

(1) Ch.1 – Why Study Money, Banking and Financial Markets?

- To examine how financial markets such as bonds, stock and foreign exchange markets work.
- To examine how financial institutions such as banks and insurance companies work.
- To examine the role of money in the economy.

a. Financial Markets:

- Markets in which funds are transferred from people who have an excess of available funds to people who have a shortage of funds.

b. The Bond Market and Interest Rates:

- A security (financial instrument) is a claim on the issuer's future income or assets.
- A bond is a debt security that promises to make payments periodically for a specified period of time.
- An interest rate is the cost of borrowing or the price paid for the rental of funds.

c. The Stock Market:

- A common stock represents a share of ownership in a corporation.
- A share of stock is a claim on the earnings and assets of the corporation.
- **(Preferred Stock: Fixed Income stream, and also you receive preference dividends)**
Exam

(Bonds rank > Preference stock dividends > Common stock dividends) *Exam*

d. The Foreign Exchange Market:

- The foreign exchange market is where funds are converted from one currency into another
- The foreign exchange rate is the price of one currency in terms of another currency.

(1 U.S. = 2.5 Pounds; 1 U.S. = 2.6 Pounds): U.S. Appreciated against Pounds

(1.5 USD = 1 Pounds; 2 Pounds = 1 Franks) 1 Franks =?? USD *Exam*

e. Banking and Financial Institutions:

- Financial Intermediaries – Institutions that borrow funds from people who have saved and make loans to other people.
- Banks – Institutions that accept deposits and make loans.
- Other Financial Institutions – Insurance companies, finance companies, pension funds, mutual funds and investment banks.
- Financial Innovation, in particular, the advance of the information age and e-finance.

ADR = American Deposits Receipts

WEBS = Portfolio of ADR's

f. Money and Business Cycles:

- Evidence suggests that money plays an important role in generating business cycles.
- Recessions (Unemployment) and booms (inflation) affect all of us... Oh really??!
- Monetary theory ties changes in the money supply to changes in aggregate economic activity and the price level.

g. Money and Inflation:

- The aggregate price level is the average price of goods and services in an economy.
- A continual rise in the price level (inflation) affects all economic players.
- Data shows a connection between the money supply and the price level.

h. Money and Interest Rates

- Interest rates are the price of money
- Prior to 1980, the rate of
-

i. Monetary and Fiscal Policy

- Monetary policy is the management of the money supply and the interest rates.
(Conducted by the Fed)
- Fiscal Policy is government spending and taxation

How we will study Money, Banking, and Financial Markets:

- A simplified approach of the demand of assets
- The concept of equilibrium
- Basic supply and demand to explain behavior in financial markets.
- The search for profits
- An approach
- (Read Book)

(2) Ch.2 – An Overview of the Financial System

Function of Financial Markets:

- Perform the essential function of channeling funds from economic players that have saved surplus funds to those that have a shortage of funds.
- Promotes economic efficiency by producing an efficient allocation of capital, which increases production.
- Directly improve the well-being of consumers by allows them to time purchases better.

Direct Finance:

Finances that comes from Lenders-Savers **DIRECTLY** to Financial Markets

Indirect Finance:

Finances that comes from Lenders-Savers **INDIRECTLY** through Financial Intermediaries.

Lenders-Savers; Borrower-Spenders ARE:

1. Households
2. Business Firms
3. Government
4. Foreigners

Structure of Financial Markets:

- Debt and Equity Markets
- Primary and Secondary Markets
 - o Investment Banks underwrite securities in primary markets
 - o Brokers and dealers work in secondary markets
- Exchanges and Over-The-Counter (OTC) Markets
- Money and Capital Markets
 - o **Money Markets** deal in **short-term** debt instruments
 - o **Capital Markets** deal in **longer-term** debt and equity instruments.

(Read & Understand Table 1: Principal Money Market Instrument)

(Know what "EURODOLLAR" means)

- **Foreign Bond:** A Bond issued in foreign Country.
- **EuroDollar:** U.S. Dollar Deposited in a foreign branch outside U.S and used as an international currency to finance trade.
- **Eurobond** – Bond denominated in a currency other than that of the country in which it is sold.
- **Euro Currencies:** foreign currencies deposited in banks outside the home currency.

(Read & Understand Table 2: Principal Capital Market Instrument)

Function of Financial Intermediaries:

- Lower Transaction Costs
 - o Economies of Scale
 - o Liquidity Services
- Reduce Risk
 - o Risk Sharing (Asset Transformation)
 - o Diversification
- Asymmetric Information
 - o Adverse Selection (before the transaction) – more likely to select risky borrower
 - o Moral Hazard (after the transaction) – less likely borrower will repay loan.

(Read & Understand Table 3: Primary Assets and Liabilities of Financial Intermediaries)

Three Primary Types of Intermediaries:

- Depository Institutions (Banks): Ex, Commercial Banks, Credit Union.
- Contractual Savings Institutions: Ex, Insurance Companies, Pension Funds.
- Investment Intermediaries: Ex, Finance Companies, Mutual Funds, Money Market.

Regulation of the Financial System:

- **To increase information available to investors:**
 - o Reduce adverse selection and moral hazard problems
 - o Reduce Inside Trading

- **To ensure the soundness of financial intermediaries:**
 - Restrictions on Entry
 - Disclosure
 - Restrictions on Assets and Activities
 - Deposit Insurance
 - Limits on Competition
 - Restrictions on Interest Rate

(Read & Understand Table 5: Primary Principal Regulatory Agencies of the U.S. Financial System)

Regulatory Agencies: (Bold text is important to know)

- **SEC**
- **CFTC**
- NCUA
- **FDIC: Federal Deposit Insurance Corporation**
- **Federal Reserve System**
- Others....

(3) Ch.3 – What Is Money?

Meaning of Money:

- Money (money supply) – anything that is generally accepted in payment for goods or services or in the repayment of debts; a stock concept.
- Wealth
- Income

Functions of Money:

- **Medium of Exchange:** Promoted economic efficiency by minimizing the time spent in exchanging goods and services
 - Must be easily standardized
 - Must be widely accepted
 - Must be divisible
 - Must be easy to carry
 - Must not deteriorate quickly
- **Unit of Account:** Used to measure value in the economy
- **Store of Value:** Used to save purchasing power; most liquid of all assets but loses value during inflation.

Evolution of the Payments System:

- Commodity Money
- Fiat Money
- Checks
- Electronic Payment
- E-Money

Read Table 1: Measure of the Monetary Aggregates

M1 = Currency + Traveler's Checks + Demand Deposits + Other Checkable Deposits

M2 = **M1** + Small-denomination time deposits + saving deposits and money market deposit account + Money market mutual fund shared (retail)

M1 Increased; M2 Decreased, what will occur?

Answer: Factors that affect M2 have decreased.

(4) Ch.4 – Understanding Interest Rates

Present Value:

- A dollar paid to you one year from now is less valuable than a dollar paid to you today. (True!)

Discounting the Future:

Let Interest = .10

In one year \$100 $(1+0.10)$ = \$110 Dollar

In two years \$110 $(1+0.10)$ = \$121

Or $100(1+0.10)^2$

Simple Present Value:

PV= today's value

CF= future cash flow

i= interest rate

Four Types of Credit Market Instrument:

- Simple Loan
- Fixed Payment Loan
- Coupon Bond
- Discount Bond

Yield to Maturity:

- The interest rate that equated the present value of cash flow payment received from a debt instrument with its value today.

Notes:

- If the price of a bond increases, its YTM decreases.
- When the coupon bond is priced at its face value, the YTM equals the coupon rate.
- The price of a coupon bond and the YTM are negatively related.
- The YTM is greater than the coupon rate when the bond price is below its face value.

Consol or Perpetuity:

- A bond with no maturity date that does not repay principal but pays fixed coupon payments forever.

Discount Bond – YTM

For any one year discount bond: $i = F - P/P$

Rate of Return: The payments to the owner plus change in value expressed as a fraction of the Purchase price.

$$RET = C/P_t + P_{t+1} - P_t / P_t$$

Rate of Return and Interest Rates:

- The return equals the..... Read Book

Interest-Rate Risk:

READ BOOK

Real and Nominal Interest Rates: (READ BOOK)

- Nominal Interest Rate makes no allowance for inflation.

Nominal Interest Rate = Real Interest Rate + Inflation

Real Interest Rate = Nominal Interest Rate - Inflation

Chapter 5: The Behavior of Interest Rates

Determining the Quantity Demanded of An Asset:

- **Wealth** – The total resources owned by the individual, including all assets.
- **Expected Return** – The return expected over the next period on one asset relative to alternative assets.
- **Risk** – the degree of uncertainty associated with the return on one asset relative to alternative assets.
- **Liquidity** – the easy and speed in which an asset could be turned to cash

Theory of Asset Demand:

Holding all other factors constant:

- 1- The **quantity demanded** of an asset is **positively** related to **wealth**.
- 2- The **quantity demanded** of an asset is **positively** related to its **expected return** relative to alternative assets.
- 3- The **quantity demanded** of an asset is **negatively** related to the **risk** of its returns relative to its alternative assets.
- 4- The **quantity demanded** of an asset is **positively** related to its **liquidity** relative to alternative assets

Supply and Demand for Bonds:

- At **lower prices (higher interest rates)**, ceteris paribus, the **quantity demanded** of bonds is **higher** – an **inverse relationship**.
- At **lower prices (higher interest rates)**, ceteris paribus, the **quantity supplied** is **lower** – a **positive relationship**.

(Lookup Figure 1: Supply and Demand for Bonds in Book)

Market Equilibrium:

- Occurs when the amount that people are willing to buy (demand) equals the amount people are willing to sell (supply) at a given price.
- When Supply > Demand, **Price will fall** and **interest will rise**.
- When Demand > Supply, **Price will rise** and **interest will fall**.

Shifts in the Demand for Bonds:

Demand shift to the Right when:

- **Wealth** – the more the wealth the more the demand, Demand shift to the right. →
- **Liquidity** – the higher the liquidity the Demand shift to the Right. →

Demand shift to the left when:

- **Expected Return (Interest Rate)** – the higher the expected interest rates in the future lowers the expected return for long-term bonds, Demand shift to the left. ←
- **Expected Inflation** – an increase in the expected rate of inflations lowers the expected return for bonds, Demand shift to the left. ←
- **Risk** – an increase in the risk of bonds causes a Demand shift to the left. ←

Shifts in the Supply of Bonds

Supply shift to the Right when:

- **Expected Profitability of investment opportunities** – in an expansion, the Supply shift to the right. →
- **Expected Inflation** – an increase in inflation rate will cause a Supply Shift to the Right. →
- **Government Budget** – increased budget deficit will cause a Supply shift to the Right. →

(Lookup Figure 4: Response to a change in Expected Inflation in Book)

(Lookup Figure 5: in Book)

(Lookup Figure 6: in Book)

The Liquidity Preference Framework:

(Read the book for this Framework, I couldn't write its information)

Shifts in the Demand for Money:

- **Income Effect** – A higher level of income causes the demand for money at each interest rate to increase, and the Demand Shift to the Right.
- **Price-Level Effect** – A rise in the price level causes the demand for money at each interest rate to increase and the Demand curve Shift to the Right.

Shifts in the Supply of Money:

- Supply of money is controlled by Central bank... (Read Book)
- The higher the supply the higher the income the higher the price level the higher bla bla bla..... Infinite Loop.

Everything Else Remaining Equal?

- Liquidity Preference framework leads to the conclusion that an increase in the money supply will lower interest rates – the liquidity effect.
- Income Effect: finds interest rate rising because increasing the money supply is an expansionary influence on the economy.
- Price-Level effect predicts an increase in the..... Read Book
- Expected—inflation effect..... Read Book

Price-Level Effect and Expected-Inflation Effect:

(READ BOOK: Page 115)

(Lookup Figure 11: in Book)

Lookup Book: Page 81 (Will come on Exam):

Return of Bond =

$(\text{Price of Bond at end of year} - \text{Current Price of the Bond} / \text{Current Price of Bond}) + \text{Coupon Payment} / \text{Current Price of the Bond}.$

Chapter 10: Banking and the Management Financial Institutions

The Bank Balance Sheet:

Total Assets = Total Liabilities + Capital

Liabilities = Sources of Funds

Assets = Uses of Funds

(Lookup Table 1: Balance Sheet of All Commercial Banks (items as a percentage of the total, January 2006))

Checkable Deposits:

- These are bank accounts allowing the owner to write checks to third parties.
 - These include Non Interest Bearing checking accounts (Demand deposits), Interest bearing NOW (Negotiable Order of Withdrawal), and Money Market Deposit Accounts (MMDA).
 - Payable on Order.
-

Basic Banking – Cash Deposit

First National Bank:

Asset: Vault Cash +\$100

Liabilities: Checkable Deposits +\$100

→ → →

First National Bank:

Assets: Reserves +\$100

Liabilities: Checkable Deposits +\$100

- **Opening of a checking account leads to an increase in the bank's reserves which is equal to the increase in checkable deposits.**
-

Non-Transaction Deposits:

- Primary Source of Funds for Banks (53%)
 - 2 Types: Saving Accounts and Time Deposits (CD)
 - Saving Accounts \leq \$100,000
 - CD \geq \$100,000 (Can be resold in the secondary market before maturity)
-

Check Deposits:

When a bank receives additional deposits, it gains an equal amount of reserves, when it loses deposits, it will lose an equal amount of reserves.

Basic Banking – Cash Deposit

First National Bank:

Asset: Vault Cash +\$100

Liabilities: Checkable Deposits +\$100

→ → →

First National Bank:

Assets: Reserves +\$100

Liabilities: Checkable Deposits +\$100

→ → →

Second National Bank:

Assets: Reserves **-\$100**

Liabilities: Checkable Deposits **-\$100**

Borrowings:

- From the Federal Reserve System (Discount Loans), Federal Home Loans and other banks. (Federal Reserve funds market)
 - Bank borrows overnight to meet Fed Deposit requirements.
 - Other Sources are Parent to Subsidiary, Repurchase Agreements & Eurodollars.
-

Bank Capital:

BC = Total Assets – Total Liabilities

- Can be increased by selling new equity or from retained earnings.
 - It acts as a cushion against drop in value of bank assets, which could lead to bankruptcy.
-

Assets:

Reserves:

- These are deposits plus currency that is physically held by banks (vault cash).
- Needed to meet reserve required x% of checkable deposits = reserve ratio.
- Excess Reserves are the most liquid of all assets.

Deposits at other Bank:

- Small banks hold deposits in larger banks in exchange of services:
 - o Check Collection
 - o FX Transactions
 - o Security Purchases

Usually part of the services of Correspondent Banking.

Cash items in process of collection + Deposits at Other banks + Reserves = Cash Items

Securities:

- Made entirely of debt instruments for Commercial Banks.
 - An important revenue earning asset.
 - 3 Categories:
 - BOOK!!!
-

Loans:

- In Recent Years, accounted for more than 50% of bank revenues.
- Less liquid than Government Securities. Hence, a higher risk and higher return for banks.
- The Loans vary from Commercial loans, interbank loans..... (missing text)

An Excess Reserve is usually used to give loans to people.

Banks borrows short and lends long!

Bank Management:

- Liquidity Management
 - Asset Management
 - Liability Management
 - Capital Adequacy Management
 - Credit Risk
 - Interest-Rate Risk
-

**Liquidity Managements: Managing Reserves:
(LOOKUP BOOK: IMPORTANT: EXAM MATERIAL)**

If a bank has a shortage in reserves, they could do one of the following:

- Borrow from another bank
 - Sell some of the securities
 - Borrow from the Fed
 - Reduce its Loans
-

Asset Management: Three Goals

- Seek the highest possible returns on loans and securities
- Reduce Risk
- Have adequate Liquidity

Asset Management: Four Tools

- Find borrowers who will pay high interest rates and have low possible of defaulting
 - Purchase securities with high returns and low risk
 - Lower risk by diversifying
 - Balance need for liquidity against increased returns from less liquid assets
-

Liability Management:

- Recent Phenomenon due to rise of money center banks
 - Expansion of overnight loans markets and new financial instruments (such as negotiable CDs)
 - Checkable deposits have decreased in importance as source of bank funds
-

Capital Adequacy Management:

- Bank Capital helps prevent bank failure
- The amount of capital affects return for the owners (equity holders) of the bank.
- Regulatory requirement

ROA= Net Profit after Taxes / Assets

ROE= Net Profit after Taxes / Equity Capital

EM= Assets / Equity Capital

ROE = ROA x EM

Capital Adequacy Management: Safety

- Benefits the owners of a bank by making their investments safe
- Costly to owners of a bank because the higher the bank capital, the lower return on equity.
- Missing text

Bank Capital Requirements:

- Due to the relatively high costs of holding capital, bank managers tend to hold less capital relative to assets.
 - In this case the amount of capital is determined by the bank capital requirements.
-

Credit Risk: (NOT INCLUDED IN MAJOR 2)

Interest-Rate Risk:

- If a bank has more rate-sensitive liabilities than assets, a rise in interest rates will reduce bank profits and a decline in interest rates will raise bank profits.

Basic Gap Analysis:

(Rate Sensitive Assets – Rate Sensitive Liabilities) x Change in Interest Rates = Change in Bank Profits

Maturity Bucket Approach: Not Important for Major 2

Duration Analysis:

Change of market value of security =^{approx.} – Percentage point of change in interest rate x duration in years

Macualy's Duration: An Example

- Using the example of First National Bank with 10% bank capital, \$100 assets, \$90 liabilities. If duration of Assets = 3 y ears and duration of liabilities = 2 years, will the bank gain or lose with a 5% increase in interest rate.

Answer:

$$= -5\% \times 3 = -15\% \rightarrow -\$15$$

.....

$$= -5\% \times 2 = -10\% \rightarrow -\$9$$

(ANSWER IS NOT COMPLETE, CHECK BOOK)

Chapter 7: The Stock Market, The Theory of Rational Expectations, and the Efficient Market Hypothesis

One-Period valuation Model: $P_0 = Div_1 / (1+k_e)$

Generalized Dividend Valuation Model: (CHECK BOOK FOR EQUATION)

The price of the stock is determined only by the present value of future dividend stream.

Gordon Growth Model: (Check Book for Equation)

- Dividends are assumed to continue growing at a constant rate forever.
-

How the Market Sets Price:

- The price is set by the buyer willing to pay the highest price.
 - The market price will be set by the buyer who can take best advantage of the asset
 - Superior information about an asset can increase its value by reducing its risk.
-

Theory of Rational Expectations:

- Expectations will be identical to optimal forecasts using all available information
- Even though a rational expectation equals the optimal forecast using all available information, a prediction based on it may not always be perfectly accurate
 - o It takes too much effort to make the expectation the best guess possible.
 - o Best guess will not be accurate because predictor is unaware of some relevant information.

Formal Statement of the Theory of Rational Expectation:

$$X^e = X^{of}$$

X^e = Expectation of the variable

X^{of} = Optimal forecast of the variable.

Implications:

- If there is a change in the way a variable moves, the way in which expectations of the variable are formed will change as well.
 - A forecast error of expectations will, on average, be zero and cannot be predicted ahead of time.
-

Efficient Markets – Application of Rational Expectations:

The rate of return from holding a security equals the sum of the capital gain on the security, plus any cash payments divided by the initial purchase price of the security... **(Check book for additional information)**

- **Check Equations in Book**
- **Current Prices** in a financial market will be set so that the optimal forecast of a security's return using all available information equals the security's equilibrium return.
- In an efficient market, a security's price fully reflects all available information.

Evidence in Favor of Market Efficiency:

- Having performed well in the past does not indicate that an investment advisor or a mutual fund will perform well in the future
- If information is already publicly available, a positive announcement does not, on average, cause's stock prices to rise.
- Stock prices follow a random walk
- Technical analysis cannot successfully predict changes in stock prices.

Evidence Against Market Efficient:

- Small-Firm Effect
 - January Effect
 - Market Over Reaction
 - Excessive Volatility
 - Mean Reversion
 - New Information is not always immediately incorporated into stock prices.
-

Application Investing in the Stock Market:

- Recommendations from investment advisors cannot us outperform the market.
 - A hot tip is probably information already contained in the price of the stock.
 - Stock Prices respond to announcements only when the information is new and unexpected.
 - A "buy and hold" strategy is most sensible strategy for the small investor.
-

Behavioral Finance:

- The lack of short selling (causing-over-priced stock) may be explained loss aversion
 - The large trading volume may be explained by investor overconfidence
 - Stock market bubbles may be explained by overconfidence and social contagion.
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Missed Two Classes... Was Absent!

Missed Chapters: 13 & 17

Chapter 16: The Conduct of Monetary Policy: Strategy and Tactics

Monetary Targeting I

- United States
 - o Fed Began to announce publicly targets for money supply growth in 1975.
 - o Paul Volker (1979) focused more in nonborrowed reserves
 - o Greenspan announced in July 1993 that the Fed would not use any monetary aggregates as a guide for conducting monetary policy.

Monetary Targeting II

- Japan
 - o In 1978 the Bank of Japan began to announce "forecasts" for M2 + CDs
 - o Bank of Japan's monetary performance was much better than the Fed's during 1978-1987.
 - o In 1989 the Bank of Japan switched to a tighter monetary policy and was partially blamed for the "lost decade"

Monetary Targeting III

- Germany
 - o The Bundesbank focused on "central bank money" in 1970s.
 - o A monetary targeting regime can restrain inflate.....
 - o

Monetary Targeting in General

- Flexible, Transparent, Accountable
- Advantages:
 - o Almost immediate signals help fix inflation expectations and produce less inflation.
 - o Almost immediate accountability.
- Disadvantages:
 - o Must be a strong and reliable relationship between the goal variable and the targeted monetary aggregate.

Inflation Targeting I

- o Public announcement of medium-term numerical target for inflation.
- o Institutional commitment to price stability as the primary, long-run goal of monetary policy and a commitment to achieve the inflation goal.
- o Information-inclusive approach in which many variables are used in making decisions
- o Increased transparency
- o

Inflation Targeting II

- United Kingdom (1992)
 - o Inflation has been close to its target.
 - o Growth has been strong and unemployment has been decreasing.

Inflation Targeting III

- Advantages
 - o Does not rely on one variable to achieve target
 - o Easily understood
 - o Reduced potential of falling in time-inconsistency trap
 - o Stresses transparency and accountability
- Disadvantages
 - o Delayed signaling
 - o Too much rigidity
 - o Potential for increased output fluctuations
 - o Low economic growth during disinflation

Monetary Policy with an Implicit Nominal Anchor

- There is no explicit nominal anchor in the form of an overriding concern for the Fed.
- Forward looking behavior and periodic "preemptive strikes"
-
-
-

Missing information

Tactics: Choosing the Policy Instrument:

Tools:

- Open market operations
- Reserve requirements
- Discount rate

Policy Instrument (Operating Instrument)

-
-
-

Tools of the Central Bank book

→

Policy Instruments book

→

Intermediate Targets book

→

Goals book

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Q) What is behind Europe's Stock Market Selloff?

Share Volatility Ahead
(Check CNBC)

Final Exam (4Q 40%)

Q1) Ch 10: Calculation

Q2) Ch 4: Calculation

Q3) Ch 5: Essay/Applications/Theories

Q4) Ch 17 / Ch 18 / Ch 15: Essay

Duration: 90 Minutes

Final Review:

4 Questions:

2 Calculation Questions (Ch 10, 4)

Ch. 4: Page 81.

Ch. 10: Like Major 2... Tea Accounts (Page 226)

$ROA \times EM = ROE$

(Equity Multiplier) $EM = \text{Assets} / \text{Equity}$ (Equity is Bank Capital)

1 Theory Question (Ch. 5)

Ch. 5: 2 Models: Fisher Model and LPM, **Check Applications!**

Pages: 92, 108, 109, 118)

1 Open Case Question (About the Global Financial Crisis) (Ch. 17, 18, 15)

Ex, Currency Foreign Exchange. Interest Rate Parity... Causes of Financial Crisis. Effects of Financial Crisis.
