

Macroeconomics Q Exam Syllabus

Cornell University

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The qualifying exam in macroeconomic theory is offered twice each year, in the spring and again in late summer. The ‘Q’ exam is not a final exam for the macroeconomic theory sequence; nor is it the explicit goal of the courses to teach the exam. The exam covers the topics on the following outline. While students might expect that much of this material will be covered in Economics 613 and 614, not all of it will be, and the instructors may choose to devote time to topics not on the Q syllabus. Students are advised to clarify early on with their instructors what on this list will and will not be covered, so they can plan their studying accordingly.

1. **Non-stochastic Growth Models**

- Planner’s problem
- Steady state
- Phase diagrams
- Speed of convergence
- Transitional dynamics
- AK model

2. **Search**

- Recursive formulation of worker’s problem
- Optimal search policy
- Properties of reservation wages
- Career choice model
- Matching model of search

3. **Competitive Equilibrium**

- Pareto problem
- Time-0 trading

Pricing function
Optimality of CE
Pricing simple assets
Sequential trading
Arrow securities
Natural debt limits
Equivalence of equilibria with time-0 and sequential trading
Recursive competitive equilibrium

4. **Asset pricing**

Pricing kernel
Lucas trees and price of equity
Equity premium and relation with risk aversion

5. **OLG**

Non-monetary equilibrium
Monetary equilibria
Optimality and existence of monetary equilibria
Laffer curve
OLG with a productive asset

6. **Fiscal Policies in Non-Stochastic Growth Model**

Household's problem
Firm's decision
Competitive equilibrium
Steady state
User cost of capital

7. **Introduction to Macro Data**

Extracting and Measuring Cyclical Fluctuations
Stylized Facts of Economic Growth
Business Cycle Stylized Facts
Deterministic Detrending
Hodrick-Prescott Filter

8. **Properties and Solution of the Basic RBC Model**

Dynamic Optimization
Dynamic Programming
General Equilibrium Growth Model

Social Planner's Problem vs. Competitive Equilibrium
Balanced Growth Path
Growth Accounting
Solow residual
Stationarity-Inducing Transformation
Calibration
Certainty Equivalence
Log-Linear Approximation
Method of Undetermined Coefficients
QZ Decomposition
Optimal Linear Regulator
Technology Shocks
Impulse Response Functions
Model Simulation
AR processes
Stationarity

9. **Performance and Some Extensions of the RBC Model**

Indivisible Labor
Investment Technology Shocks
Variable Capacity Utilization
Home Production
Government Consumption Shocks
Labor and Capital Adjustment Costs

10. **Money and Output: Basic Facts and Flexible Price Models**

Long and Short Run Monetary Facts
Neutrality and Superneutrality
Money Demand
Shopping Time and Transaction Cost Models
Cash-in-Advance
Money-In-Utility
Liquidity Effects
Speculative Hyperinflations
Classical Dichotomy
Money Growth Shocks

11. **Measurement Without Much Theory**

Vector Autoregressions

Wold Decomposition Theorem
Invertibility
State Space Representation
Identification
Long and Short-Run Identification Restrictions
Structural Vector Autoregressions
Time Series Representations of DSGE Models
Narrative Approach
Evidence on Technology Shocks
Evidence on Monetary Policy Shocks
Evidence on Fiscal Policy Shocks

12. **Models of Nominal Rigidities**

Monopolistic Competition
Dixit-Stiglitz Aggregator
Sticky Price Model
Phillips Curve
Calvo Pricing
Quadratic Cost of Price Adjustment
Taylor Contracts
Menu Costs