

Advanced Economic Theory (4 credits)

This course consists of 3 modules: Topics in Microeconomic Theory; Topics in Macroeconomic Theory; and Topics in Development Economics. The aim of each module is to introduce doctoral students to selected advanced topics in economic theory. Some of the topics included here are taught at a more basic introductory level in the Masters program, whereas some are not covered at all at the Masters level. The rationale for the selection is that these topics are at the forefront of current research in theoretical and applied economics. Exposure to these issues subsequently will help interested students to formulate research questions for their doctoral dissertations. This course will assume that students are already trained in postgraduate material in the relevant fields of economics.

The topics listed below under each module are not exhaustive. The actual selection of topics will depend on faculty availability and prior training of the students. Typically, a subset of the following topics will be covered in each section. The mode of evaluation will be decided by the teachers at the beginning of the semester.

Module A: Topics in Microeconomics

The aim of this module is to provide doctoral students a selective review of topics at the frontier of microeconomics. Many of these themes have direct relevance for a detailed analysis of aspects of development policy. Additionally, these topics will help student refresh their knowledge of microeconomic tools required for comprehending scholarly journal articles and books.

I. Selected Topics in Information Economics:

- a. Games extended by one round of communication
- b. Cheap talk communication in games
- c. Endogenous and exogenous information structures
- d. Persuasion games with biased experts

II. **Elements of Contract Theory:**

- a. Extending the models of adverse selection and moral hazard by exploring continuous type spaces, more than two effort levels and general utility function specifications
- b. Issues of commitment in adverse selection and moral hazard
- c. Issues in ex-ante and ex-post contracting in principal agent models
- d. Integrating concepts from models of adverse selection and moral hazard in hybrid models
- e. Dynamic contracting
- f. Limits to the complexity of contracts
- g. Limits to rational behaviour

III. **Fuzzy Preferences and Rational Choice:**

- a. Introduction to fuzzy preferences
- b. Modelling fuzzy preferences using fuzzy set theory
- c. Alternative definitions of transitivity property
- d. Alternative concepts of rationalizability and their characterization.

IV. **Introduction to the Economics of Networks:**

- a. Endogenous network formation
- b. Games on networks
- c. Core concepts of networks: centrality, homophily etc.
- d. Applications of networks in economic research: collusion on networks, job market search through social networks

V. **Risk, Asymmetric Information and Insurance Markets**

- a. Subjective Probability and Expected Utility (due to Ramsey, von Neumann-Morgenstern et al);
- b. Formalization of 'Risk', 'Riskiness' & the Theory of Risk-aversion;
- c. Asymmetric Information & Insurance Markets
- d. Applications in Development Economics

Selected readings:

Laffont, J.-J., and D. Martimort (2002), *The Theory of Incentives: The Principal Agent Model*, Princeton University Press

I. Macho-Stadler and J.D. Perez-Castrillo (2001), *An Introduction to the Economics of Information: Incentives and Contracts*, Oxford University Press

Salanie, B. (2005), *The Economics of Contracts: A Primer*, MIT Press

Bolton, P. and M. Dewatripont (2005), *Contract Theory*, MIT Press

Basu, K. (1984), Fuzzy Revealed Preference Theory, *Journal of economic Theory*

Dutta, B., S.C. Panda and P.K. Pattanaik (1986), Exact Choice and Fuzzy Preferences, *Mathematical Social Sciences*

Barrett, C.R., P.K. Pattaanaik and M. Salles (1990), On Choosing Rationally when Preferences are Fuzzy, *Fuzzy Sets and Systems*

Dasgupta M. and R. Deb (1996), Transitivity and Fuzzy Preferences, *Social Choice and Welfare*

Dutta, B. and M.O. Jackson (2003), *Networks and Groups*, Springer-Verlag

Jackson, M.O. (2008), *Social and Economics Networks*, Princeton University Press

Goyal, S. (2007), *Connections: An Introduction to the Economics of Networks*, Princeton University Press

Arrow, K.J. (1965), *Aspects of the Theory of Risk Bearing*, Yrjo Jahnssonin Saatio, Helsinki

Arrow, K.J. (1970), "The Organization of Economic Activity", in *Public Expenditure and Policy Analysis*, eds., Haveman, Robert E. and Julius Margolis (Markham)

Arrow, K J., (1978), "Risk Allocation and Information: Some recent theoretical developments", *Geneva Papers on Risk and Insurance*, 5-19

Rothschild, Michael and Joseph Stiglitz (1972), "Increasing Risk: A Definition", *J of Economic Theory*, *Journal of Economic Theory*, Vol. 2, 225-43

Rothschild, Michael and Joseph Stiglitz. (1976) "Equilibrium in competitive insurance markets: an essay on the economics of imperfect information" *The Quarterly Journal of Economics*, Vol. 90, No. 4, pp. 629-649.

Module B: Topics in Macroeconomics

This module consists of a selection of topics which have attracted significant attention in the macroeconomics discourse in recent times. While the emphasis is on formal models, these topics are useful not only in theoretical, but also in a wide range of applied economics research problems (including those related to specific problems of developing economies). The prerequisite for this module includes standard quantitative tools and techniques, including those of dynamic optimization (both sequential methods and dynamic programming), Markov chains and linear stochastic difference equations, along with familiarity with various concepts introduced in Masters level courses in economic theory.

I. Selected Topics in Economics of Contingent Markets

Departure from standard Arrow-Debreu equilibrium under complete markets: incomplete markets, heterogeneous agents and idiosyncratic risks, incomplete insurance, equity premium puzzle, limits of arbitrage, endogenous asset market segmentation: closed and open economy case, forward premium anomaly, optimal exchange rate policy, international portfolio diversification and speculative capital flows, efficiency of capital markets, bubbles and sunspots.

II. Recent Developments in the Theories of Business and Growth Cycles

DSGE models with market imperfections and frictions, applications of DSGE models in policymaking (including Central Bank monetary models), filters, alternative explanations of business and growth cycles: endogenous emergence of cycles and complex dynamics from purely deterministic economic systems, disequilibrium models of business cycles, credit and debt-driven cycles, introduction to complexity economics: *Santa Fe* and other alternative approaches.

III. Recent Developments in Endogenous Growth

Cross-country analysis of economic growth, role of human capital in economic growth, modeling technological change, models of directed technological change, diffusion of technology, role of geography, institutions, politics and distributional conflicts in economic growth.

IV. Selected Topics in Search and Matching in Labor Market

Endogeneous job destruction, on-the-job-search and variable search intensities, stochastic job matchings.

V. Recent Developments in Policy Issues

Time inconsistency and credibility, recent advances in monetary policy rules, problems of indeterminacy in monetary policy, recent advances in fiscal policy, optimal exchange rate policy.

VI. Introduction to Macroeconomic Modelling of Climate Change

Integrated Assessment Models (IAMs), green growth, implications for global food production, green paradox, climate change models with exogenous technological change (MERGE, CETA, DICE & RICE), climate change models with endogenous technological change (MESSAGE, R&DICE).

Selected readings

Acemoglu, D. (2008), 'Equilibrium bias of technology', *Econometrica* 75(5), 1371–1410

Acemoglu, D. (2009), *Introduction to Modern Economic Growth*, Princeton University Press, Princeton, New Jersey

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2002), Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution, *Quarterly Journal of Economics*, 117: 1231-1294

Barro, Robert J and Xavier Sala-i-Martin (2004): *Economic Growth*, MIT Press

Alvarez, F., Atkeson, A. & Kehoe, P. J. (2002), 'Money, Interest Rates, and Exchange Rates with Endogenously Segmented Markets', *Journal of Political Economy* 110(1), 73–112

Benhabib, Jess & Eusepi, Stefano (2005). "The design of monetary and fiscal policy: A global perspective," *Journal of Economic Theory*, Elsevier, vol. 123(1), pages 40-73, July

Benhabib, J. & Nishimura, K. (1985), 'Competitive equilibrium cycles', *Journal of Economic Theory* 35, 284–306

Benhabib, J., Schmitt-Grohé, S. & Uribe, M. (2002), 'Chaotic interest-rate rules', *The American Economic Review* 92(2), 72–78

Chiarella, C., Flaschel, P. & Franke, R. (2005), *Foundations for a Disequilibrium Theory of the Business Cycle - Qualitative Analysis and Quantitative Assessment*, Cambridge University Press, Cambridge, U.K.

Gali J. (2008), *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New-Keynesian Framework*, Princeton University Press, Princeton

Kiyotaki, N. & Moore, J. (1997), 'Credit cycles', *Journal of Political Economy* 105, 211-248

Knack, Stephen and Philip Keefer Source (1997): Does Social Capital Have an Economic Payoff? A Cross-Country Investigation, *The Quarterly Journal of Economics*, Vol. 112, No. 4, pp. 1251-1288

Lahiri, Amartya, Rajesh Singh, and Carlos Vegh. "Segmented asset markets and optimal exchange rate regimes." *Journal of International Economics* 72.1 (2007): 1-21

Ljungqvist, L. & Sargent, T. J. (2012), *Recursive Macroeconomic Theory*, third edn, MIT Press, Cambridge, Massachusetts.

Pissarides, C. A. (2000), *Equilibrium Unemployment Theory*, 2nd edn, MIT Press, MA

Shleifer, A. & Vishny, R. W. (1997), 'The limits of arbitrage', *The Journal of Finance* 52(1), 35-55

Woodford, M. (2002), *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton University Press, Princeton

Module C: Topics in Development Economics

The module will start by introducing students to the evolution of the main paradigms in development economics. Thereafter, selected advanced topics, which are at the forefront of current research, will be discussed. Not all topics listed below will be covered every year. The exact selection will depend on the interest of the students and faculty members involved.

- I. Development Economics: Shifting paradigms

- II. Role of history and path dependence and institutions in development
 - a. Role of expectations and multiple equilibria
 - b. Colonialism and the “great divergence”
 - c. Governance, decentralization and development
 - d. Imperfect markets: land, labour and credit

- III. Evaluating development interventions
 - a. Randomized Control Trials
 - b. Experiments

- IV. Capability approach and development as freedom

- V. Globalization, Economic growth and structural transformation
 - a. Growth, poverty and inequality
 - b. Growth and exclusion
 - c. Political economy of global governance and institutions
 - d. Trade and global production networks
 - e. Emerging patterns of global accumulation, unequal development and crisis

Selected Readings

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001), "The colonial origins of comparative development: an empirical investigation" *American Economic Review* 91(5): 1369-1401

Banerjee, Abhijit, and Lakshmi Iyer (2005), "History, Institutions, and Economic Performance: The Legacy of Colonial Land Tenure Systems in India." *The American Economic Review* 95(4): 1190-1213

Bardhan, Pranab (2002), "Decentralization of governance and development." *Journal of Economic perspectives* 16(4): 185-205

Bhaduri, Amit (1973), "A study in agricultural backwardness under semi-feudalism." *The Economic Journal* 83(329): 120-37

Deaton, Angus (2010), "Instruments, randomization, and learning about development." *Journal of Economic Literature* 48(2): 424-55

Griffin, Keith (2003), "Economic globalization and institutions of global governance." *Development and Change* 34(5): 789-808.

Hoogvelt, Ankie (2001), *Globalization and the postcolonial world: The new political economy of development*. Johns Hopkins University Press

Karlan, Dean S. (2005), "Using experimental economics to measure social capital and predict financial decisions." *American Economic Review* 95(5): 1688-99

Meier, Gerald M., and Dudley Seers (eds.) (1984), *Pioneers in development*. New York: Oxford University Press

Meier, Gerald M. (2004), *Economic Development: Biography of A Subject*. Oxford University Press

McMillan, Margaret S., and Dani Rodrik (2011), *Globalization, structural change and productivity growth*. Working Paper No. w17143, National Bureau of Economic Research

Milberg, William, and Deborah Winkler (2010), "Financialisation and the dynamics of offshoring in the USA." *Cambridge Journal of Economics* 34(2): 275-293

Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny (1989), "Industrialization and the Big Push." *The Journal of Political Economy* 97(5): 1003-26

Nissanke, Machiko, and Erik Thorbecke (2006), "Channels and policy debate in the globalization-inequality-poverty nexus." *World Development* 34(8): 1338-1360

Sanyal, Kalyan K. (2007), *Rethinking capitalist development: primitive accumulation, governmentality and post-colonial capitalism*. Routledge

Sen, Amartya (1999), *Development as freedom*. Oxford University Press

Sen, Amartya (1988), "The concept of development." Chenery and Srinivasan (eds.) *Handbook of development economics* 1, pp. 9-26, North Holland

Stiglitz, Joseph E. (1974), "Incentives and risk sharing in sharecropping." *The Review of Economic Studies* 41(2): 219-55

Stiglitz, Joseph E., and Andrew Weiss (1981), "Credit rationing in markets with imperfect information." *The American economic review* 71(3): 393-410