

INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCH

SEMESTER: II

COURSE TITLE: Microeconomics-II

INSTRUCTOR: Dr. Gopakumar Achuthankutty

TEACHING ASSISTANT: C Ananthanarayan and Anushka Nagar

COURSE DESCRIPTION: This is a sequel to the core course “Microeconomics – I”. The course is divided into three modules: (i) decision-making under uncertainty, (ii) theory of general equilibrium, and (iii) sources of market failure. The theoretical tools developed in this course are essential to pursue a career both in academics and industry.

COURSE OBJECTIVES: The course is designed to expose students to some core topics in Microeconomic Theory. The objective of this course is to widen the knowledge of students by rigorously covering several core aspects of microeconomic theory by building on the concepts introduced in “Microeconomics – I”.

COURSE OUTCOMES:

CO1 Develop a deep understanding of decision-making processes under uncertainty and the various utility representations.

CO2 Gain insight into the theory of general equilibrium and its applications to real-world market scenarios.

CO3 Acquire the ability to analyse and critically evaluate sources of market failure, including asymmetric information, moral hazard, adverse selection, and externalities.

CO4 Enhance their problem-solving skills through the application of economic theories to complex scenarios.

CO5 Strengthen their ability to present and communicate economic concepts and solutions effectively.

COURSE REQUIREMENTS: Mathematical Methods for Economists, Microeconomic Theory – I.

COURSE CONTENTS:

Module 1: Decision-Making Under Uncertainty

The state-space model; Objective uncertainty and vN-M expected utility representation; The Mixture-Space theorem and proof; Savage’s sure thing principle and subjective expected utility; Anscombe-Aumann representation; Utility for money and attitudes towards risk.

Module 2: General Equilibrium Theory

Walrasian equilibrium: Properties; Existence of Walrasian equilibrium: Result and proof; Welfare theorems; Model with time and uncertainty; Radner equilibrium and its relation to Walrasian equilibrium.

Module 3: Sources Of Market Failure

Asymmetric Information; Moral hazard problem; Adverse selection problem; Externalities and Coase's Theorem.

EVALUATION: Class tests (20% weightage), Mid-semester exam (40% weightage), and End-semester exam (40% weightage)

REFERENCES:

- 1. David M Kreps, *Microeconomic Foundations - I*, Princeton University Press, 2013.**
- 2. David M Kreps, *Notes On The Theory of Choice*, Routledge, 1988.**
- 3. Andreu Mas-Collel, Michael B. Whinston, and Jerry R. Green, *Microeconomic Theory*, Oxford University Press, 2006 (Indian Edition).**
- 4. Hal R Varian, *Microeconomic Analysis*, W.W. Norton & Company, 1992.**

INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCH

MACROECONOMICS II

January-May 2024

Instructor I: Taniya Ghosh

Office: RB-II, Room 305

Tel. Ext: Phone 536(O)

Office Hours: By appointment only

Email: taniya@igidr.ac.in

Teaching Assistant: Abhishek Gorski and Rudra Kushwaha

Course Objectives: The course will provide an exposure to recursive techniques in both discrete and continuous time including their applications to growth, monetary theory and policy. This course will help you answer some “big” questions in macroeconomics. Why do economies grow over time, and how can they grow faster? Why are some countries rich and others poor? Why do we have business cycles? What is the cause of business cycles? How should monetary policy be conducted, and how should they react to short run fluctuations? Should central banks consider broader issues like climate change and inequality? The course will focus on the analysis, solution, calibration, estimation, and extension of DSGE models. We will work with these models in conjunction with data, discussing how to calibrate, estimate, and evaluate these models. Students will be expected to perform quantitative exercises using MATLAB and Dynare (which is a set of codes used to solve, simulate, and estimate DSGE models). The quantitative work will equip you to begin doing your own research in macroeconomics.

Grading Policy and Requirements: You are expected to attend ALL lectures, refer to the assigned readings, practice all assignments and sit for all exams/quizzes. Missed tests will be given a grade of zero unless a reasonable excuse is provided from the student office.

Course grade will be determined as follows:

Mid-term exam: 40%

Class Project (10%) and Quiz/Presentation (5%): 15%

Final exam: 45%

Recommended books for reference

Romer, D. (2005), Advanced Macroeconomics, 3rd Edition, McGraw-Hill.

McCandless, The ABCs of RBCs, George, Princeton University Press

J. Gali, Inflation, Employment and Prices.

C. Walsh, Monetary Theory and Policy, 2nd ed, The MIT Press.

Avinash Dixit, Optimisation in Economic Theory, OUP.

The Solow Growth Model

*Romer, Chapter 1

Solow R. "A contribution to the theory of economic growth" Quarterly Journal of Economics, 1956

Solow R. "Technical change and the aggregate production function", Review of Economics and Statistics, 1957

Swan T. W. "Economic growth and capital accumulation" Economic Record, 1956

Real-Business-Cycle Theory and Extensions

*McCandless, Chapters 4, 5, 6

Romer, Chapter 3

Blanchard and Fischer, pages 277-283 and chapter 7

King R., Plosser, C. and Rebelo, S. "Production, Growth and Business Cycles: The Basic Neoclassical Model," Journal of Monetary Economics 1988

Hansen G. "Indivisible Labor and the Business Cycle" Journal of Monetary Economics 1985

Kydland, F. and Prescott E. "Time to Build and Aggregate Fluctuations" Econometrics 1982

Long, J. and Plosser, C. "Real Business Cycles", Journal of Political Economy 1983

The Basic New Keynesian Model

- **Interest Rate Rules and Determinacy**
- **Monetary Policy**
- **Zero Lower Bound**

Gali, J., Inflation, Employment and Prices, Chapters 1, 2 and 3

Blanchard, O. and S. Fischer (1989), Lectures on Macroeconomics. Chapter 4 and 11

Romer, D. (2005), Advanced Macroeconomics, 3rd Edition, Chapter 10

Bernanke Ben, Thomas Laubach, Frederic Mishkin, and Adam Posen (1999). Inflation Targeting: Lessons from the International Experience. Chapters 1 & 2.

Bernanke, B.S. and F. Mishkin (1997). Inflation targeting: A new framework for monetary policy? Journal of Economic Perspectives: pp 97-116

Clarida Richard, Jordi Gali, and Mark Gertler (1999). The Science of Monetary Policy: A New Keynesian Perspective, Journal of Economic Literature, pp 1661-1707.

Mishkin, F.S. (1995) Symposium on the monetary transmission mechanism, Journal of Economic Perspectives, pp 3-10

Kydland, Finn and Ed Prescott. "Rules Rather than Discretion: The Inconsistency of Optimal Plans." Journal of Political Economy, 1977.

Marvin Goodfriend (2007) How the World Achieved Consensus on Monetary Policy, Journal of Economic Perspectives, pp 47-68.

Ben S. Bernanke (2005) What Have We Learned Since October 1979? Federal Reserve Bank of St Louis Review, pp. 277-282.

New Keynesian Model Extensions

- **Environmental Policy in a New Keynesian Model**
- **Inequality in a New Keynesian Model**

Annichiariccho, B. and Dio, F. D (2015), "Environmental Policy and Macroeconomic Dynamics in a New Keynesian Model", Journal of Environmental Economics and Management, 69(1), 1-21.

Annichiariccho, B. and Dio, F. D (2017), "GHG Emissions Control and Monetary Policy", Environmental & Resource Economics, 67(4), 823-851.

Hansen, N. H., Lin, A., and Mano, R. C. (2020), "Should Inequality Factor into Central Banks' Decisions?", IMF Working Paper, WP/20/196.

Econometrics-II
Prof. A. Ganesh-Kumar
January - June, 2024

Teaching Assistant: TBA

Office Hours: Monday and Tuesday, 3:00 pm to 4:00 pm, by appointment via email.

Course code / field: 5302; (3) Econometric Theory and Applications.

Course objective: The course will cover disturbance related regressions, simultaneous equations, qualitative choice, limited dependent variable and panel data models that are widely used in empirical analysis. Time permitting, an introduction would be given to notions of causality and endogeneity and methods to address them. The course will aim at providing theoretical understanding as well as application and implementation.

Course outcome: At the end of the course, it is expected that students should have a thorough understanding of the theoretical foundations of empirical models and should be able apply them to analyze real world problems.

Target group of students: The Course is compulsory for M.Sc. students and elective for Ph.D. students.

Pre-requisites: Econometrics-I offered in IGIDR. Matrix Algebra. Students are advised to refresh these topics.

Grading: One Mid-term paper (30%) + Final written exam (60%) + Computer assignment (10%). In case of borderline grades, class attendance and class participation will be considered. *There will be NO RETAKE of the midterm exam.* If a student is unable to appear for the midterm exam (with valid reasons) then the corresponding weight will be transferred to the Final exam.

Midterm exam date: 14-March-2024. *No request for change will be entertained.*

Final exam date: TBA by SOFFICE

Final date to submit Computer assignment: 17-May-2023. *No request for change will be entertained.*

Course rules: Students are expected to meet the Institute norms on class attendance (85% minimum), and strictly adhere to the norms of academic integrity in their home assignments and examinations. *Failure to meet the attendance requirements will have its consequences.*

Course outline:

1. Disturbance Related Regression Models

- 1.1. Modeling contemporaneous, time series and spatial correlations
 - 1.1.1. Specification and interpretation
 - 1.1.2. Estimation - the simple Case
 - 1.1.3. Estimation - the general Case
 - 1.1.3.1. The pure GLS estimator
 - 1.1.3.2. The OLS estimator
 - 1.1.3.3. The FGLS estimator
 - 1.1.3.4. The iterated FGLS estimator
 - 1.1.4. Inference and testing
 - 1.1.4.1. Testing for structural change
 - 1.1.4.2. Testing for equality of behavior
 - 1.1.4.3. Testing for aggregation bias
- 1.2. Models with unequal number of observations
- 1.3. Models with first-order autoregressive disturbances

2. Simultaneous Equations Models

- 2.1. Specification and interpretation
 - 2.1.1. The structural form
 - 2.1.2. The reduced form
- 2.2. Identification by reduced form method
- 2.3. Identification by structural form method
- 2.4. Estimation of the complete structural model
 - 2.4.1. Indirect least squares, 2SLS, and IV
 - 2.4.2. Three stage least squares
 - 2.4.3. Limited information maximum likelihood
 - 2.4.4. Full information maximum likelihood
 - 2.4.5. Properties of the estimates

3. Qualitative & Limited Dependent Variables Models

3.1. Binary choice models

3.1.1. Linear probability model

3.1.2. Probit and logit models

3.2. Multiple choice models

3.2.1. Ordered response models

3.2.2. Unordered response models

3.2.3. Sequential response models

3.3. Censored (Tobit) regression models

3.4. Truncated regression models

3.5. Mixture of truncated and censored regression models

3.6. Duration / Hazard models

3.7. Selection models

3.8. Concept of endogeneity and causality

4. Panel Data Models

4.1. Introduction

4.1.1. Advantages of panel data

4.1.2. Issues involved in utilizing panel data

4.2. 5.2 Models with intercepts that vary over individuals

4.2.1. Fixed effects models: dummy variable models

4.2.2. Random effects models: error component models

4.3. 5.3 Models with intercepts that vary over individuals and time

4.3.1. Fixed effects models: dummy variable models

4.3.2. Random effects models: error component models

References

A) Essential readings

William H. Greene: *Econometric Analysis*, Prentice Hall, New Jersey.

C. Hsiao: *Analysis of Panel Data*, Cambridge University Press, Cambridge.

J. Johnston and J. Dinardo: *Econometric Methods*, McGraw-Hill Book Company, New York.

G.S. Maddala: *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge University Press, Cambridge.

B) Recommended readings

Badi H. Baltagi: *Econometric Analysis of Panel Data*, Chichester, John Wiley and Sons, New York.

A. Colin Cameron and Pravin K. Trivedi: *Microeconometrics*, Cambridge University Press, Cambridge.

Cameron, A. C. and P. K. Trivedi. *Microeconometrics using STATA*.

Judge G. G, *Griffiths* W. E., Hill R. C., Lutkepohl H. and Lee T-C. "The Theory and Practice of Econometrics, 2nd Ed.", John Wiley, New York.

Kmenta, J. "Elements of Econometrics", 2nd Ed., Maxwell Macmillan, New York.

Maddala G. S. "Econometrics of Panel Data, Vols. I and II", Edward Elgar, England.

V. Srivastava and A.E.D. Giles: *Seemingly Unrelated Regression Equations Models: Estimation and Inference*, Marcel Dekker Inc., New York.



Development Economics

IGIDR

January-May 2024

Course Instructor: K.V.Ramaswamy

E-mail: swamy@igidr.ac.in

Tel: 511

Office Direct: 69096511

Course Timings: Tuesday and Thursday: 11.30 AM to 1 PM

Teaching Assistant: Krishna Kumar and Aayush Agarwal

Course Introduction:

The basic intension is to introduce selected development issues and motivate analytical thinking in the area of development economics. Three focus areas are growth, inequality and poverty. Models of economic growth, the issue of convergence of nations and the role of determinants of growth will be discussed. The concept of dual economy, measurement of poverty and inequality in less-developed economies is another key focus. Recent applications of random experiments in development policy will be highlighted.

Course Outcomes [CO]:

The course introduces the main issues, theories and empirical evidence on economic development and structural transformation in less developed economies. Upon completing the course, the students will be able understand and appreciate:

CO1: The key factors driving economic growth and structural transformation

CO2: The problem of economic inequality and poverty in developing economies in comparative development

CO2: The importance of econometric analysis for policy advice

Skills Imparted:

- Empirical Applications of Growth and Development models
- Use of cross-country data for development policy analysis
- Interpretation of econometric model based results for empirical analysis and policy design

Course Evaluation: In-class Tests (20%); Mid-Term (45%); End-term (25%); Term paper (10%)

Academic Integrity: If we suspect violation of academic integrity then I reserve the right to give an F grade for the entire course.

Attendance: You are required to maintain 85 percent attendance. Else you will not be allowed to take the final examination.

Two basic text books:

Debraj Ray (1998), Development Economics, Oxford University Press, Delhi.

Alain de Janvry and Elisabeth Sadoulet (2016), Development Economics: Theory and Practice, Routledge, London, 2016

Readings

1. Introduction to Economic Development and Basic Concepts

D.Ray-Chapter 2

Branko, Milonovic (2006): “Global Income Inequality: A Review”, *World Economics*, vol.7, No.1, page: 131-157

Sudhir Anand and Martin Ravallion: “Human Development in Poor Countries: On the role of Private incomes and Public Services”, *Journal of Economic Perspectives*, Vol.7, No.1, 1993, pp133-150

2. Models and Empirics of Economic Growth: Old and New

2A: Theories of Economic Growth

D. Ray, Chapter 3

*Jones, C. (2016). The Facts of Economic Growth. In Taylor, J. B. and Uhlig, H., editors, Handbook of Macroeconomics, volume 2 of Handbook of Macroeconomics, chapter 1, pages 3--69. Elsevier. Sections 4.6-4.7

*Mankiw, Romer and Weil (1992), “A Contribution to the Empirics of Economic Growth”, *Quarterly Journal of Economics*, 107, pp407-437

Xavier X. Sala-i-Martin (1996), “The Classical Approach to Convergence Analysis”, *The Economic Journal*, Vol. 106, No. 437 (Jul., 1996), pp. 1019-1036

2B New Growth Theories

D. Ray, Chapter 4

Deming, David J. 2022. "Four Facts about Human Capital." *Journal of Economic Perspectives*, 36 (3): 75-102.

2C TFPG and Determinants of Growth

D. Ray. Chapter 4, pp117-123

Easterly, William and Ross Levine, “It’s not factor accumulation: stylized facts and growth models”, *World Bank Economic Review*, Volume 15, Number 2, 2001

3. History and Institutions;

Acemoglu, Daron., Simon Johnson, and James Robinson. (2001). “Colonial Origins of Comparative Development: An Empirical Investigation,” *American Economic Review*, 91 (5), 1369-1401.

Anderson, Siwan. 2011. "Caste as an Impediment to Trade." *American Economic Journal: Applied Economics*, 3(1): 239-63

Pandey, Priyanka. 2010. "Service Delivery and Corruption in Public Services: How Does History Matter?" *American Economic Journal: Applied Economics*, 2 (3): 190-204. DOI: 10.1257/app.2.3.190

James Fenske (2013), DOES LAND ABUNDANCE EXPLAIN AFRICAN INSTITUTIONS?, *The Economic Journal*, DECEMBER 2013, Vol. 123, No. 573 (DECEMBER 2013), pp. 1363-1390: <https://www.jstor.org/stable/42919279>

Remi Jedwab and Alexander Moradi (2016), THE PERMANENT EFFECTS OF TRANSPORTATION REVOLUTIONS IN POOR COUNTRIES: EVIDENCE FROM AFRICA, *The Review of Economics and Statistics*, Vol. 98, No. 2 (May 2016), pp. 268-284, URL: <https://www.jstor.org/stable/43830347>

4. The Economics of Dual Economy and Structural Transformation

Debraj Ray, Chapter 10

Pranab Bardhan and C.Udry -Development Micro Economics, Oxford University Press, 1999, Chapter 5 (Migration)

Bustos, Paula, Bruno Caprettini, and Jacopo Ponticelli. 2016. "Agricultural Productivity and Structural Transformation: Evidence from Brazil." *American Economic Review*, 106 (6): 1320-65.

Gollin, Douglas (2010): Agricultural Productivity and Economic Growth Chapter 73, *Handbook of Agricultural Growth*, Elsevier

5. Inequality, Poverty and Development

5A Measurement of Inequality and Poverty:

Inequality: D.Ray, Chapter 6;

Poverty: Debraj Ray: Chapter 8

5B. Interconnections:

D.Ray, Chapter 7

de Janvry and Sadoulet , Chapter 6

Deininger and Squire (1998), “New Ways of Looking at Old Issues: Inequality and Growth”, *Journal of Development Economics*, Vol.58, pp259-287

6. Poverty, Agriculture and Employment Guarantee Programmes

Asher, Sam, and Paul Novosad. 2020. "Rural Roads and Local Economic Development." *American Economic Review*, 110 (3): 797-823.

Sekhri, Sheetal. 2014. "Wells, Water, and Welfare: The Impact of Access to Groundwater on Rural Poverty and Conflict." *American Economic Journal: Applied Economics*, 6 (3): 76-102.

Datt, Gaurav and Martin Ravallion, (1998), “Farm Productivity and Rural Poverty in India”, *Journal of Development Studies*, Vol.34, No.4, April, pp.62-85

Imbert, C., and J. Papp. 2015. ‘Labor market effects of social programs: Evidence from India’s employment guarantee’. *American Economic Journal: Applied Economics*, 7 (2): 233-63.

7. Microfinance and Development

de Janvry and Sadoulet, Chapter 13

Emily Breza, Cynthia Kinnan, Measuring the Equilibrium Impacts of Credit: Evidence from the Indian Microfinance Crisis, *The Quarterly Journal of Economics*, Volume 136, Issue 3, August 2021, Pages 1447–1497.

Banerjee, Abhijit, Esther Duflo, Clément Imbert, Santhosh Mathew, and Rohini Pande. 2020. "E-governance, Accountability, and Leakage in Public Programs: Experimental Evidence from a Financial Management Reform in India." *American Economic Journal: Applied Economics*, 12 (4): 39-72.

8. Conditional Cash Transfer (CCT) Versus Unconditional Transfer Programs

Johannes Haushofer, Jeremy Shapiro, The Short-term Impact of Unconditional Cash Transfers to the Poor: Experimental Evidence from Kenya, *The Quarterly Journal of Economics*, Volume 131, Issue 4, November 2016, Pages 1973–2042.

Sarah Baird, Craig McIntosh, Berk Özler, Cash or Condition? Evidence from a Cash Transfer Experiment, *The Quarterly Journal of Economics*, Volume 126, Issue 4, November 2011, Pages 1709–1753.

9. Women, Work and Development

Mammen, Kristin, and Christina Paxson. 2000. 'Women's Work and Economic Development.' *Journal of Economic Perspectives*, 14(4): 141-164

Rachel Heath, A. Mushfiq Mobarak. 2015. "Manufacturing growth and the lives of Bangladeshi women, *Journal of Development Economics*, 115 (July),pp.1-15,

10. Schooling and Health

Chou, Shin-Yi, Jin-Tan Liu, Michael Grossman, and Ted Joyce. 2010. "Parental Education and Child Health: Evidence from a Natural Experiment in Taiwan." *American Economic Journal: Applied Economics*, 2 (1): 33-61.

Burde, Dana, and Leigh L. Linden. 2013. "Bringing Education to Afghan Girls: A Randomized Controlled Trial of Village-Based Schools." *American Economic Journal: Applied Economics*, 5(3): 27-40

Muralidharan, Karthik, and Nishith Prakash. 2017. "Cycling to School: Increasing Secondary School Enrollment for Girls in India." *American Economic Journal: Applied Economics*, 9 (3): 321-50.

Tanika Chakraborty and Rajshri Jayaraman (2019), "School feeding and learning achievement: Evidence from India's midday meal program", *Journal of Development Economics* 139 (2019) 249–265

References:

Handbook of Development Economics (Volume Five),
DANI RODRIK and MARK ROSENZWEIG (editors),
Elsevier-North Holland, 2010