

Portfolio Management

LEARNING OUTCOMES

Exchange-Traded Funds: Mechanics and Applications

The candidate should be able to:

- explain the creation/redemption process of ETFs and the function of authorized participants
- describe how ETFs are traded in secondary markets
- describe sources of tracking error for ETFs
- describe factors affecting ETF bid–ask spreads
- describe sources of ETF premiums and discounts to NAV
- describe costs of owning an ETF
- describe types of ETF risk
- identify and describe portfolio uses of ETFs

Using Multifactor Models

The candidate should be able to:

- describe arbitrage pricing theory (APT), including its underlying assumptions and its relation to multifactor models
- define arbitrage opportunity and determine whether an arbitrage opportunity exists
- calculate the expected return on an asset given an asset's factor sensitivities and the factor risk premiums
- describe and compare macroeconomic factor models, fundamental factor models, and statistical factor models
- describe uses of multifactor models and interpret the output of analyses based on multifactor models

- describe the potential benefits for investors in considering multiple risk dimensions when modeling asset returns
- explain sources of active risk and interpret tracking risk and the information ratio

Measuring and Managing Market Risk

The candidate should be able to:

- explain the use of value at risk (VaR) in measuring portfolio risk
- compare the parametric (variance–covariance), historical simulation, and Monte Carlo simulation methods for estimating VaR
- estimate and interpret VaR under the parametric, historical simulation, and Monte Carlo simulation methods
- describe advantages and limitations of VaR
- describe extensions of VaR
- describe sensitivity risk measures and scenario risk measures and compare these measures to VaR
- demonstrate how equity, fixed-income, and options exposure measures may be used in measuring and managing market risk and volatility risk
- describe the use of sensitivity risk measures and scenario risk measures
- describe advantages and limitations of sensitivity risk measures and scenario risk measures
- explain constraints used in managing market risks, including risk budgeting, position limits, scenario limits, and stop-loss limits
- explain how risk measures may be used in capital allocation decisions
- describe risk measures used by banks, asset managers, pension funds, and insurers

Backtesting and Simulation

The candidate should be able to:

- describe objectives in backtesting an investment strategy
- describe and contrast steps and procedures in backtesting an investment strategy
- interpret metrics and visuals reported in a backtest of an investment strategy
- identify problems in a backtest of an investment strategy
- evaluate and interpret a historical scenario analysis
- contrast Monte Carlo and historical simulation approaches
- explain inputs and decisions in simulation and interpret a simulation; and
- demonstrate the use of sensitivity analysis

Economics and Investment Markets

The candidate should be able to:

- explain the notion that to affect market values, economic factors must affect one or more of the following: 1) default-free interest rates across maturities, 2) the timing and/or magnitude of expected cash flows, and 3) risk premiums
- explain the role of expectations and changes in expectations in market valuation
- explain the relationship between the long-term growth rate of the economy, the volatility of the growth rate, and the average level of real short-term interest rates
- explain how the phase of the business cycle affects policy and short-term interest rates, the slope of the term structure of interest rates, and the relative performance of bonds of differing maturities

- describe the factors that affect yield spreads between non-inflation-adjusted and inflation-indexed bonds
- explain how the phase of the business cycle affects credit spreads and the performance of credit-sensitive fixed-income instruments
- explain how the characteristics of the markets for a company's products affect the company's credit quality
- explain the relationship between the consumption hedging properties of equity and the equity risk premium
- explain how the phase of the business cycle affects short-term and long-term earnings growth expectations
- describe cyclical effects on valuation multiples
- describe the economic factors affecting investment in commercial real estate

Analysis of Active Portfolio Management

The candidate should be able to:

- describe how value added by active management is measured
- calculate and interpret the information ratio (ex post and ex ante) and contrast it to the Sharpe ratio
- describe and interpret the fundamental law of active portfolio management, including its component terms—transfer coefficient, information coefficient, breadth, and active risk (aggressiveness)
- explain how the information ratio may be useful in investment manager selection and choosing the level of active portfolio risk
- compare active management strategies, including market timing and security selection, and evaluate strategy changes in terms of the fundamental law of active management
- describe the practical strengths and limitations of the fundamental law of active management

Trading Costs and Electronic Markets

The candidate should be able to:

- explain the components of execution costs, including explicit and implicit costs
- calculate and interpret effective spreads and VWAP transaction cost estimates
- describe the implementation shortfall approach to transaction cost measurement
- describe factors driving the development of electronic trading systems
- describe market fragmentation
- identify and contrast the types of electronic traders
- describe characteristics and uses of electronic trading systems
- describe comparative advantages of low-latency traders
- describe the risks associated with electronic trading and how regulators mitigate them
- describe abusive trading practices that real-time surveillance of markets may detect