Macroeconomics: Outline and Readings

Course topics

- 1. <u>Macroeconomic Theory and Policy in a Closed Economy</u>
 - Introduction to IS-PC-MR model
 - Extensions to forward-looking expectations
- 2. Inflation dynamics
 - Inflation bias and monetary policy
 - Macroeconomics with sticky prices
 - New Keynesian Phillips Curve, inflation dynamics and optimal monetary policy
- 3. Macroeconomics at the 'Zero Lower Bound' (ZLB)
 - The Great Recession
 - The time inconsistency problem of policy at the ZLB
 - Forward guidance
 - Unconventional monetary policy and Quantitative Easing
- 4. Macroeconomics of the Open Economy
 - Modelling the foreign exchange market
 - Aggregate Demand and the open economy
 - Macroeconomic policy in the open economy
 - Inflation and Aggregate Demand shocks
 - Exchange rate overshooting
 - Aggregate Supply in the open economy
- 5. Economic Growth
 - Solow growth model
 - Endogenous growth models
 - Directed technical change and the skill premium
 - Convergence and `catch-up'
- 6. Intertemporal Macroeconomic modelling
 - Models of consumption and saving
 - Implications for fiscal policy: Ricardian equivalence
 - Introduction to Real Business Cycle (RBC) models
- 7. Debt and Fiscal Policy
 - Normative theories of public debt: sustainability and dynamics of government debt, intertemporal tax smoothing,
 - Positive theories of public debt: present in-office biases, politics and strategic debt management, signalling theories of debt, delayed stabilisation
 - Cost of debt, default and other issues: model of default risk and default, tackling debt bias, UK government debt 1694-2016.

Readings

Core texts for this course include:

- ``Macroeconomics: Institutions, Instability, and the Financial System'' by Wendy Carlin and David Soskice (Oxford University Press, 2015)
- ``Macroeconomics: Understanding the global economy'' by David Miles, Andrew Scott, and F.J. Breedon (John Wiley and Sons, 2012)
- ``Advanced Macroeconomics'' by David Romer (2006 edition)

A sample of papers discussed in the context of the course include:

- Dornbusch, R. (1976): ``Expectations and Exchange Rate Dynamics'', Journal of Political Economy.
- Diamond, D. and P. Dybvig (1983): ``Bank Runs, Deposit Insurance, and Liquidity'', Journal of Political Economy.
- Barro, R. and D. Gordon (1983): ``A Positive Theory of Monetary Policy in a Natural Rate Model", Journal of Political Economy.

Microeconomics: Outline and Readings

Course topics

1. General Equilibrium

Topics covered include:

- Competitive General Equilibrium: Principles,
- Equilibrium in Exchange Economies,
- Equilibrium with Production,
- Comparative Advantage and Trade

2. Welfare economics and social choice

Topics covered include:

- `Efficiency' and The Pareto Criterion,
- Computation of Pareto Efficient Allocations,
- First and Second Welfare Theorems,
- Aggregation of Utility: Social Welfare Functions, equality and link to efficiency,
- Aggregation of Ordinal Preferences,
- Social Choice Rules and Voting,
- Single-Peaked Preferences and the Median Voter Theorem,
- Manipulability and Revelation

3. Applied welfare, externalities and public goods

Topics covered include:

- Money-metric measures of welfare,
- Welfare analysis in quasi-linear environments,
- Cost-Benefit Analysis,
- Typology of Externalities,
- Public Goods: Samuelson Rule, Lindahl Prices,
- The Vickrey-Clarke-Groves Mechanism,
- Club Goods, Common Resources,
- Negative Externalities: Pigouvian Taxation, Coase Theorem, Prices vs Quantities,
- The Environment: Application to climate change

4. Game Theory

Topics covered include:

- Strategic games (players, strategies, payoffs);
- Strictly dominant strategies;
- Iterated elimination of strictly dominated strategies;

- Best responses and Nash equilibrium;
- Nash in pure and mixed strategies;
- Dynamic games given in extensive form; Backward Induction, and Subgame-perfect equilibrium (SPE),
- Finitely & infinitely repeated games; Folk Theorem

5. Industrial organisation and competition policy

Topics covered include:

- Applications of game theory to industrial organization
- Bertrand competition with and without identical products,
- Cournot oligopoly.
- Collusion
- Mergers
- Competition policy,

6. Decisions under risk

Topics covered include:

- Lotteries and Preferences over Lotteries;
- Certainty Equivalent, Risk Premium, State-Contingent Representation;
- Expected Utility and the Expected Utility Theorem;
- Attitudes to Risk, Measures of Risk Aversion, CARA and CRRA;
- First Order Stochastic Dominance and Second Order Stochastic Dominance;
- Insurance (symmetric information), Risk sharing & Risk Pooling

7. Information Economics

Topics covered include:

- Adverse Selection, The 'Lemons' Model, Market Unravelling, Inefficiencies,
- Signaling: Pooling and Separating Equilibria, with applications to Education,
- Screening: Self-Selection, with applications to insurance.
- Moral Hazard: The Principal-Agent model, Participation and Incentive Compatibility Constraints, Insurance vs Incentive Trade-off, Agency Costs

Readings

Core texts for this course include:

• Gravelle & Rees, Microeconomics

- Morgan & Katz & Rosen, Microeconomics
- Kreps, A Course in Microeconomic Theory
- Osborne & Rubinstein, Models in Microeconomic Theory
- Perloff, Microeconomics: Theory and Applications with Calculus
- Snyder & Nicholson, Microeconomic Theory: Basic Principles and Extensions
- Varian, Intermediate Microeconomics: A Modern Approach

Quantitative Economics: Outline and Readings

Course topics

- 1. Probability and Statistics
 - Axioms of probability
 - Conditional probability
 - Random Variables (RVs); discrete and continuous RVs. Univariate, joint and conditional distributions, statistical independence
 - Moments: expectation, variance, standardisation, covariance and correlation, conditional expectation
 - Estimation: random sampling, estimators, asymptotic properties
 - Inference: hypothesis testing, confidence intervals, and applications
- 2. Linear Regression and Causality
 - Univariate and multivariate regression by Ordinary Least Squares
 - Orthogonality and mean independence
 - Best Linear Prediction

3. Linear Regression and Statistical Inference]

• Inference on OLS parameters; Unbiasedness and consistency, hypothesis testing, standard error of the regression, R^2 and \bar{R}^2

4. Endogeneity

- Limitations of OLS: omitted variables, model misspecification, classical measurement error as sources of bias
- Causal interpretability of OLS estimates
- Reverse causality and simultaneously determined variables
- The randomised control trial
- Natural experiments, and Instrumental Variables

5. <u>Time Series</u>

- Descriptive time series modelling: what makes time series data different?
- Stationary time series
- Descriptive time series statistics; mean, variance, autocorrelation
- Autoregressive models; understanding stationarity, forecasting, estimation by OLS
- Forecast evaluation, model selection criteria, Granger causality
- Nonstationary time series; structural breaks, random walks, unit roots as stochastic trends, testing for unit roots, (augmented) Dickey-Fuller test, orders of integration
- Cointegration; the spurious regression problem, cointegration and long run equilibria, testing for cointegration.

Readings

The core text for this course is:

• Introduction to Econometrics by J. H. Stock and M. W. Watson