Ethical and Professional Standards

LEARNING OUTCOMES

CFA Institute Code of Ethics and Standards of Professional Conduct

The candidate should be able to:

- explain the relationship between ethics and laws and regulations
- state and explain the provisions of the CFA Institute Code of Ethics and Standards of Professional Conduct
- determine potential violations of the CFA Institute Code of Ethics and Standards of Professional Conduct and select appropriate preventive or corrective actions

Overview and Return Measurement

LEARNING OUTCOMES

Performance Evaluation: An Introduction

The candidate should be able to:

- describe the feedback role of performance evaluation in the overall investment management process
- describe how information provided by performance evaluation is useful to a variety of stakeholders
- describe the major components of investment performance evaluation, including the questions they address
- describe the factors that determine the specific characteristics of performance evaluation output
- describe the scope of the performance evaluation process and its major activities, including how these activities are interrelated
- explain ethical concerns related to investment performance presentations.

Performance Evaluation: Rate-of-Return Measurement

The candidate should be able to:

- explain the treatment of investment income (e.g., dividends and interest) in calculating holding period rates of return
- calculate and interpret a portfolio rate of return
- calculate and interpret the holding period rate of return on a stock or bond investment
- calculate the home currency equivalent of a non-domestic rate of return and explain a decomposition of the home currency equivalent return

- calculate and interpret rates of return that result from short positions and leveraged positions
- distinguish between book value and market value, realized and unrealized gains and losses, trade date accounting and settlement date accounting, and show how these elements are treated in determining the asset values to be used in calculating rates of return
- explain the major bases for calculating rates of return: nominal versus real, gross-of-fees versus net-of-fees, pre-tax versus post-tax, and leveraged versus cash basis
- explain and demonstrate discrete and continuous compounding
- convert rates of return to an annual basis and explain when annualization is or is not appropriate
- compare arithmetic and geometric mean rates of return
- explain arithmetic and geometric bases for calculating excess returns
- explain the issues raised by external cash flows for performance evaluation
- calculate and interpret money-weighted and time-weighted rates of return
- describe unit value pricing
- explain major approximation methods to a true time-weighted rate of return
- explain the condition of consistency in calculating the time-weighted rates of return of portfolio segments and the overall portfolio
- compare the methods used to calculate composite returns

Data Integrity

The candidate should be able to:

- describe dimensions of data quality
- describe elements of sound investment data governance
- identify and describe common sources of data errors in the performance and risk measurement process
- describe the errors that may arise in processing corporate actions and their effect on performance and risk measurement
- explain return discrepancies in a portfolio or a composite that may arise from currency issues
- determine whether a data revision necessitates a restatement of prior-period returns

Return Attribution and Benchmark Analysis

LEARNING OUTCOMES

Return Attribution

The candidate should be able to:

- ☐ explain purposes of return attribution and the role of return attribution in the investment decision-making process
- ☐ distinguish between return attribution and return contribution analysis
- ☐ distinguish between return attribution and risk attribution
- ☐ describe the attributes of an effective attribution process
- ☐ analyze the sources of performance of a portfolio using the Brinson–Hood–Beebower and Brinson–Fachler models
- ☐ calculate and interpret arithmetic allocation, selection, and interaction attribution effects
- ☐ explain the use of an interaction effect, including its advantages and disadvantages
- ☐ calculate and interpret geometric allocation, selection, and interaction attribution effects
- ☐ describe returns-based, holdings-based, and transactions-based attribution, including the advantages and disadvantages of each
- ☐ distinguish between the effects of sponsors' and managers' investment decisions
- ☐ calculate and interpret attribution analysis at different levels: plan sponsor, portfolio manager, country, industrial sector, and individual security
- ☐ interpret the results of a factor model–based return attribution analysis
- ☐ compare Brinson models (asset-grouping models) with factor models of attribution, including the advantages and disadvantages of each
- ☐ explain why the standard Brinson approach may not be suitable for fixed-income strategies

- describe the different types of fixed-income attribution models and interpret the results of a fixed-income attribution analysis
- explain the inputs necessary for a holdings-based and a transactions-based return attribution analysis and the problems associated with each
- explain possible causes of residuals in attribution analysis
- calculate and explain off-benchmark (zero-weight sector) attribution effects

Introduction to Benchmarks

The candidate should be able to:

- define the term "benchmark" and distinguish between benchmarks and market indexes;
- describe how benchmarks are used in return attribution and performance appraisal;
- distinguish among types of benchmarks;
- explain desirable properties of benchmarks in the context of performance attribution;
- explain a portfolio's positions in terms of a market index's security positions, benchmark positions, style tilts, and active positions;
- identify and explain tests of benchmark quality;
- compare the theoretical advantages and disadvantages, data requirements, and costs of using each type of benchmark;
- interpret peer universe box charts;
- explain uses of asset class indexes;
- compare market-capitalization-weighting, equal-weighting, price-weighting, and fundamental-weighting index construction schemes, including their advantages and disadvantages;
- describe the purpose and effects of float adjustment of market capitalization indexes;
- explain the tradeoffs in constructing asset class indexes;
- describe classifications of equity investing styles and the construction of associated equity style indexes;
- explain bond market sectors and the construction of associated bond style indexes;
- describe the steps in constructing a custom benchmark;
- describe considerations in using hedge fund benchmarks, liability-based benchmarks, and hedged benchmarks;
- describe the impact of benchmark misspecification on attribution and appraisal analysis;
- recommend and justify the choice of a benchmark for a portfolio given a description of portfolio objectives and management processes.

Risk Measurement, Risk Attribution, and Security Characteristics

LEARNING OUTCOMES

Risk Measurement and Risk Attribution

The candidate should be able to:

- ☐ distinguish between non-financial and financial risk and explain types of each kind of risk
- ☐ describe the objectives of risk measurement and risk attribution
- ☐ contrast the following classifications of market risk: *ex ante* versus *ex post*, stand-alone versus portfolio, idiosyncratic versus systematic, absolute versus relative, and symmetric versus asymmetric
- ☐ describe and interpret return data sets with respect to their implications for market risk
- ☐ calculate, interpret, and critique the following measures of dispersion: variance, standard deviation, mean absolute deviation, and tracking risk
- ☐ calculate and interpret beta
- ☐ calculate, interpret, and critique the following measures of downside risk: semi-variance, target semi-variance, semi-standard deviation, and target semi-standard deviation
- ☐ calculate, interpret, and critique drawdown, average drawdown, maximum drawdown, and largest individual drawdown
- ☐ describe and interpret value at risk, stress tests, and scenario analysis and explain the strengths and weaknesses of each
- ☐ describe approaches to estimating value at risk
- ☐ describe equity and bond characteristics and valuation metrics that are related to risk
- ☐ recommend appropriate risk measures with respect to specified objectives

- describe the relationship between risk attribution and return attribution and explain considerations in selecting a risk attribution approach
- interpret risk attribution analyses

Equity Portfolio Characteristics in Performance Analysis

The candidate should be able to:

- identify and explain the uses of portfolio characteristics analysis in performance evaluation
- calculate the mean of a distribution that includes outliers and evaluate the various methods in doing so
- calculate the weighted arithmetic mean and the weighted harmonic mean of a portfolio using security-level characteristic values
- classify characteristics as macroeconomic, company fundamental, or company share-related
- calculate and interpret the following equity characteristics: economic sector and industry membership; debt-to-equity (D/E) ratio; return on equity (ROE); market capitalization; price-to-book (P/B) ratio; price-to-earnings (P/E) ratio; dividend yield (D/P); price-to-sales (P/S) ratio; price-to-cash flow (P/CF) ratio; relative strength; liquidity; and volatility
- determine the investment style of a portfolio, given pertinent data such as the market capitalization, price-to-earnings (P/E) and price-to-book (P/B) ratios, dividend yield (D/P), and growth characteristics of the portfolio and one or more style indexes
- compare holdings-based and returns-based style analysis
- compare single-factor and fundamental multifactor attribution models

Performance Appraisal

LEARNING OUTCOMES

Investment Performance Appraisal

The candidate should be able to:

- define active investment management skill
- contrast the use in performance appraisal of gross returns and returns net of fees and expenses
- describe the problem of distinguishing skill from luck
- describe the need to take risk into account in investment performance appraisal
- describe types of risk adjustment and identify contexts in which each type might be appropriate
- identify and justify appropriate uses of performance appraisal measures
- calculate, interpret, and compare the Sharpe ratio, M^2, the Treynor ratio, Jensen's alpha, alpha, the information ratio, and the appraisal ratio
- calculate, interpret, and compare performance appraisal measures
- describe how non-symmetrical return distributions affect appraisal measures
- describe challenges in determining Jensen's alpha
- describe how non-symmetrical return distributions affect appraisal measures;
- analyze the determinants of the information ratio according to the fundamental law of active management
- calculate, interpret, and contrast the Sortino and Calmar ratios
- describe uses of multifactor models in performance appraisal

Investment Performance Presentation

LEARNING OUTCOMES

Investment Performance Presentation: An Introduction

The candidate should be able to:

- describe factors that determine the properties of an investment performance presentation
- describe steps of an investment performance presentation process
- describe the content and purposes of investment performance presentations when these presentations are classified by (i) type of process and (ii) type of performance evaluation information
- explain differences between internal and external investment performance presentations

An Introduction to the Global Investment Performance Standards (GIPS®)

The candidate should be able to:

- describe why the GIPS standards were created, what parties the GIPS standards apply to, and who benefits from the GIPS standards
- describe the required fundamentals of firm compliance
- explain requirements and recommendations of the GIPS standards with respect to the definition of the investment firm
- describe the requirements of the GIPS standards with respect to firm input data
- compare fair value and market value of assets and show how to implement the valuation recommendations of the GIPS standards, including the valuation hierarchy
- explain the requirements of the GIPS standards with respect to the treatment of external cash flows, cash and cash equivalents, and expenses and fees

- explain the requirements of the GIPS standards with respect to return calculation methodologies
- explain the requirements of the GIPS standards with respect to composite construction, including switching portfolios among composites, the timing of the inclusion of new portfolios in composites, and the timing of the exclusion of terminated portfolios from composites
- explain the role of investment mandates, objectives, or strategies in the construction of composites
- explain the meaning of "discretionary" in the context of composite construction, and, given a description of the relevant facts, determine whether a portfolio is likely to be considered discretionary
- describe the purpose of composites in performance reporting
- explain the requirements of the GIPS standards with respect to composite return calculations, including methods for asset weighting portfolio returns
- calculate composite returns in accordance with the GIPS standards
- describe the required elements of a GIPS Composite Report
- describe key differences between the requirements for firm compliance and asset owner compliance