



CIIA^â
Common Knowledge Examinations

Examination Syllabus
List of References & Suggested Readings



Examination Syllabus

Corporate Finance

1. Fundamentals of Corporate Finance
2. Long Term Finance Decision
3. Short-Term Finance Decision
4. Capital Structure and Dividend Policy
5. Mergers and Acquisitions
6. International Corporate Finance

- 1 Fundamentals of Corporate Finance**
 - 1.1 Goals of Corporate Finance**
 - 1.1.1 Value maximisation of shareholders
 - 1.1.2 Corporate Governance issue
 - 1.1.2.1 Agency relationship
 - 1.1.2.2 Control of the firm
 - 1.2 The Finance Function And the Firm's Objectives**
 - 1.3 Role of Financial Managers**
 - 1.4 Principles of Valuation**
 - 1.4.1 What is value?
 - 1.4.2 The valuation process
 - 1.4.3 Value creation for shareholders
 - 1.5 Discounted Cash Flow**
 - 1.5.1 What is cash flow?
 - 1.5.2 Basics of cash flow analysis
 - 1.5.3 Terminal values
 - 1.6 Capital Budgeting**
 - 1.6.1 Investment decision criteria
 - 1.6.1.1 Payback rules
 - 1.6.1.2 Discounting payback period method
 - 1.6.1.3 IRR
 - 1.6.1.4 NPV
 - 1.6.2 Cost of capital
 - 1.6.2.1 Cost of equity capital
 - 1.6.2.2 Cost of debt capital
 - 1.6.2.3 WACC
 - 1.6.2.4 Corporate taxes, interest subsidy and cost of capital
 - 1.6.3 CAPM
 - 1.6.3.1 Measuring beta
 - 1.6.3.2 Certainty equivalents
 - 1.6.3.3 Risk free rate
 - 1.6.3.4 Risk adjusted discount rates

1.6.3.4.1 CML

1.6.3.4.2 SML

2 Long Term Finance Decision

2.1 Investments Decision

2.1.1 Periodic budgeting

2.1.2 Project evaluation

2.2 Project Evaluation

2.2.1 Method for ranking investment proposals

2.2.2 Capital resource rationing

2.2.3 Common pitfalls (e.g. Sunk costs, depreciation)

2.3 Liquidation and Reorganisation

3 Short-Term Finance Decision

3.1 Short-Term Financing

3.1.1 Current asset financing

3.1.1.1 Needs for working capital

3.1.1.2 Components of working capital

3.1.2 Short term financing

3.1.2.1 Short-term financing resources

3.1.2.2 Short-term financial planning models

3.2 Cash Management

3.2.1 Credit management

3.2.1.1 Commercial credit instruments

3.2.1.2 Credit decision

3.2.2 Cash management

3.2.2.1 Target cash balance model

3.2.2.2 Cash conversion cycle

3.2.2.3 Investing idle cash balance

3.3 Short-Term Lending And Borrowing

3.3.1 Short-term lending

3.3.1.1 Money markets

- 3.3.1.2 Alternatives to money markets
- 3.3.2 Short-term borrowing
 - 3.3.2.1 Credit rationing
 - 3.3.2.2 Secured and unsecured loan

4 Capital Structure and Dividend Policy

4.1 Leverage and the Value of the Firm

- 4.1.1 Modigliani-Miller Theory
 - 1) Irrelevance Theorem
 - 2) Corporate taxes and capital structure
- 4.1.2 Bankruptcy cost model
- 4.1.3 Agency cost model

4.2 Dividend Policy

- 4.2.1 Types of dividend (cash dividend, stock dividend, and splits)
- 4.2.2 Repurchase of stock
- 4.2.3 Irrelevance Theorem
- 4.2.4 Clientele effect
- 4.2.5 Signaling model
- 4.2.6 Dividend policy in local market

5 Mergers and Acquisitions

5.1 Valuation Issues

- 5.1.1 Valuation of the target

5.2 Forms of Acquisition

- 5.2.1 Takeovers
- 5.2.2 Approved acquisitions
- 5.2.3 Creeping takeovers
- 5.2.4 Eliminating minority interests

5.3 Strategies for the Acquirer

- 5.3.1 Aggressive or agreed
- 5.3.2 Conditional or unconditional
- 5.3.3 Timing
- 5.3.4 Board considerations

- 5.4 Defensive Strategies**
- 5.4.1 Pre-emptive versus reactive
- 5.4.2 Pre-emptive (long-term) strategies
- 5.4.3 Pre-emptive (short-term) strategies

6 International Corporate Finance

6.1 International Capital Budgeting for Multinational Firm

- 6.1.1 Foreign project appraisal
- 6.1.2 Political risk analysis
- 6.1.3 Managing foreign exchange exposure

6.2 Asset and Project Finance

- 6.2.1 Asset-backed securities
- 6.2.2 Leasing
- 6.2.3 Project evaluation
- 6.2.4 Lender's evaluation of the project
- 6.2.5 Syndication

List of References & Suggested Readings

Corporate Finance

References

1. Brealey, Richard A. & Myers, Stewart C. (1996), *Principles of Corporate Finance*, 5th edition, McGraw-Hill, New York. (6th edition, 2000)
2. Eiteman, David K., Stonehill, Arthur & Moffett, Michael (1995), *Multinational Business Finance*, 8th edition, Addison-Wesley, Reading, MA.

Suggested Readings

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2. Brigham, Eugene F., Gapenski, Louis C. & Ehrhardt, Michael C. (1997), *Financial Management: Theory and Practice*, 9th edition, Dryden Press, Philadelphia, PA.
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7. Michel, Allen & Shaked, Israel (1991), "RJR: A case study of a complex leveraged buyout", *FAJ*, vol 47(5).
8. Miller; Merton, *The Modigliani Miller Propositions after Thirty Years*.
9. Myers, Stewart, *The Search for Optimal Capital Structure* (in JS & DC)
10. Myers, Stewart, *Still Searching for Optimal Capital Structure* (in JS & DC)
11. Rosenberg, Barry & Rudd, Andrew, *The Corporate Uses of Beta* (in JS & DC)
12. Smith, Clifford W. Jr, Smithson Charles W. & Skyes Wilford, D. (1990). *Managing Financial Risk*, Harper & Row, New York.
13. Smith, Clifford W., *Raising Capital: Theory and Evidence* (in JS & DC).
14. Stern, Joel M. & Chew, Donald H. Jr (eds) (1998), *The Revolution in Corporate Finance*, Blackwell, Blackwood, NJ.
15. Woolridge, Randal & Gosh, Chinmoy, *Dividend Cuts: Do They Always Signal Bad News?*
16. Wright, Mike & Ken Robbie, Ken (year), *Corporate Restructuring, Buy-outs and Managerial Equity, The European Dimension*.

Examination Syllabus

Economics

1. Macroeconomics
2. Macro Dynamics
3. International Economy and
Foreign Exchange Market

- 1. Macroeconomics**
 - 1.1 Measuring National Income and Price**
 - 1.1.1 National income accounting
 - 1.1.1.1 Concept of national income
 - 1.2 Equilibrium in the Real Market**
 - 1.2.1 Consumption
 - 1.2.1.1 Consumption function
 - 1.2.2 Investment
 - 1.2.2.1 Investment function
 - 1.2.3 Government expenditure
 - 1.2.3.1 Government revenue and expenditure
 - 1.2.3.2 Effect of government expenditure and tax on national income
 - 1.2.3.3 Government expenditure and crowding-out effect
 - 1.2.4 Equilibrium relationship in the good/service market: IS curve
 - 1.3 Equilibrium in the Money Market**
 - 1.3.1 Demand for money
 - 1.3.2 Equilibrium relationship in the monetary market: LM curve
 - 1.4 Equilibrium in Economy and Aggregate Demand**
 - 1.4.1 Aggregate demand
 - 1.5 Aggregate Supply and Determination of Price of Goods/Services**
 - 1.5.1 Aggregate supply
- 2. Macro Dynamics**
 - 2.1 Inflation**
 - 2.1.1 Unemployment and inflation rate
 - 2.1.2.1 Tradeoff between unemployment and inflation
 - 2.1.2.2 Natural rate of unemployment hypothesis and expected inflation
 - 2.2 Economic Growth**
 - 2.2.1 Main factor of economic growth
 - 2.2.1.1 Saving rate/capital

- 2.2.1.2 Population growth
- 2.2.2 Theory of economic growth
 - 2.2.2.1 Capital accumulation and economic growth
 - 2.2.2.2 Technological innovation and economic growth
 - 2.2.2.3 Human resources and economic growth
 - 2.2.2.4 Financial market and economic growth

2.3 Business Cycles

- 2.3.1 Theory of exogenous business cycle
- 2.3.2 Theory of endogenous business cycle
- 2.3.3 Fiscal/monetary policy and business cycle

3. International Economy and Foreign Exchange Market

3.1 Open Macro Economics

- 3.1.1 International balance of payments and capital flows
 - 3.1.1.1 Balance of payment statement
 - 3.1.1.2 Balance of payment and capital flows
 - 3.1.1.3 Factor affecting international capital movement
 - 3.1.1.4 Government's intervention and money supply
- 3.1.2 Determination of equilibrium national income in the open economy
 - 3.1.2.1 Foreign trade multiplier under floating system
 - 3.1.2.2 Open macroeconomics model: preliminary
 - 3.1.2.3 Equilibrium model of open economy
 - 3.1.2.4 Effect of fiscal policy
 - 3.1.2.5 Effect of monetary policy

3.2 Foreign exchange rate

- 3.2.1 Determinants of exchange rate in the long-run
 - 3.2.1.1 Concept of foreign exchange rate
 - 3.2.1.2 Price and foreign exchange rate
 - 3.2.1.2 Interest rate and foreign exchange rate
- 3.2.2 Determination of foreign exchange rates
 - 3.2.2.1 Monetary approach
 - 3.2.2.2 Asset approach
 - 3.2.2.3 Overshooting model
 - 3.2.2.4 Portfolio balance approach
- 3.2.3 Government intervention and foreign exchange policy

- 3.2.3.1 Government intervention
- 3.2.3.2 Foreign exchange rate and foreign exchange policy in local market
- 3.2.4 Foreign exchange risk and risk management
 - 3.2.4.1 Risk hedging with currency derivatives
 - 3.2.4.2 Growth of currency derivatives markets
- 3.2.5 Historical movement and forecasting of foreign exchange rate
 - 3.2.5.1 Historical analysis of foreign exchange rate
 - 3.2.5.2 Forecasting of foreign exchange rate
 - 3.2.5.3 Impact of foreign exchange rate change on security prices

3.3 Central Bank and Monetary Policy

- 3.3.1 Monetary policy
 - 3.3.1.1 Target of monetary policy
 - 3.3.1.2 Instruments of monetary policy
- 3.3.2 Transmission effect of monetary policy on real economy
- 3.3.3 Central bank operations in major countries
- 3.3.4 Effect of monetary policy on security markets

List of References & Suggested Readings

Economics

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1. Krugmann, Paul R. & Obstfeld, Maurice (1994), *International Economics: Theory and Policy*, 3rd edition, HarperCollins college Publishers (Scott, Foresman & Co), New York.
2. Samuelson, Nordhaus (1998), *Economics*, 16th edition, Irwin McGraw-Hill, New York.
3. Solnik, Bruno (1996), *International Investments*, 3rd edition, Addison-Wesley, Reading, MA.

Examination Syllabus

Financial Accounting and Financial Statement Analysis

1. Financial Reporting Environment
2. Framework for the Preparation and Presentation of Financial Statements
3. Statement of Cash Flows
4. Generally Accepted Accounting Principles: Income Recognition
5. Generally Accepted Accounting Principles: Assets, Liabilities and Shareholders' Equities
6. Business Combination
7. Foreign Currency Transactions
8. Financial Reporting and Financial Statement Analysis
9. Analytical Tools for Gaining Financial Statements Insights
10. Analytical Tools for Assessing Profitability and Risk

- 1 Financial Reporting Environment**
 - 1.1 Business Activities and Principal Financial Statements**
 - 1.1.1 Principal financial statements
 - 1.1.1.1 Balance sheet
 - 1.1.1.2 Income statement
 - 1.1.1.3 Statement of cash flows
 - 1.1.1.4 Notes to financial statements
 - 1.1.2 Relation between business activities and financial statements
 - 1.1.2.1 Balance sheet: Investing and financing activities
 - 1.1.2.2 Income statement operating activities
 - 1.2 Financial Reporting Issues**
 - 1.2.1 Uses of financial accounting reports
 - 1.2.1.1 Equity investment
 - 1.2.1.2 Credit extension
 - 1.2.1.3 Competition
 - 1.2.1.4 Merger and Acquisition
- 2 Framework for the Preparation and Presentation of Financial Statements**
- 3 Statement of Cash Flows**
 - 3.1 Rationale for the Statement of Cash Flows**
 - 3.2 Relation between Income Flows and Cash Flows**
- 4 Generally Accepted Accounting Principles: Income Recognition**
 - 4.1 Accrual Basis**
 - 4.1.1 Criteria for revenues recognition
 - 4.1.2 Criteria for expense recognition
- 5 Generally Accepted Accounting Principles: Assets, Liabilities and Shareholders' Equities**
 - 5.1 Assets: Recognition, Valuation and Classification**
 - 5.1.1 The liquid assets
 - 5.1.1.1 Marketable securities (amortized cost, lower cost, mark to market)

- 5.1.2 Inventories
 - 5.1.2.1 Valuation bases (acquisition, current, net realizable value)
 - 5.1.2.2 Cost-flow assumptions (FIFO, LIFO, weighted average)
- 5.1.3 Property, plant, equipment and intangible assets
 - 5.1.3.1 Valuation bases (acquisition cost, current replacement cost)
 - 5.1.3.2 Depreciation method (straight line, accelerated)
 - 5.1.3.3 Accounting for research and development
 - 5.1.3.4 Accounting for software development
 - 5.1.3.5 Accounting for goodwill
- 5.1.4 Long-term investment in corporate securities
 - 5.1.4.1 Types of investments
 - 5.1.4.2 Minority, passive investment (marketable, non marketable)
 - 5.1.4.3 Minority, aggressive investment (equity method)
 - 5.1.4.4 Majority, aggressive investment (consolidated financial statements)
 - 5.1.4.5 Joint ventures (equity method, proportionate consolidation)

5.2 Liabilities

- 5.2.1 Principles of liabilities recognition and measurement
- 5.2.2 Hybrid securities
 - 5.2.2.1 Convertible debt securities
 - 5.2.2.2 Debt issues with detachable warrants
- 5.2.3 Off-balance sheet financing agreements
 - 5.2.3.1 Sales or receivables with resources
 - 5.2.3.2 Product financing arrangement
 - 5.2.3.3 R&D financing arrangement
 - 5.2.3.4 Take or pay or throughput contracts
- 5.2.4 Leases
 - 5.2.4.1 Operation leases
 - 5.2.4.2 Finance lease or capital lease
 - 5.2.4.3 Conditions requiring financial lease accounting
- 5.2.5 Retirement benefits
 - 5.2.5.1 Pensions
 - 5.2.5.2 Post-retirement benefits other than pension
- 5.2.6 Income taxes
 - 5.2.6.1 Financial accounting vs. tax accounting
 - 5.2.6.2 Deferred tax accounting

5.3 Shareholders' Equities

- 5.3.1 Issuance of capital stock

- 5.3.2 Acquisition and reissue of treasury stock
- 5.3.3 Cash, property and stock dividends
- 5.3.4 Accounting
- 5.3.5 Other changes in retained earnings

6 Business Combination

6.1 Mergers and Acquisitions

- 6.1.1 Acquisitions
 - 6.1.1.1 Asset valuation in acquisitions
 - 6.1.1.2 Accounting for goodwill
- 6.1.2 Mergers
 - 6.1.2.1 Pooling of interests method
 - 6.1.2.2 Purchase method
 - 6.1.2.3 Criteria for pooling of interests

6.2 Consolidated Financial Statements

- 6.2.1 Full line consolidation
 - 6.2.1.1 Need for
 - 6.2.1.2 Meaning of
 - 6.2.1.3 Elimination of double counting
 - 6.2.1.4 Minority interests
 - 6.2.1.5 Limitations
- 6.2.2 Partial consolidation
 - 6.2.2.1 Equity method
 - 6.2.2.2 Proportionate consolidation

7 Foreign Currency Transactions

7.1 Foreign Currency Transactions

- 7.1.1 Initial recognition
- 7.1.2 Reporting at subsequent B/S daily
- 7.1.3 Recognition of exchange differences

7.2 Financial Statements of Foreign Operations

- 7.2.1 Classification of foreign operations
- 7.2.2 Translation of financial statements of foreign operations
- 7.2.3 Translation of financial statements of foreign entities

8 Financial Reporting and Financial Statement Analysis

8.1 Income Flows vs Cash Flows

8.1.1 Relation between net income and cash flows from operations

8.1.2 Net income and cash flows in various stages of life cycle

8.2 Quality of Earnings, Earnings Management

8.2.1 Data issues in analyzing financial statements

8.2.1.1 Non-recurring income items

8.2.1.2 Income from continuing operations

8.2.1.3 Income, gains and losses from discontinued operations

8.2.1.4 Extraordinary items

8.2.1.5 Adjustments for changes in accounting principles

8.2.1.6 Changes in accounting estimates

8.2.2 Significance and implication of alternative accounting principles on the financial statement

8.2.2.1 Effects on income and balance sheets

8.2.2.2 Effects on cash flows

8.2.2.3 Analysts' treatment of alternative accounting principles

8.3 Earning Per Share

8.3.1 Calculation of EPS (simple and complex capital structure)

8.3.2 Using EPS to value firms

8.3.3 Criticisms of EPS

8.4 Segment Reporting

8.4.1 Definition

8.4.1.1 Industry segments

8.4.1.2 Geographical segments

8.4.2 Disclosure requirements

8.4.3 Using segment information on the analysis

8.5 Interim Financial Statements

9 Analytical Tools for Gaining Financial Statements Insights

9.1 Balance Sheets

9.1.1 Common size analysis

9.1.2 Time series analysis

9.2 Income Statement

9.2.1 Common size analysis

9.2.2 Time series analysis

10 Analytical Tools for Assessing Profitability and Risk

10.1 Profitability Analysis

10.1.1 ROA

10.1.1.1 Desegregation of ROA

10.1.1.2 Interpreting ROA

10.1.2 ROCE

10.1.2.1 Relating ROA to ROCE

10.1.2.2 Desegregating ROCE

10.2 Risk Analysis

10.2.1 Short-term liquidity risk

10.2.1.1 Current ratio

10.2.1.2 Quick ratio

10.2.1.3 Operating cash flow to current liabilities

10.2.1.4 Working capital activity ratio

10.2.1.5 Operating cash flow to cash interest cost

10.2.2 Long-term solvency risk

10.2.2.1 Debt ratio

10.2.2.2 Interest coverage ratio

10.2.2.3 Operating cash flow to total liabilities

10.2.2.4 Operating cash flow to capital expenditure

10.2.3 Financial distress risk

10.2.3.1 Univariate analysis

10.2.3.2 Multiple discriminant analysis

10.3 Break Even Analysis

10.4 Pro Forma Financial Statements

10.4.1 Steps in preparing pro forma financial statements

10.4.2 Conditions when common size percentage, growth rates, and turnover provide the best projections of financial statements amounts

List of References & Suggested Readings

Financial Accounting and Financial Statement Analysis

References

1. Eiteman, David K., Stonehill, Arthur & Moffett, Michael (1995), *Multinational Business Finance*, 8th edition, Addison-Wesley, Reading, MA.
2. Ress, Bill (1995), *Financial Analysis*, Prentice-Hall, Upper Saddle River, NJ.
3. White, Gerald I., Sondhi, Aashwinpaul C. & Fried, D.V. (1994), *The Analysis and Use of Financial Statements*, John Wiley & Sons Inc. (2nd edition, 1998)

Suggested Readings

1. Benninga, Simon Z. & Sarig, Oded (1997), *Corporate Finance: A Valuation Approach*, McGraw-Hill, New York.
2. Elliot and Elliot (1996), *Financial Accounting and Reporting*, 2nd edition, Prentice-Hall, Upper Saddle River, NJ.
3. Foster (1986), *Financial Statement Analysis*, 2nd edition, Prentice-Hall, Upper Saddle River, NJ.

Examination Syllabus

Equity Valuation and Analysis

1. Equity Markets and Structures

1 Equity Markets and Structures

- 1.1 Types of equity securities
 - 1.1.1 Common stock
 - 1.1.2 Preferred stock
 - 1.1.3 Equity mutual fund shares
- 1.2 Indices

1.2 Understanding the Industry Life Cycle

1.3 Analysing the Industry Sector and Its Constituent Companies

- 1.3.1 The industry sector
- 1.3.2 Characteristic of the industry
- 1.3.3 Macro factor
- 1.3.4 Forecasting for companies in the sector
- 1.3.5 Balance sheet factors
- 1.3.6 Corporate strategy
- 1.3.7 Valuations

1.4 Understanding the Company

- 1.4.1 Historical financial performance
- 1.4.2 Segmental information
- 1.4.3 Inventory, debtors and creditors
- 1.4.4 Depreciation and amortisation
- 1.4.5 Completing the forecasts

1.5 Valuation Model of Common Stock

- 1.5.1 Dividend discount model
 - 1.5.1.1 Zero-growth model
 - 1.5.1.2 Constant growth model
 - 1.5.1.3 Multiple growth model
- 1.5.2 Free cash flow model
- 1.5.3 EVA, MVA, CFROI, abnormal earnings discount model
- 1.5.4 Measures of relative value
 - 1.5.4.1 Price/earning ratio
 - 1.5.4.2 Price/book value ratio
 - 1.5.4.3 Price/cash flow ratio
 - 1.5.4.4 Price/sales ratio

List of References & Suggested Readings

Equity Valuation and Analysis

References

1. Bodie, Zvi, Kane, Alex & Marcus, Alan J. (1996), *Investments*, 3rd edition, Irwin, Homewood, Ill. (4th edition, 1999, McGraw-Hill, New York.)
2. Brealey, Richard A. & Myers, Stewart C. (1996), *Principles of Corporate Finance*, 5th edition, McGraw-Hill, New York. (6th edition, 2000)
3. Sharpe, W.F., Alexander, G.J. & Bailey, J.V. (1999), *Investments*, 6th edition, Prentice-Hall, Upper Saddle River, NJ.
4. Solnik, Bruno (1996), *International Investments*, 3rd edition, Addison-Wesley, Reading, MA.

Examination Syllabus

Fixed Income Valuation and Analysis

1. Financial Markets and Instruments
2. Time Value of Money
3. Bonds With Warrants
4. Convertible Bonds
5. Callable Bonds
6. Floating Rate Notes
7. Mortgage-backed Securities
8. Fixed income Portfolio Management
Strategies

- 1 Financial Markets and Instruments**
 - 1.1 Fixed Income: Corporate and Government**
 - 1.1.1 Types of fixed income securities
 - 1.1.1.1 Money market instruments
 - 1.1.1.2 Government bonds
 - 1.1.1.3 Corporate securities
 - 1.1.2 Indices
- 2 Time Value of Money**
 - 2.1 Time Value of Money**
 - 2.1.1 Simple versus compound interest
 - 2.1.2 Present and future value
 - 2.1.3 Annuities
 - 2.1.4 Continuous discounting and compounding
 - 2.2 Bond Yield Measures**
 - 2.2.1 Yield vs discount
 - 2.2.2 Current yield
 - 2.2.3 Yield to maturity
 - 2.2.4 Yield to call
 - 2.2.5 Other basic concepts
 - 2.2.5.1 Spot rates
 - 2.2.5.2 Discount function
 - 2.2.5.3 Forward rates
 - 2.2.5.4 Relations between spot rate, forward rate and the slope of the term structure
 - 2.3 Term Structure of Interest Rates**
 - 2.3.1 Yield curves and shapes
 - 2.3.2 Theories of term structure
 - 2.3.2.1 Expectations hypothesis
 - 2.3.2.2 Liquidity preferences
 - 2.3.2.3 Market segmentation and preferred habitat theories
 - 2.4 Bond Price Analysis**
 - 2.4.1 Basic price/yield relationship
 - 2.4.2 Yield spread analysis

- 2.4.2.1 Types of spreads
- 2.4.2.2 Determinants of yield spreads
- 2.4.3 Valuation of coupon bonds using zero-coupon prices
- 2.4.3.1 Static arbitrage and valuation of coupon bonds
- 2.4.3.2 Strips markets

2.5 Risk Measurement

- 2.5.1 Risk measurement tools
- 2.5.2 Duration and modified duration
- 2.5.3 Convexity
- 2.5.4 Hedging

2.6 Credit Risk

- 2.6.1 Industry consideration
- 2.6.2 Ratio analysis
- 2.6.3 Credit rating and rating agencies

3 Bonds With Warrants

- 3.1 Investment Characteristics
- 3.2 Value Of Warrants

4. Convertible Bonds

4.1 Investment Characteristics

4.2 Value of Conversion Benefits

5 Callable Bonds

5.1 Investment characteristics

- 5.1.1 Price-yield relationship for a callable bond
- 5.1.2 Negative convexity

5.2 Valuation and Duration

- 5.2.1 Determining the call option value
- 5.2.2 Option-adjusted spread
- 5.2.3 Effective duration and convexity

- 6 Floating Rate Notes**
 - 6.1 Investment Characteristics and Types**
 - 6.2 Valuation Method**
- 7 Mortgage-backed Securities**
 - 7.1 Types of Mortgages**
 - 7.1.1 Level-payment fixed-rate
 - 7.1.2 Adjustable-rate (ARM)
 - 7.2 Types of Securities**
 - 7.2.1 Pass-through securities
 - 7.2.2 Collateralised mortgage obligations
 - 7.3 Factors Affecting Market Price**
 - 7.3.1 Underlying collateral
 - 7.3.2 Structure and seasoning
 - 7.3.3 Prepayment rate
 - 7.3.4 Level of interest rate
 - 7.3.5 Liquidity
 - 7.3.6 Credit risk
 - 7.4 Valuation Methodologies**
 - 7.4.1 Static cash flow yield methodology
 - 7.4.2 Prepayment model
- 8 Fixed income Portfolio Management Strategies**
 - 8.1 Active Management**
 - 8.1.1 Interest rate anticipation strategies
 - 8.1.2 Yield spread analysis
 - 8.1.3 Maturity spacing strategies strategies
 - 8.2 Passive Management**
 - 8.2.1 Buy and hold
 - 8.2.2 Indexation

- 8.2.3 Immunisation
- 8.2.4 Cash flow matching

8.3 Portfolio Construction Based on a Factor Model

- 8.3.1 Model specification
- 8.3.2 Suitable factors such as interest rates, spreads
- 8.3.3 Managing factor sensitivities

8.4 Computing the Hedge Ratio: The Modified Duration Method

List of References & Suggested Readings

Fixed Income Valuation and Analysis

References

1. Bodie, Zvi, Kane, Alex & Marcus, Alan J. (1996), *Investments*, 3rd edition, Irwin, Homewood, Ill. (4th edition, 1999, McGraw-Hill, New York.)
2. Fabozzi, Frank J. (1996), *Bond Markets, Analysis and Strategies*, 3rd edition, Prentice-Hall, Upper Saddle River, NJ.
3. Sharpe, W.F., Alexander, G.J. & Bailey, J.V. (1999), *Investments*, 6th edition, Prentice-Hall, Upper Saddle River, NJ.

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1. Douglas, L. (1990), *Bond Risk Analysis*, Institute of Finance, New York.
2. Elton, Edwin J. & Gruber, Martin J. (1991), *Modern Portfolio Theory and Investment Analysis*, John Wiley & Sons Inc, New York, chs 18-20. (5th edition, 1995)
3. Fabozzi, F. (ed) (1989), *Bond and Mortgage Markets*, Probus.
4. Fabozzi, F. (ed) (1991), *The Handbook of Fixed Income Securities*, Irwin.
5. Stern, Joel M. & Chew, Donald H. Jr (eds) (1998), *The Revolution in Corporate Finance*, Blackwell, Blackwood, NJ.

Examination Syllabus

Derivative Valuation and Analysis

1. Financial Markets and Instruments
2. Analysis of Derivatives and Other Products

- 1. Financial Markets and Instruments**
 - 1.1 Derivatives Markets**
 - 1.1.1 Fixed income derivatives
 - 1.1.2 Interest rate options
 - 1.1.3 Interest rate futures
 - 1.1.4 Delivery options
 - 1.1.5 Conversion factors
 - 1.1.6 Cheapest-to-deliver bonds
 - 1.1.7 Custom interest rate agreements (interest swap, IRA, cap, floor and swaptions)
 - 1.1.8 Equity derivatives
 - 1.1.9 Options on individual stocks
 - 1.1.10 Stock index futures and options
 - 1.2 Futures Markets**
 - 1.2.1 Basic characteristics of futures contract
 - 1.2.2 Mechanics of trading in futures markets
 - 1.3 Related Markets**
 - 1.3.1 Swaps
 - 1.3.1.1 Characteristics of swaps
 - 1.3.1.2 Related products (IRA, cap, floor, swaptions)
- 2. Analysis of Derivatives and Other Products**
 - 2.1 Futures**
 - 2.1.1 Factors determining contract price
 - 2.1.2 Theoretical price of futures
 - 2.1.3 Basis and factors causing change
 - 2.1.4 Arbitrage problems
 - 2.1.5 Hedging strategies
 - 2.1.5.1 The hedge ratio
 - 2.1.5.2 The perfect hedge
 - 2.1.5.3 Minimum variance hedge ratio
 - 2.1.5.4 Hedging with several futures contracts
 - 2.2 Options**
 - 2.2.1 Determinants of option price

- 2.2.2 Options pricing models
 - 2.2.2.1 B&S option pricing formula and variants
 - 2.2.2.2 European options on stocks paying known dividends
 - 2.2.2.3 European options on stocks paying unknown dividends
 - 2.2.2.4 American options on stocks paying known dividends
 - 2.2.2.5 Options on stock indices
 - 2.2.2.6 Options on futures
 - 2.2.2.7 Options on currencies
 - 2.2.2.8 Warrants
 - 2.2.2.9 Binomial option pricing model
- 2.2.3 Sensitivity analysis of options premiums
 - 2.2.3.1 The strike price
 - 2.2.3.2 Price of underlying assets, and delta and gamma
 - 2.2.3.3 The time to maturity and theta
 - 2.2.3.4 Interest rate and rho
 - 2.2.3.5 Volatility of the stock returns and vega
- 2.2.4 Volatility and related topics
 - 2.2.4.1 Estimating volatility from historical data
 - 2.2.4.2 Implied volatility and volatility smile
- 2.2.5 Exotic options
- 2.2.6 Options strategies
 - 2.2.6.1 Covered call
 - 2.2.6.2 Protective put
 - 2.2.6.3 Spreads
 - 2.2.6.4 Straddles
 - 2.2.6.5 Strangles

2.3 Asset-backed securities

- 2.3.1 Types of underlying assets
 - 2.3.1.1 Instalment contract
 - 2.3.1.2 Revolving lines of credit
 - 2.3.1.3 Other assets
- 2.3.2 Cash flow characteristics
- 2.3.3 Credit enhancement
- 2.3.4 Valuation methodologies

List of References & Suggested Readings

Derivative Valuation and Analysis

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Examination Syllabus

Portfolio Management

1. Modern Portfolio Theory
2. Investment Policy
3. Asset Allocation
4. Practical Portfolio Management
5. Performance Measurement
6. Management of Investment Institutions

- 1. Modern Portfolio Theory**
 - 1.1 The Risk/Return Framework**
 - 1.1.1 Return
 - 1.1.1.1 Measures of return (e.g. holding period, arithmetic average, geometric average, time-weighted and dollar weighted)
 - 1.1.2 Risk
 - 1.1.2.1 Components of total risk (i.e. systematic or unsystematic)
 - 1.1.3 Measures of risk
 - 1.1.3.1 Measures (e.g. variance, standard deviation, coefficient of variation, covariance, correlation and beta)
 - 1.1.3.2 Value at Risk
 - 1.2 Efficient Market Hypothesis**
 - 1.2.1 Definition and assumptions
 - 1.2.2 Alternative hypothesis
 - 1.2.3 Types of market efficiency
 - 1.2.3.1 Weak form
 - 1.2.3.2 Semi-strong form
 - 1.2.3.3 Strong form hypothesis
 - 1.2.4 Market anomalies
 - 1.2.4.1 Size effect (i.e. small firm effect)
 - 1.2.4.2 High E/P ratio effect
 - 1.2.4.3 Day of the week effect
 - 1.2.4.4 Year-end or January effect
 - 1.2.4.5 Return patterns (e.g. value line enigma, quarterly earnings surprises)
 - 1.2.4.6 Fama-French book value/market value
 - 1.3 Portfolio Theory**
 - 1.3.1 Diversification and portfolio risk
 - 1.3.2 Markowitz model and efficient frontier
 - 1.4 Capital Asset Pricing Model (CAPM)**
 - 1.4.1 Major assumptions
 - 1.4.2 Capital market line (CML)
 - 1.4.3 Security market line (SML)
 - 1.4.4 International CAPM

1.5 Arbitrage Pricing Theory

- 1.5.1 Assumptions
- 1.5.2 One factor models
- 1.5.3 Multi-factor models
 - 1.5.3.1 Time-series approach
 - 1.5.3.2 Cross-sectional approaches
 - 1.5.3.3 Statistical approaches (factor analysis)
- 1.5.4 Arbitrage pricing theory
 - 1.5.4.1 Factor models and arbitrage portfolios
 - 1.5.4.2 Factor risk premiums and expected returns

2 Investment Policy

2.1 Investment Objectives

- 2.1.1 Setting investment objectives for individuals
- 2.1.2 Deciding portfolio structure
- 2.1.3 Setting objectives for institutions
 - 2.1.3.1 Objectives (return requirement, risk tolerance)
 - 2.1.3.2 Constraints (liquidity, time horizon, tax considerations, legal and regulatory considerations)
 - 2.1.3.3 Pensions and employee benefit funds
 - 2.1.3.4 Endowment funds
 - 2.1.3.5 Insurance companies and commercial banks

3 Asset Allocation

3.1 Asset Allocation Overview

- 3.1.1 What is asset allocation?
- 3.1.2 Who does asset allocation?
- 3.1.3 Implementing and managing the asset allocation process
- 3.1.4 Evolution of asset allocation theory, practice and performance
- 3.1.5 Capital market expectations (economic, social, political and market factors)

3.2 Type of Asset Allocation

- 3.2.1 Integrated asset allocation
- 3.2.2 Strategic asset allocation
- 3.2.3 Tactical asset allocation
- 3.2.4 Dynamic asset allocation

4 Practical Portfolio Management

4.1 Managing an Equity Portfolio

- 4.1.1 Active management
 - 4.1.1.1 Technical analysis/market timing
 - 4.1.1.2 Stock selection/industry selection
 - 4.1.1.3 Growth/value style
 - 4.1.1.4 Specialisation/themes
 - 4.1.1.5 Anomalies
 - 4.1.1.6 Top-down/bottom-up
 - 4.1.1.7 Adjusting the beta of an equity portfolio
- 4.1.2 Passive management
 - 4.1.2.1 Buy and hold
 - 4.1.2.2 Stock index funds
 - 4.1.2.3 Customised funds
 - 4.1.2.4 Completeness funds
 - 4.1.2.5 Factor/style funds
 - 4.1.2.6 Indexing technology
 - 4.1.2.7 Benchmark choice
 - 4.1.2.8 Choice of the tracking error
- 4.1.3 Combined strategies
 - 4.1.3.1 Active/passive combinations
- 4.1.4 Portfolio construction based on a factor model

4.2 Derivatives in Portfolio Management

- 4.2.1 Combining options and traditional assets
- 4.2.2 Portfolio insurance
 - 4.2.2.1 Static portfolio insurance
 - 4.2.2.2 Dynamic portfolio insurance
 - 4.2.2.3 Constant proportion portfolio insurance
- 4.2.3 Hedging with stock index futures
- 4.2.4 Hedging with foreign exchange futures
- 4.2.5 Hedging with interest rate futures
- 4.2.6 Use of swaps in portfolio management
- 4.2.7 Asset allocation with futures

4.3 Managing a Property Portfolio

- 4.3.1 The role of property in a diversified portfolio

- 4.3.2 The property investment decision
- 4.3.3 Microeconomic influences on property returns
- 4.3.4 Macroeconomic influences on property returns
- 4.3.5 Difference property investments

4.4 Alternative Assets/Private Capital

- 4.4.1 Unlisted (non-property) securities
- 4.4.2 Terms, conditions and characteristics
- 4.4.3 Role in a traditional portfolio
- 4.4.4 Managing unlisted security vehicles
- 4.4.5 Monitoring and reporting

4.5 International Investments

- 4.5.1 International diversification
 - 4.5.1.1 Cross-correlations
 - 4.5.1.2 Country risk
 - 4.5.1.3 Emerging markets
- 4.5.2 Hedging foreign exchange risk
 - 4.5.2.1 Effective management of currency risk
 - 4.5.2.2 Behaviour of currency returns
 - 4.5.2.3 Is it a separate asset class/zero sum game?
 - 4.5.2.4 Treatment of currency within a global portfolio/optimal level of hedge
 - 4.5.2.5 Black's paper on universal currency hedge
 - 4.5.2.6 Use of overlay strategies
 - 4.5.2.7 Key sensitivities
 - 4.5.2.8 Currency-related example of performance attribution
- 4.5.3 International equities
 - 4.5.3.1 Reasons for holding international equity assets
 - 4.5.3.2 Performance objectives
- 4.5.4 International fixed income
 - 4.5.4.1 Reasons for holding international fixed interest assets
 - 4.5.4.2 Performance objectives
- 4.5.5 Managing a portfolio of international assets
 - 4.5.5.1 International investing
 - 4.5.5.2 Global asset allocation
 - 4.5.5.3 Portfolio management styles
 - 4.5.5.4 Portfolio construction
 - 4.5.5.5 Portfolio management strategy

5 Performance Measurement

5.1 Performance Measurement and Evaluations

- 5.1.1 Risk-return measurement
 - 5.1.1.1 Market and book value evaluation
 - 5.1.1.2 Time horizon and performance measurement
 - 5.1.1.3 Inflow/outflow of cash and performance measurement
 - 5.1.1.4 Time-weighted and dollar-weighted rate of return
- 5.1.2 Risk-adjusted performance measures
 - 5.1.2.1 Sharpe's measure
 - 5.1.2.2 Treynor's measure
 - 5.1.2.3 Jensen's alpha
 - 5.1.2.4 Appraisal ratio
- 5.1.3 Relative investment performance
 - 5.1.3.1 Manager-universe comparison
 - 5.1.3.2 Indices and benchmarks
 - 5.1.3.2.1 Index definition and calculation
 - 5.1.3.2.2 Choosing and constructing a benchmark
 - 5.1.3.2.3 Domestic vs. International benchmarks
 - 5.1.3.2.4 Cash benchmark and currencies
 - 5.1.3.2.5 Multi-currency investments and interest rate differentials
 - 5.1.3.2.6 Currency overlay and performance measurement
 - 5.1.3.2.7 Balanced benchmarks
 - 5.1.3.2.8 Random and normal portfolios
 - 5.1.3.2.9 Index vs. universe median
 - 5.1.3.3 Style-bogey comparisons
 - 5.1.4 Performance attribution analysis
 - 5.1.4.1 Asset allocation effect
 - 5.1.4.2 Industry selection effect
 - 5.1.4.3 Security selection effect
 - 5.1.4.4 Investment timing effect
 - 5.1.4.5 Attribution analysis of fixed income portfolio
 - 5.1.5 Special issues
 - 5.1.5.1 Performance evaluation of international investments
 - 5.1.5.2 A single currency attribution model by Brinson et al.
 - 5.1.5.3 Multi-currency attribution and interest rate differentials
 - 5.1.5.4 Performance evaluation of derivative investments

5.1.5.5 Effects of costs (including taxes, commissions, incentive fees etc.)

6 Management of Investment Institutions

6.1 Assessing and Choosing Managers

6.1.1 Style analysis

6.1.2 Means of style analysis

6.1.3 Style analysis: application to different asset classes equity

6.1.4 Risks, controls and prudential issues: organisational issues

6.1.5 Risks, controls and prudential issues: fee structures

List of References & Suggested Readings

Portfolio Management

References

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