

# Portfolio Management

## LEARNING OUTCOMES

### Portfolio Risk and Return: Part I

*The candidate should be able to:*

- describe characteristics of the major asset classes that investors consider in forming portfolios
- explain risk aversion and its implications for portfolio selection
- explain the selection of an optimal portfolio, given an investor's utility (or risk aversion) and the capital allocation line
- calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data
- calculate and interpret portfolio standard deviation
- describe the effect on a portfolio's risk of investing in assets that are less than perfectly correlated
- describe and interpret the minimum-variance and efficient frontiers of risky assets and the global minimum-variance portfolio

### Portfolio Risk and Return: Part II

*The candidate should be able to:*

- describe the implications of combining a risk-free asset with a portfolio of risky assets
- explain the capital allocation line (CAL) and the capital market line (CML)
- explain systematic and nonsystematic risk, including why an investor should not expect to receive additional return for bearing nonsystematic risk
- explain return generating models (including the market model) and their uses
- calculate and interpret beta

- explain the capital asset pricing model (CAPM), including its assumptions, and the security market line (SML)
- calculate and interpret the expected return of an asset using the CAPM
- describe and demonstrate applications of the CAPM and the SML
- calculate and interpret the Sharpe ratio, Treynor ratio,  $M^2$ , and Jensen's alpha

### **Portfolio Management: An Overview**

#### *The candidate should be able to:*

- describe the portfolio approach to investing
- describe the steps in the portfolio management process
- describe types of investors and distinctive characteristics and needs of each
- describe defined contribution and defined benefit pension plans
- describe aspects of the asset management industry
- describe mutual funds and compare them with other pooled investment products

### **Basics of Portfolio Planning and Construction**

#### *The candidate should be able to:*

- describe the reasons for a written investment policy statement (IPS)
- describe the major components of an IPS
- describe risk and return objectives and how they may be developed for a client
- explain the difference between the willingness and the ability (capacity) to take risk in analyzing an investor's financial risk tolerance
- describe the investment constraints of liquidity, time horizon, tax concerns, legal and regulatory factors, and unique circumstances and their implications for the choice of portfolio assets
- explain the specification of asset classes in relation to asset allocation
- describe the principles of portfolio construction and the role of asset allocation in relation to the IPS
- describe how environmental, social, and governance (ESG) considerations may be integrated into portfolio planning and construction

### **The Behavioral Biases of Individuals**

#### *The candidate should be able to:*

- compare and contrast cognitive errors and emotional biases
- discuss commonly recognized behavioral biases and their implications for financial decision making
- describe how behavioral biases of investors can lead to market characteristics that may not be explained by traditional finance

### **Introduction to Risk Management**

#### *The candidate should be able to:*

- define risk management
- describe features of a risk management framework
- define risk governance and describe elements of effective risk governance
- explain how risk tolerance affects risk management
- describe risk budgeting and its role in risk governance
- identify financial and non-financial sources of risk and describe how they may interact
- describe methods for measuring and modifying risk exposures and factors to consider in choosing among the methods