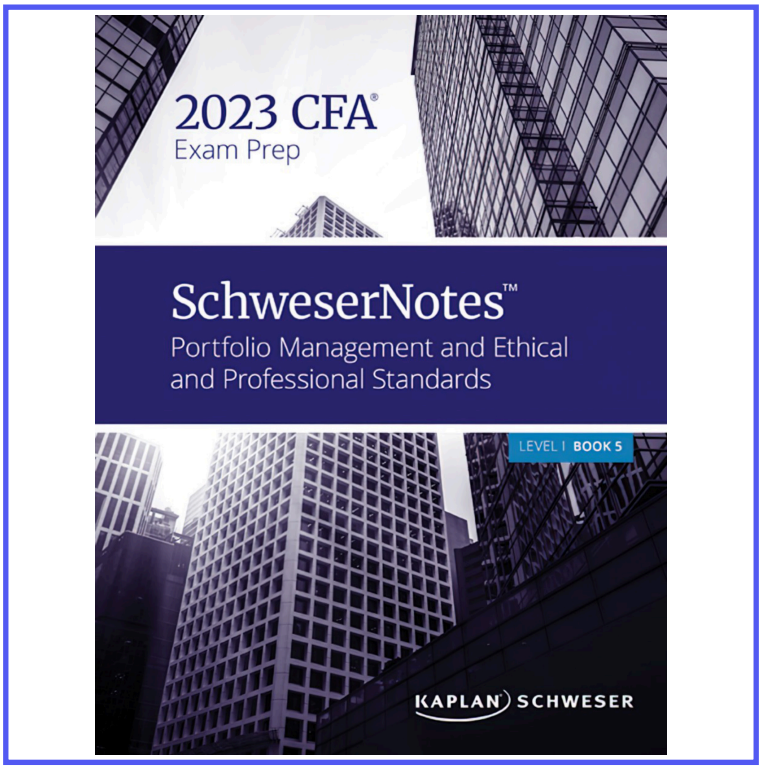

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Exam Focus
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Module 71.2: Guidance for Standards I(C) and I(D)
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LEARNING OUTCOME STATEMENTS (LOS)

61. Portfolio Management: An Overview

The candidate should be able to:

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

62. Portfolio Risk and Return: Part I

The candidate should be able to:

a. calculate and interpret major return measures and describe their appropriate uses.
b. compare the money-weighted and time-weighted rates of return and evaluate the performance of portfolios based on these measures.
c. describe characteristics of the major asset classes that investors consider in forming portfolios.
d. explain risk aversion and its implications for portfolio selection.
e. explain the selection of an optimal portfolio, given an investor's utility (or risk aversion) and the capital allocation line.
f. calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data.
g. calculate and interpret portfolio standard deviation.
h. describe the effect on a portfolio's risk of investing in assets that are less than perfectly correlated.
i. describe and interpret the minimum-variance and efficient frontiers of risky assets and the global minimum-variance portfolio.

63. Portfolio Risk and Return: Part II

The candidate should be able to:

a. describe the implications of combining a risk-free asset with a portfolio of risky assets.
b. explain the capital allocation line (CAL) and the capital market line (CML).
c. explain systematic and nonsystematic risk, including why an investor should not expect to receive additional return for bearing nonsystematic risk.
d. explain return generating models (including the market model) and their uses.
e. calculate and interpret beta.
f. explain the capital asset pricing model (CAPM), including its assumptions, and the security market line (SML).
g. calculate and interpret the expected return of an asset using the CAPM.
h. describe and demonstrate applications of the CAPM and the SML.
i. calculate and interpret the Sharpe ratio, Treynor ratio, M^2, and Jensen's alpha.

64. Basics of Portfolio Planning and Construction

The candidate should be able to:

a. describe the reasons for a written investment policy statement (IPS).
b. describe the major components of an IPS.
c. describe risk and return objectives and how they may be developed for a client.
d. explain the difference between the willingness and the ability (capacity) to take risk in analyzing an investor's financial risk tolerance.
e. 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.
f. explain the specification of asset classes in relation to asset allocation.
g. describe the principles of portfolio construction and the role of asset allocation in relation to the IPS.
h. describe how environmental, social, and governance (ESG) considerations may be integrated into portfolio planning and construction.

65. The Behavioral Biases of Individuals

The candidate should be able to:

a. compare and contrast cognitive errors and emotional biases.
b. discuss commonly recognized behavioral biases and their implications for financial decision making.

c. describe how behavioral biases of investors can lead to market characteristics that may not be explained by traditional finance.

66. Introduction to Risk Management

The candidate should be able to:

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

67. Technical Analysis

The candidate should be able to:

a. explain principles and assumptions of technical analysis.
b. describe potential links between technical analysis and behavioral finance.
c. compare principles of technical analysis and fundamental analysis.
d. describe and interpret different types of technical analysis charts.
e. explain uses of trend, support, and resistance lines.
f. explain common chart patterns.
g. explain common technical indicators.
h. describe principles of intermarket analysis.
i. explain technical analysis applications to portfolio management.

68. Fintech in Investment Management

The candidate should be able to:

a. describe "fintech".
b. describe Big Data, artificial intelligence, and machine learning.
c. describe fintech applications to investment management.
d. describe financial applications of distributed ledger technology.

69. Ethics and Trust in the Investment Profession

The candidate should be able to:

a. explain ethics.
b. describe the role of a code of ethics in defining a profession.
c. describe professions and how they establish trust.
d. describe the need for high ethical standards in investment management.
e. explain professionalism in investment management.
f. identify challenges to ethical behavior.
g. compare and contrast ethical standards with legal standards.
h. describe a framework for ethical decision making.

70. Code of Ethics and Standards of Professional Conduct

The candidate should be able to:

a. describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards.
b. identify the six components of the Code of Ethics and the seven Standards of Professional Conduct.
c. explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.

71. Guidance for Standards I–VII

The candidate should be able to:

a. demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.
b. recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.
c. identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

72. Introduction to the Global Investment Performance Standards (GIPS)

The candidate should be able to:

a. explain why the GIPS standards were created, who can claim compliance, and who benefits from compliance.
b. describe the key concepts of the GIPS Standards for Firms.
c. explain the purpose of composites in performance reporting.
d. describe the fundamentals of compliance, including the recommendations of the GIPS standards with respect to the definition of the firm and the firm's definition of discretion.
e. describe the concept of independent verification.

73. Ethics Application

The candidate should be able to:
a. evaluate practices, policies, and conduct relative to the CFA Institute Code of Ethics and Standards of Professional Conduct.
b. explain how the practices, policies, and conduct do or do not violate the CFA Institute Code of Ethics and Standards of Professional Conduct.

READING 61

PORTFOLIO MANAGEMENT: AN OVERVIEW

EXAM FOCUS

Here, we introduce the portfolio management process and the investment policy statement. In this reading, you will learn the investment needs of different types of investors, as well as the different kinds of pooled investments. Later, our reading on Basics of Portfolio Planning and Construction will provide more detail on investment policy statements and investor objectives and constraints.

MODULE 61.1: PORTFOLIO MANAGEMENT PROCESS

Video covering this content is available online.

LOS 61.a: Describe the portfolio approach to investing.

The **portfolio perspective** refers to evaluating individual investments by their contribution to the risk and return of an investor's portfolio. The alternative to taking a portfolio perspective is to examine the risk and return of individual investments in isolation. An investor who holds all his wealth in a single stock because he believes it to be the best stock available is not taking the portfolio perspective—his portfolio is very risky compared to holding a diversified portfolio of stocks. Modern portfolio theory concludes that the extra risk from holding only a single security is not rewarded with higher expected investment returns. Conversely, diversification allows an investor to reduce portfolio risk without necessarily reducing the portfolio's expected return.

In the early 1950s, the research of Professor Harry Markowitz provided a framework for measuring the risk-reduction benefits of diversification. Using the standard deviation of returns as the measure of investment risk, he investigated how combining risky securities into a portfolio affected the portfolio's risk and expected return. One important conclusion of his model is that unless the returns of the risky assets are perfectly positively correlated, risk is reduced by diversifying across assets.

In the 1960s, professors Treynor, Sharpe, Mossin, and Lintner independently extended this work into what has become known as modern portfolio theory (MPT). MPT results in equilibrium expected returns for securities and portfolios that are a linear function of each security's or portfolio's market risk (the risk that cannot be reduced by diversification).

One measure of the benefits of diversification is the **diversification ratio**. It is calculated as the ratio of the risk of an equally weighted portfolio of n securities (measured by its standard

deviation of returns) to the risk of a single security selected at random from the *n* securities. If the average standard deviation of returns for the *n* stocks is 25%, and the standard deviation of returns for an equally weighted portfolio of the *n* stocks is 18%, the diversification ratio is 18 / 25 = 0.72. If the standard deviation of returns for an equally weighted portfolio is 25%, there are no diversification benefits and the diversification ratio equals one. A *lower* diversification ratio indicates a *greater* risk-reduction benefit from diversification.

While the diversification ratio provides a quick measure of the potential benefits of diversification, an equal-weighted portfolio is not necessarily the portfolio that provides the greatest reduction in risk. Computer optimization can calculate the portfolio weights that will produce the lowest portfolio risk (standard deviation of returns) for a given group of securities.

Portfolio diversification works best when financial markets are operating normally; diversification provides less reduction of risk during market turmoil, such as the credit contagion of 2008. During periods of financial crisis, correlations tend to increase, which reduces the benefits of diversification.

LOS 61.b: Describe the steps in the portfolio management process.

There are three major steps in the portfolio management process:

Step 1: The **planning step** begins with an analysis of the investor's risk tolerance, return objectives, time horizon, tax exposure, liquidity needs, income needs, and any unique circumstances or investor preferences.

This analysis results in an **investment policy statement (IPS)** that details the investor's investment objectives and constraints. It should also specify an objective benchmark (such as an index return) against which the success of the portfolio management process will be measured. The IPS should be updated at least every few years and any time the investor's objectives or constraints change significantly.

Step 2: The **execution step** involves an analysis of the risk and return characteristics of various asset classes to determine how funds will be allocated to the various asset types. Often, in what is referred to as a *top-down* analysis, a portfolio manager will examine current economic conditions and forecasts of such macroeconomic variables as GDP growth, inflation, and interest rates, in order to identify the asset classes that are most attractive. The resulting portfolio is typically diversified across such asset classes as cash, fixed-income securities, publicly traded equities, hedge funds, private equity, and real estate, as well as commodities and other real assets.

Once the asset class allocations are determined, portfolio managers may attempt to identify the most attractive securities within the asset class. Security analysts use model valuations for securities to identify those that appear undervalued in what is termed *bottom-up* security analysis.

Step 3: The **feedback step** is the final step. Over time, investor circumstances will change, risk and return characteristics of asset classes will change, and the actual weights of the assets in the portfolio will change with asset prices. The portfolio manager must monitor these changes and **rebalance** the portfolio periodically in response, adjusting the

allocations to the various asset classes back to their desired percentages. The manager must also measure portfolio performance and evaluate it relative to the return on the benchmark portfolio identified in the IPS.

LOS 61.c: Describe types of investors and distinctive characteristics and needs of each.

Individual investors save and invest for a variety of reasons, including purchasing a house or educating their children. In many countries, special accounts allow citizens to invest for retirement and to defer any taxes on investment income and gains until the funds are withdrawn. Defined contribution pension plans are popular vehicles for these investments. Pension plans are described later in this reading.

Many types of **institutions** have large investment portfolios. An **endowment** is a fund that is dedicated to providing financial support on an ongoing basis for a specific purpose. For example, in the United States, many universities have large endowment funds to support their programs. A **foundation** is a fund established for charitable purposes to support specific types of activities or to fund research related to a particular disease. A typical foundation's investment objective is to fund the activity or research on a continuing basis without decreasing the real (inflation adjusted) value of the portfolio assets. Foundations and endowments typically have long investment horizons, high risk tolerance, and, aside from their planned spending needs, little need for additional liquidity.

The investment objective of a **bank**, simply put, is to earn more on the bank's loans and investments than the bank pays for deposits of various types. Banks seek to keep risk low and need adequate liquidity to meet investor withdrawals as they occur.

Insurance companies invest customer premiums with the objective of funding customer claims as they occur. Life insurance companies have a relatively long-term investment horizon, while property and casualty (P&C) insurers have a shorter investment horizon because claims are expected to arise sooner than for life insurers.

Investment companies manage the pooled funds of many investors. **Mutual funds** manage these pooled funds in particular styles (e.g., index investing, growth investing, bond investing) and restrict their investments to particular subcategories of investments (e.g., large-firm stocks, energy stocks, speculative bonds) or particular regions (emerging market stocks, international bonds, Asian-firm stocks).

Sovereign wealth funds refer to pools of assets owned by a government. For example, the Abu Dhabi Investment Authority, a sovereign wealth fund in the United Arab Emirates funded by Abu Dhabi government surpluses, has approximately USD 700 billion in assets.[1]

Figure 61.1 provides a summary of the risk tolerance, investment horizon, liquidity needs, and income objectives for different types of investors.

Figure 61.1: Characteristics of Different Types of Investors

Investor	Risk Tolerance	Investment Horizon	Liquidity Needs	Income Needs
Individuals	Depends on individual	Depends on individual	Depends on individual	Depends on individual
Banks	Low	Short	High	Pay interest
Endowments	High	Long	Low	Spending level
Insurance	Low	Long—life Short—P&C	High	Low
Mutual funds	Depends on fund	Depends on fund	High	Depends on fund
Defined benefit pensions	High	Long	Low	Depends on age

LOS 61.d: Describe defined contribution and defined benefit pension plans.

A **defined contribution pension plan** is a retirement plan in which the firm contributes a sum each period to the employee's retirement account. The firm's contribution can be based on any number of factors, including years of service, the employee's age, compensation, profitability, or even a percentage of the employee's contribution. In any event, the firm makes no promise to the employee regarding the future value of the plan assets. The investment decisions are left to the employee, who assumes all of the investment risk.

In a **defined benefit pension plan**, the firm promises to make periodic payments to employees after retirement. The benefit is usually based on the employee's years of service and the employee's compensation at, or near, retirement. For example, an employee might earn a retirement benefit of 2% of her final salary for each year of service. Consequently, an employee with 20 years of service and a final salary of $100,000, would receive $40,000 ($100,000 final salary × 2% × 20 years of service) each year upon retirement until death. Because the employee's future benefit is defined, the employer assumes the investment risk. The employer makes contributions to a fund established to provide the promised future benefits. Poor investment performance will increase the amount of required employer contributions to the fund.

MODULE QUIZ 61.1

1. Compared to investing in a single security, diversification provides investors a way to:
   A. increase the expected rate of return.
   B. decrease the volatility of returns.
   C. increase the probability of high returns.
2. Which of the following is *least likely* to be considered an appropriate schedule for reviewing and updating an investment policy statement?
   A. At regular intervals (e.g., every year).
   B. When there is a major change in the client's constraints.
   C. Frequently, based on the recent performance of the portfolio.
3. A top-down security analysis begins by:
   A. analyzing a firm's business prospects and quality of management.
   B. identifying the most attractive companies within each industry.

C. examining economic conditions.

4. Portfolio diversification is *least likely* to protect against losses:
   A. during severe market turmoil.
   B. when markets are operating normally.
   C. when the portfolio securities have low return correlation.
5. Low risk tolerance and high liquidity requirements *best* describe the typical investment needs of:
   A. a defined-benefit pension plan.
   B. a foundation.
   C. an insurance company.
6. A long time horizon and low liquidity requirements *best* describe the investment needs of:
   A. an endowment.
   B. an insurance company.
   C. a bank.
7. In a defined contribution pension plan:
   A. the employee accepts the investment risk.
   B. the plan sponsor promises a predetermined retirement income to participants.
   C. the plan manager attempts to match the fund's assets to its liabilities.
8. In a defined benefit pension plan:
   A. the employee assumes the investment risk.
   B. the employer contributes to the employee's retirement account each period.
   C. the plan sponsor promises a predetermined retirement income to participants.

MODULE 61.2: ASSET MANAGEMENT AND POOLED INVESTMENTS

Video covering this content is available online.

LOS 61.e: Describe aspects of the asset management industry.

The asset management industry comprises firms that manage investments for clients. Asset management firms include both independent managers and divisions of larger financial services companies. They are referred to as **buy-side firms**, in contrast with **sell-side firms** such as broker-dealers and investment banks.

Full-service asset managers are those that offer a variety of investment styles and asset classes. **Specialist asset managers** may focus on a particular investment style or a particular asset class. A **multi-boutique firm** is a holding company that includes a number of different specialist asset managers.

A key distinction is between firms that use active management and those that use passive management. **Active management** attempts to outperform a chosen benchmark through manager skill, for example by using fundamental or technical analysis. **Passive management** attempts to replicate the performance of a chosen benchmark index. This may include traditional broad market index tracking or a **smart beta** approach that focuses on exposure to a particular market risk factor.

Passive management represents about one-fifth of assets under management. Its share of industry revenue is even smaller because fees for passive management are lower than fees for active management.