

Real Business Cycle School and inter temporal substitution of labour- Real Business Cycle theory- technology shocks- neutrality of money and flexibility of wages and prices- Real Business cycle view on great depression.

Module 5: Micro Foundations of real and nominal rigidities: New Keynesian School:

Imperfect competition and price setting- Real rigidity- Co-ordination failure models- Real Non Walrasian Theories- Small Menu Cost model and Staggering of prices, implicit wage contract theory- efficiency wage theory- Insider- Outsider model.

Module 6: Basic Infinite Horizon Models:

Ramsey Problem: Command Economy, Decentralized economy, dynamic efficiency - Government in the decentralized economy.

Overlapping Generations Model:

OLG with production: two period lives, dynamic inefficiency and altruism, Social Security Models under OLG

READING LIST

1. Barro, Robert J. & Sala-i- Martin, Xavier (1995), *Economic Growth*, McGraw Hill .
2. Blanchard, Olivier (2000), *Macroeconomics*, [Prentice Hall](#).
3. Blanchard, Olivier and Stanley, Fischer (1989), "*Lectures on Macroeconomics*", The MIT Press
4. Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard (2004), *Macroeconomics*, 9th Edition, McGraw Hill.
5. Mankiw Gregory (2002), *Macroeconomics*, 5th Edition, Worth Publishers
6. Romer, David (2003), *Advanced Macroeconomics*, 3rd Edition, McGraw Hill Publishers.
7. Snowden Brian and Vane Howard R, (2005) *Modern Macroeconomics: Its Origin, Development and Current State*, Edward Elgar Publishing Ltd.

A-04: MONETARY MACROECONOMICS

PREAMBLE:

This course covers the post-Keynes developments in monetary theory with special reference to the existence of general equilibrium in a monetary economy. The implications of introducing money in Walrasian and non-Walrasian economies and theories of disequilibrium dynamics will be covered in detail. The questions of monetary and credit policies and the workings of monetary policies with special reference to Indian economy will be analyzed.

Module 1: Definition of Money

Nature, functions, types and evaluation
of money The debate relating to the
definition of money Liquidity theory
Gurley and Shaw Hypothesis
Alternative money stock measures
The quantity and components of money stock in India and broad trend in them

Module 2: Supply of Money and Money Transmission Mechanics

Base money, money multipliers, and role of financial
intermediaries Factors affecting money supply
Balance sheet of Reserve Bank of India

Module 3: Demand for Money

Quantity theory of money
Demand for money
Keynesian theory of demand for money
Baumol-Tobin theory
Issues regarding endogenous and exogenous supply of money.

Module 4: Money in Walrasian and non-Walrasian Economies and Theories of Disequilibrium Dynamics

Money in neo-classical models
Money in non-neo-classical models

Walrasian interpretation of Keynesian unemployment (Patinkin, Clower and Leijonhufvud) Post-Keynesian interpretation (Sidney Weintraub, Paul Davidson, Kelecki and Minsky)

Module 5: Theories of the Interest Rate

Real and monetary theories of the interest rate
Keynesian theory, Wicksellian theory, Fisher's theory, Hicksian theory
Credit market imperfections
Adverse selection and moral hazard

Module 7: Monetary Institutions & Monetary Policy

Monetary transmission mechanism and targeting Inflation Money growth and interest rates
Interest rate rules
Taylor rule
Rules versus discretion
Central Bank autonomy
Dynamic inconsistency of monetary policy credibility and reputation
Co-ordination of fiscal and monetary policy

BASIC READINGS

- ❑ Mishkin Frederic (2007), *The Economics of Money Banking and Financial Markets*, 8th ed Addison Wesley Longman Publishers.
- ❑ Bain, Keith & Howells, Peter (2009), *Monetary Economics: Policy and Its Theoretical Basis*, Palgrave.
- ❑ Friedman, Ben & Hahn F.H. (Eds.), (1990), *Handbook of Monetary Economics*, Vols. 1, 2, & 3, North Holland Publishers.
- ❑ Blinder Alan (1998), *Central Banking in Theory and Practice*, The MIT Press
- ❑ Langdana Farrokh (2009), *Macroeconomic Policy: Demystifying Monetary and Fiscal Policy*, 2nd Edition, Springer.

A-05: BASIC ECONOMETRICS

Objective: The objective of this paper is to introduce basic econometric techniques that are widely used in empirical work in economics and other related disciplines. It covers the problems faced in estimation and inference in the context of single and multiple equations regression model. The focus is on conceptual understanding and 'hands on' applications using economic data drawn from real-world examples, rather than on formal theoretical proofs alone. By the end of the course, students should be able to develop simple econometric models and interpret the econometric and statistical results reported in other studies.

Module 1: The nature of Econometrics and Economic Data: Introduction, Model Specification and applied research, the role of data in model specification, The Structure of Economic Data, Steps in Empirical Analysis, Causality and the Notation of Ceteris Paribus in Econometrics, etc.

Module 2: The Classical Linear Regression Model: Estimation and Inference: Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators, interval estimation and hypothesis testing and prediction, reporting and interpreting regression results, Maximum Likelihood techniques, Restricted Least Square estimation, Likelihood Ratio (LR), Wald and Lagrange Multiplier (LM) Test, Minimum Variance Bound (Rao-Cramer Inequality Theorem).

Module 3: Non-linear regression: Conversion of non-linear forms into linear forms, testing linear versus non-linear functional form, appropriateness and relevance of the choice of functional form.

Module 4: Regression Analysis with Qualitative information: Binary (or Dummy) Variables: Exogenous Dummy Variable- Formulating and interpreting coefficients on dummy explanatory variables, interactions involving dummy variables and use of dummy variables in seasonal analysis, piece wise regression analysis, the dummy variable alternative to chow test.

Discrete and Limited Dependent variable - Linear Probability Model, Problems relating to LPM, Logit and Probit Model, Multinomial Choice Models: Ordered Response Model; Unordered Response Model, Censored and Truncated Regression Model

Module 5: Multicollinearity: Introduction, perfect versus imperfect Multicollinearity, Consequences, tests for detection and remedies for Multicollinearity.

Module 6: Violation of the OLS Assumptions: Introduction, Consequences of violation of OLS assumption, GLS Estimation- Aitken's generalization of Gauss Marks Theorem. Heteroscedasticity & Autocorrelation: Causes and consequences, diagnostic tests and remedial procedural

Module 7: Specifications: Choosing the Independent Variables and Functional Form

Omitted variables: Too few variables, Irrelevant variables: variable overload, Criterion of choice, superfluous variables etc. The use and Interpretation of constant term, Alternative Functional forms, Problem with incorrect functional form, test for choosing the appropriate functional form.

Module 8: Lagged Variables and Distributed- Lag Models: Introduction, Consequences of applying OLS, Almon's lag approach, Koyak Transformation: Partial adjustment hypothesis and adaptive expectations hypothesis, estimation of distributed lag models etc.

Module 9: Simultaneous Equation Models (SEM): Introduction, Structural, reduced form and final form model, Rational behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator, Problem of Identification: Rank and Orders conditions, Methods of estimation: ILS, 2SLS, Instrumental Variable, LIML (LVR), Mixed estimation Method, 3 SLS and FIML methods.

Note: *Students will be taught software packages for performing econometric applications. Computer exercises will be given*

BASIC READING LIST:

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons.
- Green, William H., **Econometric** Analysis, Prentice Hall.
- Johnston and Dinardo, Econometric Methods, 4th Edition McGraw-Hill International Edition.
- Wooldridge J., Introductory **Econometrics**: A Modern Approach, South-Western College Pub.
- Studenmund, A.H., Using Econometrics: A Practical Guide, Addison Wesley Publishing Company. Boston,
- Gujarati, Damodar, **Basic Econometrics**, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi

ADDITIONAL READING LIST:

Module 2 and 3

- Griffiths, Hill and Judge (1993), Learning and Practicing Econometrics, Wiley, New York, chapter 4-11.
- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 3 and 5.
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 2-6
- Studenmund, A.H. (2005), Using Econometrics: A Practical Guide, Addison Wesley Publishing Company. Boston, Chapter 2-7
- Johnston and Dinardo (1997), Econometric Methods, 4th edition, McGraw-Hill international Edition, Chapter 2-3 and Chapter 5
- Gujarati, Damodar (2003), Basic Econometrics, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi, Chapter 2-8

Module 2-3 (Articles)

- Hirschfeld, Mary, Robert L. Moore and Brown Eleanor (1995), "Exploring the Gender Gap on the GRE Subject Test in Economics", The Journal of Economic Education, Vol. 26, No. 1, Winter, pp. 3-15
- Lovell, Michael C. (1986), 'Tests of the Rational Expectations Hypothesis', The American Economic Review, Vol. 76, No. 1, March, pp. 110-124
- McCloskey, Donald N. (1992) 'The Bankruptcy of Statistical Significance', Eastern Economic Journal, Vol. 18, No. 3, Summer, University of Iowa
- Romer, David (1993), 'Do Students Go to Class? Should They?' The Journal of Economic Perspectives, Vol. 7, No. 3, Summer, pp. 167-174
- Saunders, Edward M. Jr. (1993), 'Stock Prices and Wall Street Weather', The American Economic Review, Vol. 83, No. 5, December, pp. 1337-1345
- Silva, Fabio & Sonstelie Jon (1995), 'Did Serrano Cause A Decline In School Spending?', National Tax Journal, Vol. 48, No. 2, June, pp. 199-215

- Smith, V. Kerry (1971), 'A Note on Student's t Test in Multiple Regression', The Journal of Financial and Quantitative Analysis, Vol. 6, No. 3, June, pp. 1053 -1056
- Amemiya, Takeshi (1980), 'Selection of Regressors', International Economic Review, Vol. 21, No. 2, June, pp. 331-354,
- Bandiera, Oriana (2005), Some Notes on the intuition behind popular Econometric Techniques.
- Boyed, Deric, The Ramsey test of functional form, The Ramsey test of Mis- Specification, university of East London
- Buckles Stephen and Freeman V. (1983), 'Male-Female Differences in the Stock and Flow of Economic Knowledge', The Review of Economics and Statistics, Vol. 65, No. 2, May, pp. 355-358
- Kinal, Terrence and Lahiri Kajal (1984), A Note on "Selection of Regressors", International Economic Review, Vol. 25, No. 3, October, pp. 625-629
- Sander, W. (1985), 'Women, Work, and Divorce', The American Economic Review, Vol. 75, No. 3, June, pp. 519-523
- Yitzhaki, S. (1990), 'On the Sensitivity of a Regression Coefficient to Monotonic Transformations', Econometric Theory, Vol. 6, No. 2, June, pp. 165-169,
- Loeb, Peter D (1992), 'The interactive effect of alcohol and altitude on traffic fatalities.' Southern Economic Journal, July.
- Lovell, Michael C. (1983), 'Data Mining', The Review of Economics and Statistics, Vol. 65, No.1, February, pp. 1-12,
- Moffitt, R. (1990), 'The Econometrics of Kinked Budget Constraints', The Journal of Economic Perspectives, Vol. 4, No. 2, Spring, pp. 119-139
- Comanor William S. and Wilson Thomas A. (1967), 'Advertising Market Structure and Performance', The Review of Economics and Statistics, Vol. 49, No. 4, Nov., pp. 423-440

Module 4

- Gujarati, Damodar (2003), Basic Econometrics, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi, Chapter 9 and Chapter 15
- Wooldridge, J. (2009), Introductory Econometrics, South-Western College Pub., Chapter 7 and Chapter 17
- Johnston and Dinardo (1997), Econometric Methods, 4th edition, McGraw-Hill international Edition, Chapter 4 and Chapter 13
- Green, William H. (2014). Econometric Analysis, Prentice Hall, Chapter 21 and 22
- Green, William and David A Hensher (2009). Modeling Ordered Choices, NSU Stem School of Business.

(<https://pdfs.semanticscholar.org/83cb/843ab8542b4ab2ad1cca4c400b7992aad460.pdf>)

Articles

- Sommers, Paul M. and Source, Noel Quinton (1982), 'Pay and Performance in Major League Baseball: The Case of the First Family of Free Agents', The Journal of Human Resources, Vol. 17, No. 3, Summer, pp. 426-436
- Halvorsen, R. and Palmquist, R. (1980), 'The Interpretation of Dummy Variables in Semi logarithmic Equations', The American Economic Review, Vol. 70, No. 3, June. pp. 474-475
- Kennedy, P. (1986), 'Interpreting Dummy Variables', The Review of Economics and Statistics, Vol. 68, No. 1, February, pp. 174-175

- Chen, Dhal, and Khan(2002), 'Nonparametric Identification and Estimation of a Censored Regression Model with an Application to Unemployment Insurance Receipt', Center For Labor Economics University of California, Berkeley Working Paper No. 54
- Amin and Islam (2014), 'Are There More Female Managers in the Retail Sector? Evidence from Survey Data in Developing Countries,' Policy Research Working Paper-6843, World Bank
- Chintagunta and Honore (1996), 'Investigating the effects of marketing variables and unobserved heterogeneity in a multinomial probit model,' International Journal of Research in Marketing, Elsevier Science, 13(1996) 1-15

Module 5:

- Gujarati, Damodar (2003), Basic Econometrics, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi, Chapter 10
- Studenmund, A. H. (2005) Using Econometrics: A Practical Guide, Addison Wesley Publishing Company, Boston, Chapter 8
- Madala G.S., Introduction to Econometrics, John Wiley & Sons, Chapter 7

Module 6:

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 21
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 12
- Gujarati, Damodar (2003), Basic Econometrics, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi, Chapter 11-12
- Madala (2001), Introduction To Econometrics, John Wiley & Sons, Chapter 6

Articles

- Brada, Josef C. and Graves, Ronald L. (1988), 'The Slowdown in Soviet Defense Expenditures' Southern Economic Journal, Vol. 54, No. 4, April, pp. 969-984
- Hutchison, M. H. and Pyle, D. H. (1984), 'The Real Interest Rate/Budget Deficit Link: International Evidence', Federal Reserve Bank of San Francisco, Fall
- Maeshiro, A. (1976), 'Autoregressive Transformation, Trended Independent Variables and Autocorrelated Disturbance Terms', The Review of Economics and Statistics, Vol. 58, No. 4, November, pp. 497-500
- Buchline, Randolph E., Canes, Richard E. and Andrew W. Lo (1989), 'Games of survival in the UN newspaper industry', Applied Economics, Vol. 21, pp. 631-649.
- Dornbusch, R. and Pechman, Clarice (1985), 'The Bid-Ask Spread in the Black Market for Dollars in Brazil', Journal of Money, Credit and Banking, Vol. 17, No. 4, Part 1, November, pp. 517-520.
- Harvey, A. C. (1976), 'Estimating Regression Models with Multiplicative Heteroscedasticity', Econometrica, Vol. 44, No. 3, pp. 461-465, May
- Louis Amato, Louis and Wilder, Ronald P. (1985), 'The Effects of Firm Size on Profit Rates in U. S. Manufacturing' Southern Economic Journal, Vol. 52, No. 1, July, pp. 181-190

Module 7

- Griffiths, Hill and Judge (1993), Learning and Practicing Econometrics, Wiley, New York, Chapter 21.
- Madala (2001), Introduction to Econometrics, John Wiley & Sons, Chapter 10.

- Wooldridge, J. (2009), *Introductory Econometrics*, 4th edition, South-Western College Pub., Chapter 10.
- Judge, G.G. et al., *Introduction to the theory and Practice of econometrics*, 2nd Ed. John Wiley and Sons, Chapter 16.
- Pindyck & Rubinfeld (1997), *Econometrics Models & Economic Forecast*, 4th edition, McGraw-Hill/Irwin.

Articles

- William Sander (1985), 'Women, Work, and Divorce', *The American Economic Review*, Vol. 75, No. 3, pp. 519-523.
- Terrence Kinal and Kajal Lahiri (1984): A Note on "Selection of Regressors", *International Economic Review*, Vol. 25, No. 3 pp., 625-629, October
- Stephen Buckles and Vera Freeman (1983), 'Male-Female Differences in the Stock and Flow of Economic Knowledge', *The Review of Economics and Statistics*, Vol. 65, No. 2 May, pp. 355-358, May.
- Shlomo Yitzhaki (1990), 'On the Sensitivity of a Regression Coefficient to Monotonic Transformations', *Econometric Theory*, Vol. 6, No. 2, pp. 165-169, June
- Takeshi Amemiya (1980), 'Selection of Regressors', *International Economic Review*, Vol. 21, No. 2, pp. 331-354, June
- Deric Boyed: The Ramsey test of functional for The Ramsey test of Mis- Specification, university of East London
- Oriana Bandiera: Some Notes on the intuition behind popular Econometric Techniques
- William S. Comanor and Thomas A. Wilson (1967), 'Advertising Market Structure and Performance', *The Review of Economics and Statistics*, Vol. 49, No. 4, pp. 423-440, November.
- Robert Moffitt (1990), 'The Econometrics of Kinked Budget Constraints', *The Journal of Economic Perspectives*, Vol. 4, No. 2, pp. 119-139, Spring.
- Loeb, Peter D (1992), 'The interactive effect of alcohol and altitude on traffic fatalities Southern Economic Journal.
- Michael C. Lovell (1983), 'Data Mining', *The Review of Economics and Statistics*, Vol. 65, No. 1, pp. 1-12, February

Module 8

- Gujarati, Damodar (2003), *Basic Econometrics*, 4th Edition, Tata McGraw Hill Publishing, New Delhi, Chapter 17
- Koutsoyiannis, A (2004), *Theory of Econometrics*, 2nd edition, Palgrave, N. Y., Chapter 13
- Wooldridge, J. (2009), *Introductory Econometrics*, 4th edition, South-Western College Pub., Chapter 10.
- Madala (2001), *Introduction to Econometrics*, John Wiley & Sons, Chapter 10.
- Judge, G.G. et al., *Introduction to the theory and Practice of Econometrics*, 2nd Ed John Wiley and Sons, Chapter 16.

Module 9

- Koutsoyiannis, A (2004), *Theory of Econometrics*, 2nd edition, Palgrave, N. Y., Chapter 14, 15, 16, 17 and 19
- Gujarati, Damodar (2003), *Basic Econometrics*, 4th Edition, Tata McGraw Hill Publishing Company, New Delhi, Chapter 18, 19 and 20

Article 10

- Angrist and Kruger (2001), 'Instrumental Variables and search for Identification: From Supply and Demand to Natural Experiments,' Journal of Economic Perspective, Volume 15, November 4- Fell 2001, P 69-85

A-06: ADVANCED ECONOMETRICS

Module 1: Seemingly Unrelated Regression (SURE): Estimation by OLS, GLS and FGLS, testing for structural change and aggregation bias, case of autoregressive errors

Module 2: Time Series:

2.1. Introduction to Time Series Analysis: The nature of time Series data; Examples of time Series Regression Models: Static Models: Finite Distributed Lag Models. Trends and Seasonality: Characterizing Trending Time Series, Using Trending Variables in Regression Analysis. A Detrending Interpretation of Regressions with a Time Trend, Computing R-Squared when the Dependent Variable Is Trending Seasonality

2.2 Stationary Time-Series Models: Stochastic Difference Equation Models, ARMA Models, Stationarity, Stationarity Restrictions for an ARMA(p, q) Model, The Autocorrelation Function, The Partial Autocorrelation Function, Sample Autocorrelations of Stationary Series, Box-Jenkins Model Selection, Properties of Forecasts, A Model of the Interest Rate Spread, Seasonality, Parameter Instability and Structural Change.

2.3 Models with Trend: Deterministic and Stochastic Trends, Removing the Trend, Unit Roots and Regression Residuals, The Monte Carlo Method, Dickey-Fuller Tests, Examples of the ADF Test, Extensions of the Dickey-Fuller Test, Structural Change, Power and the Deterministic Regressors, Panel Unit Root Tests, Trends and Univariate Decompositions

2.4 Multiequation Time-Series Models: Intervention Analysis, Transfer Function Models, Estimating a Transfer Function, Limits to Structural Multivariate Estimation, Introduction to VAR Analysis, Estimation and Identification, The Impulse Response Function, Testing Hypothesis, Structural VARs, The Blanchard and Quah Decomposition.

2.5 Cointegration and Error-correction Models: Linear Combinations of Integrated Variables, Cointegration and Common Trends, Cointegration and Error Correction, Testing for Cointegration -The Engle-Granger Methodology, Illustrating the Engle-Granger Methodology, Cointegration and Purchasing-Power Parity, Characteristic Roots, Rank, and Cointegration, Hypothesis Testing, Illustrating the Johansen Methodology, Error-Correction and ADL Tests, Comparing the Three Methods

2.6 Modeling Volatility: Economic Time Series- The Stylized Facts, ARCH Processes, ARCH and GARCH Estimates of Inflation, A GARCH Model of Risk, the ARCH-M Model, Additional Properties of GARCH Processes, and Maximum Likelihood Estimation of GARCH Models.

Module 3: Panel Data

3.1 Introduction Panel Data: Some Examples, Benefits and Limitations

3.2 The One-way Error Component Regression Model: Introduction, The Fixed Effects Model, The Random Effects Model, Fixed vs Random, Maximum Likelihood Estimation, Prediction

3.3. The Two-way Error Component Regression Model: Introduction, The Fixed Effects Model, Testing for Fixed Effects, The Random Effects Model, Maximum Likelihood Estimation, Prediction

3.4 Test of Hypotheses with Panel Data: Tests for Poolability of the Data, Tests for Individual and Time Effects: The Breusch–Pagan Test, King and Wu, Honda and the Standardized Lagrange Multiplier Tests, Gourieroux, Holly and Monfort Test, Conditional LM Tests, ANOVA F and the Likelihood Ratio Tests; Hausman's Specification Test

3.5 Introduction to Dynamic Panel Data Models

Note: *The students will be taught software packages for performing econometric applications. Computer exercises will be given to students.*

Basic Reading List

- ❑ Baltagi, B.H. (2008), **Econometric Analysis of Panel Data**, 4th Edition, Wiley
- ❑ Wooldridge, J. (2002), **Econometric analysis of Cross Section and Panel Data**
- ❑ Wooldridge, J. (2009), **Introductory Econometrics**, 4th Edition, South-Western College Pub.
- ❑ Hsiao, C. (2003), **Analysis of Panel Data**, Cambridge University Press, Cambridge.
- ❑ Walter Enders (2008), **Applied Econometrics Time series**, Wiley India
- ❑ Hamilton, JD (1994) **Time Series Analysis**. Princeton University Press, New Jersey.
- ❑ Judge, G.G., Griffiths, W.E., Hill, R.C., Lutkepohl, H. and Lee, T.C. (1985), **The Theory and Practice of Econometrics**, 2nd edition John Wiley and Sons, New York.
- ❑ Johnston, J. and Dinardo, D., **Econometric Methods**, McGraw Hill, New York.
- ❑ Lutkepohl, Helmut (2007) **New Introduction to Multiple Time Series Analysis**, Springer, New York
- ❑ Rao, P., Miller, R. L. (1971), **Applied Econometrics**, Wadsworth Publishing Company.

A-07: ECONOMIC GROWTH AND DEVELOPMENT

Objective

The course is about the fundamental models used to analyze theoretical and empirical issues in economic growth and development. The main objective of the course is to familiarize students with the problem of development in underdeveloped and developing economies. The focus of the course is to: (i) discuss the major theoretical developments in areas of Growth economics and policy discourse;

(ii) analyze the economic problems of developing countries, especially problems related to slow growth, high poverty rates, high income inequality, etc.; (iii) discuss strategies for attaining sustainable growth, reducing poverty, income inequality and use of theory and empirical analysis to address issues in these areas.

Module I: Growth:

The long and medium run: Harrod-Domar Model - the Solow growth model and its application to convergence of country growth rates

Neoclassical Growth theory: the micro foundations of growth- Ramsey model with infinitely lived agents- Application to household behavior and interaction with the government - Ricardian equivalence.

Endogenous growth theory: The AK model – Long run AK model – AK model with externalities

New Growth theory: Human capital, Externalities and ideas; endogenous technological progress and development

Module II: Development, Scope of Development Economics

Background and beginnings of 'Development Economics': post-war world economic order and end of formal colonialism; distinction between growth and development economics/studies.

Human Development and deprivation

The concept of development – Evolution of Measures of Economic Development, Human Development Index and its extensions, modifications, and other related measures: Human Poverty Index (HPA), Gender related Development Index (GDI), Gender Empowerment Measure (GEM)

Associated problems of measurement; components; outcome indices and process indices.

Comparing Developing Economies

Economic performance/progress of developing countries over the recent past in reference to India, China, Africa and Latin America.

Module III: Major themes/perspectives of post-war 'high development theory' (late 1940s to 1970s)

Vicious circle of poverty; big push, balanced and unbalanced growth, dual-economy models – broad policy implications (Lewis, Ranis-Fei, Jorgenson models and limitations) – Rural-urban migration and urban unemployment (Harriss-Todaro model and extensions), Rural-urban wage-gap (Labour turnover model and wage- efficiency model – their extensions and limitations) – Political Economy of development and underdevelopment; dependency school and its critique

Module IV: Economics of Institutions

Evolution of Institution and their role in an economy: existing views: political organization and freedom: Role of financial institutions in economic development: Theory (Acemoglu and Zilibotti model), evidence; Decentralization of Institutions

New Institutional Economics

Market failures, government failures, role and emergence of institutions, role of state in economic development

Module V: Capital, Inequality and Growth

Income, capital and growth in the long run

The dynamics of capital accumulation: private vs. public capital and the great transformation

Inequality in the long- run: labour income vs capital ownership

BASIC READING LIST

- Bardhan, P. and C. Udry (1999), *Development Microeconomics*, Oxford University Press.
- Basu, K. (2003), *Analytical Development Economics: The Less Developed Economy Revisited*, The MIT Press.
- Meier, G. and J. Rauch (2004), *Leading Issues in Economic Development*, 7th edition, Oxford University Press.
- Ray, D. (1998), *Development Economics*, Princeton University Press.
- Thirlwall, A.P. (2006), *Growth and Development*, 8th edition, Palgrave Macmillan.

ADDITIONAL READING LIST Module I:

- Alkire, S. (2002), *Valuing Freedom: Sen's Capability Approach*, New Delhi: OUP.
- Bagchi, A. (1982), *The political economy of underdevelopment*, Cambridge University Press.
- Bardhan, P. and C. Udry (eds) (2000), 1st edition, *Readings in Development Economics*, The MIT Press.
- Meier, G. and J. Rauch (2005), 8 edition, *Leading Issues in Economic Development*,. Oxford University Press, USA.
- Meier, G. (2001), 'The Old Generation of Development Economics and the New', In: G. Meier and J. Stiglitz (eds), *Frontiers of Development Economics*, World Bank.
- Mozaffar, Q. (1996), 'Capabilities, Well-being and Human Development: A survey', *Journal of Development Studies*, 33:143-162.

- Mynt, Hla (1987), 'The neo-classical resurgence in development economics: its strength and limitations', in G.M. Meier (ed) (1987), *Pioneers in Development*, Second Series, World Bank.
- Nussbaum, M. (1995), "Human Capabilities, Female Human Beings", In: Nussbaum, M. and J. Glover (eds): *Women, Culture and Development: A study of human capabilities*, Delhi: OUP.
- Rao, V.K.R.V. (1963), 'Investment, Income and Multiplier in an underdeveloped economy', In: Agarwala, A.N. and S. Singh (eds): *Economics of Underdevelopment*, Delhi: OUP.
- Ray, D. (1998), *Development Economics*, Princeton University Press.
- Sen, Amartya (1983), 'Development: Which way now?', *Economic Journal*, reprinted in: Sen: *Values, Resources and Development*. Vol. 93(372), pages 742-62,
- Sen, Amartya (August 15, 2000), *Development as Freedom*. Anchor.
- Sen, Amartya (1988), 'The concept of development', In: H. Chenery and T.N. Srinivasan (eds): *Handbook of Development Economics Vol 1*: North-Holland.
- World Development Reports
- World Bank 1993
- World Bank 1998
- China Human Development Report 1999: Transition and the State
- Human Development Reports

Module 2:

- Baran, P. (1957), *The political economy of growth*, Monthly Review Press. Pp. 308.
- Bardhan, P. (1988), 'Alternative approaches to development economics' Oxford University Press, New Delhi,
- Chenery and Srinivasan (eds) 1995. *Handbook of Development Economics, Vol. 1*, Elsevier
- Bardhan, P. and C. Udry (1999), *Development Microeconomics*, Oxford University Press.
- Basu, K. (2003), *Analytical Development Economics: The Less Developed Economy Revisited*, The MIT Press.
- Booth, D. (1995), 'Marxism and Development Sociology: Interpreting the Impasse', In: Corbridge, *Development Studies*, London: Edward Arnold.
- Frank, G. (1984), 'The development of underdevelopment' in *The Political Economy of Development and Underdevelopment*, ed. Charles K. Wilber. New York: Random House. 1984. Pp. 100
- Hayami, Y. (1997), *Development Economics: From the Poverty to the Wealth of Nations*, Oxford: Clarendon Press.
- Jorgenson, D. (1978), 'Surplus Agricultural Labour and the Development of a Dual Economy', In: Singh, S.P. (ed), *Underdevelopment to Developing Economies*, Oxford University Press Delhi.
- Kay, Geoffrey (1975), *Development and underdevelopment: a Marxist analysis*. London: The Macmillan Press Ltd.
- Krugman, P. (1993), 'Toward a counter-counterrevolution in Development Theory', *Proceedings of the World Bank Annual Conference on Development Economics 1992*, Washington DC: World Bank.
- Little, I.M.D (1982) *Economic Development: Theory, Policy and International Relations*, New York: Basic Books; New York: McGraw-Hill.
- Palma, G. (1978), 'Dependency: a formal theory of underdevelopment or a methodology for the analysis of concrete situations of underdevelopment', *World Development*, Vol. 6, pp. 881-924, Pergamon Press Ltd.,

- Ranis, G. and J.C.H. Fei (1961), 'A theory of economic development', *American economic review*, LI- 4 September, pp 533-565
- Ray, D. (2009), *Development Economics*, Princeton University Press.
- Thirlwall, AP (2006), 8th Edition, *Growth and Development*, Palgrave Macmillan.

Module III:

- Bardhan, P. (1989), 'The New Institutional Economics and Development Theory', *World Development*, Vol.17 (9), pp.1389-1395.
- Bardhan, P. (2001), 'The nature of institutional impediments to economic development' In: Kahkonen, S. and M. Olson (eds): *A New Institutional Approach to Economic Development*, New Delhi: Vistaar Publications.
- Bardhan, P. (2000), 'Understanding underdevelopment: Challenges for Institutional Economics from the point of view of poor countries', *Journal of Institutional and Theoretical Economics*, Vol.135, pp. 216-235.
- Bowles. S. *Microeconomics: Behavior, Institutions and Evolution*, Princeton University Press, 2006.
- Dasgupta. P. *An Inquiry into Well Being and Destitution*, Clarendon Press 1993.
- Dasgupta, P. *Human wellbeing and Natural Environment*, Oxford University Press, 2002.
- Stiglitz, J. (1989), 'Markets, Market Failures, and Development', *American Economic Review*, Vol.79, pp.197-203.
- Hayami, Y. (1997), *Development Economics: From the Poverty to the Wealth of Nations*, Oxford: Clarendon Press.

Module IV:

- Maddison. A. *World economy in the 20th century*,
- Piketty. T. *Capital in the Twenty-First Century*, Editions du Seuil,, Belknap Press, 2014
- Pomeranz K, *The Great Divergence: China, Europe and the Making of the Modern World*, Princeton UP 2000

Module V:

- Aghion. P. and Howitt. P *Endogenous Growth Theory*. The MIT Press, 1997.
- Barro, Robert J. & Sala-i-Martin, Xavier (1995), *Economic Growth*, MacGrow Hill
- Bardhan, P. (1995), 'The Contributions to Endogenous Growth Theory to the Analysis of Development Problems' In: Behrman, J. and T.N. Srinivasan (ed): *Handbook of Development Economics Vol. IIIB* pp. 2983–2998 (New York: Elsevier).
- Krugman, P. (1993), 'Toward a counter-counterrevolution in Development Theory', *Proceedings of the World Bank Annual Conference on Development Economics 1992*, Washington DC: World Bank.
- Little, I.M.D. (1982), *Economic Development: Theory, Policy and International Relations*, New York: Basic Books.
- Mynt, Hla (1987), 'The neo-classical resurgence in development economics: its strength and limitations', in G.M. Meier (ed) (1987), *Pioneers in Development*, Second Series, World Bank.
- Ruttan, V.M. (1998), 'The new growth theory and development economics: a survey', *Journal of Development Studies*, 35(2), pp.1-26.

A-08: PUBLIC ECONOMICS

Objective

The objective of this course is to familiarize students about the rationale for and role of government intervention in economic activities and how the government makes economic decisions. The course will examine the recent developments in both theoretical and empirical literature in the area. The Indian case studies will be discussed in detail for a better familiarity with Indian public economics.

Module 1: Economic Rationale of the Modern State and Macro Economic Perspective of Public Finance

- Issues related to market failure and the government intervention
- The role of State in Allocation, Distribution, Regulation and Stabilization.
- The changing role of the State: Issues in a globalizing world with special emphasis on global public goods.
- Macroeconomics of Public Finance: The interaction between fiscal and monetary policy and fiscal stabilization.

Module 2: Economic Analysis of Public Goods

- Public goods: pure and impure public goods.
- Optimal provision of public goods – voting and public choice – preference revelation mechanisms – Lindahl and successors, free riding, mobility.
- The theory of clubs and local public goods.
- Public goods and the private cost of public goods- Pseudo- market mechanism for Preference Revelation.

Module 3: Economic decision making in government

- Normative social choice theory – Arrow's theorem – majority voting – The median voter model – representative democracy.
- Positive social choice theory: The Leviathan hypothesis – rent – seeking – lobbying and interest groups.

Module 4: Theory of Taxation

- The conflict between efficiency and equity - horizontal and vertical equity- welfare analysis with uncertainty.
- Shifting and Incidence of Tax: The Partial and General Equilibrium Analysis- the Harberger model
- Canons of taxation
- Theory of Optimal Taxation.
- Taxation and economic efficiency.
- Issues related to tax policy in developing countries.

Module 5: Tax Policy Issues in India

- Indian Tax System: An assessment
- Practical Issues of Tax reforms in India

- An introduction to Value Added Tax
- Value Added Tax: Design, Issues and Options.
- An introduction to MODVAT, CENVAT and Goods and Services Tax (GST)
- Issues in the taxation of Services in India.

Module 6: Public Expenditure Theory

- Pure theory of public expenditure- Empirical evidence on public expenditure theories.
- Public Sector Pricing- Pricing of Public Utilities.
- Public expenditure management and control
- Concept, measurement and magnitude of subsidies.
- Social infrastructure and financing of human development.
- Growth, nature and composition of public expenditure in India
- Sustainability issues of Centre and State expenditure in India
- Issues related to subsidies in India
- Social Security and State level pension reforms in India.

Module 7: Fiscal Federalism

- Theory of Fiscal Federalism: The decentralization theorem.
- Economic efficiency issues in multilevel government.
- Assignment issues in multilevel government.
- Theory of intergovernmental transfers.

Module 8: Fiscal Federalism in India

- Centre-State Financial relations in India - Constitutional provisions and various committee recommendations on sharing of revenue.
- Fiscal Decentralization in India in the context of 73rd and 74th Constitutional Amendments.
- Implication of recommendations of Finance Commission.
- Centrally Sponsored Schemes and its implications for federalism.
- Sub national fiscal reforms in India.

Module 9: Fiscal Imbalance and Management of Public Debt

- Measurement and macro-economic impact of deficits- alternative paradigms.
- The concept of budget.
- Fiscal deficit and interest rates: Analytical and empirical issues.
- Public debt burden and intergenerational equity.
- Issues related to public debt sustainability.
- Trends and developments in Indian Fiscal Policy.
- Recent experience with stabilization functions of India government.
- Fiscal Responsibility and Budget Management Act: An Evaluation.
- Trends in and Financing pattern of deficits in India and its macro-economic implications.

Basic Readings

Books

- ❑ Alan Peacock (1979), *The Economic Analysis of Governments*, St. Martin Press, New York.
- ❑ Atkinson, A. and Stiglitz, J. (1980), *Lectures in Public Economics*, McGraw Hill, London.
- ❑ Auerbach, A., and M. Feldstein (1987), *Handbook of Public Economics*, Vol. 1 &2. North Holland, Amsterdam.

- ❑ Boadway, R. (1984), Public Sector Economics, 2nd Sub edition, Scott Foresman & Co., London.
- ❑ Cullis, J. And Jones, P. (1998), Public Finance and Public Choice, 2nd Edition, Oxford University Press, Oxford.
- ❑ Due, John F. and Friedlander, Ann F. (1977), Government finance: Economics of the public sector, 6th Edition, Richard D. Irwin Inc., Homewood.
- ❑ Helpman, E., Razin, A. and Sadka, E. (1988) Editors, Economic Effects of the Government Budget, MIT Press, Cambridge, Mass.
- ❑ Jha, Raghendra (1999), Modern Public Economics, Routledge, London and New York.
- ❑ Johansen, Leif, (1965), Public economics, North - Holland Publishing Company, Amsterdam.
- ❑ Laffont, Jean-Jacques (1994), Fundamentals of Public Economics, MIT Press Cambridge, Mass.
- ❑ Myles, Gareth D. (1995), Public Economics, Cambridge University Press, Cambridge.
- ❑ Rosen, Harvey S. (1995), Public Finance 4th Edition, Richard D. Irwin, Chicago.
- ❑ Stiglitz, J.E. (1989) Economics of the Public Sector, W.W. Norton & Company, London.
- ❑ Thompson, F. And Green, M. T. (1998), Handbook of Public Finance, Marcel Dekker, New York.
- ❑ World Bank (1996), From Plan to Market, World Development Report, The World Bank, Washington DC.
- ❑ World Bank (1997), The State in a Changing World, World Development Report, The World Bank, Washington DC.
- ❑ World Bank (1999), Knowledge for Development, World Development Report, The World Bank, Washington DC.

Articles

- ❑ Agno Sandmo (1976): Optimal Taxation: An Introduction to Literature, Journal of Public Economics, 6, pp 37-54.
- ❑ Berry, Steven T. and Joel Waldfogel (1999): "Public Radio in the U.S.: Does it Correct Market Failure or Cannibalize Commercial Stations?" Journal of Public Economics 71, 189-211.
- ❑ Charles Tiebout (1956): "A Pure Theory of Local Expenditures, Journal of Public Economics, 64, 416-424.
- ❑ Blejer, M. and Adrienne, C. (1993): 'How to Measure the Fiscal Deficit', International Monetary Fund, Washington DC.
- ❑ Blejer, M. I. and Adrienne, C. (1991): 'Measurement of Fiscal Deficits: Analytical and Methodological Issues', Journal of Economic Literature, 29(4): 1644-78.
- ❑ Buiter, W.H. (1990): 'Principles of Budgetary and Financial Policy, Harvester Wheatsheaf, New York.
- ❑ Cebula, R. (1988): 'Federal Government Deficits and Interest rates: An Empirical Analysis of United States, 1955-1984', Public Finance, 43(3). 206-210
- ❑ Charles Tiebout (1956): "A Pure Theory of Local Expenditures." JPE 64, 416-424.
- ❑ Coase (1974): The Lighthouse in Economics, Journal of Law and Economics, Vol. 17, No. 2. (Oct.1974), pp. 357-376
- ❑ Feldstein, Martin (2001) The Transformation of Public Economics Research: 1970-2000, NBER website.

- ❑ Harberger, A.C., 1962. The incidence of the corporation income tax. *Journal of Political Economy* 70(3), 215-240.
- ❑ James M. Buchanan (1965): An Economic Theory of Clubs, *Economica*, New Series, Vol. 32, No.125. pp. 1-14.
- ❑ Oates, Wallace, (1999): An Essay on Fiscal Federalism, *Journal of Economic Literature*, Vol. XXXVII.
- ❑ Samuelson, Paul A. (1954): "The Pure Theory of Public Expenditure." *Review of Economics and Statistics*, 387-389.
- ❑ Samuelson, Paul A. (1955): "A Diagrammatic Exposition of the Theory of Public Expenditures." *Review of Economics and Statistics* (Nov.)

A-10: INTERNATIONAL ECONOMICS – PURE THEORY

PREAMBLE

The course provides a deep understanding about the broad principles and theories, which tend to govern the flow of trade in goods, services and capital — both short-term and long-term — at the global level. The contents of the paper, spread over different modules, lay stress on the theory and nature of the subject which, in turn, will greatly help them to examine the impact of the trade policies followed both at the national and international levels as also their welfare implications at macro level and the distribution of gains from trade to North and South with particular reference to India. The study of the paper under the present era of globalization will train the students about the likely consequences on income, employment and social standards and possible policy solutions.

Module 1:

Inter-regional versus international trade - Mercantilist doctrine of balance of trade - Adam Smith and absolute advantage theory of trade - Ricardo and comparative advantage, its limitations - production possibility curve - Community indifference curve - Gain from trade - Offer curve - Determination of international equilibrium price - Different concepts of terms of trade - Factors affecting terms of trade.

Module 2:

Comparative advantage in Heckscher Ohlin Model - definitions of factor abundance - relationship between factor prices and commodity prices - Factor price equalisation theorem - Factor intensity reversal - the empirical evidence on Heckscher Ohlin theory - the Leontief Paradox.

Module 3:

Recent explanations of the basis of trade in terms of technological lead, domestic market size and product cycle approach – Linder's hypothesis – Intra-industry trade.

Module 4:

The rationale of tariffs, quotas and subsidies – infant industry argument – tariffs and factor income distribution – Stolper-Samuelson Theorem – Rybczynski Theorem – tariffs, terms of trade and domestic prices – the optimum tariff rate – tariffs, subsidies and distortions in commodity and factor markets – effective rate of protection. Welfare implications of tariffs – Non-tariff barriers.

Module 5:

Effects of quotas and other quantitative restrictions – tariffs versus quotas.

Module 6:

Theory of customs union – trade creation versus trade diversion – partial and general equilibrium approaches to the theory of customs union – static and dynamic affects.

Module 7:

Trade and growth – export led or outward looking industrialization – case of East Asian economies – import substituting or inward looking industrialization – Case of South Asian economies with special reference to India – Growth and terms of trade – immiserising growth – Foreign exchange constraint on growth – Savings gap versus foreign exchange gap controversy.

Module 8:

Formation of regional trade blocs – European Economic Community, NAFTA, PAFTA, ASEAN, SAARC – Regional trade blocs and barriers to free flows of trade.

Module 9:

GATT and its objectives – issues at successive rounds of discussion – new issues at Uruguay Round – Trade in services – UNCTAD and evolution of world trading arrangements – World Trade Organization and fair trade.

BASIC READING LIST

- ❑ Bhagwati & Srinivasan (1983), Lectures on international trade, The MIT Press.
- ❑ Bhagwati, Jagdish (1964), "The Pure Theory of International Trade", Economic Journal, Vol. 74, pp. 1-78.
- ❑ Borkakoti, J. (1998), International trade: Causes & Consequences, MacMillan, London.
- ❑ Caves, R. E., Frankel, J. A., Jones, R. W. (1993), World Trade and Payments, 6th edition, Harper Collins, New York
- ❑ Chacholiades, M. (1981), Principles of International economics, McGraw-Hill, New York.
- ❑ Chipman, John S. (1965), "A survey of the theory International trade: Part 1, The Classical Theory," Econometrica, Vol. 33, No. 3, July, pp. 477{519}.
- ❑ Chipman, J. S. (1965), "A Survey of the Theory of International Trade: Part 2, The Neo-Classical Theory," Econometrica, October, Vol. 33, No. 4, pp. 685{760}.
- ❑ Chipman, J. S. (1966), "A Survey of the Theory of International Trade: Part 3, The Modern Theory," Econometrica, Vol. 34, No. 1, January, pp. 18{76}.
- ❑ Ethier, W. J. (1995), Modern International economics, 3rd edition, W.W. Norton & Co.
- ❑ Heffernan & Sinclair, (1991), Modern International economics, Illustrated edition, Wiley-Blackwell
- ❑ Heller, H. R. (1973), International trade: Theory and empirical evidence, 2nd Edition, Prentice-Hall, Englewood Cliff, New Jersey.
- ❑ Krugman, P. R. & Obstfeld, Maurice, (2008), International economics: Theory & policy, Addison-Wesley, May.

- ❑ Makusen, J. R. & Melvin etc. (1994), International trade: Theory and evidence, International, Ed edition, 1 Dec, McGraw- Hill Inc, US.
- ❑ Neary, J. P. (1995), Readings in International Trade: Volume I, Welfare and Trade Policy; Volume II, Production Structure, Trade and Growth, International Library of Critical Writings in Economics, Edward Elgar, Cheltenham.
- ❑ Pugel & Lindert (1999), International economics, 11th edition, Irwin/McGraw-Hill, December 13.

ADDITIONAL READING LIST

Module 1:

- ❑ Batra (1973), Studies in the Pure Theory of International Trade, St. Martin's Press, August.
- ❑ Borkakoti, J. (1987), International trade: Causes & Consequences, Palgrave, MacMillan.
- ❑ Bhagwati, J. N. (1987), International trade: Selected readings, 2nd Edition, MIT Press, Cambridge, Mass.
- ❑ Takayama (1972), International Trade, Holt, Rinehart and Winston, New York

Module 2:

- ❑ Bhagwati, Jagdish (1964), "The Pure Theory of International Trade", Economic Journal, Vol. 74, pp. 1-78.
- ❑ Jhonson, Harry (1958), International trade & economic growth, Harvard University Press, Cambridge.
- ❑ Leontief, W. (1986), Input output economics, Oxford University Press, USA.
- ❑ Minhas, Bagicha S. (1962), "The Homohypallagic Production Function, Factor-Intensity Reversals, and the Heckscher-Ohlin Theorem," Journal of Political Economy, April, Vol. 70, pp. 138-156.
- ❑ Neary, J. P. (ed.) (1995), Readings in International Trade: Volume I, Welfare and Trade Policy; Volume II, Production Structure, Trade and Growth, International Library of Critical Writings in Economics, Edward Elgar, Cheltenham.

Module 3:

- ❑ Brander, James A. & Spencer, Barbara J. (1985), "Export subsidies and international market share rivalry," Journal of International Economics, Elsevier, Vol. 18(1-2), February, pages 83-100,
- ❑ Kravis, Irving B. (1956), "'Availability' and Other Influences on the Commodity Composition of Trade," Journal of Political Economy, Vol. 64, No.2, April, pp. 143-155.
- ❑ Krugman, Paul, (1979), A model of innovation, technology transfer & the world distribution of income, Journal of Political Economy, Vol. 87, April, pp. 253-266.
- ❑ Krugman, Paul R. (1994), Rethinking international trade, MIT Press.
- ❑ Krugman, Paul R. (1979), "Increasing Returns, Monopolistic Competition, and International Trade," Journal of International Economics, Vol. 9, November, pp. 469-479.
- ❑ Linder, Staffan Burenstam (1961), An Essay on Trade and Transformation, Wiley and Sons, New York
- ❑ Melvin, James R. (1988), Monopoly & theory of International trade, Harpercollins College Div.
- ❑ Patibandla, M. (1994), New Theories of International Trade: A Survey of Literature, The Indian Economic Journal, January- March
- ❑ Vernon, Raymond (1966), "International Investment and International Trade in the Product Cycle," Quarterly Journal of Economics, Vol. 80, May, pp. 1900-207.

Module 4:

- ❑ Bhagwati, J. N. (1987), International trade: Selected readings, Second Edition, MIT Press, Cambridge, Massachusetts
- ❑ Bhagwati, Jagdish (1969), Trade tariffs & growth, The MIT Press, November 15
- ❑ Corden (1971), Theory of Protection, Clarendon Press, Oxford.
- ❑ Greenaway, David (1983), International trade policy: From Tariffs to the New Protectionism, Macmillan Publishers Limited, London.
- ❑ Neary, J. P. (ed.) (1995), Readings in International Trade: Volume I, Welfare and Trade Policy; Volume II, Production Structure, Trade and Growth, International Library of Critical Writings in Economics, Edward Elgar, Cheltenham.
- ❑ Pearce & Batra, Theory of nominal tariffs & subsidies.

Module 5:

- ❑ Corden (1971), Theory of Protection, Clarendon Press, Oxford.
- ❑ Greenaway, David (1983), International trade policy: From Tariffs to the New Protectionism, Macmillan Publishers Limited, London.
- ❑ Helpman & Krugman (1989), Trade policy and market structure, The MIT Press, March 30

Module 6:

- ❑ Bhagwati, J. N. (1987), International trade: Selected readings, 2nd Edition, Cambridge, MIT Press, Massachusetts
- ❑ Lipsey, R. G. (1957) The theory of customs unions trade diversion and welfare, The Review of Economic Studies, Economica, Vol. 24, No. 93, Feb, pp. 40-46.

Module 7:

- ❑ Bhagwati, J. N. (1987), International trade: Selected readings, Second Edition, MIT Press, Cambridge, Massachusetts
- ❑ Jhonson, Harry (1958), International trade & economic growth: Studies in Pure Theory, Harvard University Press, Cambridge, Chap. 5
- ❑ Neary, J. P. (1995), Readings in International Trade: Volume I, Welfare and Trade Policy; Volume II, Production Structure, Trade and Growth, International Library of Critical Writings in Economics, Edward Elgar, Cheltenham.

Module 8:

- ❑ Aggarwal, M. R. (1979), Regional Economic Cooperation in South Asia, S. Chand and Co., New Delhi.
- ❑ Bhalla, & Bhalla, (1997), Regional Blocs, Palgrave MacMillan.
- ❑ Bhandari, S. (1998), WTO & Developing Countries ,1st edition, Deep & Deep Publications, June 1, Ch.2,
- ❑ Frankel, Jeffrey, (1997), Regional Trading Blocs in the World Economic System, Institute for International Economics, Washington, DC
- ❑ I. M. F. Occasional papers (1993), Experience with regional integration Industrial countries.
- ❑ Kenen, P. B. (1995), Economic and Monetary Union in Europe, Cambridge University Press, U.K.

- ❑ Pomfret, Richard (2001), The economics of regional trading arrangements, Oxford University Press.
- ❑ Pomfret, R. (1996), International Trade: An Introduction to Theory and Policy, Basil Blackwell, Oxford.
- ❑ South centre (1998), The WTO multilateral trade agenda & the South, Geneva : South Centre.
- ❑ Soloman, R. (1982), The International Monetary System 1945-1981, Harper and Row Publishers, New York.
- ❑ Tew, B. (1985), The Evaluation of the International Monetary System: 1945-85, Hutchinson.
- ❑ Whalley, John (1985), Trade Liberalization Among Major Trading Areas, Cambridge University Press, Massachusetts

Module 9:

- ❑ Bhandari, S. (1998), WTO & Developing Countries, 1st edition, Deep & Deep Publications, June 1, Ch.2,
- ❑ Hoekman & Kastecki (1996), The political economy of the World trading system from GATT to WTO, Oxford University Press.
- ❑ Kindleberger, C.P. (1996), A History of Financial Crisis: Manias, Panics and Crashes, 3rd Edition, John Wiley and Sons, New York.
- ❑ Soloman, R. (1982), The International Monetary System 1945-1981, Harper and Row Publishers, New York.
- ❑ Tew, B. (1985), The Evaluation of the International Monetary System: 1945-85, Hutchinson.
- ❑ Whalley, John (1985), Trade Liberalization Among Major Trading Areas, Cambridge University Press, Mass.

A-11: INTERNATIONAL ECONOMICS – MONEY AND FINANCE

PREAMBLE

International Economics – Money and Finance covers the monetary (as opposed to pure aspects of trade covered in Paper I) aspects of international economic relations. Detailed treatment of balance of payment data and foreign exchange markets and their functioning is given. Modern developments in forex markets including forex derivatives markets are also covered. The three dominant theories of balance of payment adjustments under fixed and floating exchange rates viz. the Keynesian, the Monetary and Monetarist Approach and their policy implications are discussed. Finally the changing roles of IMF and World Bank in the evolving global order are covered.

Module 1: Nature and concept of Balance of Payment (BOP)

Equilibrium and disequilibrium in BOP – role of international reserves – preliminary concepts about payments adjustments – domestic monetary and fiscal policies and BOP.

Module 2: The market for foreign exchange

The demand for and supply of foreign exchange – fixed and flexible exchange rates – spot and forward markets for foreign exchange – speculation and arbitrage – role of expectations.

Module 3: Foreign trade and national income

Foreign trade multiplier, national income and BOP – multiplier in the presence of foreign repercussions – international transmission of business cycles.

Module 4: International economic policy and BOP adjustment mechanism

Automatic adjustment under gold standard – expenditure reducing and expenditure switching policies – Depreciation and elasticity approach – absorption approach – Multiple exchange rates – Exchange and trade controls.

Module 5: Recent theories of exchange rate determination

Monetary model of BOP under fixed and floating exchange rate – Portfolio balance model – controversy regarding order in opening up of current and capital accounts – Effectiveness of domestic monetary and fiscal policies.

Module 6:

Essentials of International Monetary Order under Bretton Woods – problem of international liquidity and role of SDR – regional monetary co-operation – ECU – Flexible exchange rates as an International Monetary Order – Changing role of IMF – IMF conditionalities – World Bank and Structural Adjustment Loan facility.

Module 7:

Long term and short term international capital movements – Causes and consequences – The Transfer Problem – External debt – measuring the debt burden – Debt servicing – Third World debt problem with special reference to India – External debt versus foreign direct investment – Using international statistics in analysis of external debt.

BASIC READING LIST

Module 1:

- ❑ Thirlwal, A.P (1999)., Balance of Payments Theory, 6th edition, Oxford University Press, New York
- ❑ Stern, R.M.(1973), The Balance of Payments, Aldine Publishing Company, New York
- ❑ Stern, R.M. (2007), Balance of Payments: Theory and Economic Policy, Aldine Transaction

Module 1 & 2:

- ❑ Ramsaran Ramesh, (1998), An Introduction to International Money & Finance Palgrave 1st edition, Macmillan

Module 2:

- ❑ Stern, R.M., Forward Exchanges, Speculation and Arbitrage, Quantitative International Economies, Boston Ally and Bacon.

Module 2 & 4:

- ❑ Heller, H.R (1974), International Monetary Economics, Prentice- Hall, Englewood Cliffs, N.J.

Module 2 & 5:

- ❑ Pilbearn, Keith (2006), International Finance, Palgrave Macmillan

Module 3:

? Machlup, Fritz, (1943), International Trade & National Income Multiplier, The Blakiston Company

Module 3 & 4:

? Chacholiades, M. (1978), International Trade Theory and Policy, McGraw Hill, New York.

Module 4:

? Dornbusch & Helmers (1988) Ed, The Open Economy, Oxford University Press, New York.

? Fleming, J.M. (1962), Domestic Financial Policies Under Fixed and Floating Exchange Rates, International Monetary Fund Staff Papers 9, pp. 369–379.

? Frankel, J.A. (1993), Monetary & Portfolio Balance Models of Exchange Rate Determination, MIT press, Cambridge.

? Pilbeam, K., (1998) Purchasing Power Parity & Floating Exchange Rate Experience *International Finance*, Macmillan.

Module 5:

? McCallum Bennett T. (1996), International Monetary Economics, Oxford University Press, New York.

? Alexander, S.S (1959), Effects of Devaluation on Trade Balance, American economic review, Vol.no.49, pp. 21-42

? Krenin & Officer, (1981) The Monetary Approach to the Balance of Payment: A Survey, The Review of Economics and Statistics, The MIT Press. Vol. 63, No. 1, Feb, pp. 29-34.

? Branson, W.H. (1977), Asset Markets and Relative Prices in Exchange Rate Determination, Sozialwissenschaftliche Annalen, 1, pp. 69—89.

Module 6:

? Kenen, Peter B. (2008), International Economy , 4 edition, Cambridge university press

? Killick Tony Ed. (1984), The Quest for Economic Stabilisation, 1st edition , New York: St. Martin's Press

? Killick, T (1995), IMF Stabilisation Programme, Journal of Development Economics; Volume 32, No. 1, pp.158-178.

Module 7:

? Williamson, J (1973)., Surveys in Applied Economics: International Liquidity , The Economic Journal, Vol. 83, No. 331, pp 685-746. Sep.

? Batiz & Batiz, Balance of Payment Adjustments & International Capital Movements

? Gray, H Peter (1979), International Trade, Investment & Payment, MA Houghton Mifflin. Boston.

? Ramsaran, Ramesh,(1998), The International Monetary System, Palgrave MacMillan, New York

? Qanik, Peter J., Ower (1995)

1. Issues in Capital Account Convertibility

2. Experience with Capital Account Liberalization in Industrial Countries, Capital Account Convertibility: Review of Experience and Implications for IMF Policies, International Monetary Fund in its series IMF Occasional Papers with number 131.

? Mukherjee Smriti, Capital Account Liberalization & Flexible Exchange Rate

ADDITIONAL READING LIST:

- ❑ Caves & Johnsan, (1968), Readings in International Trade, Homewood, IL-Irwin
- ❑ Yeager Leland B.(1966), International Monetary Relations Theory, History & Policy, The Journal of Finance, Blackwell
Publishing for the American Finance Association, vii, pp 544-46
- ❑ Richard D. (1968), Readings in the Theory, Homewood, Ill. A.E.A.: Irwin, Inc.
- ❑ Salvatore, D ., International Economics 8th edition John Wiley and Sons, Inc
- ❑ Clement, M. O (1967)., Theoretical Issues in International Economics, Houghton Mifflin Boston
- ❑ Ingram, J.C. (1993), International Economics, 2nd ed. HarperCollins, New York
- ❑ Batiz & Batiz (1994), International Finance & Open Economy Macroeconomics , Second Edition, Prentice Hall Publishers
- ❑ Zhang Peter G. (1998), IMF & Asian Financial Crisis, World Scientific , Singapore
- ❑ Claassen Emil-Maria, (1996) Global Monetary Economics, Oxford University Press

A-13: MATHEMATICS FOR ECONOMIC ANALYSIS

Objective: The course aims at providing students an understanding of mathematical concepts along with economic applications, and introduce them to mathematical thinking and vocabulary. The concepts and techniques discussed in this course will find applications in the various branches of Economics.

Module 1: Linear Algebra

1. Review of Matrices
2. Eigenvalues and Eigenvectors, Principal Minors and Sign Definiteness
3. Introduction to Vector Spaces
4. Applications of Linear Algebra in Economics and Econometrics

Module 2: Real Analysis

1. Open and Closed Sets, Compact Sets, Convex Sets
2. Rolle's Theorem and Mean Value Theorem
3. Taylor Series
4. Convex and Concave Functions,
5. Brouwer and Kakutani Fixed Point Theorems

Module 3: Static Optimization and Comparative Statics

1. Introduction to Linear Programming and Game Theory
2. Unconstraint and Constraint Optimization
3. Euler's Theorem
4. Kuhn-Tucker Conditions and Non-Linear Programming
5. Maximum Value Functions and Envelope Theorem
6. Comparative Statics
7. Applications in Microeconomics
8. An Overview of Matrix Differentiation and Applications to Econometrics

Module 4: Dynamic Optimization

1. First and Second Order Differential Equations and Difference Equations
2. Simultaneous Differential and Difference Equations
3. Optimal Control Theory
4. Applications in Macroeconomics and Growth Theory
5. Dynamic Programming
6. Applications in Macroeconomics

Readings

1. Chiang, A.C., Fundamentals Methods of Mathematical Economics, McGraw-Hill, 2005
2. Chiang, A.C., Elements of Dynamic Optimization, McGraw-Hill, 1992
3. Dorfman, R., P. A. Samuelson and R. M. Solow, Linear Programming and Economic Analysis, Dover Publications, Inc., 1958
4. Hoy, M., J. Livernois, C. McKenna, R. Rees, T. Stengos, Mathematics for Economics, PHI Learning Private Ltd., 2011
5. Intriligator, Michael D., Mathematical Optimization and Economic Theory, Prentice Hall, 1971
6. Shone, R., An Introduction to Economic Dynamics, Cambridge University Press, 2001
7. Shone, R., Economic Dynamics: Phase Diagrams and their Economic Applications, Cambridge University Press, 2002
8. Simon, Carl P. and Lawrence Blume, Mathematics for Economists, W. W. Norton & Company, Inc., 1994
9. Sydsaeter, K and P. J. Hammond, Mathematics for Economic Analysis, 2002

Additional Readings

1. Anton H. and Chris Rorres, Elementary Linear Algebra, Wiley India, 2005
2. Bartle R. G. and D. R. Sherbert, Introduction to Real Analysis, John Wiley & Sons, 2000
3. Binmore, K., Foundations of Analysis, Books 1, Cambridge University Press, 1980
4. Binmore, K., Foundations of Analysis, Books 2, Cambridge University Press, 1981
5. Dhrymes, P. J., Mathematics for Econometrics, Springer, 2013
6. Strang, G., Linear Algebra and Its Applications, Cengage Learning, 2007

A-14: POPULATION STUDIES

Objective:

This course seeks to impart a clear understanding of the interplay between demographic processes and economic development. It introduces major developments in demographic concepts and techniques by highlighting both quantitative and the qualitative aspects and characteristics of human population as well as population processes. The course is designed to enable students to gain a sound command over the basic tenets of demography as well as key demographic issues and illustrations in Indian context. This is also to understand health care market – role of government, market failures.

Module 1: Introduction and Sources of Data

Evolution of demography as a scientific discipline

Nature and scope of demography and changes in it over the time

Multi-disciplinary nature of demography and its links with other social science disciplines

Basic demographic concepts

Components of population change

Sources of Data – Population Census, Sample Registration System, Vital registration System, National Sample Survey, Large sample demographic and health surveys

Quality of demographic data

Demographic transition

Module 2: Population Size, Growth and Characteristics

Overview of the size and growth of world population by regions and Size and growth of India's population

Composition by age and sex

Age pyramids

Determinants of age and sex structure and its economic and social implications

Population momentum

Demographic window of opportunity

Population ageing

Social and economic implications of population ageing

Population sex ratios and its variation; Child sex ratio, Sex ratio at birth, Sex ratio of elderly

Changing patterns of sex ratio in India, North-south divide, 'Missing women'

Module 3: Fertility and Nuptiality

Concepts and measurements of cohort and period fertility

Fertility levels and differentials in developed and developing countries

Fertility levels and differentials in India

Intermediate variables affecting fertility

Intergenerational flow of wealth

Nuptiality – Concept and analysis of marital status, Singulate mean age at marriage; Trends in age at marriage and its significance

Module 4: Mortality

Concepts and measurement of mortality

Standardization of death rates; Life tables

Levels, trends and determinants of mortality in modern times

Causes of death and epidemiological transition

Differentials in mortality

Infant and child mortality in India - levels, trends, and determinant

Maternal mortality

Life tables

Model life tables

Module 5: Migration

Concepts and measurement of migration

Theories of migration related to internal migration

Causes and consequences of internal migration
Differentials in migration
Trends and patterns of internal migration in India
Urbanization – growth and distribution of rural-urban population in developed and developing countries
Urbanization in India - its determinants and consequences

Module 6: Population Projection

Importance of population projection
Component method of population projection
Ratio method of population projection
Projection of population at the sub-national level

Module 7: Population and Development

How is population related to economic development – stimulus, unrelated, detrimental?
Optimists, pessimists and revisionists; Optimum population
Theory of Demographic transition – Notestein, Libenstein, Becker, Easterlin, Caldwell; Cleland and Wilson models
Population and environment
Population and Health

Module 8: Population Policy in India

Evolution of population policy in India – the shift in policy from population control to family welfare, to women empowerment
Coercion versus cooperation as elements in population policy
From population control to reproductive health; Safe motherhood
National Population Policy 2000

Reading List: Population Studies

- Basu, A.M. (1989), Is Discrimination in Food Really Necessary for Explaining Sex Differentials in Childhood Mortality? *Population Studies*, 43:193-210.
- Bhat, M. (2002), Returning a Favour: Reciprocity between Female Education and Fertility, *World Development*, 39(10).
- Bhat, M. (2002), On the Trial of Missing Indian Females, *Economic and Political Weekly*, 37(51)(52): 5105-518, 5244-5263.
- Bhat, M. and F. Xavier (2003), Fertility Decline and Gender Bias in Northern India, *Demography*, 40(4):637-657.
- Bende, A.A. and T. Kanitkar (2000), *Principles of Population Studies*, Mumbai: Himalayan Publishing House.
- Birdsall, N. (1988), Economic Approaches to Population Growth. In H. Chenery, and T. Srinivasan (eds.), *Handbook of Development Economics*, North Holland.
- Birdsall, N., A.C. Kelley, and S.W. Sinding (2001), *Population Matters*, Oxford: Clarendon Press.
- Brokerhoff, M.P. (2000), An Urbanising World. *Population Bulletin*, Volume 55, Number 3. Washington: Population Reference Bureau.
- Cleland, J. (2001). The Effects of Improved Survival on Fertility: A Reassessment. In R.A. Bulatao. and J. Casterline (eds), *Global Fertility Transition*, Population Council, Supplement to *Population and Development Review*, Volume 27, 2001

- Cleland, J. and Wilson, C. (1987), Demand Theories of the Fertility Transition: An Iconoclastic View, *Population Studies*, 41:5-30.
- Cleland, J. and G. Kaufmann (1998), Education, Fertility, and Child Survival: Unravelling the Links. In A.M. Basu and P. Aaby (eds.), *The Methods and Uses of Anthropological Demography*, Oxford: Clarendon Press.
- Croll, E. (2000), *Endangered Daughters: Discrimination and Development in Asia*, London: Routledge.
- Dasgupta, P. (2000). Population and Resources: An Exploration of Reproductive and Environmental Externalities, *Population and Development Review*, 26(4):643-689.
- Dyson, T. and Moore (1983), On Kinship Structure, Female Autonomy, and Demographic Behaviour, *Population and Development Review*, 9(1):35-60.
- Das Gupta, M. (1987), Selective Discrimination against Female Children in Rural Punjab, *Population Development Review*, 13(1):77-100.
- Drèze, J. and M. Murthi (2001), Fertility, Education, and Development: Evidence from India. *Population and Development Review*, 27(1).
- Dyson, T., R. Cassen and L. Visaria (2004), *Twenty First Century India: Population, Economy, Human Development and the Environment*, New Delhi: Oxford University Press.
- Hinde, A. (1998), *Demographic Methods*, New York: Oxford University Press.
- Jain, A.K. (1985), Determinants of Regional Variations in Infant Mortality in Rural India, *Population Studies*, Volume 39. Pp. 407-424.
- Jain A.K., and P. Visaria (1988), *Infant Mortality in India: Differentials and Determinants*, New Delhi: Sage Publications.
- Lee, R.D. (1986), Malthus and Boserup: A Dynamic Synthesis, In: D. Coleman and R.S. Schofield (eds), *The State of Population Theory: Forward from Malthus*, Oxford: Basil Blackwell.
- Mason, K.O. (1986), The Status of Women: Conceptual and Methodological Issues in Demographic Studies, *Sociological Forum*, 1(2):284-300.
- McFalls Jr, J.A. (1998), *Population: A Lively Introduction*, Population Bulletin, Volume 53, Number 3. Washington: Population Reference Bureau
- McNay, K. et al. (2003), Why are Uneducated Women in India Using Contraception: A Multilevel Analysis, *Population Studies*, 57(1):21-40.
- Mosley, W.H. and L.C. Chen (1984), An Analytical Framework for the Study of Child Survival in Developing Countries. *Population and Development Review*, Supplement to Volume 10. Pp. 25-45.
- Murthi, M., A-C. Guio, J. Drèze (1995), Mortality, Fertility and Gender Bias in India: A District-level Analysis, *Population and Development Review*, 21:745-782.
- Nag, M. (1988), A Framework for the Study of Proximate Determinants of Infant Mortality in Less Developed Countries. In Jain A.K., and P. Visaria (Eds.), *Infant Mortality in India: Differentials and Determinants*, New Delhi: Sage Publications.
- Newell, C. (1988), *Methods and Models in Demography*, New York: John Wiley and Sons.
- Pandey, A. M.K. Joe, N.Y. Luther, D. Sahu and J. Chand (1998), *Infant and Child Mortality in India*, National Family Health Survey Subject Reports. Number 11. Mumbai: International Institute for Population Sciences and Honolulu: East-West Programme on Population.
- Preston, S., P. Heuveline and M. Guillot (2003), *Demography: Methods and Modeling Population Processes*, Oxford: Blackwell Publishers.
- Sen, Amartya (1999), *Development as Freedom*, New York: Knopf.

- Shryock, H.S. and J.S. Siegel (1976), *The Methods and Materials of Demography*, New York: Academic Press.
- Srinivasan, K. (1999), *Basic Demographic Techniques and Applications*, New Delhi: Sage Publications.
- Sudhir, A. and J. Morduch (1998), Poverty and "Population Problem", In M. Livi-Bacci and G. De Santis (eds.), *Population and Poverty in Developing World*, Oxford: Clarendon Press.
- Population Reports (1983), *Migration, Population Growth, and Development*. Population Reports, Series M, No. 7
- Maryland: Population Information Programme, The Johns Hopkins University.
- Population Reference Bureau (2000), *Population Handbook* (4th International Edition) Washington: Population Reference Bureau
- Pressat, R. (1972), *Demographic Analysis*, Chicago: Aldine-Atherton
- Visaria, P. (1997), *Urbanisation in India: An Overview*. In Gavin W.J, and P. Visaria (Eds.), *Urbanisation in Large developing Countries: China, Indonesia, Brasil, and India*, Oxford, England: Clarendon Press.
- Weeks, J.R. (1996), *Population: An introduction to Concepts and Issues*, Belmont: Wadsworth Publishing Company.
- United Nations (2001), *World Urbanisation Prospects: The 1999 Revision*, New York: United Nations, Department of Economic and Social Affairs, Population Division.
- Bhende, A., and Kanitkar T. (1996): *Principles of Population Studies* (Seventh Edition), Himalaya Publishing House, Bombay.
- Jacob S. Siegel and David a. Swanson (2004): *The Methods and Materials of Demography*, Second Edition, Chapters 1, 2, 3, 7, 9,10, Elsevier Science, USA.
- John Weeks (2005): *Population: An Introduction to Concepts and Issues*, Wordsworth Learning. Singapore 9th edition.
- United Nations, (1973): *The Determinants and Consequences of Population Trends*, Vol. I, *Population Studies*, No. 50, Chapter VII, New York.
- United Nations, *World Population Ageing, 1950-2050*
- David G. Mandelbaum, (1974), *Human Fertility in India: Social Components and Policy Perspectives*, University of California Press, Berkeley.
- Guilmoto, C. Z. and S. Irudaya Rajan, 2001. "Spatial Patterns of Fertility Change in Indian Districts", *Population and Development Review*, 27, 4, 713-738 15.
- Gray, R et al (eds.), (1993), *Biomedical and demographic determinants of reproduction*, Oxford University Press, Oxford.
- Van De Ka, (1996), "Anchored Narratives: Fifty Years of Research into the Determinants of Fertility" *Population Studies*, 50,1.
- Sydney H. Coontz, (1968), *Population Theories and the Economic Interpretation*, Routelage, London.
- United Nations, (1999), *Below Replacement Fertility*, *Population Bulletin of the UN*, Special Issue Nos. 40/41, Department of Economic and Social Affairs, UN, New York.
- United Nations, (1973), *Determinants and Consequences of Population Trends*, Vol. 1, pages 96-104, UN, New York.
- Siegel Jacob S., David A. Swansn (Eds.). (2004). *The Methods and Materials of Demography*. Second Edition. Chapter 9,Pp.191-210, New York: Elsevier Academic Press, Chapter 3, Pp.301-340.
- Smith, P.C., (1978): *Indices of Nuptiality: Asia and Pacific*, *Asian Pacific Census Forum*, Vol. 5(2)

- Anderson, Siwan and Debraj Ray. 2010. "Missing women: Age and disease," *Review of Economic Studies* 77: 1262–1300.
- F. Ram and K.B. Pathak (1998): *Techniques of Demographic Analysis*, Himalaya Publishing house, Bombay (Chapters 2 & 3).
- Klasen, Stephan. 1994. "Missing women reconsidered," *World Development* 22(7): 1061–1071.
- Klasen, Stephan and Sebastian Vollmer. 2013. *Missing Women: Age and Disease: A Correction* (No. 133). Courant Research Centre: Poverty, Equity and Growth-Discussion Papers.
- Klasen, Stephan and Claudia Wink. 2002. "A turning point in gender bias in mortality? An update on the number of missing women," *Population and Development Review* 28(2): 285–312.
- Mosley, W. H. and L. C. Chen (1984): Analytical framework for the study of child survival in developing countries, *Population and Development Review* 10 (Supplementary Copy).
- Preston, S. H., Patrick Heuveline and Michel Guillot (2001): *Demography: Measuring and Modeling Population Process*, Blackwell Publishers, Oxford, UK (Chapters 2, 3 & 4).
- Sen, Amartya K. (1989). "Women's survival as a development problem," *Bulletin of the American Academy of Arts and Sciences* 43: 14–29.
- ———. 1990. "More than 100 million women are missing," *New York Review of Books* 20: 61–66.
- ———. 1992 "Missing women," *British Medical Journal* 304: 587–588.
- Shryock, Henry S. Jacob Siegel and Associates (1980): *The Methods and Materials of Demography*, Vol. 2, Fourth printing (revised), US Department of Commerce. Washington DC, pp. 389-393, Chapter 14.
- A.J. Culyer and J. Newhouse (2000), *Handbook of Health Economics*, North-Holland, Amsterdam, (edited volume)
- Victor Fuchs (1982), *Economic Aspects of Health*, The University of Chicago Press, Chicago (edited volume)
- Tim Ensor and Sophie Witter (2001), *Health economics in low income countries: adapting to the reality of the unofficial economy*, *Health Policy*, Vol. 57, pp. 1-13.

A-15: ACCOUNTANCY AND FINANCIAL STATEMENT ANALYSIS

Objectives: The course aims at providing basic understanding of various essential concepts of accountancy and preparation of accounting statements, introduction to accounting standards and IFRS framework of accounting.

Contents

Module 1: Basic Principles

Financial Accounting & Accounting Standards- Accounting Equations ☐ Users of Accounting Statements, Importance ☐ Objectives and Principles ☐ Accounting Concepts and Conventions ☐ Principle of Double Entry Book Keeping, Trends in Accounting principles, GAAP, IFRS, IAS

Module 2: The Accounting Process

Preparation of Books of Original Records: Journals & Subsidiary Book & Problems on Cash Book and Petty Cash Book & Ledgers & Trial Balance & Classification of Capital and Revenue Expenses & Final Accounts with Adjustments.

Module 3: Preparation of Final Accounts/Statement

Sole traders with Basic Adjustments & Preparation of Final Accounts / Statement of Companies (Both Horizontal & Vertical Form of Financial Statements) & Brief Introduction to Partnership Account- Accounting for small, medium and large companies

Module 4: Statement of Changes in Funds

Funds Flow Statement & Cash Flow Statement & Problems with Basic Adjustment on FFS & CFS & Statement of Changes in Working Capital & Funds from Operations & Paid Cost and Unpaid Costs & Distinction Between Cash Profits and Book Profits & Preparation and Analysis of Cash Flow Statement and Funds Flow Statement.

Module 5: Depreciation & Inventory Valuation

Concepts & Methods of Depreciation & Problems on Straight Line & WDV Methods & Inventory & Concepts & Methods & Problems on LIFO, FIFO & Weighted Average & Valuation of Fixed Assets- Current and Non-current assets and liabilities- Tangible v/s Intangible assets & Depreciation of Fixed Assets and Methods of Depreciation & Inventory Valuation: Methods of Inventory Valuation and Valuation Of Goodwill & Methods of Valuation of Goodwill.

Module 6: Analysis of Companies' Annual Reports

Provisions of the Companies Act 1956 & Provision Affecting Preparation & Presentation & Analysis of Audit Reports & Directors' Reports.

Module 7: Financial Analysis of Financial Performance of a Firm

Different Tools & Ratio Analysis & Different Types of Ratio's & Inter-Relation Between Ratio's & Due-point Analysis & Common Size Statement of Inter Firm and Intra Firm & Internal Revenue Code-Interpretation of Financial Statements From Investor and Company Point of View & Horizontal Analysis and Vertical Analysis of Company Financial Statements & Liquidity, Leverage, Solvency and Profitability Ratios & Du Pont Chart & A Case Study on Ratio Analysis

Reading List:

- & Ghosh, T.P., (2010), *Understanding IFRS*, Taxmann.
- & D'Souza, Dolphy, (2009), *Indian Accounting Standards and GAAP In 2 Vol.*, Snow White Publications Pvt. Ltd.
- & International Accounting Standards Board (2007), *International Financial Reporting Standards 2007 (including International Accounting Standards (IAS(tm)) and Interpretations as at 1 January 2007)*, LexisNexis, ISBN 1-4224-1813-8.
- & *Case studies of IFRS implementation in Brazil, Germany, India, Jamaica, Kenya, Pakistan, South Africa and Turkey*, United Nations Intergovernmental Working Group on International Standards of Accounting and Reporting (ISAR). (Various years)

□ Catty, James P. (2010), *Wiley Guide to Fair Value, Under IFRS [6]*, ISBN: 0470477083, John Wiley & Sons.

A-16: FINANCIAL ECONOMICS

PREAMBLE

The course on Financial Economics is designed with 3 objectives in mind. Firstly, to familiarize students with the financial system and its components viz. financial instruments, financial institutions, financial markets and financial regulations. Secondly, to familiarize them with contemporary theories about the workings of different financial markets including money market, capital markets (bonds, stocks and hybrids) and derivative markets. Thirdly, familiarize them with the policy and regulatory framework within which financial institutions are required to function.

Module 1: The demand for securities

The time dimension – Present value and duration – The calculation of yields on zero-coupon bonds – The term structure of interest rates – The risk dimension – Measurement of risk. Bivariate distributions–Conditional probabilities and expected values – Estimating the mean and variance of returns – Expected utility.

Module 2: The supply of securities

Regulations governing supply of securities – General characteristics of securities – Government bonds – Index linked bonds – Corporate Securities – equities, bonds, convertible securities – Stock market operations – Money market funds – Claims on financial institutions.

Module 3: Securities markets and their efficiency

Stock exchanges – The over the counter stock market – Operational efficiency and the Efficient Market Hypothesis(EMH) – The weak, semi-strong and the strong form of EMH.

Module 4: The determination of equity prices

Shares as claims on future dividends and on corporate net worth – The Capital Asset Pricing Model (CAPM) – The simplest form – Estimating betas- Implications for portfolio management – Validity of CAPM – Arbitrage Pricing theory. An alternative approach – Stock indices – Bombay Sensitive Index, Bombay National Index, Dow Jones Industrial Index(DJI), New York Stock exchange composite index(NYSE).

Module 5: Security analysis and market efficiency

A modern view of security analysis – Macroeconomic developments and securities markets– Performance of securities markets– Industry growth, structure and firm specific factors- Uses and pitfalls of Price / Earnings ratios.

Module 6: Derivatives

Uses of Derivatives – Futures contracts and futures markets – Forward contracts – The origins of Futures trading – Basic elements and organization of futures contracts.

Module 7: Futures prices

Relation among spot and futures prices – financial futures – commodity futures – Closing out with futures – Hedgers, speculators, market equilibrium – The role of expectations – Futures and portfolio management.

Module 8: Options and option pricing

Institutional aspects – Exchange traded stock options – The pay offs from buying and selling options – Boundary conditions on option prices – The put-call parity theorem – The Black-Scholes formula – Other option models.

Module 9: Swaps, Currency and Interest Rate Swaps

Vanilla Interest Rate Swaps – Swaptions – Other types of swaps – Currency, Equity and Commodity Swaps.

Module 10: Regulation of financial markets

The ethics of finance and the economic function of financial markets – The purpose of regulation – levels of regulation – Securities Contract Regulation Act – Securities and Exchange Board of India (SEBI).

BASIC READING LIST

- ☐ Chandra, Prasanna (2008), Investment Analysis and Portfolio Management, Tata McGraw Hills
- ☐ Shapiro, Alan C. (1999), 4th edition, Multinational Financial Management, International McGraw Hills, , Prentice-Hall of India
- ☐ John Y. Campbell, Andrew W.Lo and A. Graig Mackinlay, (1997) The Econometrics of Financial Markets, Princeton University Press,

ADDITIONAL READING LIST

Module 1, 2 & 3

- ☐ Houthakkar H.S. and Williamson P.J. (1996), The Economics of Financial Markets, Oxford University Press
- ☐ Jurgen Echberger and Ian R. Harper (1997), Financial Economics, Oxford University Press

Module 2:

- ☐ Ross Stephan A. and Rudolph W. Westerfield (1998), Fundamentals of Corporate Finance, McGraw Hill International edition

Module 3 & 4:

- ☐ Fabozzi (2009), Bond Markets, 7th revised edition, Pearson Publications, USA, February 27

Module 3:

- ☐ Basu, S., (1977), “The Investment Performance of Common Stocks in Relation to their Price to Earnings Ratios: A Test of the Efficient Market Hypothesis”, Journal of Finance, 32, pp. 663-682
- ☐ Fama E.F. (1970), “Efficient Capital Markets: A Review of Theory and Empirical Work”, Journal of Finance, 25 May, pp. 383-417
- ☐ Fama, E.F. (1991), “Efficient Capital Markets II”, Journal of Finance, 46, (December), pp. 1575-617

Module 4:

- ❑ Graves, Affleck, Hegde, J.S. and Miller, R. (1994), "Trading Mechanisms and the Components of the Bid Ask Spread", *Journal of Finance*, 44, pp. 1471-1488.
- ❑ Barsky, R. and Long, J. De (1993), "Why Does the Stock Market Fluctuate?", *Quarterly Journal of Economics*, 108, pp. 291-311
- ❑ Black, F., Jensen, M.C. and Scholes, M.A. (1972), "The Capital Asset Pricing Model: Some Empirical Tests", in M.C. Jensen (ed.), *Studies in the Theory of Capital Markets*, (Praeger, New York)
- ❑ Fama E.F. and J. MacBeth, (1973), "Risk, Return and Equilibrium Empirical Tests", *Journal of Political Economy*, 71, pp. 607-636
- ❑ Ross, S.A. (1976), "Arbitrage Theory of Capital Asset Pricing", *Journal of Economic Theory*, 13, pp. 341-60

Module 5:

- ❑ Markowitz, H. (1952), "Portfolio Selection," *Journal of Finance*, 7: 77-91.
- ❑ Merton, R. (1980), "On Estimating the Expected Return on the Market: An Exploratory Investigation", *Journal of Financial Economics*, 8, pp. 323-361.

Module 6, 7, 8, 9:

- ❑ King, David N. (1999), *Financial Claims and Derivatives*, International Thomson Business Press.
- ❑ Hull John (1998), *Future Options and Other Derivative Securities*, 3rd edition, Prentice Hall International / Hua Xia Publishing House.

Module 7:

- ❑ Dusak, K. (1973), "Futures Trading and Investor Returns: An Investigation of Commodity Market Risk Premiums", *Journal of Political Economy*, 87, (Nov./Dec.), 1387-1406

Module 8:

- ❑ Simon Benninga (1997), *Financial Modeling*, MIT Press
- ❑ Black, I. and Scholes, M. (1973), "The Pricing of Options and Corporate Liabilities", *Journal of Political Economy*, 81, 637-59

Module 10:

- ❑ Krishan, Bal and Narta, S. S. (1998), *Security Markets in India*, Kanishka Publishers, New Delhi.

ADDITIONAL READING LIST:

- ❑ (Basel: BIS, April 1986) "Bank for International Settlements", *Recent Innovations in International Banking*.
- ❑ Benjamin M. Friedman H. Hahn (1990) "A formal treatment of the requirements for targets" is available in Benjamin M. Friedman, "Targets and Instruments of Monetary Policy," chapter 22 in Benjamin M. Friedman H. Hahn, *handbook of Monetary Economics*, (Amsterdam: North-Holland, 1990).
- ❑ Blume, Marshall, E. (June 1975) "Betas and Their Regression Tendencies," *Journal of Finance*, 30, 785-96.
- ❑ Cox. Ingersoll, and Ross, "A Re-examination of Traditional Hypothesis," pp. 774-775.
- ❑ Culbertson, J.M. (November 1957) "The Term Structure of Interest Rates," *Quarterly Journal of Economics*, pp. 489-504.
- ❑ Daniel C. Inro, Christine X. Jaing, Michael Y. Ho, Wayne Y. Lee (May/June 1999) "Mutual Fund Performance: Does Fund Size Matter?" *Financial Analysis Journal*, pp. 74-87.

- Edward S. O'Neal (September/October 1999) "Mutual Fund Share Classes and Broker Incentives," *Financial Analysis Journal*, pp. 76-87.
- Eugene F. Fama (1976) "Forward Rates as Predictors of Future Spot Rates," *Journal of Financial Economics*, 3, no.4, pp.361-377.
- Fama (December 1991) "Efficient Capital Markets II," *Journal of Finance*, 46, 1575-615.
- Fama (December 1998) "Value Growth: The International Evidence," *Journal of Finance*, 53, 1975-99.
- Fama, Eugene, F. (May 1970) "Efficient Capital Market: A Review of Theory and Empirical Work," *Journal of Finance*, 25, 383-417.
- Fisher Black and Myron Scholes (May-June 1937) "The Pricing of Corporate Liabilities," *Journal of Political Economy*, pp. 637-659.
- George, J. Benston (March 1973) "Required Disclosure and the Stock Market: An Evaluation of the Security Exchange Act of 1934," *American Economic Review*, pp. 132-155.
- Harry K. Markowitz, (March 1952) "Portfolio Selection," *Journal of Finance*, pp. 71-91 and *Portfolio Selection: Efficient Diversification of Investments* (New York: John Wiley & Sons, Inc., 1959).
- Irving Fisher (1930) "*The Theory of Interest Rates*" (New York; Macmillan, 1930)
- John C. Cox, Stephen A. Ross, and Mark Rubinstein (September 1979) "Option Pricing: A Simplified Approach," *Journal of Financial Economics*, pp. 229-263.
- Jonathan Ingersoll, Jr., and Stephen Ross (September 1981) These formulations are summarized by Jonathan Ingersoll, Jr., and Stephen Ross. "A Re-examination of Traditional Hypothesis About the Term Structure of Interest Rates," *Journal of Finance* (September 1981), pp. 769-799.
- Keynes, J.M. (1936) "*The General Theory of Employment, Interest and Money*" (New York: Harcourt, Brace & World, 1936)
- Lucas Papademos and Franco Modigliani (1990) "The Supply of Money and the Control of National Income," chapter 10 in Benjamin M. Friedman and Frank H. Hahn (eds.) *Handbook of Monetary Economics* (Amsterdam; North-Holland, Elsevier, 1990), pp. 428-430.
- Lutz, F. (1940-41) "The Structure of Interest Rates," *Quarterly Journal of Economics*, pp. 36-63.
- Marshall E. Blume (April 1970) "Portfolio Theory: A Step Toward Its Practical Application," *Journal of Business*, pp. 152-173.
- Marshall E. Blume and Irwin Friend (March 1973) "A New Look at the Capital Asset Pricing Model," *Journal of Finance* (March 1973), pp. 19-33; and Eugene F. Fama and James D. MacBeth, "Risk, Return and Equilibrium: Empirical Tests," Working Paper No. 7237, University of Chicago, Graduate School of Business, August 1972.
- Merton, H. Miller (December 1986) "Financial Innovation: The Last Twenty Years and the Next," *Journal of Financial and Quantitative Analysis*, pp. 459-471.
- Merton H. Miller and Myron S. Scholes (1972) "Rates of Returns in Relation to Risk: A Reexamination of Recent Findings," and Fischer Black, Michael C. Jensen, and Myron S. Scholes, "The Capital Assets Pricing Model: Some Empirical Evidence," in Michel C. Jensen (ed.), *Studies in the Theory of Capital Markets* (New York: Praeger Books, 1971)
- Modigliani, Franco, and Miller, M.H. (June 1958) "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, 261-97.
- Richard J. Rendleman and Brit J. Bartter (December 1979) "Two State Option Pricing," *Journal of Finance*, pp. 1093-1110.
- Richard Roll (March 1997) "A Critique of the Asset Pricing Theory: Part I. On the Past and Potential Testability of the Theory," *Journal of Financial Economics*, pp. 139-176.
- Stephen A. Ross (December 1976) "The Arbitrage Theory of Capital Assets Pricing," *Journal of Economic Theory*, pp. 343-362.
- Stephen, A. Ross (July 1989) "Institutional Markets, Financial Marketing, and Financial Innovation," *Journal of Finance*, p.541.
- Stephen A. Ross (March 1980) "Options and Efficiency," *Quarterly Journal of Economics* (February 1976), pp. 75-89; and Fred Arditti and Kose John, "Spanning the State Space with Options," *Journal of Financial and Quantitative Analysis*, pp. 1-9.

- ❑ William F. Sharpe (September 1964) "Capital Assets Prices: A Theory of Market Equilibrium Under Conditions of Risk," *Journal of Finance*, pp. 425-442.
- ❑ William F. Sharpe (1981) *Investments*, (Englewood Cliffs, N.J.: Prentice Hall, 1981), Chapter 16

ADDITIONAL REFERENCES:

- ❑ All India Management Association, *Global Trends in Finance: Opportunities for India*, Excel Books, New Delhi, 1998.
- ❑ Damodaran, Aswath (1997), *Corporate Finance, Theory and Practice*, John Wiley and Sons, (Chap. 27, Option Pricing Theory).
- ❑ Babbel David F., Andenas M. and Santomoro Anthony (Eds.) (1998), *Financial Markets, Instruments and Institutions*, Irwin/McGraw Hill, Singapore
- ❑ Huang, C. And Litzenberger, R., (1988). *Foundations for Financial Economics*, New York, North-Holland.
- ❑ Bingham N.H. and Kiesel Rudiger (1998), *Risk-neutral Valuation: Pricing and Hedging of Financial Derivatives*, 2nd edition, Springer-Verlag, London
- ❑ Pike, Richard and Neele, Bill (1998), *Corporate Finance and Investment Decisions and Strategies*, Prentice Hall of India
- ❑ Somanathan T.V. (1998), *Derivatives*
- ❑ Tushar Waghmare (ed.) (1998), *Future of India's Stock Markets*, Tata McGraw Hill, New Delhi

A-17: STATISTICS AND OPERATIONS RESEARCH

Objective

The objective of this course is to familiarize students with statistical theory and its application as the foundations for data analysis, as well as to acquaint them with basic and intermediate techniques from the field of operations research. Students at the end of the course should be familiar with the analysis and interpretation of data, along with hands on training in both of these fields.

Module 1: Testing of hypothesis: Simple versus composite hypothesis, critical region, type I and type II errors, power of a test, The Decision Rule, trinity of classical tests (Wald test, Lagrange multiplier, likelihood ratio), application of hypothesis testing with known and unknown variances, test for correlation,

Module 2: Special Distributions; Introduction, The Poisson Distribution, The Normal Distribution, The Geometric Distribution, The Negative Binomial Distribution, The Gamma Distribution, the Central Limit Theorem

Module 3: Estimation and Inference; Introduction, Estimating Parameters: The Method of Maximum Likelihood, the Method of Moments, Interval Estimation, Properties of Estimators, Minimum-Variance Estimators: The Cramér-Rao Lower Bound, Sufficient Estimators, Consistency, Bayesian Estimation.

Module 4: Bivariate Distributions; Contingency tables, joint and conditional distributions, odds ratio, test of independence, Analysis of Variance (ANOVA), analysis of covariance.

Module 5: Nonparametric Statistics; Introduction, Sign Test, Wilcoxon Tests, The Kruskal-Wallis Test, The Friedman Test, Testing for Randomness, Comparing Parametric and Nonparametric Procedures

Module 6: Introduction to OR; Basic algorithms; Linear programming (LP), Graphical and Simplex; LP Formulation and LP with solver and sensitivity analysis; Transportation and transshipment models; Simulation; Decision Analysis

Module 7: Advanced algorithms in OR; Goal Programming; Queuing Theory; Networking Models; Markov chains; Data Envelopment Analysis (DEA); Analytical Hierarchical processing (AHP)

Reading List

- Larsen, Richard J., and Morris L. Marx. (2001): An Introduction to Mathematical Statistics and its Applications. 3rd ed. Upper Saddle River, NJ: Prentice Hall.
- Lewis Margaret (2011): Applied Statistics for Economists, Routledge.
- Newbold P. (2007): Statistics for Business and Economics (6th edition or later), Prentice Hall
- Sweet, Stephen and Karen Grace- Martin (2008): Data Analysis with SPSS: A First Course in Applied Statistics, Allyn & Bacon, 3rd Edition.
- Field Andy (2013): Discovering Statistics using IBM SPSS Statistics. Fourth Edition, SAGE
- Quantitative Analysis for Managerial Decision Making By Render and Stair
- Operations Research by Hiller and Liberman
- Operations Research by Hamdy and Taha

A-22: BUSINESS ANALYTICS

Description:

This Learning path enables participants to gain three critical skills: data analysis and problem solving framework, the ability to perform descriptive analytics and visualization, and the expertise to build and implement the most widely used data science and machine learning algorithms in use today, with R

Module 1: The need for Analytics and Understanding Analytics

1. Decision Making – Heuristics and Biases
2. The need for analytics
3. Impact of analytics on business
4. Being analytically competitive
5. The difference between analytics and BI
6. Introduction to the business Analytics model
7. Types of analytics
8. Models and algorithms in Analytics
9. The Analytics Methodology

Module 2: Tool and Tech Landscape

1. A review of technology used in data storage, data processing, and data science
2. Popular tools used in Data Science and when to use each

Module 3: Descriptive Analytics with excel and Tableau

1. An introduction to Tableau
2. Using descriptive statistics in analysis and reporting
3. Advanced reporting with Tableau

Module 4: R programming

1. An introduction to R
2. Importing and exporting data in R
3. Data Manipulation with R
4. Advanced Data Manipulation with R
5. Data Visualization with R

Module 5: Data Preprocessing

1. Data Exploration and Assessment for Data Science
2. Identifying and dealing with noise in Data
3. Preparing data for Data Science Modeling

Model 6: Predictive Models in R

1. Linear Regression Models and their applications
2. Logistics Regression Models and Their applications
3. Time Series Forecasting

Model 7: ML Models in R

1. Clustering Algorithms and application
2. Decision Tree Algorithms and applications
3. Random Forest Algorithms and applications

Model 8: Storytelling with Data

1. Communicating data science results
2. Effective presentation skills
3. Using Data visualizations for storytelling

B-01: INDIAN AGRICULTURAL ECONOMICS

PREAMBLE: The objective of this course is to provide a detailed treatment of issues in agricultural economics to those intending to specialize in this area. Its objective is to formalize students with policy issues that are relevant to India agricultural economics and enable them to analyse the issues, using basic macro-economic concepts.

Module I

Scope and Subject matter of Agricultural Economics, Nature and Utility of Agricultural Economics, Role and Importance of Agriculture in National Economy: share in National income, Source of livelihood, Employment generation, Industrial development and trade and economic planning.

Module II

National Resource base of Indian agriculture; climate, land resources, water resources, India's position in World Agriculture, Comparison of India with other countries.

Module III

Agricultural Growth in India during pre and post-Independence period; contribution of area and yields, sources of agricultural, levels and growth of crop yields, value of crop output, challenges ahead.

Module IV

Factors responsible for agricultural development in India, Growth in use of technological factors in production such as irrigation, seed, fertilizers, capital during last five decades

Module V

Land Utilization Pattern, Changes in agrarian structure in India, Patterns of Cropping in different regions, Shift in Cropping Pattern and its Implications on Food Security.

Module VI

Credit in Indian agriculture: purposes of loans, Sources of finance and changes in these over the plan period. Factors determining demand for credit. Recent policy changes in regard to farm credit and their implications.

Module VII

Marketing: Characteristics of primary agricultural markets in India, Regulated markets and market intervention, Marketing efficiency, Marketed and Marketable surplus, Marketing Channels and Functionaries

Module VIII

Farm prices, Trends in relative prices of farm products, Supply response to prices in agriculture; Behavior of marketed surplus, Price policy in India and its basis, Cost concepts

READING LIST**Module 1:**

1. Gail L. Cramer and Clarence W. Jensen, 1982, Agricultural Economics and Agribusiness, New York: Wiley.
2. George Blyn, 1966, Agricultural Trends in India, 1891-1947 Output, Availability, and Productivity, University of Pennsylvania Press, 370 pp.
3. Ghatak, Subrata and K. Ingersent, 1984, Agriculture and Economic Development, Prentice Hall / Harvester Wheatsheaf, USA, 384 pages.
4. Karcagi-Kováts, Andrea Kuti, István, 2013, Agricultural Economics I., University of Debrecen, Service Sciences Methodology Centre, TÁMOP-4.1.2.A/1-11/1-2011-0009.
5. Readings in Agricultural Economics, 1950, The Indian Society of Agricultural Economics, Commercial Printing and Publishing House, 46, Armenian ST, Madras-1.
6. Subba Reddy, S, Raghu Ram, P., Sastry, T.V.N. and Bhavani Devi, 2009, Agricultural Economics, Oxford & IBH Publishing Co., Pvt. Ltd., New Delhi

7. Arora, V.P.S., 2010, Promoting Agribusiness in India, Indian Journal of Agricultural Marketing, Vol. 24, No. 3, p. 1-31.
8. James E. Martin (1978), "Agricultural Economics: A Critical Review of the State of the Science", Southern Journal of Agricultural Economics, July, pp. 39-42.
9. Chand, R., 2003, Government Intervention in Foodgrain Markets in the New Context, Policy Paper 19, NCAP, New Delhi
10. Chand, R., Raju, S.S. and Pandey, L.M., 2007, Growth Crisis in Agriculture: Severity and Options at National and State Levels, Economic and Political Weekly, 42 (26): 2528-33.

Module 2:

11. Agricultural Statistics at a Glance 2017, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
12. Annual Report, 2017-18, Ministry of Water Resources, GOI, River Development and Ganga Rejuvenation, New Delhi.
13. Basu, D.N., 1996, Agro-Climatic Regional Planning in India: Concept and Applications, Vol. 1, Concept, New Delhi.
14. Vaidyanathan, A., 1988, India's Agricultural Development in a Regional Perspective, Longman Limited.
15. Water Resources, Mid-Term Appraisal of the Eleventh Five Year Plan, Planning Commission, GOI, New Delhi.
16. Kumar, Rakesh, R.D. Singh and K.D. Sharma (2005), "Water Resources in India", Current Science, Vol. 89, No. 5, pp. 794-811.
17. Mall, R.K. (2006), "Water resources and climate change: An Indian perspective", Current Science, Vol. 90, No. 2, pp. 1610-1626.

Module 3:

18. Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications.
19. Bhalla, G.S., 2007, Indian Agriculture since Independence, National Book Trust, India.
20. Dantwala, M. L. and Others, 1991, Indian Agricultural Development Since Independence: A Collection of Essays, Oxford & IBH Publishing Co., New Delhi.
21. George Blyn, 1966, Agricultural Trends in India, 1891-1947 Output, Availability, and Productivity, University of Pennsylvania Press, 370 pp.
22. Chand, R., 2001, Emerging Trends and Issues in Public and Private Investments in Indian Agriculture: A Statewise Analysis, Indian Journal Of Agricultural Economics, Vol 56, No. 2, April-June 2001
23. Chand, R., Raju, S.S. and Pandey, L.M., 2007, Growth Crisis in Agriculture: Severity and Options at National and State Levels, Economic and Political Weekly, 42 (26): 2528-33.
24. Joshi, P.K., BIRTHAL, P.S. and Monot, N., 2006, Sources of Agricultural Growth in India: Role of Diversification towards High Value Crops, MTID Discussion Paper No. 98, International Food Policy Research Institute, Washington DC, USA

Module 4:

25. Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications.
26. Bhalla, G.S., 2007, Indian Agriculture since Independence, National Book Trust, India.

27. Chadha, G.K.; S. Sen and H.R. Sharma, 2004, Land Resources, State of the Indian Farmer, Vol. 2, Academic Foundation, New Delhi.
28. Chand, R., 2001, Emerging Trends and Issues in Public and Private Investments in Indian Agriculture: A Statewise Analysis, Indian Journal Of Agricultural Economics, Vol 56, No. 2, April-June 2001
29. Chand, R. and Raju, S.S., 2009, Instability in Indian Agriculture during Different Phases of Technology and Policy, Indian Journal of Agricultural Economics, 64 (2): 283-88.
30. Joshi, P.K., Borthal, P.S. and Monot, N., 2006, Sources of Agricultural Growth in India: Role of Diversification towards High Value Crops, MTID Discussion Paper No. 98, International Food Policy Research Institute, Washington DC, USA
31. Kannan, E. and Sundaram, S., 2011, Analysis of Trends in India's Agricultural Growth, Working Paper 276, ISEC, Bangalore
32. Kumar, Rakesh, R.D. Singh and K.D. Sharma (2005), "Water Resources in India", Current Science, Vol. 89, No. 5, pp. 794-811.

Module 5:

33. Agricultural Research Data Book 2017, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
34. Agricultural Statistics at a Glance 2017, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
35. State of Indian Agriculture: 2017-18, Ministry of Agriculture, Government of India, New Delhi
36. Chand, R., 2003, Government Intervention in Foodgrain Markets in the New Context, Policy Paper 19, NCAP, New Delhi
37. Chand, R., Raju, S.S. and Pandey, L.M., 2007, Growth Crisis in Agriculture: Severity and Options at National and State Levels, Economic and Political Weekly, 42 (26): 2528-33.
38. Chand, R. and Raju, S.S., 2009, Instability in Indian Agriculture during Different Phases of Technology and Policy, Indian Journal of Agricultural Economics, 64 (2): 283-88.
39. Dev, S.M. and Rao, N.C., 2010, Agricultural Price Policy, Farm Profitability and Food Security, Economic and Political Weekly, Vol. 45, Nos. 26 & 27, 53, pp. 174-182.
40. Srivastava, R., Saxena, N.C. and Thorat, S., 2008, Land Institutions, Policy and Reforms in India, in The Dragon and the Elephant, Agricultural and Rural reforms in China and India edited by Ashok Gulati and Shenggen Fan, Oxford 2008.

Module 6:

41. Agricultural Research Data Book 2017, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
42. Agricultural Statistics at a Glance 2017, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
43. State of Indian Agriculture: 2017-18, Ministry of Agriculture, Government of India, New Delhi
44. Kumar, A., Singh, D.K. and Kumar, P., 2007, Performance of Rural Credit and factors Affecting the Choice of Credit Source, Indian Journal of Agricultural Economics, Vol. 62, No. 3, pp. 297-313.
45. Kumar, A., Singh, K.M. and Sinha, S., 2010, Institutional Credit to Agriculture Sector in India: Status, Performance and Determinants, Agricultural Economics Research Review, Vol. 23, July December 2010, pp. 253-264.
46. Mohan, R., 2006, Agricultural Credit in India: Status, Issues and Future Agenda, Economic and Political Weekly, March 18, 2006, pp 1013-1021.

Module 7:

47. Acharya and Agarwal, 1987, Agricultural Marketing in India, Oxford & IBH Publishing Company.
48. Mamoria, C.B. and R.L. Joshi, 1982, Principles and Practice of Marketing in India, Kitab Mahal, Delhi
49. Report of The Research Study on Estimation of Marketing Efficiency of Horticultural Commodities under Different Supply Chains in India, 2010, NCAP, New Delhi
50. Report of the Working Group on Agricultural Marketing Infrastructure, Secondary Agriculture and Policy Required for Internal and External Trade for the XII Five Year Plan 2012-17, 2011, Agriculture Division, Planning Commission, GOI
51. Chand, R., 2003, Government Intervention in Foodgrain Markets in the New Context, Policy Paper 19, NCAP, New Delhi
52. Gulati, A. and Sharma, P.K., 1991, Government Interventions in Agricultural Markets: Nature Impact and Implications, Journal of the Indian School of Political Economy, Vol 3, No. 2, April-June, 1991.
53. Mullen, K., Orden, D. and Gulati, A., 2005, Agricultural Policies in India: Producer Support Estimates 1985-2002, MTID Discussion Paper No. 82, IFPRI, Washington DC, USA
54. Patnaik, G., 2011, Status of Agricultural Marketing Reforms, IGIDR Proceedings/ Project Series, pp-069-11b
55. Ramaswami, B., 2002, Efficiency and Equity of Food Market Interventions, Economic and Political Weekly, March 23, 2002

Module 8:

56. Agricultural Research Data Book 2017, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
57. Agricultural Statistics at a Glance 2017, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
58. Report of The Research Study on Estimation of Marketing Efficiency of Horticultural Commodities under Different Supply Chains in India, 2010, NCAP, New Delhi
59. Desai, B.M., D Souza, E., Mellor, J.W., Sharma, V.P. and Tamboli, P., 2011, Agricultural Policy Strategy, Instruments and Implementation: A Review and the Road Ahead, Economic and Political Weekly, Vol. 46, No. 53, pp. 42-50. Dev, S.M., 2012, Policies for Raising Agricultural Growth and Productivity in India, IGIDR Proceedings/ Project Series, PP-069-SMD1
60. Desai, B.M. and D Souza, E., 2011, Agricultural Policy Strategy, Instruments and Implementation : A Review and the Road Ahead, Economic and Political Weekly, December, 31st, 2011
61. Dev, S.M. and Rao, N.C., 2010, Agricultural Price Policy, Farm Profitability and Food Security, Economic and Political Weekly, Vol. 45, Nos. 26 & 27, 53, pp. 174-182.
62. Mullen, K., Orden, D. and Gulati, A., 2005, Agricultural Policies in India: Producer Support Estimates 1985-2002, MTID Discussion Paper No. 82, IFPRI, Washington DC, USA
63. Rao, V.M., 2001, The Making of Agricultural Price Policy: A Review of CACP Reports, Journal of Indian School of Political Economy, Vol. 13, No. 1, Jan-March, pp. 1-28.

B-02: TRANSPORT ECONOMICS

Module 1: Development Objectives and the Role of Transportation

The Transport function – Requirements of transport in the development context – Relationship between transportation and economic growth – Effects of an improved transportation system – Characteristics of the transportation system: technological characteristics – Design of the transport sector: choice of transport technology and impact of innovations.

Module 2: Theoretical Analysis of the Location of Economic Activities

Concept of economic space – Location theory: structure of transport costs, concept of market areas, concentration and dispersion of industry – The urban and regional spatial structure – Principles of Transport planning: distinctive features of transport planning – deriving an optimal plan – The systems approach to transport planning: macro planning.

Module 3: Application of Economic Theory to Transportation

Analysis of demand – Demand studies – Passenger demand models: trip generation and attraction models – Trip distribution models: the gravity model formulation and others: modal split models and network assignment formulations – Passenger demand models – The demand for freight services: extension of passenger demand models to analyze freight demand: optimization and behavioral models in freight transportation – Analysis of supply: concept and importance of user cost: defining a supply function in the context of transportation services – Equilibrium in networks: Network analysis – Principles of pricing in transport: Transport as a utility-pricing on the basis of costs: theoretical considerations of costs – Identification of costs-problem of joint and common costs – Average cost versus marginal cost pricing – long run marginal versus short run marginal cost pricing – Value of service principle in pricing: price discrimination – rail tariffs – Road pricing: two-part tariff and congestion pricing.

Module 4: Theory and Application of Decision Making Principles and Evaluation of Large-scale Transport Projects

Cost-benefit analysis in transport investment-measurement of economic costs and benefits: choice of a discount rate: some practical problems of investment evaluation – Some case studies.

Module 5: Transport and Energy

Efficient energy modes – Transport and the environment: External effects and the social costs of transportation: efficiency and equity, Transport and environmental sustainability.

Module 6: Role of Public Policy

Scope of Government transport policy – Rationale of intervention: historical perspective – Control on quality and quantity of services – Policy aimed at efficiency and better allocation of resources – Towards an efficient and socially feasible regulation of transport – Objectives of Transport policy in India: A review of transport development under the plans – Operational and financial performance of the Railways – Highway transport performance – Alternative modes of transport: water and air transport – Problem of coordination, privatization as a policy measure.

BASIC READING LIST

- ❑ National Council of Applied Economic Research, Indian Shipping Industry: Retrospect & Prospect
- ❑ Infrastructure Development Finance Company, Indian Institute of Management, Indian Infrastructure Report (2001, 2002 & 2003), Ahmedabad
- ❑ Stubbs, Tyson & Dalvi, Transport Economics
- ❑ Verma, K.B., Indian Railway Finance
- ❑ Mohan, Rakesh (2001), Indian Railways Report, Vol. 1, Vol. 2 (Part 1 & 2)
- ❑ Mohan, Rakesh (1996), The India's Infrastructure Report
- ❑ Alonso, William, "Location, Land and Use: Towards a General Theory of Land Rent"
- ❑ Pickering, D., Park J. M and Bannister, D. H, Utility Mapping & Record Keeping for Infrastructure
- ❑ Davey, Kenneth J., Elements of Urban Management
- ❑ Stuart, Chapel, Urban Growth Dynamic in a Regional Cluster of Cities
- ❑ Kozlowski, J., Threshold Analysis: Quantitative Planning Methods
- ❑ Rebelo, George, M, Reforming the Urban Transport Sector in The Rio De Janeiro Metropolitan Region
- ❑ World Bank, Sustainable Transport
- ❑ Pouliquen, Louisy, Rural Infrastructure from a World Bank Perspective
- ❑ World Bank, World Development Report- 1995
- ❑ World Commission on Environment and Development, Our Common Future
- ❑ Oxford, India Infrastructure Report 2001 & 2002
- ❑ Kneafsey, James T., The Economics of the Transportation Firm
- ❑ Sengupta, Ramprasad, Sustainable Transport Pricing in India
- ❑ Bruton, Michael J., Introduction to Transportation Planning
- ❑ Button, K.J. & Gillingwater D. Ed., Transport, Location & Spatial Policy
- ❑ Hensher, David A., Urban Transport Economics
- ❑ Wilfred, Owen, Distance & Development
- ❑ Foster, C.D., The Transport Problem
- ❑ Saxena, R.N, Indian Railways: Financial & Commercial Profile

B-03: INDUSTRY: ORGANIZATION, STRUCTURE, AND PROBLEMS

PREAMBLE

This course will first critically examine the industrial scenario in India and discuss debates involved in the industrial development of India. Next, it will study what determines market structure and how firms may be able to act strategically, in choosing their prices, products or advertising, to affect market structure and market outcomes. The course will be a mixture of theory and empirics. The course will jump from one to the other so that the empirical sections will complement the theory sections and vice versa.

Module 1

Assessments of the changes in structure of industries – Growth of corporate sector/non-corporate sector, large/small/household – public/private – appraisal of policies that facilitated – implications and consequences.

Module 2

Constraints on growth – shortages of raw material, lack of demand, shortage of capital, inadequate infrastructure.

Module 3

Regional disparities – measure for dispersal – inadequate contribution of large/capital intensive enterprises to regional spread – promotional and public financial institutional support – consequences of liberal credit and finance – emphasis on capital-intensive enterprises.

Module 4

Growth of small scale and household sector – role in Indian economy – problems like demand constraints – linkage with large and medium.

Module 5

Strategic interaction – full Information and incomplete information

Module 6: Market structure & models of market entry

What are the welfare effects of more firms? What determines the degree of product differentiation? Is it optimal? How does the number of firms change as market size increases? Why do we see firms of different sizes? Some facts on entry and exit. Static (2- period) Entry games with firms, which are non-explicitly differentiated. Dynamic entry games. Entry models with explicit product differentiation.

Module 7

Empirical analysis of price discrimination and non-linear pricing.

Module 8: Mergers and Antitrust

Horizontal mergers – Horizontal mergers with homogeneous goods, differentiated goods mergers. Vertical restraints. Incomplete contracts and the boundaries of the firm.

Module 9: Research and development and adoption of new technologies

Patents and R&D incentives, network effects and technology adoption.

Module 10: Advertising

Views on advertising: persuasive view, informative view, and complementary view. Empirical regularities: direct effects of advertising and the indirect effects of advertising. Monopoly advertising. Advertising and price. Advertising and quality. Advertising and entry deterrence. Empirical analyses: advertising and firm conduct.

Module 11: Regulations

Theories of regulations. The regulation of entry – Competition Act, 2002, India – Effects of privatization and competitive pressure on firms' price cost margins – Impact of liberalization on market disciplines and productivity growth – Business environment and firm entry – Puzzle of jobless growth in Indian manufacturing – Impact of labour regulation on industrial performance.

Module 12: Law and Economics of Corporate Law

Characteristics of corporation, functions of corporate law, Basic constituents and stake holders, Gatekeepers, Various branches of economics and theories of firm - Neoclassical Economics, Transaction Cost Economics, New Institutional Economics, Economics of Organization, Contract Theory, Economics of Information, Financial Economics, Corporate Finance, Behavioural Economics.

BASIC READING LIST:

Books:

- ❑ Mookherjee, D. (1997). Indian Industry: Policies and Performance. Oxford University Press, Edited.
- ❑ Jean Tirole: The Theory of Industrial Organization, (MIT Press) Prentice Hall India.
- ❑ Oz Shy: Industrial Organization, MIT Press.
- ❑ Stephen Martin: Advanced Industrial Economics, Blackwell.
- ❑ Kaushik Basu: Lectures in Industrial Organization Theory, Blackwell.
- ❑ Richard Schmalensee and Robert D. Willig (Ed:), Hand Book of Industrial Organization, Volume I and II, North Holland.
- ❑ Donald A. Hay and Derek J. Morris: Industrial economics and organization; theory and evidence, Oxford University Press.

Papers:

- ❑ J. Bulow, J. Geanakoplos and P. Klemperer, "Multimarket Oligopoly: Strategic Substitutes and Complements", *Journal of Political Economy*, 1985, 488-511.
- ❑ A. Dixit, "The Role of Investment in Entry Deterrence", *Economic Journal*, 1980, 721-9.
- ❑ David M. Kreps; Jose A. Scheinkman, "Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes", *The Bell Journal of Economics*, 1983, Vol. 14, No. 2., pp. 326-337.
- ❑ Chaim Fershtman; Kenneth L. Judd, "Equilibrium Incentives in Oligopoly", *The American Economic Review*, 1987, Vol. 77, No. 5., pp. 927-940.
- ❑ K. Judd, "Credible Spatial Preemption", *Rand Journal of Economics*, 1985, 16, 153-166.
- ❑ L. Dafny, "Entry Deterrence in Hospital Procedure Markets: A Simple Model of Learning-By-Doing", 2003, NBER 9871.
- ❑ R. Smiley, "Empirical Evidence on Strategic Entry Deterrence", *International Journal of Industrial Organization*, 1988, 6, 167-180.
- ❑ P. Milgrom and J. Roberts, "Limit Pricing and Entry Under Incomplete Information: An Equilibrium Analysis", *Econometrica*, 1982, 50, pp. 443-460.
- ❑ P. Milgrom and J. Roberts, "Predation, Reputation, and Entry Deterrence", *Journal of Economic Theory*, 1982, 27, 288-312.
- ❑ N.G. Mankiw and M.D. Whinston, "Free Entry and Social Inefficiency", *Rand Journal of Economics*, 1986, 48-58.
- ❑ Ghosh and S. Saha, "Excess entry in the absence of scale economies", *Economic Theory*, 2007 30: 575-586
- ❑ S. Anderson, A. de Palma, and Y. Nesterov, "Oligopolistic Competition and the Optimal Provision of Products", *Econometrica*, 1995, Vol. 63, No. 6, pp. 1281-1302,

- ❑ A. Dixit and J. Stiglitz, "Monopolistic Competition and Optimal Product Diversity", *American Economic Review*, 1977, 297- 308.
- ❑ J. Sutton, "One Smart Agent", *Rand Journal of Economics*, 1997, 605-628.
- ❑ T. Bresnahan, "Sutton's Sunk Costs and Market Structure: Price Competition, Advertising, and the Evolution of Concentration: Review Article", *Rand Journal of Economics*, 1992, 23(1), 137-52.
- ❑ J. Sutton, "Gibrat's Legacy", *Journal of Economic Literature*, 1992, 35(1), 40-59.
- ❑ H. Simon and C. Bonini, "The Size Distribution of Business Firms", *American Economic Review*, 1958, 48(4), 607-17
- ❑ B. Jovanovic, "Selection and the Evolution of Industry," *Econometrica*, 1982, 649-670.
- ❑ T. Dunne, M. Roberts and L. Samuelson, "Patterns of Firm Entry and Exit in US Manufacturing", *Rand Journal of Economics*, 1988, 495-515.
- ❑ S. Klepper, "Entry, Exit, Growth and Innovation over the Product Life Cycle", *American Economic Review*, 1996, 86(3), 562-583.
- ❑ S. Berry and J. Waldfogel, "Free Entry and Social Inefficiency in Radio Broadcasting" *Rand Journal of Economics*, 1999, 30, 397-420.
- ❑ T. Bresnahan and P. Reiss, "Entry in Monopoly Markets", *Review of Economic Studies*, 1990, 531-53.
- ❑ T. Bresnahan and P. Reiss, "Entry and Competition in Concentrated Markets", *Journal of Political Economy*, 1991, 99, pp.977-1009.
- ❑ M. Whinston and S. Collins. 1993. "Entry and Competitive Structure in Deregulated Airline Markets: An Event Study Analysis of People Express", 1993, 23, 445-62.
- ❑ R. Ericson and A. Pakes, "Markov-Perfect Industry Dynamics: A Framework for Empirical Work", *Review of Economic Studies*, 1995, Vol. 62, No. 1, 53-82.
- ❑ S. Borenstein and J. Netz, "Why Do All the Flights Leave at 8 a.m.? Competition and Departure- Time Differentiation in Airline Markets," *International Journal of Industrial Organization*, 1999, 611-640
- ❑ Borenstein and Rose (1994) Competition and Price Dispersion in the US Airline Industry, *Journal of Political Economy* 653-683
- ❑ Shepard, "Price Discrimination and Retail Configuration", *Journal of Political Economy*, 1991, 99(1), 30-51
- ❑ Willig, R.D. "Merger Analysis, Industrial Organization Theory, and Merger Guidelines", 1991, *Brookings Papers on Economic Activity: Microeconomics*, 281-332.
- ❑ Farrell, J. and C. Shapiro "Horizontal Mergers: An Equilibrium Analysis", *American Economic Review*, 1990, 80(1), 107-126
- ❑ Pesendorfer, M., "Horizontal Mergers in the Paper Industry", *Rand Journal of Economics*, 2003, 34(3), 495-515.
- ❑ Nevo, A., "Mergers and Differentiated Products: The Case of the Ready-To-Eat Cereal Industry", 2000, *Rand Journal of Economics* 31(3), 395-421.
- ❑ Salop, S. and D. Scheffman, "Raising Rivals' Costs", *American Economic Review*, 1983, 73(2), 267-271.
- ❑ Bernheim, B.D. and M. Winston (1998), "Exclusive Dealing", *Journal of Political Economy*, 1998, 106(1), 64-103.
- ❑ Klein, Benjamin and Kevin M. Murphy, "Vertical Integration as a Self-Enforcing Contractual Arrangement." 1997, *American Economic Review* 87: 415-20.
- ❑ Hubbard, Thomas, "Contractual form and market thickness in trucking", *Rand Journal of Economics*, 2001, 32(2), 369-386.
- ❑ Gilbert, R. and C. Shapiro, "Optimal patent length and breadth," *Rand Journal of Economics*, 1990, 21(1), 106-112.
- ❑ Klemperer P., "How broad should the scope of patent protection be?," *Rand Journal of Economics*, 1990, 21(1), 113-130.

- ☐ Sakakibara, M. and L. Branstetter (2001), "Do Stronger Patents Induce More Innovation? Evidence from the 1988 Japanese Patent Law Reforms", *Rand Journal of Economics*, 2001, 32(1), 77-100.
- ☐ Katz, M. and C. Shapiro, "Network externalities, competition, and compatibility", *American Economic Review*, 1985, 75(3), 424-440.
- ☐ Katz, M. and C. Shapiro, "Technology adoption in the presence of network externalities," *Journal of Political Economy*, 1986, 94(4), 822-841.
- ☐ Saloner, G. and A. Shepard, "Adoption of Technologies with Network Effects: An Empirical Examination of the Adoption of Automated Teller Machines", *Rand Journal of Economics*, 1995, 13(3), 479-501.
- ☐ K. Bagwell, "*The Economic Analysis of Advertising*", 2006 (forthcoming)
- ☐ S. Djankov, R. La Porta, F. Lopez-De-Silanes, and A. Shleifer, "The Regulation Of Entry," *The Quarterly Journal of Economics*, 2002, MIT Press, vol. 117(1), pages 1-37, February.
- ☐ Competition Act, 2002, India
- ☐ Konings, J., Cayseele, P. V., and Warzynski, F, "The Effects of Privatization and Competitive Pressure on Firms' Price Cost Margins: Micro Evidence from Emerging Economies". *Review of Economics and Statistics*, 2005, 87(1):124{134.
- ☐ Krishna, P. and Mitra, D., "Trade Liberalization, Market discipline and Productivity Growth: New Evidence From India". *Journal of Development Economics*, 1998, 56:447{462.
- ☐ Klapper, L., Laeven, L., and Rajan, R. "Business Environment and Firm Entry: Evidence from International Data", *NBER Working Paper*, 2004, No. 10380.
- ☐ Kambhampati, U. S. and Parikh, A., "Has Liberalization Affected Profit Margins in Indian industry? *Bulletin of Economic Research*, 2005, 57(3): 273{304.
- ☐ Besley, T. and Burgess, R., "Can Labour Regulation Hinder Economic Performance? Evidence from India." *The Quarterly Journal of Economics*, 2004, 119(1): 91-134.
- ☐ Bhalotra, S. R., "The Puzzel of Jobless Growth in Indian Manufacturing". *Oxford Bulletin of Economics and Statistics*, 1998, 60(1): 5-32.
- ☐ Chakravorty, S., "Industrial Location in Post-Reform India: Patterns of Inter-Regional Divergence and Intra-Regional Convergence." *Journal of Development Economics*, 2003, 40(2):120{152.

B-05: ECONOMICS OF LABOUR

PREAMBLE

This course provides an introduction to labour economics and surveys existing research on a number of topics of current (if not perennial) interest in labor economics. The course is both empirical and theoretical: for each of the topics in the program, we will study some theoretical and some empirical papers, making links between the two. It will emphasise on labour market institutions and government policies that regulate the labour market.

Students will develop an appreciation of the application of economic analysis to understanding the functioning of labor markets. They will deepen their understanding of the theoretical concepts they gained in principles of economics through an in-depth study of the behavior of households and businesses in the labor market. Students will become familiar with publicly available sources of labor market data and their use in understanding labor market conditions. Knowledge of the distinctive institutional structure of labor markets in India will be obtained. Students will be able to identify and understand the major theoretical and policy issues in labor economics.

Module 1: Supply

Static Labour-Leisure Choice – Effects of Social Programs and Income Taxes – The Life-Cycle Model – Investments

in Human Capital – Collective Models of Household Labour Supply – Occupational Choice

Module 2: Demand

Static Cost, Profit and Labour Demand Functions – Elasticity of Derived demand: the Hicks-Marshall Rules –

Adjustment Costs and Dynamic Labour

Demand

Module 3: Equilibrium

Compensating Differences – Adam Smith – Evidence on Premium for Risky or Nasty Jobs – Efficiency Wages – Segmented Labour markets – Migration

Module 4: Wage Structure

Industry Wage Differentials – Productivity and Real wages – Returns to Education – Signaling – Pensions and Retirement – Training – Minimum Wage Laws

Module 5: The Distribution of Income

Earnings by Size – The Roy Model – Functional Distribution – Intergenerational Income Mobility

Module 6: Cyclical Fluctuations

Equilibrium Models of Employment Fluctuations – Real Wages over the Business Cycle

Module 7: Discrimination

Economic Effects of Prejudice: Theoretical Analysis – Wage Differentials by Race and Sex

Module 8: Unemployment

Definition and Measurement – Variations over time and Space – Job Search – Effects of Unemployment Insurance

Module 9: Macroeconomics of Labour Market

Classical Analysis – Neoclassical Analysis – Keynesian Analysis – Dual and Segmented Labour Market Theory – Marxian Alternative – Human Capital theory – Flexibility and Institutions in Labour Market

Module 10: Unions

Objectives and Political Structure – Bargaining Theories – Relative Wage Effects – Strikes – Union Growth and Decline – Unions in the Public Sector – Union-Oligopoly Models

Module 11: Labour Contracts

Employment Determination – Allocation of Risk – Compensation – Bonding; Tournaments; Incentive Pay – Multi- tasking – Team Production – Relational Contracts – Career Concerns – Wages and Promotions

Module 12: Regulations and International Labour Standards

Regulation of Labour – Experience of India vis-à-vis Other Countries – Entry and Product Market Regulation – International Labour Standards – Comparative Analysis – International Trade and Labour Markets

BASIC READING LIST

Part A:

1. Indian Labour Market: Concepts, Definitions and Statistics

1. Sundaram, K, 2001, 'Employment- Unemployment Situation in the Nineties: Some Results from the NSS 55th Round Survey', Economic and Political Weekly, P.931-40.
2. Pais, Jesim, 2002, 'Casualisation of Urban Labour Force: Analysis of Trends in Manufacturing' Economic and Political Weekly, P.631-652.
3. Unni, Jeemol and Uma Rani, 2003, 'Employment and Income in the Informal Economy: A Micro Perspective' in Renana Jhabvala, Ratna M Sudarshan and Jeemol Unni (eds.) Informal Economy Centrestage: New Structures of Employment, Sage Publications, New Delhi.

2. Classical View on Employment - Say's Law and Free Market Theory

1. Stephen R King and McConnell Rick M, 1993, Macro Economics, New York.
2. Robinson, Joan, R, 1936, 'Disguised Unemployment', The Economic Journal, June.

3. Keynesian View on the Labour Market

1. Keynes, J M, 1936, The General Theory of Employment, Interest and Money, Macmillan, London.
2. Chapple, Simon, 1995, 'The Kaleckian Origins of the Keynesian Model', Oxford Economic Papers, 47(3): 525-537.
3. Banerjee, P C, 1960, 'Full Employment and Low Full Employment in a Developing Economy', Indian Journal of Labour Economics, 2(4): 227-243.
4. Rakshit, Mihir, 1983, The Labour Surplus Economy: A Neo-Keynesian Approach, Macmillan India Limited, New Delhi.

Extra Readings:

5. Bhaduri, Amit, 1984, The Economic Structure of Backward Agriculture, Macmillan India Limited, New Delhi. (Chapter 7: Class Relations and the Pattern of Accumulation in Backward Agriculture).
6. J C H Fei and G Ranis, 1964, Development of the Labour Surplus Economy: Theory and Policy, Richard D Irwin, Inc, Homewood Illinois.

4. Neo-Classical Labour Market: Labour Supply, Labour Demand and Equilibrium

1. Ashenfelter, O. and Layard, R. The Handbook of Labor Economics, Volumes 1 & 2, North-Holland, 1986; Volume 3A, 3B & 3C, 1999
2. Borjas, G. (1996): Labor Economics, New York: McGraw-Hill Companies
3. Killingsworth, M.(1983): Labor Supply, Cambridge University Press, Chapters 1,2 & 7.
4. Hamermesh,D.(1993): Labor Demand, Princeton University Press, Chapters 2 and 3.
5. Seth, V K and S C Aggarwal, The Economics of Labour Markets: Policy Regime Changes and The Process of Labour Adjustment in the Organised Industry in India. New Delhi: Ane Books, 2004.

Extra Readings:

6. Ben Fine, Labour Market Theory: A Constructive Reassessment. London and New York: Routledge, 1998.
7. Joyce P Jacobsen and Gilbert L Skillman, Labour Markets and Employment Relationships: A Comprehensive Approach. London: Blackwell Publishing, 2004.
8. Kaufman, B. E. and Hotchkiss, J. L. (1999) The Economics of Labor Markets, (fifth edition). Fort Worth: TX: Dryden Press.
9. Bardhan, Pranab, 1986, Land, Labour and Rural Poverty: Essays in Development Economics, Delhi: Oxford University Press. Chapters 1 and 5.

5. Dual Labour Markets and Segmented Labour Market Theory

1. Lewis, Arthur, 1954, 1954, Economic Development with Unlimited Supplies of Labour, The Manchester School.
2. D Jorgenson, 1961, 'The Development of a Dual Economy' Economic Journal.
3. J C H Fei and G Ranis, 1966, 'Agrarianism, Dualism and Economic Development' in Irma Adelman and E Thorbecke (eds.) The Theory and Design of Economic Development, John Hopkins Press, Baltimore.
4. M P Todaro, 1969, 'A Model of Labour Migration and Urban Unemployment in Less Developed Countries', American Economic Review.
5. J R Harriss and M P Todaro, 1970, 'Migration, Unemployment and Development: A Two-Sector Analysis' American Economic Review.
6. Basu, K, 1984, The Less Developed Economy: A Critique of Contemporary Theory, New Delhi: Oxford India Paperbacks. (Chapter 5: The structure of Dual Economy; Chapter 6: Migration and Unemployment).
7. A Dixit, 1973, 'Models of Dual Economies' in J A Mirrlees and N H Stern, Models of Economic Growth, Macmillan, London.
8. Tokman, V E, 1978, 'An Exploration into the Nature of Informal-Formal Sector Relationships', World Development, 6 (9/10): 1065-75.
9. Moser, Caroline, M, 1978, 'Informal Sector or Petty Commodity Production: Dualism or Dependence in Urban Development', World Development, 6 (9/10): 1041-64.
10. Chaudhuri, T D, 1989, 'A Theoretical Analysis of the Informal Sector, World Development, 17 (3): 351-55.
11. Gibson, B and B Kelley, 1994, 'A Classical Theory of the Informal Sector' The Manchester School, Vol.LXII, No.1.
12. Davies, Rob, 1979, 'Informal Sector or Subordinate Mode of Production', in Ray Bromley and Chris Gerry (ed.) Casual Work and Poverty in the Third World Cities, John Wiley and Sons.
13. Loveridge, R and A L Mok, Theories of Labour Market Segmentation: A Critique, Martinus Nijhoff Social Science Division, The Hague, (Chapter 3: Segmented Labour Markets).
14. Rodgers, G, 1993, 'The Creation of Employment in Segmented Labour Markets: A General Problem and its Implications in India', Indian Journal of Labour Economics, 35(1): 32-47.
15. Ben Fine, Labour Market Theory: A Constructive Reassessment. London and New York: Routledge, 1998.

Extra Readings

1. Godfrey, Martin, 'Rural- Urban Migration in a Lewis Model Context, The Manchester School.
2. Patel, U and P Srivatsava, 1996, 'Macroeconomic Policy and Output Comovement: The Formal and Informal Sectors in India', *World Development*, 24 (12): 1915-23.

6. Marxian Labour Theory of Value

1. Ben Fine, *Labour Market Theory: A Constructive Reassessment*. London and New York: Routledge, 1998.
2. Custers, P, 1997, *Capital Accumulation of Women's Labour in Asian Economies*, Vistaar Publications, New Delhi. (Chapter 5: Home Based Women Labourers in the Garment Industry in West Bengal; Chapter 6: Wage Slavery among Women Garment Workers under the Factory System in Bangladesh.)

7. Flexibility and Institutions in the Labour Market

1. Bose, A J C, 1996, 'Subcontracting, Industrialisation and Labouring Conditions in India: An Appraisal', *Indian Journal of Labour Economics*, 39(2): 145-62.
2. Holmes, John, 1986, 'The Organisation and Locational Structure of Production Subcontracting' in Allen J Scott and Michael Storper (edited) *Production, Work and Territory: The Geographical Anatomy of Industrial Capitalism*, Allen and Unwin, Boston.
3. Ghose, Ajit, 1995, 'Labour Market Flexibility and the Indian Economy', *Indian Journal of Labour Economics*, 38(1): 55-62.
4. Bhaduri, Amit, 1996, 'Employment, Labour Market Flexibility and Economic Liberalisation in India', *Indian Journal of Labour Economics*, 39(1): 13-22.
5. Mazumdar, Dipak, 1997, 'Labour Markets, Trade Patterns and Workers' Living Standards', *Economic and Political Weekly*, 32(9): 453-74.
6. Anant, T. C. A. (2000). Reforming the labour market. in: Gangopadhyay, S., Wadhwa, W.(Eds.), *Economic Reforms for the Poor*, Konark, Delhi.

8. Wage Determination

1. Basu, K, 1984, *The Less Developed Economy: A Critique of Contemporary Theory*, New Delhi: Oxford India Paperbacks. (Chapter 8: Efficiency Wage Hypothesis; Chapter 7: The Rural-Urban Wage Gap).
2. J E Stiglitz, 1976, 'The Efficiency Wage Hypothesis, Surplus Labour and Distribution of Income in LDCs', *Oxford Economic Papers*.
3. R.J. Willis, "Wage Determinants," Chapter 10 in *The Handbook of Labor Economics*
4. Kennan, J. "The Elusive Effects of Minimum Wages," *Journal of Economic Literature*, 1995, 33, pp1949-1965.
5. Divakaran, S, 1996, 'Gender Based Wage and Job Discrimination in Urban India', *Indian Journal of Labour Economics*, 39(2): 235-50.
6. Pushpangadan, K, 1993, 'Wage Determination in a Casual Labour Market: The Case of Paddy Field Labour in India', *Indian Journal of Labour Economics*, 36(1): 59-65

7. Neumark, D. and W. Wascher "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws," *Industrial and Labour Relations Review*, 1992, 46, 55-81.
8. Brown, C. "Minimum Wage Laws: Are they overrated? *Journal of Economic Perspectives*, 1988, 2(3), 133-145.
9. Brown, Charles, Curtis Gilroy, and Andrew Kohen , "The Effect of the Minimum Wage on Employment and Unemployment", *Journal of Economic Literature*, (June 1982).

9. Unemployment

1. E Malinvaud, 1977, *The Theory of Unemployment Reconsidered*, Basil Blackwell, Oxford.
2. Mukhopadhyay, S, 1983, 'Unemployment, Job Search and the Optimal Waiting Time', *Indian Journal of Labour Economics*, 25(3): 198-217.

Part B:

10. Economics of Trade Unions

Compulsory Readings:

1. Booth, A.L. (1995). *The economics of the trade union* Cambridge University Press. Chapters 3, 4, 5, 7, and 8.
2. Dowrick, S. (1989). Union-Oligopoly Bargaining. *Economic Journal*, 99:1123-1142.
3. Ashenfelter, O. and G. E. Johnson (1969), 'Bargaining Theory, Trade Unions, and Industrial Strike Activity', *American Economic Review*, 59 (1), 35-49.

Supportive Readings:

1. Bronars, Stephen, Donald Deere and Joseph Tracy. 1994. "The Effects of Unions on Firm Behavior: An Empirical Analysis Using Firm-Level Data," *Industrial Relations*, 33(4): 426-451.
2. Bronars, Stephen, Donald Deere. 1994. "Unionization and Profitability: Evidence of Spillover Effects," *Journal of Political Economy*, 102(6): 1281-1288.
3. Machin, Steven and Sushil Washwani. 1991. "The Effects of Unions on Organisational Change and Employment," *Economic Journal*, 101(407): 835- 855.
4. Kraft, K. (1998). The codetermined firm in oligopoly. *Economics Letters*, 61(2):195-201
5. Majumdar, S. and Saha, B. (1998). Job security, wage bargaining and duopoly outcomes. *Journal of International Trade and Economic Development*, 7(4):389-403.
6. Datt R. (2000), "Regional Patterns of Industrial Relations in India: Changing Scenario after Liberalization," *Indian Journal of Labour Economics*, 43(4), 1061-1098.
7. Chaudhuri, K. and Pal, R. (2005) An Empirical Analysis of Industrial Disputes: Evidence from Indian States (Co-author K. Chaudhuri), *Journal of Quantitative Economics*, New Series Vol 3, No 1

Extra Readings:

1. Schmidt, C. M., A. Stilz and K. F. Zimmermann (1994): "Mass Migration, Unions, and Government Interventions," *Journal of Public Economics*, 55, 185- 210.
2. Calmfors, Lars and John Driffill. 1988. "Macroeconomic Effects of Centralized Wage Setting," *Economic Policy*, 6: 13-61.
3. McDonald, I. M. and Solow, R. M. (1981). Wage bargaining and employment. *American Economic Review*, 71(5):896-908.

4. Oswald, A. J. (1982). Trade unions, wages and unemployment: What can simple models tell us? *Oxford Economic Papers*, 34(3):526(45).
5. Cramton P., M. Gunderson and J. Tracy (1999), "The Effect of Collective Bargaining Legislation on Strikes and Wages," *Review of Economics and Statistics*, 81(3), 471-487

11. Labour Contracts

Compulsory Readings:

1. Laffont, J. and Martimort, D. (2002), *The Theory of Incentives: The Principal-Agent Model*, Princeton University Press
2. Holmstrom, Bengt, and Paul Milgrom. (1991). "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design." *Journal of Law, Economics, and Organization* 7:24-52.
3. Lazear, Edward. (2000). "Performance Pay and Productivity." *American Economic Review* 90: 1346
4. Lazear, Edward, and Sherwin Rosen. (1981). "Rank-Order Tournaments as Optimum Labor Contracts." *Journal of Political Economy* 89: 841-864.
5. Gibbons, Robert, and Kevin J. Murphy. 1992. "Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence." *Journal of Political Economy* 100: 468-505.
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Supportive Readings:

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2. Levin, Jonathan. (2001). "Relational Incentive Contracts." *American Economic Review* 93 (3): 835-847.
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4. Shearer, B. (2004). Piece rates, fixed wages and incentives: Evidence from a field experiment. *Review of Economic Studies*, 71(2): 513-34.

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1. McCue, Kristin. (1996). "Promotions and Wage Growth." *Journal of Labor Economics* 14: 175-209.
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4. Topel Robert. (1991) "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority" *Journal of Political Economy* 99(1) 145-76

12. Regulation and Standards

Compulsory Readings:

1. Botero, J., Djankov, S., Porta, R. L., Lopez-De-Silanes, F., and Shleifer, A. (2004). The regulation of labour. *The Quarterly Journal of Economics*, 119(4): 1339-1382
2. Besley, T. and Burgess, R. (2004). Can Labour Regulation Hinder Economic Performance? Evidence from India. *The Quarterly Journal of Economics*, 119(1): 91-134
3. Bertrand, M. and Kramarz, F. (2002). Does entry regulation hinder job creation? Evidence from the French retail industry. *The Quarterly Journal of Economics*, 117(4): 1369-1413
4. Basu, K., Fields, G., and Debgupta, S. (2000). Alternative labor retrenchment laws and their effect on wages and employment: A theoretical investigation with special reference to developing countries. *CAE Working Paper No. 00-11*. <http://ssrn.com/abstract=247727>.
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6. Nickell, S. and Layard, R. (2000). Labor market institutions and economic performance. in Orley Ashenfelter and David Card (eds), *Handbook of Labor Economics*, Amsterdam: North Holland.
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Supportive Readings:

1. Anant, T. C. A. (2000). Reforming the labour market. in: Gangopadhyay, S., Wadhwa, W.(Eds.), *Economic Reforms for the Poor*, Konark, Delhi.

Extra Readings:

1. Saint-Paul, G. (1998): "A Framework for Analyzing the Political Support for Active Labor Market Policy," *Journal of Public Economics*, 67, 151- 65.
2. Holland, Paul, "Statistics and Causal Inference," *Journal of the American Statistical Association*, 81(396), December 1986, pp. 945-960
3. J. Angrist and A. Krueger, "Empirical Strategies in Labor Economics," chapter 23 in volume 3A of *The Handbook of Labor Economics*, 1278-1357, Sections 3 and 4.

B-06: FINANCIAL INSTITUTIONS AND MARKETS

PREAMBLE

The positive and significant role of financial institutions & markets in the process of growth and development has been very well recognized in the literature and indeed has become more important during the last two decades as the financial systems of different countries have become integrated in the process of globalization. India is no exception and has taken far reaching measures since 1991 in this direction. It is, therefore, essential that the students of economics should be well conversant with the theory and practice of different financial institutions and markets to understand and analyse the interconnection between the monetary

forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

Module 1: Financial System and Market Risk Management

Structure of Financial System, Indian Financial System at present, and Instruments– The place of financial markets in the economy – Real assets and financial claims – A framework for macro-economic analysis of financial and non- financial flows – The relation between stocks and flows. Types of Risk - importance of the risks in the competitive management of the banking institutions

Module 2: Rate of interest – International transactions – Exchange rates

Module 3: The Central Bank, Commercial Banks and Co-operative Banks

Functions of Central Banks- The aims and objectives of the monetary policy in developed and developing countries - Instrument of monetary policy - Effectiveness of monetary policy - Credit creation and its control; Commercial Banks- Profitability and efficiency of banks- role in the economy; Co-operative Banks- Role in the economy.

Module 4: Specialized Financial Institutions

Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Investment Bank of India (IIBI), Small Industries Development Bank of India (SIDBI), SCICI Ltd., National Bank for Agriculture and Rural Development (NABARD), Export Import Bank of India, National Housing Bank.

Module 5: Other Financial Institutions

Insurance Companies- types of insurance companies, Securities Firms and Investment Banks, Finance Companies, Mutual Funds, Pensions Funds.

Module 6: International Financial Institutions

International Financial Institutions - IMF, World Bank, IFC, ADB, IDA, BIS (Bank of International Settlements) and their role; international financial standards and codes and issues of financial contagion.

Module 7: Financial Markets and Market Regulations

Primary Markets vs. Secondary Markets, Securities Firms and Securities industry; Securities Markets- Government Securities Markets and Dealerships; Money Markets and Capital Markets- Structure and operations of Indian Money Market; Bond Markets; Mortgage Markets; Stock Markets; Foreign Exchange Markets; Other Markets: Call Money Market, Treasury Bill Market, Commercial Bills Market, Markets for Commercial and Certificate of Deposits, Discount Market, Market for Financial Guarantees, Government (Gilt-edged) Securities Market, Industrial Securities Market, Derivative Markets.

Capital Market Regulations, Money Market Regulations, and Stock Market Regulations; Role of SEBI- Its impact on the working of capital market in India; IRDA and its role in financial markets; Management of liquidity and risk; bank safety and prudential regulations; the role of central banks; government guarantees, deposit insurance, security market regulation; pension fund regulation, insurance regulation and accounting practices.

Module 8: International Markets

US Money and Capital Markets, London Money and Capital Markets. Foreign Trade Finance, External Commercial Borrowings, GDR's and ADR's – Eurocurrency and Eurobond Markets.

BASIC READING LIST

- ❑ Bhole, L.M. (2003), Financial Institutions and Markets, 3rd edition, Tata Mc Graw Hill Company Ltd., New Delhi
- ❑ Bhole, L.M. (2000), Indian Financial System, Chugh publications, Allahabad.
- ❑ Edminster, R.O. (1986), Financial Institutions, Markets and Management, McGraw Hill, New York.
- ❑ Goldsmith, R.W. (1969), Financial Structure and Development, Yale, London.
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- ❑ Joshi, P. R., Global Capital Markets: Shopping for Finance, (2nd ed.), Tata McGraw-Hill.
- ❑ Mason, E.S. & Asher, R. E. (1973), The World Bank Since Bretton Woods, New York Times.
- ❑ Dufey, G. & Giddy, I.H. (1994), The International Money Market, Prentice Hall, New Jersey.
- ❑ Saksena, R.M. (1970), Development Banking in India, 1st edition, Vora.
- ❑ Escott, Reid, Strengthening the World Bank, Adlai Stevenson Institute Chicago, IL (1111)

- ❑ Chandavarkar, Anand (1996), Central Banking in Developing Countries, Palgrave Macmillan, December
- ❑ Khoury & Ghosh (1989), Recent Development in International Banking & Finance, 3 edition (September), Irwin Professional Publishing.
- ❑ Deb, K (1988), Indian Banking Since Independence, (December) South Asia Books.
- ❑ Kothari, C. R., Indian Banking, Vol. I & II
- ❑ Ghosh, D. N. (1979), Banking Policy in India: An Evaluation, Allied.
- ❑ Apte, P. G. (2002), International Financial Management, Tata McGraw Hill Publishing Co Ltd.
- ❑ Reddy, Y. V. (1986), World Bank Borrowers' Perspectives, (January) Stosius Inc/Advent Books Division.
- ❑ Vasudevan, A. (2003), Central Banking for Emerging Market Economies, (October 1), Academic Foundation.
- ❑ Rose, Peter S. (2002), Money & Capital Markets, 8 edition (July 22) McGraw-Hill/Irwin.
- ❑ Mathur, B. L. (2000), Financial Sector Reforms, RBSA Publishers.
- ❑ RBI, Report on Trend & Progress of Banking in India 2005-06
- ❑ India Ministry of Finance, India – Economic Survey

ADDITIONAL READING LIST

Module 1

- ❑ Bishop, P. and D. Dixon (1992), Foreign Exchange Handbook, McGraw Hill, New York.
- ❑ Chandra, P. (1997), Financial Markets, (4th Edition), Tata McGraw Hill, New Delhi.
- ❑ Farrell, J.L. (1997), Portfolio Management, (2nd Edition), McGraw Hill, New York.
- ❑ Machiraju, H.R. (1997), International Financial Markets in India, Wheeler Publishing, Allahabad.
- ❑ Shaw, E.S. (1983), Financial Deepening in Economic Development, Oxford University Press, London.

Module 2

- ❑ Fenstermaker, J.V. (1969), Readings in Financial Markets and Institutions, Appleton, New York.
- ❑ Shaw, E.S. (1983), Financial Deepening in Economic Development, Oxford University Press, London.
- ❑ Smith, P.F. (1978), Money and Financial Intermediation: The Theory and Structure of Financial System, Prentice Hall, Englewood-Cliffs, New Jersey.

Module 3

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- ❑ Gupta, S.B. (1983), Monetary Economics, S. Chand & Company, New Delhi.

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- ❑ Sayers, R.S. (1967), Modern Banking, Oxford University Press, New Delhi.
- ❑ Verma, J.S. (1989), A Manual of Merchant Banking, Bharat Law House, New Delhi.

Module 5

- ❑ Bhatt, R.S. (1996), Unit Trust of India and Mutual Funds: A Study, UTI Institute of Capital Markets, Mumbai.
- ❑ Sahadevan, K.G. and M.T. Thiripalraju (1997), Mutual Funds, Prentice Hall of India, New Delhi.

Module 7

- ❑ Fisher, G.E. and R.J. Jordon (1992), Security Analysis and Portfolio Management, Eastern Economy Edition, New Delhi.
- ❑ Goss, B.A. and B.S. Yamey (1978), The Economics of Futures Trading, Macmillan, London.
- ❑ R.B.I. (1985), Report of The Committee to Review the Working of the Monetary system (Chakravarty Committee), Bombay.
- ❑ Weller P. (1992), The Theory of Future Markets, Blackwell, Oxford.
- ❑ Gupta, L.C. (Ed.) (1999), India's Financial Markets and Institutions, Society for Capital Research and Development, Delhi.

Module 8

- ❑ Brahmananda, P.R. (1982), IMF Loan and India's Economic Future, Himalaya Publishing House, Bombay.
- ❑ Chamberlain, G. (1981), Trading in Options, Woodhed-Faulker, Cambridge.
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- ❑ Mackinnon, R.J. (1979), Money in International Exchange, Oxford University Press, Oxford.
- ❑ Niehans, J. (1984), International Monetary Economics, John Hopkins University Press, New York.
- ❑ R.B.I. (1995), Report of the Working Group on Foreign Exchange Market in India, (Sodhani Group), Mumbai.
- ❑ Redseth, A. (2000), Open Economy Macroeconomics, Cambridge University Press, Cambridge.
- ❑ Yeager, L.B. (1976), International Monetary Relations : Theory, History and Policy, Harper and Row, New York

B-07: LAW AND ECONOMICS - I

PREAMBLE:

The hallmark of the new interdisciplinary field of law and economics is the application of the theories and empirical methods of economics to the legal system across the board, for example, the common law fields such as torts, contracts, property, etc. In fact, Ronald Coase's paper on "The Problem of Social Cost" (1960), Guido Calabresi's article on "Some Thoughts on Risk Distribution and the New Law" (1961), and the work of Alchian on "Some Economics of Property Rights" (1961) had applied the methods of economics to some of the areas of law. One endeavor, which is gaining momentum and respectability, is the application of economic analysis to legal problems. The works of Richard Posner's book on *Economic Analysis of Law* (1972) widely contributed to the introduction of the Law and Economics course. In addition, the economic analysis of law has extended to non-market behaviour, particularly influenced by the theoretical framework of Gary Becker on the economic analysis of crime, racial discrimination, and marriage and divorce.

Economics provides a scientific theory to predict the effects of legal sanctions on behavior. In addition to a scientific theory of behaviour, economics provides a useful normative standard for evaluating law and policy. Laws are not just arcane technical arguments. They are instruments for achieving important social goals. In order to know the effects of laws on those goals, judges and other law-makers must have a method of evaluating effects of laws on important social values. Economics predicts the effects of policies on efficiency and distribution. Economic analysis often takes for granted such legal institutions as property and contract, which dramatically affect the economy. For instance, the absence of secure property and reliable contracts paralyses the economies of some nations in third world. Economist, besides substance, can learn techniques from lawyers. For example, economists frequently support the merits of voluntary exchange, but they do not have a detailed account of what it means for exchange to be voluntary. In case of contract law, it has a complex and well-articulated theory of violation. So the economists, to find their models closer to reality, will have to listen to what the law has to teach them.

The benefits of interdisciplinary study can be had only when lawyers learn economics and economists learn something about law. Module 1 is an introduction to the concepts of economics as well as law. Modules 2 to 6 will focus on economic analysis of property law, contract law, tort law, and criminal law. Finally, Module 7 will put emphasis on competition law. Overall the course deals with the explanation of established links between the subjects of Economics and Law, and development of efficient rules and regulations.

Module 1: Introduction to Law and Economics

Economic Analysis of Law: An Introduction

Why do economists need to be concerned about law? - Relationship between law and economics
Economic Concepts and their relevance to Law

Legal Concepts - The Common Law and the Civil Law Traditions, Introduction to Judicial System in India, Economic Approach to Legal Rules, Methodological Aspects of Legal Rules, Efficiency, Justice and the inherent rationality of Private Law, Development of efficient Rules: Selected Cases

Module 2: Economic Analysis of Contract Law

Introduction - Economic Theory of Contract - Perfect Contracts, Imperfect Contracts
Economics of Remedies for Breach of Contract - Expected Damages, Opportunity Cost, Reliance Damages, Restitution, Specific Performance
Differences between Contracts and Torts - The Foreseeability Rule in Contract Law, Pure Economic loss in Torts

Module 3: Economic Analysis of Tort Law

Introduction, Economic Theory of Torts Law - Accident Costs and their minimization, Liability Rules, Negligence, Contributory Negligence, Comparative Negligence, Strict Liability, Economics of Tort Liability - Liability v. Regulation, Causation in Torts, Joint and Multiple Liability, Product Liability: Producers' Responsibility, and Consumer Protection through Consumer Courts, Environmental Liability, Immaterial Damages: Pain and Suffering

Module 4: Economic Analysis of Property Law

Introduction, An Economic Theory of Property, Economics of Property Law - Market strategies, Non-market strategies, Allocation of Property Rights - First come first served, Good faith purchase, Title to Land, Establishment of entitlements - Property Rule, Liability Rule, Inalienability Rule

Module 5: The Coase Theorem

Externalities, Transaction Costs, Efficiency Hypothesis & Invariance Hypothesis.

Module 6: Economic Analysis of Criminal Law

Introduction, Principal Types of Crime, Optimal Criminal Sanctions: Economics of Crime and Punishment, Criminal Intent, The Defence of Necessity, The Economics of Organised Crime

Module 7: Economic Analysis of Competition Law

Introduction, Economic Theory of Competition Law - Workable Competition: Structure- Conduct- Performance, Competition as Dynamic Process, Reappraisal of Price Theory - Vertical Restraints: Vertical Price Fixing, Predatory Pricing: Lowering Prices, Control of Concentration: Collusion, Transaction Cost Approach, Theory of Contestable Markets, Applications to USA and EC Competition Policy

Module 8: Competition Policy in India

Monopolies and Restrictive Trade Practices Act, and Competition Policy Report, Divestment of Public Sector Units and Deregulation, Regulated Competitions and Regulatory Authorities (Power, Telecom, Insurance, Banking)

BASIC READING LIST

- ? Posner Richard A – Economic Analysis of Law (7th Edition 2007)
- ? Cooter Robert & Ulen Thomas- Law and Economics (5th Edition 2007)
- ? Shavel Steven – Foundation of Economic Analysis of Law (2004)
- ? Harison Jeffrey L. & Theeuwes Jules - Law and Economics (2008)
- ? Polinsky Mitchell A.- An Introduction to Law and Economics (2003)
- ? Friedman David D. – Law's Order (2000)
- ? Wittman Donald A – Economic Analysis of Law- Selected Reading (2003)
- ? Micali Thomas J.- The Economic Approach to Law (2009)
- ? Hirsch Werner Z. - Law and Economics (1999)
- ? Landes Williams, Posner Richard - The Economic Structure of Intellectual Property Laws (2003).
- ? Mercurio Nicholas, Medema Steven G. – Economics & the Law- Second Edition (2006)
- ? Baird, Gentner & Picker – Game Theory & the Law (1994)

Further Readings

- ? Bouckaert, B. & De Geest, G., Encyclopedia of Law and Economics
- ? Burrows, Paul & Veljanovski, G. C., *The Economic Approach to Law*, London, Butterworths, 1981.
- ? Calabresi, G. *The Costs of Accidents*, Yale University Press, 1970.
- ? Divan, S. & Rosencronz, A. *Environmental Law and Policy in India*, Oxford University Press, New Delhi, 2001, 2nd ed.
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- ? Newman, P., Palgrave Dictionary of Economics and the Law.
- ? Schmidh, P., *An Economic Analysis of Crime and Justice*, Academic Press, Orlando, 1984.
- ? Williamson, O.E., *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*, The Free Press, New York, 1985.

Articles:

- Alessi De Louis & Staaf, R. J., "Subjective Value in Contract Law", *Journal of International and Theoretical Economics*, Vol. 145, 1989, pp. 561- 577.
- Bebchuk, L. A. & Shavell, S., "Information and the Scope of liability for Breach of Contract: The Rule of Hadley vs. Baxendale", *Journal of Law, Economic Organisation*, 1991, pp. 284-312.
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- Coffee, J. C., "The Mandatory/ Enabling Balance in Corporate Law: An Essay on the Judicial Role", *Columbia Law Review*, Vol. 89, 1989, pp.1618-1691.

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Gary Becker, S. "Crime and Punishment: An Economic Approach", *Journal of Political Economy*, Vol. 76, 1968.

❑ Murali Prasad Panta, "The relative efficiency of Liability vs. Regulation in providing incentives to the tortfeasor" *Journal of the Indian Law Institute*, 41, (3&4), pp.405-428, 1999.

❑ Niskanen, W. A. "Bureaucrats and Politicians", *Journal of Law and Economics*, Vol. 18, 1975, pp. 617- 641.

❑ The design of Contract and Remedies for Breach, *The Quarterly Journal of Economics*, 99, 1984, pp.120.

❑ Wadhwa, D. C., "Guaranteeing Title to Land- A Preliminary Study", *Economic and Political Weekly*, October 14, 1989, pp. 2323- 2334.

Additional Reading List.

❑ Alchian, A. A. & "Production, Information Costs, and Economic Organisation", Demsetz, H. *American Economic Review*, Vol. 62, 1972, pp. 777- 795.

❑ Ayres, I. & Gertner, R., "Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules", *The Yale law Journal*, 1989, pp. 101- 107.

❑ Calabresi, G. & Klevorick, K. A., "Four Tests for Liability in Torts", *Journal of Legal Studies*, Vol. 14, No. 3, December 1985, pp. 585- 627.

❑ Calfee, E. John & Craswell, R., "Market Failure and the Economic Case for a Mandatory Disclosure System", *Virginia Law Review*, Vol. 70, 1984, pp. 717- 753.

❑ Cooter, R., "Unity in Tort, Contract and Property: The Model of Precaution", *California Law Review*, 73(1), 1985, pp. 1-51.

❑ Demsetz, H., "When Does the Rule of Liability Matter?", *Journal of Legal Studies*, Vol. 1, No. 1, 1972, pp. 13- 28.

❑ Dixit, A., "The Role of Investment in Entry Deterrence", *Economic Journal*, Vol. 95, 1981, pp. 95- 106.

❑ "The Corporate Contract", *Columbia Law Review*, Vol. 89, 1989, pp. 1416- 1448.

❑ "Mandatory Disclosure and the Protection of Investors", *Virginia Law Review*, Vol. 70, 1984, pp. 717- 753.

❑ Fama, E. F. "Agency Problems and the Theory of the Firm", *Journal of Political Economy*, Vol. 88, 1980, pp. 288- 306.

❑ Friedman, D., "What is 'Fair Compensation' for Death or Injury?", *International Review of Law and Economics*, Vol. 2, No. 1, June 1982, pp. 81- 93.

❑ Hansmann, H., The Economics and Ethics of Markets for Human Organs, Yale Law School Working Paper, 1988.

❑ Jensen, M. C. & Meckling, W. H., "The Theory of Firm, Managerial Behaviour, Agency Costs, and Ownership Structure", *Journal of Financial Economics*, Vol. 3, 1976, pp. 305- 360.

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- ❑ Shavell, Steven "A Model of the Optimal Use of Liability and Safety Regulation", *Rand Journal of Economics*, Vol. 15, No. 2, summer 1984, pp. 271- 280.
- ❑ "Strict Liability versus Negligence", *Journal of Legal Studies*, Vol. 9, No. 1, January 1980, pp. 1- 25.
- ❑ "An Analysis of Causation and the Scope of Liability in the Law of Torts", *Journal of Legal Studies*, Vol. 9, No. 3, June 1980, pp. 463- 516.
- ❑ "Criminal Law and the Optimal Use of Non-monetary Sanctions as a Deterrent, *Columbia Law Review*, Vol. 85, 1985.
- ❑ Stigler, J. George, "The Economics of Information", *Journal of Political Economy*, Vol. 69, No. 3, June 1961, pp. 213- 225.
- ❑ "The Theory of Economic Regulation", *Bell Journal of Economics and Management Science*, Vol. 2 (1), 1971, pp. 1- 21.
- ❑ Wittman, Donald, "Prior Regulation Versus Post Liability: The Choice Between Input and Output Monitoring", *Journal of Legal Studies*, Vol. 6, No. 1, pp. 193-211.
- ❑ Wright, W. Richard, "Causation in Tort Law", *California Law Review*, Vol. 73, No. 6, 1985, pp. 1735- 1828.

B-08: LAW AND ECONOMICS - II

PREAMBLE

The primary aim of this enlargement is to develop greater applied research of legal system from economic view point and also build up the Indian experience based slant to the discipline of "Law and Economics". This course will provide not only deeper and more complex view of the subject,

but also afford to take up meaningful researches in specific type of law that has immense economic bearing and implications. In particular, this course will be dealing with Indian Environmental Laws, land related legislations (including land acquisition, town- planning, SEZ) and corporate laws. This will enable more all-round perspective of the subject with rich empirical analysis. It also deals with vital areas of concern, namely economics of litigation, economic costs of “administering or not administering justice”, question of back-log of cases, alternative procedures of administering justice. Similarly, the economic analysis of law making process, machinery and its efficiency will be a distinguishing feature of this course.

Module 1: Economic Theory of Legislation: Legislative process, Delegated legislation, Precedents, Rules v/s Standard, Interpretation of Statute

Module 2: Economic Analysis of Litigation: Rules of procedure, Rules of Evidence, The adversarial and inquisitorial trial mode, Alternative dispute resolution (ADR), Lok Adalat, Arbitration, Conciliation and mediation, Settlement, Appeals and error correction, Cost of litigation, Case load and Court Delay Crisis

Module 3: Economic approach to Contract law in India: Contract Act, Specific Relief Act, Court approach to formation, validity, performance, interpretation, breach of contract and remedies for breach

Module 4: Economic Approach to Environmental Protection Laws: Environmental protection laws and Court decisions, Principles and doctrines evolved by Supreme Court for protection of Environment, Air pollution, Water pollution, Sound pollution, Automobile and industrial pollution, Climate change, Carbon credits – emerging market

Module 5: Economic Approach to Issues in Land Acquisition Laws: Acquisition of land for public purpose, Acquisition for companies, Purpose and suitability, Market value and compensation

Module 6: Town Planning Laws: Allocation of land – for residential, industrial, commercial, agricultural purposes, Reservation of land for public purpose

Module 7: Special Economic Zones: Concept, Law, Policy and Problems

Module 8: Intellectual Property Rights: Patents, Copyrights, Trademark, Trade secrets, Plant varieties & Farmers’ Rights, Salient features of Indian Laws

Module 9: Economic Analysis of Corporate Law Issues: Formation of a company, share capital and fund raising, Separation of ownership and control, Majority power and minority protection, Corporate governance, Regulation of security markets and protection of investors and SEBI, Management of foreign investment and foreign exchange under FEMA

BASIC READING LIST

- Posner Richard A – Economic Analysis of Law (7th Edition 2007)
- Cooter Robert & Ulen Thomas- Law and Economics (5th Edition 2007)
- Shavel Steven – Foundation of Economic Analysis of Law (2004)

- Harison Jeffrey L. & Theeuwes Jules - Law and Economics (2008)
- Polinsky Mitchell A – An Introduction to Law and Economics (2003)
- Friedman David D. – Law’s Order (2000)
- Wittman Donald A – Economic Analysis of Law- Selected Reading (2003)
- Micali Thomas J – The Economic Approach to Law (2009)
- Hirsch Werner Z - Law and Economics (1999)
- Landes Williams, Posner Richard. – The Economic Structure of Intellectual Property Laws (2003)
- S Shanthakumar’s – Introduction to Environmental Law.

Module wise Reading List.

Module 1: Economic Theory of Legislation –

- Posner: chapters 19, 20.
- Shavel: chapter 25.
- Harison: chapter 24.
- A Model of Optimal Complexity of Legal Rules- Luis Kaplow, Journal Of Law, Economics & Organisation Vol. 11, No. 1 (April, 1995) Pages 150 to 163.
- Codification & Optimal Specification of Legal Rules- Vincy Fon, Francesco Parisi, George Mason University School of Law –Law and Economics working paper, Source of Law and Institutional Design of Law Making.
- Legal Rules and Standards – Hans Bernd Schafer. University of Hamburg, Germany. German Working Papers in Law and Economics Vol. 2002.

Module 2: Economic Analysis of Litigation –

- Posner: chapters 21, 22, 23.
- Cooter: chapter 10.
- Shavel: chapters 17, 18, 19.
- Harison: chapters 22, 23.
- Salient Features of Civil Procedure Code, 1908 and Indian Evidence Act, 1872.

Module 3: Economic approach to Contract law in India –

- Salient features of Contract Act & their analysis applying Law & Economic methodology.
- Specific Performance and Injunctions, Research of decided cases from Law Reporters & analysis of landmark cases decided by Supreme Court & High Courts with economic approach.

Module 4: Economic Approach to Environmental Protection Laws -

- Harison: chapter 4.

Module 8: Intellectual Property Rights –

- Landes and Posner: Patents chapters 11, 12.
- Copyrights: chapters 2 to 6
- Trademark: chapters 7 & 8
- Trade Secrets: chapter 13 and Shavel: chapter 7.

Module 9: Economic Analysis of Corporate Law Issues –

- Posner: chapters 14 & 15, Economic Analysis of Law selected reading Part V.

Additional Reading List.

- Posner Eric A – Chicago Lectures in Law and Economics (2000)

- Posner Richard A – Frontiers of Legal Theory (2001)
- Mulla – Indian Contract and Specific Relief Acts.
- Patent Act, 1970.
- Copyright Act, 1957.
- Trademark Act, 1999.
- P. Narayanan – Intellectual Property Law.
- Cornish & Llewelyn – Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights.
- Protection of Plant Varieties & Farmer's Rights Act, 2001.
- Indian Companies Act- Salient Features.
- SEBI.
- FEMA.
- Land Acquisition Act.
- Maharashtra Town Planning Act.
- Special Economic Zones.
- Air (Prevention and Control of Pollution) Act, 1981.
- The Water (Prevention and Control of Pollution) Act, 1974.
- The Environment (Protection) Act, 1986 – Rules and Notifications.

B-09: ECONOMIC SOCIOLOGY

PREAMBLE:

This course provides a broad overview of the complex relationship between economy and society. It intends to enrich the understanding of the students studying economics about how economic activities and institutions are embedded in, and affected by social structure, and enable them to apply sociological perspectives to economic phenomenon.

Module 1: Emergence of economic sociology and its boundaries; sociological approaches to the study of economy.

Module 2: Classical sociological views of the economy: Marx: critique of political economy; Durkheim: division of labour; Weber: sociology of capitalism, religious ethics and economic rationality; Polanyi: economy as instituted process.

Module 3: Social contexts of economic action: Economic action, varieties of embeddedness, social networks in economic behaviour, social structure and competition

Module 4: Sociology of labour markets: Sociological approaches to labour market; social determinants of inequalities in wage and earning

Module 5: Sociology of consumption: Sociological theories of consumption (Marry Douglas and Baron Isherwood: the use of goods, Jean Baudrillard: the system of objects, Pierre Bourdieu: forms of capital, Veblen: conspicuous consumption); socio-cultural aspects of consumer spending

Module 6: Socio-cultural aspects of economic development: Impact of religion, caste, gender, ethnicity, family on economy, social background of business groups and entrepreneurship, debate on influence of social capital and public action on economic progress; social movements and economic development

BASIC READING LIST

Module 1:

- Dobbin, Franf. 2004, "Comparative and Historical Approaches to Economic Sociology" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Granovetter, Mark. 1990, "The Old and the New Economic Sociology: A History and Agenda" in Roger Friedland and A.F. Robertson (eds.) *Beyond the Market Place*, New York: Aldine de Gruyter.
- Smelser Neil J. and Richard Swedberg. 2004, "Introducing Economic Sociology" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Swedberg, Richard, 1990, *Economics and Sociology Redefining their boundaries: Conversations with Economists and Sociologists*, Princeton: Princeton University Press. (Concluding Discussion)
- Swedberg, Richard, 2001, "Max Weber's Vision of Economic Sociology", in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.
- Swedberg, Richard, 2003, *Principles of Economic Sociology*, Princeton: Princeton University Press. (Chapter 1)
- Trigilia, Carlo, 2002, *Economic Sociology: State, Market, and Society in Modern Capitalism*, Oxford: Blackwell. (Introduction)

Module 2:

- Bendix, Reinhard, 1960, *Max Weber An Intellectual Portrait*, London: Heineman. (Chapter III)
- Durkheim, Emile, 1960, *The Division of Labour in Society*, Glencoe: The Free Press. (2nd ed: Chapter one & two, 3rd ed: Chapter one)
- Gerth H. H and C. Wright Mills, 1946, *From Marx Weber*, New York: Oxford. (Part III: Chapter 12th & 13th)
- Marx, Karl, 2002, "Grundrisse: Foundation of the Critique of Political Economy Selections from the Chapter on Capital" in Nicole Woolsey Biggart (ed.) *Readings in Economic Sociology*, Oxford: Blackwell.
- Polanyi, Karl, 2001, "The Economy as Instituted Process" in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.
- Weber, Max, 2002, "Economy and Society: An Outline of Interpretive Sociology", in Nicole Woolsey Biggart (ed.) *Readings in Economic Sociology*, Oxford: Blackwell.

Module 3:

- Alejandro, Portes and Julia Sensenbrenner, 2001, "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action" in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.
- DiMaggio, Paul and Hugh Louch, 1998, "Socially Embedded Consumer Transactions: For What Kinds of Purchases Do People Most Often Use Networks", *American Sociological Review*, 63: 619-37.
- DiMaggio, Paul, 1990, "Cultural Aspects of Economic Action and Organisation", in Roger Friedland and A.F. Robertson (eds.) *Beyond the Market Place*, New York: Aldine de Gruyter.
- Granovetter, Mark, 1985, "Economic Action, Social Structure and Embeddedness", *American Journal of Sociology*, Vol. 91, pp. 481-510.
- Smith-Doerr, Laurel and Walter W. Powell, 2005, "Networks and Economic Life" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.

- Uzzi, Brain 2001, "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness" in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.

Module 4:

- Abbott, Andrew, 2005, "Sociology of Work and Occupations" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Granovetter, Mark, 1981, "Toward a Sociological Theory of Income Differences." in Ivar Berg (eds.), *Sociological Perspectives on Labor Markets*, New York: Academic Press.
- Granovetter, Mark, 1998, "The Sociological and Economic Approaches to Labor Market Analysis: A Social Structural View." in George Farkers and Oaula England (eds.) *Industries, Firms, and Jobs: Sociological and Economic Approaches*, New York: Plenum Press.
- Streeck Wolfgang, 2004, "The Sociology of Labour Markets and Trade Unions" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Weeden, Kim, 2002, "Why do some occupations pay more than others? Social Closure and Earning inequality in the United States", *American Journal of Sociology*, 108, (55-101).
- William P. Bridges and Robert L. Nelson 2001, "Economic and sociological approaches to Gender Inequality in Pay" in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.

Module 5:

- Baudrillard, Jean, 1999, "Consumer Society" in Lawrence B. Glickman (ed.) *Consumer Society In American History: A Reader*, New York: Cornell University Press.
- Corrigan, Peter 1997, *The Sociology of Consumption An Introduction*, London: Sage Publications. (Chapter 2&3)
- Douglas, Mary, and Baron Isherwood, 1996, *The World of Goods: Towards an Anthropology of Consumption*, London: Routledge. (Part 1 : Chapter 3)
- Greetz, Cliffford 1978, "The Bazaar Economy: Information and Search in Peasant Marketing", *American Economic Review*, Vol62, pp. 28-32.
- Pierre Bourdieu, 2001, "The Forms of Capital", in Mark Granovetter and R. Swedberg, (eds.) *The Sociology of Economic Life*, Boulder: Westview Press.
- Roseborough, Howard 1965, "Some Sociological Dimensions of Consumer Spending" in Neil. J. Smelser (ed.) *Readings in Economic Sociology*, Berkeley: University of California Press.
- Veblen, Thorstein, 1931, *The Theory of Leisure Class*, New York: The Viking Press. Chapter IV.
- Zelizer, Viviana 2004, "Culture and Consumption" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.

Module 6:

- Aldrich Howard E. 2004, "Entrepreneurship", in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Coleman, James, 1999, "Social Capital in the Creation of Human Capital" *American Journal of Sociology*, Vol. 94.(S95- S120)
- Currie Bob. 2000, *The Politics of Hunger A study of Democracy, Governance and Kalahandi's Poverty*, Chennai: Macmillan. (Chapters 1,2&8)
- Dreze Jean and Amartya Sen 2002, *India Development and Participation*, Delhi: Oxford University Press. (Chapter 3)
- Goheen, John. 1958, India's Cultural Values and Economic Development: A Discussion, *Economic Development and Cultural Change*, Vol. 7, No. 1. (Oct.), pp. 1-12

- Granovetter, Mark, 2004, "Business Groups and Social Organisation" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Kapp, William, 1963, *Hindu Culture, Economic Development, and Economic Planning India: A Collection of Essays*, Bombay: Asia Publishing House. (Part I: chapter 1, 2 &3)
- Kennedy Robert E Jr. 1965, "Protestant Ethic and the Paris" in Neil. J. Smelser (ed) *Readings in Economic Sociology*, Berkeley: University of California Press.
- Light, Ivan, 2004, "The Ethnic Economy" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Mohanty, B B 2001, "Land Distribution among Scheduled Castes and Tribes" *Economic and Political Weekly*, Vol.36, No. 40. pp. 3857-68
- Nimkoff, M.F. and Russel Middleton 1965, "Types of Family and Types of Economy" in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.
- Ramachandran, V. K 1997, "On Keral's Development Achievements" in Jean Dreze and Amartya Sen (eds.) *Indian Development Selected Regional Perspectives*, Delhi: Oxford University Press. (Chapter 3)
- Sen, Amartya, 2004, "How does Culture Matter?" in Vijayendra Rao and Michael Walton (eds.) *Culture and Public Action*, Delhi: Permanent Black.
- Wuthnow, Robert. 2004, "New Directions in the Study of Religion and Economic Life", in Neil J. Smelser, and Richard Swedberg, (eds.) *Handbook of Economic Sociology*, Princeton: Princeton University Press.

ADDITIONAL READING LIST:

- Kalpagam, U. 1993, *Labour and Gender: Survival in Urban India*. New Delhi: Sage.
- Kalpagam, U. *Analytics of Work and Survival*.
- Agarwal, B. 1999, *The Gender and Environment Debate: Lessons from India* in Menon, N. (Ed.), *Gender and Politics in India*. New Delhi: OUP.
- Banerjee, N. 1991, *Indian Women in a Changing Industrial Scenario*. New Delhi: OUP.
- Yadav, Sushma and A. Dutta Mishra (2003), *Gender issues in India: Some Reflections*, Radha Publications, New Delhi.

B-10: ENVIRONMENT AND NATURAL RESOURCE ECONOMICS

Course Objectives:

The course is designed to introduce graduate students to the theory and problems of environmental and natural resource economics and the analytical procedures used to assess natural resource issues. Specifically:

1. to review the economic principals and concepts that form the basis of environmental and natural resource economics;
2. to become familiar with the analytic tools used in analyzing environmental and natural resource management problems; this will include both non-market and market models of resource valuation;
3. to assess and evaluate the workability of various solutions and policies.

Module 1: Introduction to Natural Resource and Environmental Economics

The emergence of resource and environmental economics-Classical Economics, Neoclassical Economics, Welfare Economics, Ecological Economics, Fundamental Issues in the Economic Approach to Resource and Environmental Issues, Property Rights, Externalities, Environmental Problems and Economic Efficiency

Module 2: The Sustainability Problem

Economy-Environment interdependence, The Drivers of Environmental Impact, Limits to Growth, Sustainable Development

Module 3: Welfare Economics and the Environment

Efficiency and Optimality, Allocation in a Market Economy, Market Failure, Public Policy and the Environment

Module 4: Pollution Control: Targets and Instruments

Air pollution, Water pollution, Modeling pollution within an economic efficiency framework, efficient levels of pollution, pollution policy, criteria for choice of pollution control instruments, cost efficiency and cost effective pollution abatement instruments, economic incentive instruments

Module 5: Benefit-Cost Analysis

Normative Criteria for Decision Making, Social Cost Benefit Analysis, Finding Optimal Outcome, Relating Optimality to Efficiency, Willingness to pay, hypothetical compensation acceptance, discounting approach, sustainability approach, Cost Benefit Analysis and the Environment (Estimates Benefits of Carbon Dioxide Reduction and case studies)

Module 6: Valuing the Environment

Types of values, classifying valuation methods, Stated Preference Methods, Revealed Preference Methods, Benefit Transfer and Meta-analysis

Module 7: Case Studies

The efficient and optimal use of natural resources, Simple optimal resource depletion model, extraction cost and renewable resources, non-renewable resource extraction in various markets

Module 8: Renewable Resources

The dynamics of renewable resource harvesting-fishery models, problem of fisheries and underlying causes, instruments, policies and programmes for fisheries management, forestry resources, socially and privately optimal multiple –use plantation forestry, natural forest and deforestation, Alternatives to mitigate depletion of forests

Module 9: Recyclable Resources – Minerals, Paper and E-Waste

Factors Mitigating Resource Scarcity, Market Imperfection, Corrective Policies, markets for recycled materials, Pollution damage Field Visit to Landfill sites at Samdoli and Bedag, and Sangli Miraj Kupwad Corporation

Module 10: Economy-wide Modeling

Input-output analysis, Environmental input-output analysis, Computable General Equilibrium Analysis, Environmental Accounting, Integration of Environmental Accounts into the System of National Accounts

Module 11: International Environmental Problems

International Environmental Agreements, Global Climate Change, Economic policy and action in Stratospheric Ozone Depletion, Acid Rain, Biological Diversity Conservation, Solid Waste Management, Deforestation and Desertification.

Module 12: Trade and the Environment

Traditional Trade Theory and Extension of Environment, Economic Approaches of Trade and Environment, Banning Trade on Endangered Species, GATT and WTO, Environmental Regulations and Patterns of Trade, trading environmental permits/carbon credits, ecological and carbon debt, international forums and role of developed and developing nations, Application of trade and environment-case of India and other countries in Asia

Module 13: Seminar presentation on specific resource valuation

Suggested Readings

Module 1

Bromley, Daniel W. Markets and Externalities. In *Natural Resource Economics: Policy problems and Contemporary Analysis*. D.W. Bromley (Ed.) Boston: Kluwer-Nijoff Publishing 1986. P.37-68.

Ostrom, Elinor. 2012. Nested Externalities and Polycentric Institutions: Must We Wait for Global Solutions to Climate Change before Taking Action at Other Scales? *Economic Theory* 49:353-369.

Chipman, John S. and Guoqiang Tian. 2011. Detrimental Externalities, Pollution Rights, and the “Coase Theorem”. *Economic Theory* DOI 10.1007/s00199-011-0602-1.

Van den Bergh, Jeroen C.J.M. 2010. externality or Sustainability Economics? *Ecological Economics* 69:2047-2052.

Kuethe, Todd H. and Roman Keeney. 2012. Environmental Externalities and Residential Property Values: externality Costs along the Housing Price Distribution. *Land Economics* 88(2):241-250.

Property Rights

Grafton, R. Q., W. Adamowicz, D. Dupont, H. Nelson, R.J. Hill, and S. Renzetti. *The Economics of the Environment and Natural Resources*. Oxford: Blackwell Publishing, 2004. Chapter 2. Property Rights.

Bromley, D.W. Property Regimes in Environmental Economics. In *The International Yearbook of Environmental and Resource Economics 1997/1998*. H. Folmer and T. Tietenberg (eds.) Edward Elgar: Northampton, Maine. 1997.

Ciriacy-Wantrup, S.V. and R. Bishop. 1975. "Common Property as a Concept in Natural Resource Policy." *Natural Resource Journal* 15:713-727.

Module 2: Ecosystem Services and Sustainable Development

Perman, Roger, Yue, Ma, James McGilvray and Michael Common. Chapter 4: Concepts of Sustainability. In *Natural Resources and Environmental Economics*, 3rd Edition. Pearson:Toronto.

Bromley, Daniel. 2007. Environmental regulations and the Problem of Sustainability: Moving Beyond "Market Failure." *Ecological Economics* 63:676-683.

Ingraham, M.W. and S.G. Foster. 2008. The Value of Ecosystem Services Provided by the U.S. national Wildlife Refuge System in the Contiguous U.S. *Ecological Economics* 67:608-618.

Module 3

Just, Richard E., Darell L. Hueth, and Andrew Schmitz. *The Welfare Economics of Public Policy*. Edward Elgar: Northampton Maine 2004. Chapters 1-3. p. 1-48.

Gowdy, John M. 2004. "The Revolution in Welfare Economics and Its Implications for Environmental Valuation and Policy." *Land Economics* 80:239-257.

Just, Richard. 2011. Behavior, Robustness and Sufficient Statistics in Welfare Measurement. *Annual Review of Resource Economics* 3:37–70

Module 4

Chakraborty, D and K. Mukhopadhyay (**2014**) Water pollution and Abatement Policy in India: A Study from an Economic Perspective, *Springer, the Netherlands*, ISBN: 978-94-017-8928-8

Mukhopadhyay, K and S. Bhattacharjya. (2006). Estimation of Marginal Abatement Cost of Air Pollution in Durgapur City of West Bengal, Working Paper # 13/2006, Madras School of Economics, Chennai, India

Module 5

Perman, Roger, Yue, Ma, James McGilvray and Michael Common. Chapter 11: Cost Benefit Analysis. In *Natural Resources and Environmental Economics*, 3rd Edition. Pearson:Toronto.

Perman, Roger, Yue, Ma, James McGilvray and Michael Common. Chapter 13. Irreversibility, Risk and Uncertainty. In *Natural Resources and Environmental Economics*, 3rd Edition. Pearson:Toronto.

Gollier, Christian and James K. Hammitt. 2014. The Long Run Discount Rate Controversy. *Annual Review of Resource Economics* 6:273–95.

Mukhopadhyay, K. (2004). An Assessment of Biomass Gasification Based Power Plant in the Sunderbans, Biomass and Bioenergy: An International Journal, 27(3): 253-264.

Module 6: Non-Market Valuation – Contingency Valuation

Knetsch, Jack. 2010. Values of Gains and Losses: Reference States and Choice of Measure". *Environmental and Resource Economics* 46:179-188.

Grafton, R. Q., W. Adamowicz, D. Dupont, H. Nelson, R.J. Hill, and S. Renzetti. Chapter 8: Environmental Valuation: Introduction and Theory. In *The Economics of the Environment and Natural Resources*. Oxford: Blackwell Publishing, 2004.

Grafton, R. Q., W. Adamowicz, D. Dupont, H. Nelson, R.J. Hill, and S. Renzetti. Chapter 9: Environmental Valuation: Stated Preference Methods. In *The Economics of the Environment and Natural Resources*. Oxford: Blackwell Publishing, 2004.

Brown, Thomas C. Chapter 4. Introduction to Stated Preference Methods. In *A Primer on Nonmarket Valuation*. Champ, P.A., K.J. Boyle and T.C. Brown. (Eds) Kluwer Academic Publishers: Boston 2003.

Boyle, Kevin J. Chapter 5. Contingency Valuation in Practice. In *A Primer on Nonmarket Valuation*. Champ, P.A., K.J. Boyle and T.C. Brown. (Eds) Kluwer Academic Publishers: Boston 2003.

Haab T.C. and K.E. McConnell. Chapter 1. Welfare Economics for Non-Market Valuation. In *Valuing Environmental and Natural Resource Economics: The Econometrics of Non-Market Valuation*. Edward Elgar: Northampton, Maine. 2002.

Haab T.C. and K.E. McConnell. Chapter 5. Topics in Discrete Choice Contingency Valuation. In *Valuing Environmental and Natural Resource Economics: The Econometrics of Non-Market Valuation*. Edward Elgar: Northampton, Maine. 2002.

Choice Modelling

Louviere, J.J., D.A. Hensher and J.D. Swait. Choosing a Choice Model. In *Stated Choice Methods: Analysis and Application*. Cambridge University Press: Cambridge. 2006.

Bennett, J. and V. Adamowicz. Some Fundamentals of Environmental Choice Modelling. In *The Choice Modelling Approach to Environmental Valuation*. Edward Elgar: Northampton Maine. 2001

Benefit Transfer

Bergstrom, J.C. and L.O. Taylor. 2006. Using Meta-Analysis for Benefits Transfer: Theory and Practice. *Ecological Economics* 60(2): 351-360.

Farber, S., and B. Griner. 2000. Valuing Watershed Quality Improvements Using Conjoint Analysis. *Ecological Economics* 34(1): 63-76.

Johnston, R.J., E.Y. Besedin and M.H. Ranson. 2006. Characterizing the Effects of Valuation Methodology in Function-Based Benefits Transfer. *Ecological Economics* 60(2): 407-419.

Thomassin, Paul J. and Robert J. Johnston. 2011. Evaluating Benefit Transfer for Canadian Water Quality Improvements using US/Canada Metadata: An Application of International Meta-Analysis. In *The International Handbook on Non-Market Environmental Valuation*. Editor J. Bennett. Edward Elgar:Cheltenham, UK.

Module 8: Resource Modelling

W.A. Brock, W. A., A. Xepapadeas, and A.N. Yannacopoulos. 2014. Optimal Control in Space and Time and the Management of Environmental Resources. *Annual Review of Resource Economics* 6:33–68.

Corial, Jessica and Thomas Sterner. 2011. Natural Resource Management: Challenges and Policy Options. *Annual Review Resource Economics* 3:203–30

Smith, Martin. 2012. The New Fisheries Economic: Incentives Across Many Margins. *Annual Review of Resource Economics* 4:379–29

Module 10: System of Environmental-Economic Accounts

Boyd, James. 2007. Counting Nonmarket, Ecological Public Goods: The Elements of a Welfare Significant Ecological Quantity Index. Resources for the Future Discussion Paper.

Hartwick, John M. 2011. Green National Income and Green National Product. *Annual Review of Resource Economics* 3:21–35

Hayashi, Takashi and Mitasu Yamamoto. 2012. Is Japanese Agriculture Improving its Eco-Efficiency? An Application of the System of Environmental and Economic Accounts (SEEA). Selected Poster for Presentation at the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguacu, Brazil, 18-24 August 2012.

Barbier, Edward B. 2011. Pricing Nature. *Annual Review Resource Economics* 3:337–53

Stoneham, Gary, Andrew O’Keefe, Mark Eigenraam, and David Bain. Forthcoming. Creating Physical Environmental Asset Accounts from Markets for Ecosystem Conservation. *Ecological Economics*.

Banzhaf, H. Spencer and James Boyd. 2012. The Architecture and Measurement of an Ecosystem Services Index. *Sustainability* 4:430-461.

Dasgupta, Partha. 2014. Measuring the Wealth of Nations. *Annual Review of Resource Economics* 6:17–31.

Applications

Fisher, Brendan. 2010. Richard H. Thaler and Cass R. Sunstein: Nudge: Improving Decisions About Health, Wealth, and Happiness. *Environmental Resource Economics* 47:149–150.

Hendricks, Kenneth and Robert H. Porter. 2014. Auctioning Resource Rights. *Annual Review of Resource Economics* 6:175–90.

Gonzalez-Ramirez, Jimena, Catherine L. Kling, and Adriana Valcu. 2012. An Overview of Carbon Offsets from Agriculture. *Annual Review of Resource Economics* 4:145–84.

Rutal, Michele and Anthony J. Venables. 2012. International Trade in Natural Resources: Practice and Policy. *Annual Review of Resource Economics* 4:331–52.

Karp, Larry. 2011. Environment and Trade. *Annual Review of Resource Economics* 3:397–417

Mérel, Pierre and Richard Howitt. 2014. Theory and Application of Positive Mathematical Programming in Agriculture and the Environment. *Annual Review of Resource Economics* 6:451–70

Kiesel, Kristin, Jill J. McCluskey and Sofia B. Villas-Boas. 2011. Nutritional Labeling and Consumer Choices. *Annual Review of Resource Economics* 3:141–58

Esteban, Encarna and Jose Albiac. Assessment of Nonpoint Pollution Instruments: The Case of Spanish Agriculture. *International Journal of Water Resource Development* 28(1):73-88.

Rabha, Bipul Kumar. 2012. Conservation Strategies of Bio-Diversity. Working Paper. SSRN.

Banfi, Silvia, Massimo Filippini, and Andrea Horehajova. 2012. Using a Choice Experiment to Estimate the Benefits of a Reduction of Externalities in Urban Areas with Special Focus on Electrosmog. *Applied Economics* 44:387-397.

A number of selected papers and case studies on such topics as: Safe Minimum Standard, The Precautionary Principle, and Economic-Ecological Modelling.

Module 12

Mukhopadhyay, K & D. Chakraborty. (2005). Is Liberalisation of Trade Good for the Environment? Evidence from India, *Asia Pacific Development Journal*, UN ESCAP, 12(1):109-136.

Dietzenbacher, E. & K. Mukhopadhyay. (2007). Testing the Pollution Haven Hypothesis: Towards a Green Leontief Paradox? *Environment and Resource Economics*, 36(4):427-449

The Welfare Economics of Public Policy by Richard E. Just, Darrell L. Hueth and Andrew Schmitz

Natural Resource and Environmental Economics by Roger Perman, Yue Ma, Michael Common, David Maddison, and James McGilvray

Environment and Natural Resource Economics, Tom Tietenberg and Lynne Lewis T.B.A

B-11: SOCIAL EXCLUSION AND INCLUSIVE POLICY

Preamble: Indian society is characterized by a highly entrenched system of social stratification. This created the hindrances and denied the access to economical, cultural and educational resources to the disadvantaged groups of the society particularly, the scheduled castes, scheduled tribes, women, minorities, physically challenged and old aged groups. To understand their problems, we need to study the components of social exclusion and to formulate policy paradigms for their inclusion in the economy. This course is designed to give basic understanding of the phenomenon of 'social exclusion'. It will make possible to create awareness about the social excluded people from an economic and social policy perspective as well as to analyze social inclusive policy for them.

UNIT I: Understanding Social Exclusion

Conceptualising Social Exclusion, Origin and Basis of Social Exclusion; Forms of Social Exclusion: Religion, Race, Caste, Gender, Ethnicity, Region, Culture, Language, Disability, Migrants and Refugees; Excluded Groups and Socio- Economic Disparities: Scheduled Castes, Tribals, Minorities, Women, Old Aged and the Physically Challenged; Contemporary Discussions on Social Exclusion

UNIT II: Theoretical Perspectives on discrimination

Economics of Discrimination; Marxist and Liberal Perspective; Capability Approach and Theories of Poverty; Economic Justice, Economic Freedom and Welfare; Social Choice and Human Rights Approach

UNIT III: Social Exclusion of Caste, Tribe and Minority

Indian society: Social Order in Caste, Tribe and Minority; Caste System as an Institution of Exclusion; Exclusion of Tribes: Nation-State Formation, Industrialization, Urbanization, Globalization etc.; Dimensions of Exclusion for Marginality: Development, Issues of Identity and Human Rights Violation

UNIT IV: Dimensions of exclusions and inclusive policy perspectives

Scheduled Castes, Minorities and Affirmative Action; The Question of Reservation and Affirmative Action – Constitutional Provisions and Contemporary Debates with reference to the Mandal Commission Report and the Sachar Committee Report; Labour Market Discrimination, Wage Differentials, Problems of Employability, Social Security and Pension; Access to Finance, Micro Finance and Financial Inclusions of the Excluded People

UNIT V: Physically challenged and Old Aged Social Exclusion

Physically Challenged and Social Exclusion: Constitutional Provisions, National and State Policies and Social Security Policy; Community Support, Awareness and Assimilation Activities; Aging: Social and Economic Exclusion; Gerontology Outlook in Policy Framework: Government Laws and Welfare Programmes

UNIT VI: Institutions and Inclusive Policies

Inclusive Policy Agenda: United Nations Organization, Constitutional Provisions, Nodal Government Agencies and Planned State Interventions; Human Rights Framework, Affirmative Action and Reservation Policies; Designing Innovative Strategies for Inclusive Policies

READING LIST

UNIT I

- Sen, A. (2000), 'Social Exclusion: Concept, Application, and Scrutiny', Asian Development Bank, Manila.
- Byrne, David (2003), 'Social Exclusion: Issues in Society', Open University Press, 2005.
- Lal, A.K. (2005) (Ed.), 'Social Exclusion: Essays in Honour of Dr. Bindeshwar Pathak', New Delhi, Concept.
- Hills John, Le Grand, J. and Piachaud, D (2002) (eds.), 'Understanding Social Exclusion', Oxford University Press.
- Saith, R. (2001), 'Social Exclusion: The Concept and Application to Developing Countries', Queen Elizabeth House Working Paper Series 72, Queen Elizabeth House, Oxford.

UNIT II

- Jordan, Bill (1996), 'A Theory of Poverty and Social Exclusion', Polity Press .
- Breman, Jan (2002), 'The Labouring Poor in India: Patterns of Exploitation, Subordination, and Exclusion', Oxford University Press.
- Stoer, Stephen R. (2003), 'Theories of Social Exclusion (European Social Inclusion)', Lang Publishing Incorporated, Bilingual Edition.
- Becker, Gary S. (1971), 'The Economics of Discrimination', The University of Chicago Press, United States of America.
- Boulding, Kenneth (1958), 'Principles of Economic Policy', Englewood Cliffs, Prentice-Hall.
- Boulding, Kenneth (1962), 'Conflict and Defense: A General Theor'y, New York: Harper & Brothers.
- Arrow, Kenneth, J., Sen, Amartya and Suzamura, K. (2002), 'Handbook of Social Choice and Welfare, Vol. 1, Handbooks in Economics 19', Netherlands, Elsevier.

UNIT III

- Sukhadeo Thorat and Umakant (2004) (Eds.), 'Caste, Race and Discrimination: Discourses in International Context', Rawat Publications, Jaipur and New Delhi.
- Singh, K.S (2002) (ed.), 'The Tribal Situation in India', Indian Institute for Advanced Study, Simla.
- Singh, A.K., (1996), 'States of Tribal in India: Health, Education and Employment', Council for Social Development, Har- Anand Publications, New Delhi.
- Rajendra Pandey (1997), 'Minorities in India: Protection and Welfare', APH Publishing Corporations.
- Pandey, Gyan (1993), 'The Hindu and Others: The Question of Identity in India Today', (ed.) Oxford.
- Hasan, Zoya (2008), 'Politics of Inclusion: Caste, Minority, and Representation in India', Oxford University Press, India.

UNIT IV

- Dreze, Jean and Amartya Sen, (ed.) (1995), 'India: Economic Development and Social Opportunities', New Delhi: Oxford University Press.

- Government of India (2006), Social, Economic and Educational Status of the Muslim Community in India: A Report (Sachar Committee Report)', Government of India.
- Sameera Khan (2007), 'Negotiating the Mohalla: Exclusion, Identity and Muslim Women in Mumbai', Economic and Political Weekly, April 28-May 4.
- Saraswati Raju, 'Locating Women in Social Development' in India: Social Development Report', Oxford University Press.
- Shahid Amin (2005), 'Representing the Musalman: Then and Now, Now and Then', in Ajay Sakaria (ed.), Subaltern Studies XII, Permanent Black.
- Shilpa Ranade (2007), 'The Way She Moves: Mapping the Everyday Production of Gender-Space', Economic and Political Weekly, April 28 – May 4.
- Sukhadeo Thorat (2006). 'Empowering Marginalized Groups: Policies and Change' in India: Social Development Report', Oxford University Press.
- Sukhadeo Thorat, et al (2009) 'Urban Labour Market Discrimination', Working Paper Series, Volume-111, Number 01, Indian Institute of Dalit Studies, New Delhi.
- NABARD (2008), 'Report of the Committee on Financial Inclusion' (Rangarajan Committee Report), NABARD
- Planning Commission, Government of India (2009), A Hundred Small Steps: Report of the Committee on Financial Sector Reforms' (Chapter 3: Broadening Access to Finance), New Delhi, Sage Publications).

UNIT V

- Bacquer, A., Sharma, A., (1997), 'Disability: Challenges vs Responses', Concerned Action Now, New Delhi.
- Pandey, R.S., and Advani, Lal (1995), 'Perspectives in Disability and Rehabilitation', Vikas Publishing House, New Delhi.
- Kundu, C.L. (2000), 'Status of Disability in India – 2000', Rehabilitation Council of India, New Delhi.
- Chakravarthy, I. (1997), 'Life in Twilight Years', Calcutta: Kwaliti Books Co.
- Gokhale, S.D., Ramamurti, P.V., Pandit, N. & Pandal, B. (1999), 'Ageing in India', Mumbai, Somaiga Pubs Pvt Ltd

UNIT VI

- Lund, Brian (2002), 'Understanding State Welfare: Social Injustice or Social Exclusion?', Sage Publications Ltd, 1st edition.
- Sukhadeo Thorat (2006), 'Empowering Marginalized Groups: Policies and Change in India', Social Development Report, OUP.
- A.K. Lal (2003) (Eds.), 'Social Exclusion: Essays in Honour of Dr. Bindeshwar Pathak', New Delhi, Concept.
- Hills John, Le Grand, J. and Piachaud, D (2002) (eds.), 'Understanding Social Exclusion', Oxford University Press.
- Sheth, D.L. (2004), 'Caste, Ethnicity and Exclusion in South Asia: The Role of Affirmative Action Policies in Building Inclusive Societies', Human Development Report Office, Occasional Paper, UNDP, New York.

B-12: POLITICAL ECONOMY OF INDIA'S DEVELOPMENT

PREAMBLE

This course is designed to offer a broad structure of major issues, debates, dilemmas, relating to the key trends, aspects, features, and the future of India's economy. The course, which is oriented in a political economy perspective, aims at imparting rich analytical insights and understanding about India's economy so that students can develop a strong sense of potential, possible, and useful areas for further research on India's development from political economy perspective

Module 1: Evolution of the debate over the role and ramifications of the British colonial rule for India's economy

Module 2: India's population/demography since Independence

Broad features, major trends, and regional dimensions

Module 3: Planning in India up to 1991

Historical roots, evolution of plan models, limitations and lessons.

Module 4: Poverty and inequality in India

Diversity of measures and estimates; debates over the trends in the post-liberalisation period; poverty alleviation programmes and REGS and their efficacy; Self-Help Groups

Module 5: Reforms/Liberalisation in India

Its political economy and impact, roles of market, state, and planning in India's development and its future

READING LIST

Module 1:

- Baran, P. (1957), *Political Economy of Growth*, Monthly Review Press.
- Morriss, D. Morriss (1969), *Indian Economy in the Nineteenth Century: A symposium*, Delhi: Indian Economic and Social History Association.
- Tomlinson, B.R. (1993), *Economy of Modern India 1860-1970*, New Cambridge History, Cambridge University Press.
- Roy, T. (2002), 'Economic History and Modern India: Redefining the Link', *Journal of - Economic Perspectives*, 16(3).
- Iyer, Lakshmi (2003), 'Long-term Impact of Colonial Rule: Evidence from India' (mimeo), Boston: MIT.
- Elingsmith, D. and Williamson. J. (2004), 'India's de-industrialisation under British rule: New Ideas, New Evidence', Working Paper 10586, NBER, Cambridge, MA, USA.

Module 2:

- Dyson, T. R. Cassen, and L. Visaria (2004), *Twenty-First Century India*, Oxford: Oxford University Press.
- Davis, K. (1951), *Population of India and Pakistan*, Princeton.
- Dyson, T. and N. Crook (1984), *India's demography: Essays on contemporary population*, New Delhi: South Asian Publishers.

Module 3:

- Bhagwati, J. and S. Chakravarty (1969), 'Contributions to Indian Economic Analysis: A survey', *American Economic Review* 59 Supplement.
- Chakravarty, S. (1998), *Development Planning: The Indian Experience*, Oxford: OUP.
- Rudra, A. (1975), *Indian Plan Models*, Allied Publishers.
- Bhagwati, J. and P. Desai (1970), *India: Planning for Industrialisation*, OUP.
- Chakravarty, S. (1991), 'Development Planning: a reappraisal', *Cambridge Journal of Economics*, 15, pp. 5-20.
- Bardhan, P. (1998), *Political Economy of Development in India*, Oxford: Oxford University Press.

Module 4:

- Deaton, A. and V. Kozel (ed) (2005): *The great Indian poverty debate*, New Delhi: Macmillan.
- *India Development Reports*, Oxford University Press.
- Dubey, A. and R. Palmer-Jones (2005), 'Poverty in India since 1983: new poverty counts and robust poverty comparisons', *Artha Vijnana*
- Patnaik, Utsa (2005), 'Poverty and Neo-Liberalism', *Artha Vijnana*, Sept-December.
- Datt, G. and Ravallion, M. (1998), 'Farm Productivity and Rural Poverty in India', *Journal of Development Studies*, Vol. 34, No. 4, pp. 62-85.
- Ravallion, M, G. Datt, and S. Chaudhuri (1993), "Does Maharashtra Employment Guarantee Scheme Guarantee Employment?: Effects of the 1988 Wage Increase", *Economic Development and Cultural Change*, Vol. 41, No. 2, pp. 251-275.
- Sen, Abhijit (2002), 'Agriculture, Employment and Poverty: Recent Trends in Rural India' in: Ramachandran, V.K. and M. Swaminathan (eds): *Agrarian Studies: Essays on Agrarian Relations in Less-Developed Countries*, Kolkata: Tulika.

Module 5:

- Bardhan (1999), *Political Economy of Reforms in India*, New Delhi: NCAER.
- Basu, K. (ed) (2004), *India's Emerging Economy*, New Delhi: OUP.
- Dreze, J. and A. Sen (2003), *Development and Participation*, Delhi: OUP.
- Rakshit, M. (2004), 'Some macroeconomics of India's Reform Experience', in Basu
- Ahluwalia, M. (2002), 'State-level performance under economic reforms in India', In: Krueger, A. (ed) (2002), *Economic Policy Reforms and Indian Economy*, New Delhi: OUP.
- Chandrasekhar, C.P. and Jayati Ghosh, (2002), *Market that failed: Decade of neo-liberal reforms in India*, New Delhi: Left Word Books.
- Human Development Reports (various years).
- DeLong, Bradford (2001) (mimeo), 'India since Independence: An analytic growth narrative' <http://www.j-bradford-delong.net>
- Frankel, F. (2005), *India's Political Economy: a gradual revolution, 1947-2004*, Oxford University Press.

B-13: URBAN ECONOMICS

Preamble

The objective of this course is to understand the contemporary issues confronting urban areas and exploring possible economic solutions to the problems of housing, transportation, education, employment, poverty, and crime. Along the way, this course also aims to provide an introductory look to the theories and concepts related to Urban Economics. The course is not necessarily grounded in any particular reality, however for pedagogical purpose, explanation and illustration will naturally come from the Indian Situation.

Module 1: Introduction

Urban Economics, Existence and importance of cities, 5 axioms of urban economics, Case Studies and Reports related to important Indian cities.

Module 2: The Development of Cities: Clusters & Agglomeration; City Size and Urban Growth

Development of a factory town, firm clustering, labor pooling, localization and urbanization economies, differences in city sizes

Urban employment growth and the multiplier, the effects of taxes and subsidies on location choices

Module 3: Land Rent & Markets and Land use pattern

Land rent and urban structure, Residential Land Market, Urban Land Markets with Factor Substitution

The Spatial Distribution of Employment and Population, The Monocentric City- Rise and Demise, Urban Sprawl, Neighborhood Choice, Zoning and Growth controls

Case study of Mumbai and Pune

Module 4: Urban Transportation

Congestion Externalities, Congestion Tax and Alternatives, Autos and Air Pollution, Automobiles and Poverty.

Commuting and transit Ridership- the Cost of Travel and Model Choice, Efficient Volume of Ridership, Designing a Transit System

Module 5: Urban Infrastructure

Spending and Educational Achievement- Education Production Function, Spending Inequalities and Public Policy

Crime Facts, the Rational Criminals, the Equilibrium Quantity of Crime, Legal Opportunities and Education

Water supply and sanitation, Access to basic urban amenities

Module 6: Housing

Importance of Housing- Durability, Detritions and Maintenance, the Filtering Model of Housing Market

Housing Policy- Public Housing, Housing Vouchers, Rent Control and Rent Regulation

Model 7: Local Government

The Role of Local Government, Local Government Revenue and Expenditure, The Tiebout Model and Property tax

Financial Instruments (municipal Bonds)

*Students would be encouraged to go through the case studies on Indian Cities related to above mentioned topics.

Text Books

Arthur O'Sullivan, Urban Economics (7th edition), McGraw Hill Irwin, 2008.

Jan K Brueckner, Lectures on Urban Economics, the MIT Press, 2011

Reference Books

Edward L. Glaeser, Cities, Agglomeration, and Spatial Equilibrium: the Lindahl Lectures, New York, Oxford University Press, 2008 (ISBN-13: 9780199290444)

(Focus on Mathematical Modeling)

Klein, Daniel B., Moore, Adrian T., and Reja, Binyam. Curb Rights: A Foundation for Free Enterprise in Urban Transit. (New York: Brookings Institution, 1997 (ISBN: 978-0815749394)

William Cronon. Nature's Metropolis: Chicago and the Great West. W.W. Norton, 1991.

James Howard Kunstler. The Geography of Nowhere. Free Press, 1994

William Julius Wilson. The Truly Disadvantaged: The Inner City, the Underclass and Public Policy. University of Chicago Press, 1987.

Module wise reading list

Module 1: Introduction

Glaeser, E. (2007) "The Economic Approach to the City", mimeographed.

Brueckner, Jan (1987) "Structure of Urban Equilibria: A Unified Treatment of the Muth-Mills Model," Handbook of Regional and Urban Economics, Volume II, Edwin W. Mills Ed., 821-845.

Arzaghi & Henderson (2008) "Networking off Madison Avenue" Review of Economic Studies (2008) 75, 1011–1038

Module 2: The Development of Cities: Clusters & Agglomeration; City Size and Urban Growth

Edward Glaeser (1998) "Are Cities Dying?" Journal of Economic Perspectives 12(2): 127-138.

Adam Jaffee et al. (1993) "Geographic Localization of Knowledge Spillovers as Evidenced by Patent

Citations." Quarterly Journal of Economics 108(3): 577-598

Glaeser, Kolko, and Saiz (2001) "Consumer City", NBER Working Papers 7790

Edward Glaeser and Jesse Shapiro (2001) "City Growth and the 2000 Census: Which places grew, and why." The Brookings Institution Survey Series.

Quigley (1998) "Urban Diversity and Economic Growth" Journal of Economic Perspectives—Volume 12, Number 2—Spring 1998—Pages 127–138

Roger G. Noll and Andrew Zimbalist (1997) "Sports, Jobs, and Taxes: Are New Stadiums Worth the Cost?" The Brookings Review 15: 35-39.

Kerr & Kominers (2010) "Agglomerative Forces and Cluster Shapes", NBER working paper, 16639

Book_ William Cronon. Nature's Metropolis: Chicago and the Great West. W.W. Norton, 1991.

Book_ Saxenian_ Regional Network and Industrial Adaptation in Silicon valley and Route 128 ISBN 9780674753402 Publication: March 1996

Module 3: Land Rent & Markets and Land use pattern

Thomas Nechyba and Randall Walsh (2004) "Urban Sprawl." Journal of Economic Perspectives 18(4): 177-200.

Module 4: Urban Transportation

Ian Parry, Margaret Walls, and Winston Harrington.(2007) "Automobile externalities and policies." The Journal of Economic Literature 45(2): 373-399. (Not freely available)

Glaeser, Edward L., Matthew Kahn, and Jordan Rappaport (2007) "Why do the poor live in cities?" Journal of Urban Economics.

Storchmann, K. (2001) "The impact of fuel taxes on public transport", Transport Policy 8, 19-28.

Storchmann, K. (2005) "Externalities by automobiles and fare free transit in Germany. A paradigm shift?", Journal of Public Transportation 6(4), 89-105.

Book_ Newman, P. and Kenworthy, J. (1999) "Sustainability and Cities. Overcoming automobile dependence". Washington D.C.: Island Press ISBN-13: 978-1559636605, ISBN-10: 1559636602

Module 5: Urban Infrastructure

Moretti, E. (2004) Workers' education, spillovers, and productivity: Evidence from plant level production functions. American Economic Review, 94(3), 656–690.

Black, Sandra (1999) "Do Better Schools Matter? Parental Valuation of Elementary Education," Quarterly Journal of Economics 114(2): 577-599.

Steven Levitt(2004) "Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not." Journal of Economic Perspectives 18(1): 163-190

Donohue and Levitt (2001) "The impact of legalized Abortion on crime", NBER Working Paper-8004

Tella and Schargrodsky (2004) "Do polishes reduce the crime", The American Economic Review March 2004, VOL 94 NO.1, P no 115-133

Glenn Blomquist, Mark Berger, and John Hoehn (1988) "New estimates of the quality of life in urban areas." The American Economic Review 78(1): 89-107.

Glaeser, Edward L., Matthew Kahn, and Jordan Rappaport (2007) "Why do the poor live in cities?" Journal of Urban Economics.

Kesztenbaum & Rosenthal (2012) "The democratization of longevity: How the poor became old in Paris, 1870-1940" (<http://people.hss.caltech.edu/~jlr/Papers/LKJLR.longevity.pdf>)

Cain & Hong (2009) "Survival in 19th Century Cities: The Larger the City, the Smaller Your chances", Explorations in Economic History 46(4):450-463 · October 2009

Kesztenbaum & Rosenthal (2011) "The health cost of living in a city: The case of France at the end of the 19th century" Explorations in Economic History, 2011, vol. 48, issue 2, pages 207-225

Ferrie & Troesken (2008) "Water and Chicago's mortality transition, 1850–1925" Explorations in Economic History 45 (2008) 1–16

Glaeser & Kahn (2008) "The Greenness of Cities: Carbon Dioxide Emissions and Urban Development", NBER Working Paper No. 14238, August 2008

Module 6: Housing

Roback, J. (1982) "Wages, Rents and the Quality of Life" Journal of Political Economy 90(6): 1257-1278.

Glenn Blomquist, Mark Berger, and John Hoehn (1988) "New estimates of the quality of life in urban areas." The American Economic Review 78(1): 89-107.

Caitlin Knowles Myers (2004) "Discrimination and neighborhood effects: Understanding racial differentials in US housing prices." Journal of Urban Economics 56(2): 279-302.

Module 7: Local Government

Tiebout (1956) "A Pure Theory of Local Expenditures", The Journal of Political Economy, Vol. 64, No. 5, (Oct., 1956), pp. 416-424

Hoxby (2000) "Does Competition among Public Schools Benefit Students and Taxpayers", The American Economic Review, Vol. 90, No. 5 (Dec., 2000), pp. 1209-1238

Michael Greenstone Enrico Moretti (2004) "Bidding for Industrial Plants: Does Winning a "Million Dollar Plant" Increase Welfare?" Working Paper Series, MIT (0-39)

B-14: BEHAVIOURAL ECONOMICS

Objectives

This course introduces the concepts of behavioural economics and their importance in economic decision-making in case of risk, uncertainty and strategic interactions. It particularly tries to explain economic choices which deviate from predictions of neo-classical economics. It also attempts to incorporate insights from sociology, institutions, evolutionary psychology to understand human behaviour and offer directives for better developmental outcomes. It also discusses standard research methods of the subject viz. laboratory and field experiments to understand their contribution to the advancement of the subject.

Module 1: Introduction: decision-making theories

Neo-classical economics – rationality assumption, optimization

Origin of Behavioural economics - Bounded Rationality, Rationality in Psychology and Economics by H. Simon

Dual System theory, Prospect theory

Module 2: Decision-making under risk and uncertainty

Heuristics and Biases programme- Representativeness, Availability, Anchoring and adjustment, mental accounting

Biases: Overconfidence, Confirmation bias, Framing, Status Quo Bias, Endowment Bias, Self-Control Bias

Fallacies: conjunction and disjunction fallacies, gambler's fallacies

Module 3: Inter-temporal choices

The discounted utility model, exponential discounting

Hyperbolic discounting

Module 4: Strategic interactions

Fairness, trust, cooperation, reciprocity, altruism

Norms and Culture

Module 5: Applications of Behavioural Economics

Introduction to Behavioural Labour Economics, Behavioural Finance

Taxation and the contribution of Behavioural Economics

Choice architecture: The role of nudging

Public Policies : Psychological and social perspectives on policy in the area of Poverty, Health, Climate Change

Module 6: Research methods for behavioural economics

Survey: hypothetical choices, self-reported perceptions & biases

Laboratory experiments – Precepts of laboratory experiments, internal and external validity

Field experiments – Randomized Control Trials

Reading List:

Books:

- Nick Wilkinson; Matthias Klaes(2012), *An Introduction to Behavioral Economics*, 2nd Edition, Palgrave Macmillan.
- Colin F. Camerer, George Loewenstein, Matthew Rabin (ed.)(2004), *Advances in Behavioral Economics*, Princeton University Press.
- Dan Ariely, Harper Perennial **Predictably Irrational: The Hidden Forces That Shape Our Decisions**, 2010, ISBN 0061353248, ISBN13 978-0061353246.
- M. Altman, *Handbook of Contemporary Behavioral Economics: Foundation and Developments* (2007), Prentice Hall India
- E. Cartwright, *Behavioral Economics* (2011), Routledge
- D. Kahneman, *Thinking Fast and Slow* (2011), Allen Lane, Penguin Books
- G. Loewenstein, *Exotic Preferences: Behavioral Economics and Human Motivation* (2007), Oxford University Press
- Erik Angner, "A Course in Behavioral Economics", Palgrave Macmillan
- Sanjit Dhami, "The Foundations of Behavioral Economic Analysis", Oxford University Press (2016)

Reports:

World Development Report 2015: Mind, Society, and Behavior

Articles:

- Gianna Lotito (2006): Dynamic inconsistency and different models of dynamic choice – a review, working paper 83, UNIVERSITA' DEL PIEMONTE ORIENTALE "Amedeo Avogadro" ALESSANDRIA <http://polis.unipmn.it/pubbl/RePEc/uca/ucapdv/lotito83.pdf>
- F. Shane, G. Loewenstein and T. O'Donoghue; "Time Discounting and Time Preference: A Critical Review"; Journal of Economic Literature; Jun.(2002), Vol. 40, No. 2. pp. 351-401
- Experiments and Behavioral Economics by Robert J. Oxoby in M. Altman, *Handbook of Contemporary Behavioral Economics: Foundation and Developments* (2007), Prentice Hall India
- Richard H. Thaler : Misbehaving

B-16: LINEAR ECONOMICS – I

Preamble

This course exposes students to developments in economic theory that have been inspired by the classical economists like Adam Smith and David Ricardo. The course begins by an exposition of the fallacies in the neo-classical theories of value and distribution and the limitations of standard general equilibrium theory. It then proceeds to cover input-output analysis and its empirical applications. Finally it covers alternatives to the neo-classical theories such including the Kaldor Pasinetti theory of income distribution and the Sraffa and Von Neumann models. Finally an alternative general equilibrium model is covered which determines prices, outputs, growth and income distribution.

Model 1

Critique of Mashall's theory of supply based on the law of variable proportions. Critique of the marginal productivity them. Critiques of neo-classical production functions.

Module 2

Economy as a Circular Flow. Static closed and open input output models. Hawkins-Simon conditions. Construction of Input-Output tables. Some applications. Dynamic input-output analysis.

Module 3

The Von Neumann model. The Sraffa system and its properties Standard Commodity. Reduction to dated labour.

Module 4

Alternative theories of income distribution. The Kaldor Pasinetti model and its developments.

Module 5

Closure for the Sraffa system. An alternative general equilibrium model and its empirical relevance.

Reading List:

Books:

Hadley, G(1961), Linear algebra, Addison-Wesley Massachusetts

Namboodiri, Krishnan (1984), Matrix algebra: An introduction, Sage publication, Volume -38

Lipachutz, Seymour, Linear Algebra ,Third Edition, Schaum Outlines Series

Shanti, Narayan, Lipson Marc (2002), A text book of matrices, Schaum Outlines Series.

Bellman, Richard (1970), Introduction to matrix analysis, 2nd edition, McGraw-Hill, New York, NY.

Mills, Gordon (1970) Introduction to linear Algebra, Aldine Pub. Co. (Chicago).

Mathur, P.N. & Bharadwaj, R (1968), Economic Analysis in Input Output Framework with Indian Empirical Explorations, Vol. 1. Input Output Research Association, India.

Dorfman R., Samuelson P., Solow R. (1958), Linear programming & economic analysis, McGraw-Hill New York.

Saluja M.R. (1981), Input-output tables for India, John Wiley & Sons (Asia) Pte Ltd.

Yan, Chiou Shaung (1969), Introduction to -Input-output economics, Holt, Rinehart, and Winston

Mathur & Venkatramaaiah (1969), Economic analysis in input and output framework, Vol. II, Input Output Research Association.

Kundu, A.(1976), Input-output framework and economic analysis, (1st edition) K. B. Publications, New Delhi

Leontief (1986), Input-output economics (2nd edition), Oxford University Press

Leontief, W.W., Structure of American economy 1919-1939 (third edition), Oxford University Press, New York.

Brody, Andras (1970), Proportions, prices and planning North-Holland Pub. Co. Budapest, Amsterdam

Carter & Brody (1972), Applications of Input-output analysis, North Holland/Elsevier, Amsterdam
United Nations, Input-output and analysis

Bulmer, Thomas (1982), Input-output analysis in Developing countries, (2nd edition) John Wiley & Sons Ltd. pp. XI—XII. New York.

Koti K. K. and Hashim S. R. etc. (1996), Studies in Indian economy, Himalaya Publishing House, Mumbai.

- Kundu, Amitab & Mathur P.N (1976), Dynamic Input-output analysis K.B. Publication.
- Mathur P.N. & Bharadwaj R. (1968), An application with dynamic Input-output model for planning
- Mathur P.N. & Kulkarni A.R. etc., An inter industry capital coefficient Matrix for India
- Sraffa, Piero (1960), Production of commodities by means of commodities Cambridge University Press, Cambridge.
- Kurz, H. and Salvadori, N. (1995), Theory of Production: A Long Period Analysis, Cambridge University Press, Cambridge.
- Bharadwaj, K. and Schefold, B. (eds.) (1990), Essays on Piero Sraffa, Cambridge University Press, Cambridge.
- Roncaglia, A. (1978), Sraffa and the Theory of Prices, Chichester, John Wiley and Sons.
- Parchure, R. (1989), The Pure Theory of Value: The Times Research Foundation Pune.
- Pasinetti, L.L. (1977), Lectures on the theory of production: Mathematical appendix, New York, Columbia University Press.
- Koopmans, T.C. Ed. (1951), Activity analysis of production and allocation, John Wiley & Sons, New York.
- Arrow, K.J (1978) 'Cost Theoretical and Demand Theoretical Approaches to the Theory of Price Determination" in *Collected Papers of Kenneth J. Arrow*, Vol. 2, North-Holland, Amsterdam.
- Blaug, M. (1974) "*The Cambridge Revolution: Success or Failure*," London: Institute of Economic Affairs.
- Bharadwaj, K. (1970) "On the Maximum Number of Switches between Two Production System," *Schweizerish Zeitschrift Fur Volkswirtschaft und Statistic*, Vol. 106.
- Dumenil, G. and D. Levy (1985) "The Classicals and the Neoclassicals: A Rejoinder to Frank Hahn", *Cambridge Journal of Economics*, 9: 327-45.
- Eatwell, J. (1979) *Theories of Value, Output and Employment*, London: Thames Polytechnic; as repr. In Eatwell, J. and M. Milgate (eds) *Keynes's Economics and the Theory of Value and Distribution*, London and New York: Duckworth and Oxford University Press, 1983.
- Eatwell, J. and M. Milgate (eds) (1983) *Keynes's Economics and the Theory of Value and Distribution*, London and New York: Duckworth and Oxford University Press.
- Fabio Petri (1999) "*Hahn on the 'Neo-Recardian' Criticism of Neoclassical Economics*", in the Value, Distribution and Capital eds. Gary Mongiovi and Fabio Petri, pp. 19-68, London.

Garegnani, P. (1970) "Heterogeneous Capital, The Production Function under Theory of Distribution" *Review of Economic Studies*. Vol.

Garegnani, P. (1990) "Reply" in Bharadwaj K. and B. Schefold eds. Essay on Piero Sraffa, *Critical Perspectives on the Revival of Classical Theory*, Oxford University Press, Oxford.

Hahn, F.H. (1975) "Revival of Political Economy: The Wrong Issues and the Wrong Argument" *Economic Record*.

Article:

Hahn, F.H. ((1982) "The Neo Ricardians", *Cambridge Journal of Economics*, Vol.6.

Harcourt, G. C. (1969) "Some Cambridge Controversies in the Theory of Capital", *Journal of Economic Literature*, 7:369-405.

Harcourt, G. C. (1972) *"Some Cambridge Controversies in the Theory of Capital"*, Cambridge: Cambridge University Press.

Hayek, F.A. (1931) *Prices and Production*, George Routledge, London.

Hayek, F.A. (1932) "Reply" *Economic Journal*.

Hawkins D. and H. Simon (1949) "Note: Some Conditions of Macroeconomic Stability." *Econometrica* Vol.17.

Kahn, R.F. (1959) "Exercises in the Analysis of Growth," *Oxford Economic Papers*, Vol. II.

Kaldor, N. (1956) "Alternative Theories of Distribution," *Review of Economics Studies*, Vol. 23.

Kalecki, M. (1953) *Studies in Economic Dynamics*, Allen and Unwin, New York.

Keynes, J.M. (1936) *The General Theory of Employment Interest and Money*, Macmillan and Co., London.

Leontief, W.W. (1941) *Studies in the Structure of the American Economy*, Harvard University Press, Cambridge, Mass.

McKenzie, L.W. (1954a) "On Equilibrium in Graham's Model of World Trade and other Competitive Systems," *Econometrica*, Vol.21.

McKenzie, L.W. (1954b) "Specialization and Efficiency in World Production," *Review of Economic Studies*, Vol.21.

McKenzie, L.W. (1955a) "Specialization in Production and the Production Possibility Locus," *Review of Economic Studies*, Vol. 23.

McKenzie, L.W. (1960) "Matrices with Dominant Diagonals and Economic Theory" in Arrows K.J., S. Karlin, P. Suppes (eds.1960) *Mathematical Methods in the Social Sciences*, Stanford University Press, Stanford.

Meade J.E. (1963) "The Rate of Profit in a Growing Economy." *Economic Journal*. Vol.73.

Morishima, M. (1958) "Prices, Interest and Profit in a Dynamic Leontief System, "*Econometrica*" Vol. XXV.

Pasinetti, L.L. (1962) "Rate of Profit and Income Distribution in Relation to the Rate of Economic Growth," *Review of Economic Studies*, VOL.29.

Pasinetti, L.L. (1978) *Lectures on the Theory of Production*, Macmillan, London.

Robinson Joan (1956) *The Accumulation of Capital*. London: Macmillan.

Roncaglia, A. (1979) *Sraffa and the Theory of Prices*, John Wiley, Chichester.

Samuelson, P.A. (1990) "Revisionist Findings on Sraffa" in K. Bharadwaj and B. Schefold (eds. 1990) *Essay on Piero Sraffa*, Oxford University Press, Oxford.

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B-17: LINEAR ECONOMICS – II

Preamble

This course is a continuation of Linear Economics – I whose purpose is to expose students to alternative theories of international trade and to monetary general equilibrium theory.

Module 1

Critique, of the Heckscher-Ohlin-Samuelson trade model. 'Twoness' in trade theory. Non-viability of reduction of reality to $2 \times 2 \times 2$ models. Critique of exchange rate theories: the demand supply diagram, the purchasing power parity theory, etc.

Module 2

Frank D. Graham's theory of multicountry multicommodity trade. Extensions of the theory to tariffs, intercountry transfers and taxation. Trade in intermediate and final goods.

Module 3

Money in General Equilibrium Theory: Patinkin's Findings of Arrow, Clower, Hahn, Ostroy. Keynesian Counter revolution. Essentiality of Money of in the real world.

Module 4

The Static Keynesian economy with money. Critique of IS-LM model. Possibility of unemployment equilibrium. Fiscal Policy. General ineffectiveness of monetary policy instruments including TARP, etc.

Module 5

Dichotomy in the theories of the level and theories of the term structure of interest rates. Integrated model of the level and structure of spot interest rates.

Module 6

The dynamic Keynesian economy with money and several financial assets. General disequilibrium. Role of fiscal and monetary policies.

Reading List:

Books:

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Parchure, Rajas (1994), *The Theory of International Values*, Wiley Eastern, New Delhi

Article:

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