



CEFA Syllabus 2020

As of November 2020, this new CEFA syllabus approved by the EMC Vienna on 4th April 2019 and ratified by the AGM Brussels on 14th June 2019 will enter into force.

Part 1 Economics

1. Macroeconomics

- 1.1. Measuring National Income and Price
 - 1.1.1. National income accounting
 - Concept of national income
 - 1.1.2. Consumption
 - Consumption function
 - Investment
 - Investment function
 - 1.2.3. Government expenditure
 - Government revenue and expenditure
 - Effect of government expenditure and tax on national income
 - 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
 - Tradeoff between unemployment and inflation
 - Natural rate of unemployment hypothesis and expected inflation
- 2.2. Economic Growth
 - 2.2.1. Main factor of economic growth
 - Saving rate/capital
 - Population growth
 - 2.2.2. Theory of economic growth
 - Capital accumulation and economic growth
 - Technological innovation and economic growth



Human resources and economic growth
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 Macroeconomics
 - 3.1.1. International balance of payments and capital flows
 - Balance of payment statement
 - Balance of payment and capital flows
 - Factor affecting international capital movement
 - Government's intervention and money supply
 - 3.1.2. Determination of equilibrium national income in the open economy
 - Foreign trade multiplier under floating system
 - Open macro economics model: preliminary
 - Equilibrium model of open economy
 - Effect of fiscal policy
 - Effect of monetary policy
 - 3.2. Foreign exchange rate
 - 3.2.1. Determinants of exchange rate in the long-run
 - Concept of foreign exchange rate
 - Price and foreign exchange rate
 - Interest rate and foreign exchange rate
 - 3.2.2. Determination of foreign exchange rates
 - Monetary approach
 - Asset approach
 - Overshooting model
 - Portfolio balance approach
 - 3.2.3. 3.2.3 Government intervention and foreign exchange policy
 - Government intervention
 - Foreign exchange rate and foreign exchange policy in local market
 - 3.2.4. 3.2.4 Foreign exchange risk and risk management
 - Risk hedging with currency derivatives
 - Growth of currency derivatives markets
 - 3.2.5. Historical movement and forecasting of foreign exchange rate
 - Historical analysis of foreign exchange rate
 - Forecasting of foreign exchange rate
 - Impact of foreign exchange rate change on security prices
 - 3.3. Central bank and monetary policy
 - 3.3.1. Monetary policy
 - Target of monetary policy
 - Instruments of monetary policy
 - 3.3.2. Transmission effect of monetary policy on real economy



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3.3.3.

Central bank operations in major countries

3.3.4.

Effect of monetary policy on security markets



Part 2 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
 - Agency relationship
 - 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 Flows
 - 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
 - Payback rules
 - Discounting payback period method
 - IRR
 - NPV
 - 1.6.2. Cost of capital
 - Cost of equity capital
 - Cost of debt capital
 - WACC
 - Corporate taxes, interest subsidy and cost of capital
 - 1.6.3. CAPM
 - Measuring beta
 - Certainty equivalents
 - Risk free rate
 - Risk adjusted discount rates
 - CML
 - SML
- 2. Long-Term Finance Decision**
 - 2.1. Investment 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 (eg. Sunk costs, depreciation)



- 2.3. Liquidation and Reorganisation

- 3. Short-Term Finance Decision**
- 3.1. Short-Term Financing
 - 3.1.1. Current asset financing
 - Needs for working capital
 - Components of working capital
 - 3.1.2. Short term financing
 - Short-term financing resources
 - Short-term financial planning models
- 3.2. Cash Management
 - 3.2.1. Credit management
 - Commercial credit instruments
 - Credit decision
 - 3.2.2. Cash management
 - Target cash balance model
 - Cash conversion cycle
 - Investing idle cash balance
- 3.3. Short-Term Lending and Borrowing
 - 3.3.1. Short-term lending
 - Money markets
 - Alternatives to money markets
 - 3.3.2. Short-term borrowing
 - Credit rationing
 - Secured and unsecured loans

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

- 5. Mergers and Acquisitions**
- 5.1. Valuation Issues
 - 5.1.1. Valuation of the target
- 5.2. Forms of Acquisitions



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- 5.2.1. Take-overs
- 5.2.2. Approved acquisitions
- 5.2.3. Creeping take-overs
- 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



Part 3 Financial Accounting and Financial Statement Analysis

- 1. Financial Reporting Environment**
 - 1.1. Financial Statements
 - 1.1.1. Balance sheet
 - 1.1.2. Income statement
 - Presentation formats
 - Classification of expenses (by nature or by function)
 - 1.1.3. Statement of cash flows
 - 1.1.4. Statement of changes in equity
 - The comprehensive income
 - 1.1.5. Notes to financial Statements
 - 1.1.6. Relation between business activities and financial statements
 - 1.2. Financial Reporting Issues
 - 1.2.1. Uses of financial statements
 - Equity investment
 - Credit extension
 - Competition
 - Merger & Acquisition
 - 1.2.2. International differences in accounting
 - International differences in accounting
 - Market – oriented accounting systems
 - Bank – oriented accounting systems
 - The IASB and the IFRSs
- 2. Framework for the Preparation and Presentation of Financial Statements**
 - 2.1. Objective of financial statements
 - 2.2. Accounting conventions (going concern, accrual Basis, etc)
 - 2.3. Criteria for accounting recognition
 - 2.4. Fundamental definitions (asset, liability, equity, revenue, expense)
- 3. The cash flow statement**
 - 3.1. Rationale for the Statement of Cash Flows
 - 3.2. Relation between Income Flows and Cash Flows
 - 3.3. Presentation of the cash flow statement
 - 3.3.1. The direct method
 - 3.3.2. The indirect method
- 4. The income statement: Revenue recognition**
 - 4.1. Criteria for revenues recognition
 - 4.1.1. Sales of goods
 - 4.1.2. Rendering of services
 - 4.2. Measurement of revenues
 - 4.3. Construction contracts
 - 4.3.1. Percentage of completion method



- 4.3.2. Completed contract method
- 4.4. Accounting for stock – options and similar benefits
 - 4.4.1. Classification of sharebased payments
 - 4.4.2. Equity – settled sharebased payments
 - 4.4.3. Cash-settled sharebased payments

- 5. Assets, Liabilities and Shareholders Equity**
 - 5.1. Assets
 - 5.1.1. Property, plant and equipment
 - Measurement at cost
 - Measurement at fair value
 - 5.1.2. Investment property
 - Measurement at cost
 - Measurement at fair value
 - 5.1.3. Intangible assets
 - Criteria for recognition
 - Accounting for research and development costs
 - 5.1.4. Inventories
 - Measurement
 - Cost formulas(FIFO, LIFO, weighted average Cost)
 - 5.1.5. Financial instruments
 - Classification
 - Measurement at fair value
 - Measurement at amortized cost
 - Hedge accounting
 - 5.1.6. Impairment of assets
 - Measuring the recoverable amount
 - Impairment tests
 - 5.2. Liabilities
 - 5.2.1. Bonds
 - Accounting for bond discounts/premiums
 - 5.2.2. Hybrid securities
 - Convertible debt securities
 - Debt issues with detachable warrants
 - 5.2.3. Leases
 - Operating leases
 - Finance leases
 - 5.2.4. Borrowing costs
 - Conditions for capitalization
 - Costs that may be capitalized
 - 5.2.5. Retirement benefits
 - Pensions
 - Post-retirement benefits other than pensions
 - 5.2.6. Income Taxes
 - Temporary differences



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- Deferred taxes
- 5.2.7. Provisions
 - Conditions for the recognition of provisions
 - Contingent liabilities
- 5.3. Shareholders' Equities
 - 5.3.1. Issuance of capital stock
 - 5.3.2. Acquisition and reissue of treasury stocks
 - 5.3.3. Cash, property and stock dividends
 - 5.3.4. Accounting
 - 5.4.5. Other changes in retained earnings
- 6. Business Combination**
 - 6.1. Mergers and Acquisitions
 - 6.1.1. Acquisitions
 - Asset valuation in acquisitions
 - Accounting for goodwill
 - 6.1.2. Mergers
 - Pooling of interests method
 - Purchase method
 - 6.2. Consolidated Financial Statements
 - 6.2.1. The scope of consolidation
 - 6.2.2. Consolidation methods
 - 6.2.3. The difference arising from consolidation
 - 6.2.4. Uses of each method
 - 6.2.5. The consolidation procedure
 - 6.2.6. Analysis of the difference arising from initial consolidation
 - 6.2.7. Impairment of goodwill
- 7. Foreign Currency Transactions**
 - 7.1. Foreign Currency Transaction
 - 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 to the presentation currency
- 8. Financial Reporting and Financial Statement Analysis**
 - 8.1. Income Flow vs Cash Flow
 - Relation between net income and cash flows from operating activities
 - 8.1.1. Net income and cash flows in various stages of life cycle
 - 8.1.2. Quality of Earning, Earnings Management
 - 8.2. Quality of Earning, Earnings Management
 - 8.2.1. Data issues in analyzing financial statements
 - Non-recurring income items
 - Income, gains and losses from discontinued operations



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- 8.2.2. Accounting changes
 - Changes in accounting estimates
 - Changes in accounting policies
 - Adjustments to prior financial statements
- 8.3. Earnings per Share
 - 8.3.1. Basic earnings per share
 - 8.3.2. Diluted earnings per share
 - 8.3.3. Using EPS to value firms
 - 8.3.4. Criticisms of EPS
- 8.4. Segment Reporting
 - 8.4.1. Definition
 - Industry segments
 - Geographical segments
 - 8.4.2. Disclosure requirements
 - 8.4.3. Using segment information
- 8.5. Interim Financial Statements

- 9. Analytical Tools for Gaining Financial Statement Insights**
 - 9.1. Balance Sheet
 - 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
 - Breakdown of ROA
 - Interpreting ROA
 - 10.1.2. ROCE
 - Relating ROA to ROCE
 - Breakdown of ROCE
 - 10.2. Risk Analysis
 - 10.2.1. Short term liquidity risk
 - Current ratio
 - Quick ratio
 - Operating cash flow to current liabilities
 - Working capital activity ratio
 - Operating cash flow to cash interest cost
 - 10.2.2. Long term solvency risk
 - Debt ratio
 - Interest coverage ratio
 - Operating cash flow to total liabilities
 - Operating cash flow to capital expenditure



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- 10.2.3. Financial distress risk
 - Univariate analysis
 - 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



Part 4 Equity Valuation and Analysis

1. Equity Markets and Structures

- 1.1. Types of equity securities
 - Common stock
 - Preferred stock
 - Equity mutual fund shares
- 1.2. 1.2. Indices

2. Understanding the Industry Life Cycle

Analysing the Industry Sector and its Constituent Companies

- 3.1. The industry sector
- 3.2. Characteristic of the industry
- 3.3. Macro factor
- 3.4. Forecasting for companies in the sector
- 3.5. Balance sheet factors
- 3.6. Corporate strategy
- 3.7. Valuations

4. Understanding the Company

- 4.1. Historical financial performance
- 4.2. Segmental information
- 4.3. Inventory, debtors and creditors
- 4.4. Depreciation and amortisation
- 4.5. Completing the forecasts

5. Valuation Model of Common Stock

- 5.1. Dividend discount model
 - 5.1.1. Zero-growth model
 - 5.1.2. Constant growth model
 - 5.1.3. Multiple growth model
- 5.2. Free cash flow model
- 5.3. EVA, MVA, CFROI, Abnormal earnings discount model
- 5.4. Measures of relative value
 - 5.4.1. Price/earning ratio
 - 5.4.2. Price/book value ratio
 - 5.4.3. Price/cash flow ratio
 - 5.4.4. Price/sales ratio



Part 5 Derivative Valuation and Analysis

1. Financial Markets and Instruments

1.1. Derivatives Markets

1.1.1. Fixed income derivatives

- Interest rate options

- Interest rate futures

 - Delivery options

 - Conversion factors

 - Cheapest-to-deliver bonds

 - Custom interest rate agreements (interest swap, IRA, cap, floor and swaptions)

1.1.2. Equity derivatives

- Options on individual stocks

- Stock index futures and options

1.2. Futures Markets

- Basic characteristics of futures contract

- Mechanics of trading in futures markets

1.3. Related Markets

1.3.1. Swaps

- Characteristics of swaps

- Related products (IRA, cap, floor, swaptions)

1.4. Credit derivatives: Market, instruments and general characteristics

1.4.1. Market of credit derivatives

1.4.2. Definition of credit default swaps (CDS)

1.4.3. Structural diagram of credit default swaps

1.4.4. Credit events

- Physical settlement

- Cash settlement

- Trigger events

1.4.5. CDS products

- Credit default swaps and credit linked notes

- Index products

- Other credit default swap products

1.4.6. The role of credit derivatives

- Isolating credit risk

- Efficient mechanism to short a credit

- Market for pure credit risks

- Liquidity provision in times of turbulence

- Tailor credit investments and hedges

- Confidential transactions

1.4.7. Market participants

- Bank and loan portfolio managers

- Market makers

- Hedge funds

- Asset managers



- Insurance companies
- Corporations
- 1.4.8. Institutional framework
 - Marking to market
 - Standardised documentation
 - Counterparty consideration
- 1.4.9. Spread volatility of credit default swaps
- 1.4.10. Credit derivatives: valuation of credit default swaps
 - Creating synthetic CDS
 - Valuation of credit default swaps by a non-arbitrage approach
 - Estimating default probabilities

- 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
 - The hedge ratio
 - The perfect hedge
 - Minimum variance hedge ratio
 - Hedging with several futures contracts
- 2.2. Options
 - 2.2.1. Determinants of option price
 - 2.2.2. Options pricing models
 - B&S option pricing formula and variants
 - European options on stocks paying known dividends
 - European options on stocks paying unknown dividends
 - American options on stocks paying known dividends
 - Options on stock indices
 - Options on futures
 - Options on currencies
 - Warrants
 - Binomial option pricing model
 - 2.2.3. 2.2.3 Sensitivity analysis of options
 - Premiums
 - The strike price
 - Price of underlying assets, and delta and gamma
 - The time to maturity and theta
 - Interest rate and rho
 - Volatility of the stock returns and vega
 - 2.2.4. Volatility and related topics
 - Estimating volatility from historical data
 - Implied volatility and volatility smile



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- 2.2.5. Exotic options
- 2.2.6. Options strategies
 - Covered call
 - Protective put
 - Spreads
 - Straddles
 - Strangles
- 2.3. Asset-backed Securities
- 2.3.1. Types of underlying assets
 - Instalment contract
 - Revolving lines of credit
 - Other assets
- 2.3.2. Cash flow characteristics
- 2.3.3. Credit enhancement
- 2.3.4. Valuation methodologies



Part 6 Fixed Income Valuation and Analysis

- 1. Financial Markets and Instruments**
 - 1.2. Fixed Income: Corporate and Government
 - 1.2.1. Types of fixed income securities
 - Money market instruments
 - Government bonds
 - Corporate securities
 - 1.2.2. 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
 - Spot rates
 - Discount function
 - Forward rates
 - Relations between spot rate, forward rate and the slope of the term structure
 - 2.2.6. Yield curves
 - Market Curves (Observed)
 - Yield
 - Swaps
 - Credit
 - Theoretical Curves (Imputed)
 - Term Structures
 - Parametric modelling
 - 2.3. Term Structure of Interest Rates
 - 2.3.1. Yield curves and shapes
 - 2.3.2. Theories of term structure
 - Expectations hypothesis
 - Liquidity preferences
 - Market segmentation and preferred habitat theories
 - 2.3.3. Term structures
 - Risk Management
 - Asset Management/Liability Management/ALM
 - Financial Engineering



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- Structured Products
 - Regulatory
 - Portfolio Valuation
 - Mark-to-Mark with Unobserved Prices
- 2.4. Bond Price Analysis
 - 2.4.1. Basic price/yield relationship
 - 2.4.2. Yield spread analysis
 - Types of spreads
 - Determinants of yield spreads
 - 2.4.3. Valuation of coupon bonds using zero-coupon prices
 - Static arbitrage and valuation of coupon bonds
 - 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. Usage
- 2.6. Bond Yield Curves
 - 2.6.1. Zero (Spot), Coupon and Par curves
 - 2.6.2. Bond Curves in Market Usage
 - Structure and Smoothness
 - Trade Horizon: Yield, Duration & Convexity
 - Reversion to Mean
 - 2.6.3. Curve Shapes and Future Rates
 - Constraints: Absolute & Relative (Slope)
 - Negative Discount Function
 - 2.6.4. Curves and Economic Activity
 - 2.6.5. Curves and Monetary Policy
 - 2.6.6. Other Curves
 - Swap Curves
 - Credit Curves
 - Spread Curves
- 2.7. Credit Risk
 - 2.7.1. Industry consideration
 - 2.7.2. Ratio analysis
 - 2.7.3. Credit rating and rating agencies
 - 2.7.4. Curves and credit
 - The Additional Dimensions of Credit
 - Default risk
 - Recovery Rates
 - Annualised Expected Loss Rates
 - Bankruptcy processes
 - Term Structure of Credit
 - Credit Default Swaps (CDS)



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Curve Shapes and Credit Quality Historical Behaviour: Curves Under Shock

- 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



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- 8.1.2. Yield spread analysis
- 8.1.3. Maturity spacing 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



Part 7 Portfolio Management

1. **Modern Portfolio Theory**
 - 1.1. The Risk/Return Framework
 - 1.1.1. Return
 - Measures of return
 - 1.1.2. Risk
 - Components of total risk
 - 1.1.3. Measures of risk
 - Measures
 - Value at risk
 - 1.2. Efficient Market Hypothesis
 - 1.2.1. Definition & assumptions
 - 1.2.2. Alternative hypothesis
 - 1.2.3. Types of market efficiency
 - 1.2.4. Market anomalies
 - 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) - building on fundamentals in Part 2 module 1.6.3
 - 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
 - 1.5.4. Arbitrage pricing theory
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
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
 - 3.1.5. Capital Market Expectations
 - 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. Asset Liability-Analysis and Management**
 - 4.1. Introduction
 - 4.1.1. Background of ALM
 - 4.1.2. ALM with pension funds
 - 4.1.3. Types of ALM models
 - 4.2. Modelling Liabilities
 - 4.2.1. Types of liabilities
 - 4.2.2. Valuation of pension liabilities
 - 4.2.3. Annuity factors and discount rates
 - 4.3. Modelling Assets
 - 4.3.1. Types of asset classes
 - 4.3.2. Risk and return characteristics
 - 4.4. Funding Ratios
 - 4.4.1. Defintions
 - 4.4.2. Surplus risk management
 - 4.5. Integrated Optimisation
 - 4.5.1. Stochastic simulation
 - 4.5.2. Target functions and trade offs
 - 4.5.3. Scenario analysis and stress testing
 - 4.6. Implementation of strategies
 - 4.6.1. Active versus passive ALM strategies
 - 4.6.2. Dynamics adjustment of assets and liabilities
 - 4.7. Dynamics and Implementation
 - 4.7.1. Dynamic adjustment of liabilities
 - 4.7.2. Dynamic asset allocation and rebalancing
 - 4.7.3. Liability driven investing

- 5. Practical Portfolio Management**
 - 5.1. Managing an Equity Portfolio
 - 5.1.1. Active management
 - Technical analysis/market timing
 - Stock selection/industry selection selection
 - Growth/value style
 - Specialisation/themes
 - Anomalies
 - Top-down/bottom-up
 - Adjusting the beta of an equity portfolio
 - 5.1.2. Passive management
 - Buy and hold
 - Stock index funds



- Customised funds
- Completeness funds
- Factor/style funds
- Indexing technology
- Benchmark choice
- Choice of the tracking error
- 5.1.3. Combined strategies
 - Active/passive combinations
- 5.1.4. Portfolio construction based on a factor model
- 5.2. Derivatives in Portfolio Management
 - 5.2.1. Combining options and traditional assets
 - 5.2.2. Portfolio insurance
 - Static portfolio insurance
 - Dynamic portfolio insurance
 - Constant Proportion Portfolio Insurance
 - 5.2.3. Hedging with stock index futures
 - 5.2.4. Hedging with foreign exchange futures
 - 5.2.5. Hedging with interest rate futures
 - 5.2.6. Use of swaps in portfolio management
 - 5.2.7. Asset allocation with futures
- 5.3. Managing a Property Portfolio
 - 5.3.1. The role of property in a diversified portfolio
 - 5.3.2. The property investment decision
 - 5.3.3. Micro economic influences on property returns
 - 5.3.4. Macro economic influences on property returns
 - 5.3.5. Difference property investments
- 5.4. Alternative Assets/Private Capital
 - 5.4.1. Unlisted (non-property) securities
 - 5.4.2. Terms, conditions and characteristics
 - 5.4.3. Role in a traditional portfolio
 - 5.4.4. Managing unlisted security vehicles
 - 5.4.5. Monitoring and reporting
- 5.5. International Investments
 - 5.5.1. International diversification
 - Cross-correlations
 - Country risk
 - Emerging markets
 - 5.5.2. Hedging foreign exchange risk
 - Effective management of currency risk
 - Behaviour of currency returns
 - Is it a separate asset class / zero sum game?
 - Treatment of currency within a portfolio
 - Black's paper on universal currency hedge
 - Use of overlay strategies
 - Key sensitivities



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- Currency-related example of performance attribution
 - 5.5.3. International equities
 - Reasons for holding international equity assets
 - Performance objectives
 - 5.5.4. International fixed income
 - Reasons for holding international fixed interest assets
 - Performance objectives
 - 5.5.5. Managing a portfolio of international assets
 - International investing
 - Global asset allocation
 - Portfolio management styles
 - Portfolio construction
 - Portfolio management strategy
- 6. Performance Measurement**
 - 6.1. Performance Measurement and Evaluations
 - 6.1.1. Risk-return measurement
 - Market and book value evaluation
 - Time horizon and performance measurement
 - Inflow/outflow of cash and performance measurement
 - Time-weighted and dollarweighted rate of return
 - 6.1.2. Risk-adjusted performance measures
 - Sharpe's measure
 - Treynor's measure
 - Jensen's alpha
 - Appraisal ratio
 - 6.1.3. Relative investment performance
 - Manager-universe comparison
 - Indices and benchmarks
 - Index definition and calculation
 - Choosing and constructing a benchmark
 - Domestic vs. International benchmarks
 - Cash benchmark and currencies
 - Multi-currency investments and interest rate differentials
 - Currency overlay and performance measurement
 - Balanced benchmarks
 - Random and normal portfolios
 - Index vs. universe median
 - Style-bogey comparisons
 - 6.1.4. Performance attribution analysis
 - Asset allocation effect
 - Industry selection effect
 - Security selection effect
 - Investment timing effect
 - Attribution analysis of fixed income portfolio



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- 6.1.5. Special issues
 - Performance evaluation of international investments
 - A single currency attribution model by Brinson & al.
 - Multi-currency attribution and interest rate differentials
 - Performance evaluation of international investments derivative investments
 - Effects of costs

7. Management of Investment Institutions

- 7.1. Assessing and Choosing Managers
 - 7.1.1. Style analysis
 - Means of style analysis
 - Style analysis
 - Risks, controls and prudential issues: organisational issues
 - Risks, controls and prudential issues: fee structures

8. Behavioural Finance

- 8.1. Definition and scope of Behavioural Finance
- 8.2. Rationality (homo oeconomicus) versus Bounded Rationality (according to Herbert Simon)
- 8.3. Anomalies in human behaviour
 - 8.3.1. Anomalies regarding perception of information
 - 8.3.2. Anomalies regarding information processing
 - 8.3.3. Anomalies regarding decision making
- 8.4. Heuristics
 - 8.4.1. Simplification heuristic
 - 8.4.2. Mental accounting
 - 8.4.3. Availability heuristic
 - 8.4.4. Anchoring
 - 8.4.5. Representativity
- 8.5. Prospect Theory
 - 8.5.1. Value function
 - 8.5.2. Asymmetry effect
 - 8.5.3. Disposition effect
 - 8.5.4. Reference points
- 8.6. Loss aversion
- 8.7. Regret aversion
- 8.8. Framing
- 8.9. Overconfidence
- 8.10. Home bias

9. Environmental Social and Governance

- 9.1. ESG - an Introduction
 - 9.1.1. ESG Investment - Where do we stand
 - 9.1.2. Definitions and developments
 - 9.1.3. ESG strategies



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- 9.1.4. Profit or purpose? Both!
- 9.2. Recent Developments of ESG integration
 - 9.2.1. Market drivers
 - 9.2.2. Barriers to ESG
 - 9.2.3. Regulatory Framework (Investor demands and initiatives)
 - 9.2.4. Empirical evidence about ESG and performance
- 9.3. Responsible investing across asset classes
 - 9.3.1. Introduction
 - 9.3.2. Brief reflections on individual asset classes
 - 9.3.3. Developing an ESG aware investment strategy
- 9.4. ESG Reporting (with a more European orientation).
 - 9.4.1. Voluntary and mandatory regimes
 - 9.4.2. Reporting frameworks
- 9.5. Investment Process Chain
 - 9.5.1. Introduction
 - 9.5.2. Macro research and asset allocation
 - 9.5.3. Company analysis
 - 9.5.4. Portfolio construction
 - 9.5.5. Trading
 - 9.5.6. Portfolio and risk analytics
 - 9.5.7. Compliance and reporting
 - 9.5.8. Engagement and voting



Part 8: European Regulation (EFFAS Manual)

Chapter I: European Legal Framework for Financial Services

- 0. Why regulation?
- 1. European Legislation**
 - 1.1. A brief history of European Union
 - 1.2. Enlargement
 - 1.3. Decision-Making Bodies
 - 1.3.1. The European Parliament
 - 1.3.2. The Council of the European Union
 - 1.3.3. The EU Commission
 - 1.4. Legislative Acts
 - 1.4.1. Directives
 - 1.4.2. Regulations
 - 1.4.3. Decisions
 - 1.4.4. National Implementing Measures
 - 1.5. Legislative Procedure
 - 1.5.1. Co-Decision Procedure
 - 1.5.2. Comitology Procedure (Lamfalussy Process)
- 2. The Single Market for financial services**
 - 2.1. The four principles of General Freedom in the EU
 - 2.1.1. Free Movement of People
 - 2.1.2. Free Movement of Goods
 - 2.1.3. Free Movement of Services
 - 2.1.4. Free Movement of Capital
 - 2.2. Harmonisation of Legislation
 - 2.2.1. Minimum harmonisation
 - 2.2.2. Maximum harmonisation
 - 2.2.3. Harmonisation via regulations
 - 2.3. FSAP Financial Services Action Plan
 - 2.4. Single Market Act
- 3. Regulation of Capital Markets**
 - 3.1. Market in Financial Instruments Directive (MiFID II / MiFIR)
 - 3.1.1. Guiding Principles
 - 3.1.2. Rules of Conduct
 - 3.2. Market Abuse Directive (MAD II / MAR)
 - 3.2.1. Insider Transactions
 - 3.2.2. Market Manipulation
 - 3.2.2.1. Manipulative deals and orders
 - 3.2.2.2. Deals and orders with accompanying manipulative actions
 - 3.2.2.3. Manipulative information
 - 3.3. Directive on Takeover Bids
 - 3.4. Prospectus Directive



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- 3.5. Transparency Directive
- 3.6. EMIR European Market Infrastructure Regulation
- 3.7. Regulation on Investment Funds (UCITS)
- 3.8. Alternative Investment Fund Managers Directive (AIFMD)
- 3.9. Regulation on Credit Rating Agencies
- 3.10. Investor compensation schemes
- 3.11. Anti Money Laundering Directive
- 3.12. Regulation on PRIIPS
- 3.13. New Investment vehicles

Chapter II: European Supervision of Capital Markets

4. European Regulatory Bodies

- 4.1. Old Supervisory Architecture
 - 4.1.1. National Supervisory Authorities
 - 4.1.2. EU Committees
 - 4.1.2.1. Committee of Banking Supervisors (CEBS)
Committee of Insurance and Occupational Pension Supervisors
 - 4.1.2.2. Supervisors (CEIOPS)
 - 4.1.2.3. Committee of Securities Regulators (CESR)
 - 4.1.2.4. Colleges of Supervisors
- 4.2. New Supervisory Architecture
 - 4.2.1. European Systemic Risk Board (ESRB)
 - 4.2.2. European System of Financial Supervisors
 - 4.2.2.1. European Banking Authority (EBA)
 - 4.2.2.2. European Insurance and Occupational Pensions Authority (EIOPA)
 - 4.2.2.3. European Securities and Markets Authority (ESMA)
- 4.3. Banking Union
- 4.4. Capital Markets Union



Part 9: Ethics

- 1. Ethical Conduct**
 - 1.1. Why ethical behaviour in financial markets?
 - 1.2. The 'client first' principle
 - 1.3. Conflicts of interest
 - 1.4. Market Abuse (insider trading, market manipulation)

- 2. Self Regulation and Ethical Conduct**
 - 2.1. IOSCO
 - 2.2. Basel Committee for Banking Supervision
 - 2.3. Corporate Governance & Compliance
 - 2.3.1. Corporate Governance Codes
 - 2.3.2. Standard Compliance Codes
 - 2.4. Code of Ethics for Financial Analysts**
 - 2.4.1. EFFAS Principles of Ethical Conduct
 - 2.4.2. Practical case studies on 1.2 to 1.4.
ACIIA Principles of Ethical Conduct
 - 2.4.3. (overview)

- Annex** EFFAS Principles of Ethical Conduct in full text



Part 10: Mandatory National Components

- 1. National Regulation of Financial Services**
 - 1.1. National Competent Authorities
 - 1.2. Licence Regime for Financial Services Providers
 - 1.3. Organisational Requirements for Financial Services Providers
 - 1.4. National Implementation of EU Law on Financial Services

- 2. Liability for Advice**
 - 2.1. Contractual obligations
 - 2.2. Obligations imposed by capital markets law
 - 2.3. Court rulings
 - 2.4. Self regulation (if applicable)

- 3. Regulation of Financial Research**
 - 3.1. National regulations of Financial Research
National Code of Conduct for Financial Research (if applicable)

- 4. Micro-market Structure**
 - 4.1. Structure of Capital Markets
 - 4.1.1. Stock Exchange
 - 4.1.2. Derivatives Exchange
Commodities Exchange (if applicable)
 - 4.1.3.
 - 4.2. Size of Markets
 - 4.2.1. Listed Companies
OTC Market
Private Equity (if applicable)
 - 4.3. Trading Rules for Securities
 - 4.4. Settlement of Securities Trades

- 5. Taxation of Investments / Investors**
 - 5.1. Taxation of private / institutional investors
 - 5.1.1. Taxable Income
 - 5.1.2. Types of Income
 - 5.1.3. Investment Income
 - 5.2. Taxation of investments with private/institutional investors
 - 5.3. Double Tax Treaties
 - 5.4. Automated Information Exchange
 - 5.5. FATCA



Part 11: Recommended National Components

1. **National accounting rules (if applicable)**

2. **National Codes of Ethics (if applicable)**