

# STUDY SESSION

# 1

## Ethical and Professional Standards

The CIPM Principles curriculum introduced ethical reasoning and presented the provisions of the CIPM Association Code of Ethics and Standards of Professional Conduct. At the Expert level, you are expected to demonstrate your ability to recognize ethical issues that you may encounter and to apply the ethical principles and standards governing your professional conduct.

*Note:* The CIPM Association Code and Standards are based on the CFA Institute Code of Ethics and CFA Institute Standards of Professional Conduct. This study session makes use of the 10th edition of the CFA Institute *Standards of Practice Handbook* (SOPH) to focus on applications of the Code and Standards and recommended procedures for complying with them. SOPH states in the Preface that it “is intended for a diverse and global audience.” Although the guidance, recommendations, and applications provided in SOPH supplement the CFA Institute Code and Standards, this reading can be used in parallel with the CIPM Association Code and Standards as well. Recognizing that the following list is not exhaustive, the following exchanges may help with your understanding the reading:

<b>SOPH Terminology</b>	<b>CIPM Association Code &amp; Standards Application</b>
CFA Institute	→ CIPM Association
CFA	→ CIPM
Members and Membership	→ Pertains to the CIPM Association
Candidates and Candidacy	→ Pertains to the CIPM program
Designation	→ Pertains to the Certificate in Investment Performance Measurement (CIPM) designation
Exams	→ CIPM exams
CFA marks	→ CIPM marks (“Certificate in Investment Performance Measurement” or “CIPM”)
Charter/Charterholders	→ Certificate/Certificants or Certificate Holders



**READING ASSIGNMENTS**

- 1 CIPM Association Code of Ethics and Standards of Professional Conduct
- 2 CFA Institute *Standards of Practice Handbook*, Tenth Edition

**LEARNING OUTCOME STATEMENTS****READING 1. CIPM ASSOCIATION CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT**

The candidate should be able to:

- a describe the investment profession;
- b explain the relationship between ethics and the law;
- c state the provisions of the CIPM Association Code of Ethics and Standards of Professional Conduct;
- d evaluate procedures for complying with the CIPM Association Standards of Professional Conduct;
- e explain the individual's responsibilities as a candidate or member, including references to membership in the CIPM Association, the CIPM designation, and candidacy in the CIPM program;
- f evaluate circumstances, identify violations, and formulate appropriate corrective actions based on the CIPM Association Code of Ethics and Standards of Professional Conduct.

**READING 2. STANDARDS OF PRACTICE HANDBOOK, TENTH EDITION**

# STUDY SESSION

# 2

## Performance Measurement

The CIPM Principles curriculum presented the calculation of time-weighted and money-weighted rates of return, including methods for estimating time-weighted returns for periods in which external cash flows occur. This study session reviews certain relatively advanced topics.

The first reading introduces rate-of-return calculation methodologies for portfolios containing derivatives. The second reading considers the factors that give rise to prior period adjustments and the related performance measurement policy issues.

### READING ASSIGNMENTS

- 3 Measuring Investment Returns of Portfolios Containing Futures and Options  
by John C. Stannard, CFA, FSIP
- 4 Adjustments to Prior Period Returns  
by David Spaulding, CIPM, and Stefan Illmer

### LEARNING OUTCOME STATEMENTS

#### READING 3. MEASURING INVESTMENT RETURNS OF PORTFOLIOS CONTAINING FUTURES AND OPTIONS

The candidate should be able to:

- a demonstrate the adjustment of beginning-of-period and end-of-period asset market values and intra-period income for the impact of futures contracts;
- b calculate notional stock and cash market values and returns, and hedged portfolio returns for portfolios containing futures contracts;
- c calculate the hedge ratio (delta) of an option and determine whether the option is in-the-money, at-the-money, or out-of-the-money;
- d distinguish between the full exposure and partial exposure methods of valuing options;



- e** demonstrate the adjustment of beginning-of-period and end-of-period asset market values and intra-period income for the impact of options;
- f** calculate notional stock and cash market values and returns, and hedged portfolio returns for portfolios containing options.

**READING 4. ADJUSTMENTS TO PRIOR PERIOD RETURNS**

The candidate should be able to:

- a** identify and describe common causes of discrepancies between managers' and custodians' accounting data;
- b** explain the issues that affect prior period adjustments.

## STUDY SESSION

# 3

## Performance Attribution Benchmark Analysis

**T**he marketplace offers a wide range of competing indexes for many asset classes. Rather than attempting to provide up-to-date descriptions of all their characteristics, the CIPM curriculum discusses the factors that investment professionals should take into account when selecting benchmarks.

The CIPM Principles curriculum explained the role of benchmarks in performance evaluation, described the types of benchmarks, and presented the properties of valid benchmarks and the tests of benchmark quality.

The first reading returns to topics covered in the Principles curriculum, but examines them in much greater depth. In addition, attention is given to fixed-income benchmarks and problems in benchmark selection and construction.

The second reading presents strategy benchmarks (also known as custom benchmarks) as more appropriate than published benchmarks for investment managers using specialized investment strategies.

### READING ASSIGNMENTS

- 5** Introduction to Benchmarks  
by C. Mitchell Conover, PhD, CFA, CIPM, Daniel Broby, FSIP, and David R. Cariño, PhD
- 6** Strategy Benchmarks  
by David E. Kuenzi, CFA

### LEARNING OUTCOMES

#### READING 5. INTRODUCTION TO BENCHMARKS

The candidate should be able to:

- a** define the term “benchmark” and distinguish between benchmarks and market indexes;
- b** describe how benchmarks are used in return attribution and performance appraisal;
- c** distinguish among types of benchmarks;



- d** explain desirable properties of benchmarks in the context of performance attribution;
- e** explain a portfolio's positions in terms of a market index's security positions, benchmark positions, style tilts, and active positions;
- f** identify and explain tests of benchmark quality;
- g** compare the theoretical advantages and disadvantages, data requirements, and costs of using each type of benchmark;
- h** interpret peer universe box charts;
- i** explain uses of asset class indexes;
- j** compare market-capitalization-weighting, equal-weighting, price-weighting, and fundamental-weighting index construction schemes, including their advantages and disadvantages;
- k** describe the purpose and effects of float adjustment of market capitalization indexes;
- l** explain the tradeoffs in constructing asset class indexes;
- m** describe classifications of equity investing styles and the construction of associated equity style indexes;
- n** explain bond market sectors and the construction of associated bond style indexes;
- o** describe the steps in constructing a (security-based) custom benchmark;
- p** describe the impact of benchmark misspecification on attribution and appraisal analysis;
- q** recommend and justify the choice of a benchmark for a portfolio given a description of portfolio objectives and management processes.

#### **READING 6. STRATEGY BENCHMARKS**

The candidate should be able to:

- a** distinguish between published benchmark-centered investment disciplines and manager strategy investment disciplines;
- b** explain why strategy benchmarks are more appropriate for manager strategy investment disciplines;
- c** describe the impact of benchmark selection on the calculation of tracking error and information ratios.

# STUDY SESSION

# 4

## Performance Attribution Equities and Futures

**T**he CIPM Principles curriculum introduced single-period, single-currency performance attribution. The present study session is the first of two study sessions devoted to more advanced techniques of attribution analysis.

The excerpts from the first reading, *Practical Portfolio Performance Measurement and Attribution*, extend arithmetic attribution to multiple evaluation periods and presents smoothing algorithms that have been developed to make sub-period attribution effects add up to the effects for the entire period under consideration. The reading also presents geometric excess return attribution as an alternative approach and introduces multicurrency attribution analysis. It also discusses further attribution issues, such as holding-based (buy/hold), security-level, and off-benchmark (zero-weight sector) attribution.

The second reading presents a performance attribution methodology for analyzing single-currency long/short investment strategies measured against benchmarks and market-neutral strategies measured against the risk-free rate.

Building on the framework set forth in one of the readings presented in the study session Performance Measurement, the third reading addresses performance attribution for single-currency portfolios that contain derivatives. The study session focuses on the suggested treatment of futures contracts.

### READING ASSIGNMENTS

- 7 *Practical Portfolio Performance Measurement and Attribution*  
Second Edition, by Carl R. Bacon, CIPM
- 8 Performance Attribution with Short Positions  
by Jose Menchero, CFA
- 9 Measuring Investment Returns of Portfolios Containing Derivatives: Part II—  
Performance Attribution  
by John C. Stannard, CFA, FSIP



**LEARNING OUTCOME STATEMENTS****READING 7. EXCERPTS FROM *PRACTICAL PORTFOLIO PERFORMANCE MEASUREMENT AND ATTRIBUTION***

The candidate should be able to:

- a** calculate the value-added by asset allocation, security selection, and interaction using the Brinson and Fachler arithmetic attribution model;
- b** calculate the value-added by asset allocation and security selection using geometric excess return attribution;
- c** calculate and explain multiperiod arithmetic attribution factors using the smoothing algorithms devised by Cariño and GRAP;
- d** calculate and explain multiperiod attribution effects using geometric excess return attribution;
- e** compare the arithmetic and geometric approaches to performance attribution;
- f** calculate and explain the asset allocation, security selection, and currency management effects using Karnosky and Singer's approach to multicurrency attribution;
- g** calculate and explain naïve currency attribution effects using geometric multicurrency attribution;
- h** state the advantages and disadvantages of holding-based (buy/hold) attribution and transaction-based attribution;
- i** calculate and explain security-level attribution effects;
- j** calculate and explain off-benchmark (zero-weight sector) attribution effects.

**READING 8. PERFORMANCE ATTRIBUTION WITH SHORT POSITIONS**

The candidate should be able to:

- a** explain selling securities short and purchasing securities on margin;
- b** calculate and explain security-level and sector-level weights and returns with short positions;
- c** contrast the impact on long and short portfolios of underweighting and overweighting sectors relative to the benchmark;
- d** calculate and explain benchmark-relative attribution analysis for long/short strategies, and evaluate the results;
- e** calculate and explain attribution analysis for market-neutral strategies benchmarked against the risk-free rate, and evaluate the results.

**READING 9. MEASURING INVESTMENT RETURNS OF PORTFOLIOS CONTAINING DERIVATIVES**

The candidate should be able to:

- a** explain the use of notional adjustments in attribution analysis for portfolios containing futures;
- b** calculate attribution effects for a portfolio containing futures contracts.



## STUDY SESSION

# 5

## Performance Attribution

### Fixed Income

**T**his is the second of two study sessions devoted to advanced topics in attribution analysis. The present study session focuses on fixed-income attribution. Although the performance measurement industry has developed a range of fixed-income attribution methodologies, the readings in this study session have been chosen to strengthen your grasp of fundamental concepts.

The Fong–Pearson–Vasicek approach employs a series of portfolio repricings to partition the components of fixed-income returns.

The methodology presented by Campisi makes use of more readily available portfolio and benchmark characteristics such as current yield and duration for an alternative decomposition of returns. When approaching this reading, please be aware that the article illustrates each step of the attribution process but it does not furnish all the input data necessary for you to calculate the attribution effects. The supplement included with the reading contains annotated worksheets showing greater detail for each stage of the analysis.

van Breukelen presents a fixed-income attribution approach for a top-down investment management process in which the key decisions are the choice of overall duration, the allocation of assets to markets, and the selection of individual securities. van Breukelen's approach further breaks out the return contribution of currency allocations. The reading includes a supplement containing a set of annotated worksheets as an aid to understanding van Breukelen's attribution methodology.

### READING ASSIGNMENTS

- 10** Bond Performance: Analyzing Sources of Return  
by Gifford Fong, Charles Pearson, and Oldrich Vasicek
- 11** Primer on Fixed-Income Performance Attribution  
by Stephen Campisi, CFA
- 12** Fixed-Income Attribution  
by Gerard van Breukelen



**LEARNING OUTCOME STATEMENTS****READING 10. BOND PERFORMANCE**

The candidate should be able to:

- a** distinguish between external market conditions and the manager's investment decisions;
- b** distinguish between the two components of the effect of the external macro interest rate environment: interest rate level and interest rate change;
- c** distinguish among the three components of the management contribution: the returns from maturity management, sector/quality management (spread/quality management), and security selection;
- d** calculate and evaluate fixed-income portfolio performance in the Fong–Pearson–Vasicek attribution framework.

**READING 11. PRIMER ON FIXED INCOME PERFORMANCE ATTRIBUTION**

The candidate should be able to:

- a** state the critical differences between stocks and bonds, and compare the appropriate performance attribution approaches for equity and fixed-income portfolios;
- b** explain the sources of fixed-income returns in the Campisi framework;
- c** calculate the income return and the treasury, spread, and selection effects of a fixed-income portfolio in comparison with an appropriate benchmark;
- d** evaluate portfolio performance, given the results of an attribution analysis conducted in the Campisi framework.

**READING 12. FIXED-INCOME ATTRIBUTION**

The candidate should be able to:

- a** explain how van Breukelen uses reference portfolios in fixed-income attribution analysis;
- b** calculate the contributions to value-added returns from the overall duration decision, market allocation, issue selection, and currency allocation;
- c** evaluate portfolio performance, given the results of an attribution analysis conducted in the van Breukelen framework.

## STUDY SESSION

# 6

## Performance Appraisal

**R**ecognizing that distinguishing between skill and luck is problematic, performance appraisal and manager selection address questions such as how to measure investment skill and whether a fund sponsor should hire, retain, or fire an investment manager.

The first reading presents perspectives on performance appraisal measures currently used to appraise traditional and alternative investment managers.

The second reading presents an approach to equity style analysis; equity style is often a major consideration in active equity manager selection.

The third reading addresses performance appraisal from the viewpoint of institutional investors responsible for directing and monitoring diversified, multiple-asset class, multiple-manager funds. In this total fund perspective, a case study is presented that integrates analytical approaches presented throughout the CIPM curriculum, including performance measurement relative to benchmarks and peer groups, portfolio characteristics analysis, performance attribution, and *ex post* risk analysis.

### READING ASSIGNMENTS

- 13** How Sharp is the Sharpe Ratio? Risk-Adjusted Performance Measurement  
by Carl R. Bacon, CIPM
- 14** Equity Style Analysis  
by George Degroot, CFA, and Paul Greenwood, CFA
- 15** Investment Performance Appraisal  
by John P. Meier, CFA

### LEARNING OUTCOME STATEMENTS

#### READING 13. HOW SHARP IS THE SHARPE RATIO?

The candidate should be able to:

- a** calculate  $M^2$  and contrast it with the Sharpe ratio;



- b** calculate the Treynor ratio and contrast it with the Sharpe ratio;
- c** explain the appraisal ratio;
- d** explain the information ratio;
- e** explain how to adjust various performance measurement measures for non-normal return distributions;
- f** calculate the reward-to-VaR ratio;
- g** explain the conditional Sharpe ratio;
- h** calculate and explain the modified Sharpe ratio;
- i** calculate and explain the average drawdown;
- j** explain the ulcer index;
- k** calculate and explain the Calmar ratio.

#### **READING 14. EQUITY STYLE ANALYSIS**

The candidate should be able to:

- a** describe how characteristic-based analysis provides a deeper understanding of a manager's strategy;
- b** explain how characteristic-based analysis can be used to evaluate a manager's investment philosophy and risk tolerance;
- c** explain how characteristic-based analysis can be used to compare the performance of large cap growth managers;
- d** explain how characteristic-based analysis can be used to assess how a manager's strategy will perform in different market environments;
- e** describe how characteristic-based analysis can be used to assess how a manager performed across multiple time periods.

#### **READING 15. INVESTMENT PERFORMANCE APPRAISAL**

The candidate should be able to:

- a** explain the role of the client's investment policy statement (IPS) in the process of monitoring and evaluating managers;
- b** demonstrate the use of performance triangles vs. benchmarks in assessing a manager's track record;
- c** justify the use of peer group comparisons in the manager monitoring and evaluation process, given that manager universes are not valid benchmarks;
- d** identify and evaluate evidence that a manager may be deviating from the stated investment philosophy, strategy, and/or decision making process.

# STUDY SESSION

# 7

## Manager Selection

This study session addresses important topics in investment manager selection. Following an introduction, the second reading examines the existence and identification of skilled active managers. The third reading turns to evaluating the skill of indexers (i.e., managers who seek to track the performance of a specific market index). For investors choosing to invest actively, after individual managers have been selected, a decision must be made on the amount of assets to give to each to manage. This is the topic of the fourth reading. The following reading addresses investment manager fee schedules and other practical topics.

The final two readings in this study session examine various foundational issues in manager selection. The Minahan reading argues that critically examining a manager's investment philosophy can help determine whether the manager is a true alpha-generator. The Waring and Siegel reading argues the importance in manager selection of using measures of active return and active risk purged of any systematic risk influences. The reading also describes considerations in constructing an optimal portfolio of managers.

### READING ASSIGNMENTS

- 16** Introduction  
based on Chapter 1 in *Essays on Manager Selection*, by Scott D. Stewart, PhD, CFA
- 17** Can Investors Identify Skilled Active Managers?  
based on Chapter 2 in *Essays on Manager Selection*, by Scott D. Stewart, PhD, CFA
- 18** Index Fund Investing  
based on Chapter 3 in *Essays on Manager Selection*, by Scott D. Stewart, PhD, CFA
- 19** Setting Weights for Active and Index Managers  
based on Chapter 5 in *Essays on Manager Selection*, by Scott D. Stewart, PhD, CFA
- 20** The Dynamics of Manager Selection  
based on Chapter 6 in *Essays on Manager Selection*, by Scott D. Stewart, PhD, CFA
- 21** The Role of Investment Philosophy in Evaluating Investment Managers: A Consultant's Perspective on Distinguishing Alpha from Noise  
by John R. Minahan, CFA
- 22** The Dimensions of Active Management  
by M. Barton Waring and Laurence B. Siegel



**LEARNING OUTCOME****READING 16. INTRODUCTION**

The candidate should be able to describe how investment manager selection takes place in the context of the investment policy statement.

**READING 17. CAN INVESTORS IDENTIFY SKILLED ACTIVE MANAGERS?**

The candidate should be able to:

- a** describe the implications of the arithmetic of active management for returns on the average actively managed and passively managed dollar, before and after accounting for costs;
- b** describe the implications of the arithmetic of active management for the existence of active managers who outperform the market;
- c** describe the three requirements for investing successfully using active investment managers;
- d** describe the effects of transaction costs and asset size on alpha potential;
- e** describe two key empirical observations about the time-series and cross-sectional properties of alpha;
- f** describe key characteristics of successful investment managers.

**READING 18. INDEX FUND INVESTING**

The candidate should be able to:

- a** describe factors affecting the costs of indexing;
- b** describe the sources of tracking risk (tracking error);
- c** describe considerations in the due diligence process for index managers;
- d** describe sources of persistence in index manager performance.

**READING 19. SETTING WEIGHTS FOR ACTIVE AND INDEX MANAGERS**

The candidate should be able to:

- a** describe the components of the investor's utility function for manager selection;
- b** explain why the investor's utility function for manager selection uses active return instead of total return;
- c** describe approaches to incorporating risk into the manager selection process;
- d** describe the optimal mix of managers;
- e** describe how search and monitoring costs affect the manager selection process.

**READING 20. THE DYNAMICS OF MANAGER SELECTION**

The candidate should be able to:

- a** describe factors affecting the use of performance data to assess manager alpha;
- b** describe how the principal–agent relationship between asset managers and investors underlies assets under management fees and performance-based fees;
- c** describe the three basic forms of performance-based fees;
- d** analyze and interpret a sample performance-based fee schedule.

**READING 21. THE ROLE OF INVESTMENT PHILOSOPHY IN EVALUATING INVESTMENT MANAGERS**

The candidate should be able to:

- a** distinguish between “alpha generators” and “alpha pretenders”;
- b** define the concept of an investment philosophy;

- c demonstrate how to analyze a manager's investment philosophy;
- d judge whether specific managers pass the "investment philosophy test."

#### READING 22. THE DIMENSIONS OF ACTIVE MANAGEMENT

The candidate should be able to:

- a describe the components of total risk (market risk and pure active risk) and explain how these components are related to strategic asset allocation;
- b explain misfit risk (i) for a single active manager and (ii) for a portfolio of active managers chosen by an investor (*net* misfit risk);
- c explain the calculation of the pure information ratio (i) for a single active manager and (ii) for a portfolio of active managers;
- d distinguish between active investment results that are under an investment manager's control and those that are under an investor's control;
- e explain the limitations of historical alphas, style boxes, and traditional active risk concepts for building a portfolio of managers;
- f describe how to estimate the inputs needed in the optimization process that leads to the efficient frontier of active managers;
- g explain why the manager optimization process favors lower active-risk managers.

# STUDY SESSION

# 8

## Investment Performance Presentation

**A**t the Expert level, you will learn about the required and recommended provisions of the GIPS standards and how to apply them in practice. This study session presents and illustrates the application of the Standards.

### READING ASSIGNMENTS

- 23 Overview of the Global Investment Performance Standards: CIPM Expert Level  
by Philip Lawton, CFA, CIPM, updated by Kenneth Robinson, CFA, CIPM
- 24 Global Investment Performance Standards (GIPS)

### LEARNING OUTCOME

#### READING 23. OVERVIEW OF THE GLOBAL INVESTMENT PERFORMANCE STANDARDS

The candidate should be able to:

- a explain the fundamentals of compliance with the GIPS standards, including the definition of the firm, calculating total firm assets, and the conditions under which an investment management firm can claim compliance;
- b determine whether a firm's input data use and record keeping procedures are consistent with the requirements and recommendations of the GIPS standards;
- c compare fair value and market value of assets and show how to implement the valuation recommendations of the GIPS standards, including the valuation hierarchy;
- d calculate composite returns in accordance with the GIPS standards;
- e explain why the GIPS standards require the inclusion of returns from cash and cash equivalents in total return calculations;
- f explain and calculate the treatment of trading expenses and fees, including determining gross-of-fees and net-of-fees portfolio returns in accordance with the GIPS standards;





- g** evaluate the appropriateness of composite construction according to the GIPS standards, including (i) linked performance of model or simulated portfolios, (ii) inclusion of new portfolios, and termination and switching of portfolios, and (iii) effect of significant cash flows;
- h** evaluate the classification of portfolios as discretionary or non-discretionary in accordance with the GIPS standards;
- i** state the requirements and recommendations of the GIPS standards with respect to disclosures, presentation, and reporting;
- j** identify errors and omissions in disclosures, presentation, and reporting, and recommend changes that would bring them into compliance with the GIPS standards;
- k** determine the portability of performance track records from a past firm or affiliation in accordance with the GIPS standards;
- l** determine whether investments are subject to the provisions of the GIPS standards related to private equity;
- m** explain the GIPS standards related to private equity valuation, and calculate returns in accordance with the GIPS standards;
- n** state the requirements for compliance with the GIPS Advertising Guidelines and the correct wording of the GIPS compliance statement used in a compliant advertisement;
- o** determine whether advertisements comply with the GIPS Advertising Guidelines;
- p** explain the purpose and scope of verification in accordance with the GIPS standards and state the correct wording of the GIPS compliance statement used for a firm that is verified;
- q** identify and define the terms presented in the GIPS Glossary.

#### **READING 24. GLOBAL INVESTMENT PERFORMANCE STANDARDS (GIPS)**