

ECONOMICS 500

MONEY AND FINANCIAL SYSTEMS

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COURSE DESCRIPTION: This course focuses on the economics of financial markets and monetary policy. As with the economic analysis of any market, we will be concerned with understanding the movement of prices (financial asset prices – e.g., bond prices, interest rates and exchange rates) in these markets. Since financial assets entail future expected returns, we will also emphasize the measurement and management of risk associated with financial assets. The structure and motivations of players at financial institutions will also help to explain the movements and relevance of asset prices and risk. Therefore, this course will delve into the structure and behavior of key financial institutions, such as commercial banks; stock, bond, commercial paper, currency and derivative markets, and the Federal Reserve Bank. We will discuss the connection between financial and real markets (i.e. the markets for real output and labor) to show how financial market shocks can affect the real economy. Because the instability in financial markets can sometimes spillover into the real economy, we will discuss the need for government intervention and the appropriate emphasis of that intervention.

When you finish this course, you should have a good working knowledge of,

- the purpose and function of financial markets
- the determinants of interest rate and exchange rate movements
- how to measure and assess risk associated with financial assets
- how to shift and spread risk
- the role of the market in stabilizing and destabilizing the financial sector
- the role of government intervention in stabilizing financial markets and promoting efficiency

TEXT: *Money, Banking and Financial Markets*, Stephen G. Cecchetti

EXAMS: There will be a Mid-term Exam on 09OCT and a Final Exam on 20NOV. The exams will be some combination of multiple choice, fill-in the blanks, short answer and essay. The final exam will not be comprehensive, but the material in the latter part of the class builds on material covered in the first half of the course.

QUIZZES and ASSIGNMENTS: There will be frequent quizzes and occasional assignments (there should be 6-8 of these combined). Their purpose is to ensure that you stay current in your reading and studying and so that I can gauge whether or not you understand the material. You are encouraged to work on the “Problems” and the Appendices at the end of each Chapter. I do not have the answers for these, but you can discuss any of these with me.

GRADES: Each exam will comprise 40% of your grade. The quizzes, assignments, and class participation will makeup 20% of your grade.

Review Sheets: I will provide you with an abbreviated version of my notes on my website (in the second week of class). These will be about 25 pages typed for the material for the mid-term exam and about 20 pages for the material for the final exam. These reviews will form a detailed outline of this course. They take the place of a more detailed syllabus.

Grading: Exams will comprise 80% of your course grade (40% for each). The remaining 20% will be from your assignments. You cannot make “Fs” on both exams and pass the class. On each exam and on each assignment, you will receive a grade expressed as a percentage. This grade will be weighted 40% for each exam and $(20\%)/(\# \text{ of assignments})$ for each assignment. As an example, if you receive an 80% on the mid-term exam, a 75% on the final exam and a 90% on each assignment (assume there are 6 assignments), your grade will be calculated as follows:

$$(80)(0.4) + (75)(0.4) + (90)(0.0333)(6) = 32 + 30 + 18 = 80, \text{ which is a B-}$$

Tentative Schedule

ECO 500 – Money and Financial Markets

Week 1

Major Sections

- A. Money, Financial Assets and Financial Markets (the basics)
Chapters 1-10
- B. Financial Intermediaries
Chapters 11-14
- C. Monetary Policy and the Financial System
Chapters 15-19
- D. Monetary Policy and the Real Economy
Chapters 20-23

Focus

Chapter 1 – Focus of Course

1. 5 Core Principles of Money and Banking
 - Time has value
 - People are usually risk averse and require compensation for taking on risk.
 - Information is the basis for decisions
 - Markets set prices and prices allocate resources
 - Stability/Risk Reduction improves welfare
2. Course (Each Chapter and Concept) is Focused on
 - Understanding Return and Risk on Financial Assets
 - How to Manage Risk
 - How to use information and lack of information to maximize welfare

Money and Inflation

Chapter 2 – Money: Some Basic Concepts

1. The Function of Money
Medium of Exchange (relate to inflation) and Store of Value (relate to interest rates)
2. Types of Money and some Issues
 - Commodity Money
 - Currency
 - Checking Money
 - Monetary Aggregates
3. Money and Inflation – We will approach this more formally/precisely in Section D on Monetary Policy
4. Readings:
Money Growth and Inflation 1999

Monetary Aggregates and Inflation 2007

Financial Assets and Financial Markets

Chapter 3 – Financial Assets and Financial Markets

1. Financial Development and GDP Growth (causality?)
2. Financial Instruments – Assets and Liabilities
3. Usefulness of Financial Assets
 - a. Store of Value/Return
 - b. Risk shifting/sharing/pooling
 - c. Underdeveloped Countries and EFMs example
4. Types of Financial Assets we will study (briefly – more in Chapters 6-9)
 - a. Debt
 - b. Equity
 - c. Derivatives
5. Function of Financial Markets
 - a. Buy and Sell Financial Assets
 - b. Buy and Sell Risk
 - c. Communicate Information on Value and Risk
6. Structure of Successful Financial Markets
7. Characteristics of Successful Financial Markets

Week 2

Return and Risk

Chapter 4 – Present Value, Future Value and Interest Rates

1. Basics of PV, FV and R
2. Applications
 - Internal Rate of Return
 - Discount Bond (Continued in Chapter 6)
3. Real vs. Nominal Interest Rates
4. Return and Risk Tradeoff associated with all financial assets

Chapter 5 – Risk

1. Basics – Definition and Measurement – Expected Value, Standard Deviation and Value at Risk
2. Risk Preferences and Risk Premium (basic e.g.)
3. Idiosyncratic Risk and Systemic Risk (basic e.g.)
4. Managing Risk
 - a. Diversification and risk reduction (basic e.g.)
 - b. Hedging Risk (basic e.g.)
 - c. Risk Sharing/Spreading/Pooling (basic e.g.)

Week 3

Bonds and Bond Markets

Chapter 6 – Bonds and Bond Markets

1. Bond Prices

2. Interest Rates/Yields
3. Discount Bonds (1 period and Multi-period)
4. Loans
5. Consols
6. Coupon Bonds
7. Annuities
8. Yields and Returns
 - a. Yield to maturity
 - b. Current Yield
 - c. Returns and capital gains
9. Price/Yield/Interest Rate and Quantity Determination (Supply and Demand for Bonds)
10. Risk on Bonds
 - a. Default Risk
 - b. Interest Rate Risk (Inflation Risk folded in)
 - c. Readings: 044

Week 4

Chapter 7 – Risk and the Term Structure of Interest Rates (Why do interest rates differ across financial assets (bonds)?)

1. Bond Ratings and the Structure of Yields/Interest Rates
2. Tax differences and the Structure of Interest Rates
3. Term to Maturity and Differences in Interest Rates
 - Yield Curve and Treasuries
 - Shapes
 - 3 Theories of the Term Structure
 - Implications for real interest rates and inflation
4. Readings: 095, 096, 046, 047

Stocks and Stock Markets

Chapter 8 – Stocks and Stock Markets

1. Equity vs. Debt, the role of Equity in the Economy
2. Valuing Stocks/Stock Prices (price is PV of expected future earnings, PV of future dividends)
3. Indexes for measuring stock performance
4. Risk on stocks
5. Efficiency of Stock Markets in reflecting relevant information in prices – Theory of Efficient Markets
6. Stock prices in the Long run and in the Short run.
7. Primary and Secondary Stock Markets and implications for firms
8. Readings: 084, 085, 086

Week 5

MID-TERM EXAM

Week 6

Derivatives and Derivative Markets

Chapter 9 – Derivatives and Derivative Markets (assets for risk management)

1. Definition (risk shifting) and Terms associated with Derivative Instruments
2. Forwards and Futures Instruments
 - Definitions and Basic Example
 - Marking to Market and Margin Requirements
 - Hedging and Speculating (e.g., SWA and Wall Plant)
 - Determinants of Futures Prices
3. Options
 - Basic Idea, Definitions and Terms
 - Use to shift some risk (e.g.)
 - Pricing Options
4. Swaps
 - Basic Idea, Definition and terms
 - Use
 - Pricing options
 - E.g. of Interest Rate Swaps
5. Use and Misuse of Derivatives
 - a. Problem may be in not knowing if you have hedged or speculated.
 - b. Not understanding the underlying risk
 - c. Not taking into account that everyone else may also be using the same models to price risk and they all unwind at the same time.
6. Readings:
 - a. Article on Primer on Interest Rate/ER Derivatives
 - b. Article on Black-Scholes

Foreign Exchange

Chapter 10 – Foreign Exchange – ER is a price of an asset (domestic currency in terms of another currency)

1. Definition of ER and Basics
2. Nominal vs. Real Exchange Rates
3. FOREX Markets
 - a. Operation
 - b. Long-term Determinants
 - Law of one price
 - Purchasing Power Parity
 - c. Short-term Determinants
 - Supply and Demand for currency
4. Government Policy and ER
 - What they can do
 - Why they do it

Week 7

Financial Intermediaries

Chapter 11 – Financial Intermediaries

1. Why do they exist? They provide assets to meet saver and borrower preferences.
 - a. Denomination Intermediation
 - b. Maturity Intermediation
 - c. Diversification
 - d. Risk Shifting
 - e. Information Provision – FI gather and process information
 - Asymmetric Information Problem
 - Adverse Selection (lemons problem)
 - Moral Hazard (principal/agent problem)
 - Examples with banks as lenders/borrowers (implication is that banks are special. They perform a function that capital markets cannot perform.)
 - Examples with insurance companies

Chapter 12 – Banks (Special role in the financial system, even more so in undeveloped financial systems – therefore we concentrate on them)

1. Large role as source of external finance for firms and consumers
2. Balance Sheet and Bank Performance of their function (Risk and Return)
 - a. Return from Loans and Securities
 - b. Risk – Where does it come from
 - Liquidity
 - Credit
 - Interest Rate
 - Operational
 - FOREX Trading
 - Sovereign
 - Role of Deposit Insurance
3. Need to Regulate
 - a. Inherent risks could cause market failure and affect real economy (e.g. of U.S., Europe, Thailand)
 - b. Continued in Chapter 14
4. Readings: 077, 006, 026, 034, 051, 087

Week 8

Chapter 13 – Non-Bank Financial Intermediaries

1. Insurance Companies
2. Pension Funds
3. Investment Banks
4. Securities Firms
5. Brokers
6. Mutual Funds
7. Hedge Funds

8. Finance Companies
9. Government Sponsored Financial Firms
 - Fannie Mae
 - Freddie Mac
 - Federal Home Loan Bank

Chapter 14 – Regulation and Financial Structure

1. Reasons for Regulation
 - a. Sources of Instability
 - b. Contagion
 - c. Effects on Real Economy
2. Government Safety Net
3. Readings: 007,

Week 9

Monetary Policy and Financial Stability

Chapter 15 and 16 – The Structure of the Central Bank

1. Introduction to Central Bank Operations
 - a. Goals/objectives
 - b. Inflation and Financial and Economic Stability
2. Independence, Decision making, and Accountability
3. Readings:

Chapter 17 and 18 – Money Supply Creation and the Central Bank

1. Money multiplier process
2. Required Reserve Constraint
3. Tools of the Fed
4. Use of Tools to avert financial crises and achieve long-run goals
5. Rules for monetary policy
6. Readings:

Chapter 19 – Monetary Policy and Exchange Rates

1. Goal: Fix versus Float
2. Mechanics
3. Limitations
4. Readings: 027, 028, 029, 038

[002 Asset Bubbles](#)

[003 Asset Price and MP Bernanke](#)

[004 Asset Prices and MP Bernanke](#)

[009 Bernanke Asset Price and MP](#)

[010 Bernanke Asset Prices KCFED](#)

[022 Deflation](#)

[030 Fed and ECB](#)

[031 FED Stock Mkt](#)

[042 Inflation Targeting Debate](#)

[043 Inflation Targeting Mishkin Bernanke](#)

[046 Long Term R and MP](#)
[047 Long Term R Conundrum](#)
[048 Margin Requirements and MP](#)
[053 MP and Core Inflation](#)
[054 MP and Stock Market](#)
[055 MP Continuity](#)
[056 MP Intro Part 1](#)
[057 MP Intro Part 2](#)
[058 MP Intro Part 3](#)
[059 MP Intro Part 4](#)
[060 MP Transition](#)
[061 MP without Govt Debt](#)
[062 NAIRU and MP](#)
[063 NAIURU and MP](#)
[064 Natural R](#)
[067 Optimal Inflation Rt](#)
[069 Precautionary MP](#)
[075 R and MP Conf Summary](#)
[079 Setting R](#)
[082 Stabilization Policy Eichenbaum](#)
[088 Sweep Accts](#)
[089 Time Inconsistency](#)
[090 Transparency and MP](#)
[093 Uncertain and MP](#)

Week 10

Chapter 20 and 21 – Monetary Policy and the Real Economy

1. Monetary policy and inflation
 - a. Medium of Exchange Function of Money – Quantity Theory of Money
 - b. Monetary aggregates and policy
 - c. Velocity and money demand
 - d. Long-run use of aggregates and short-term use of interest rates
2. Monetary Policy and Interest Rates
 - a. Store of Value Function of Money – Keynesian Theory of Money Demand
 - b. Liquidity Effect and longer-term effects
2. Monetary Policy and Aggregate Demand
 - a. Policy and interest rate affect on consumption and investment
 - b. Monetary Policy Reaction Function
 - c. Taylor's Rule
 - d. Exchange Rates

Chapter 22

1. Aggregate Supply
 - a. Long-run Aggregate Supply
 - b. Long-run Aggregate Supply
2. Interaction with Fiscal Policy
3. Readings: [036 Fiscal and MP](#)

Chapter 23

1. The Monetary Transmission Mechanism