SchweserNotes™

for the CFA® Exam

CFA® 2013

Level III | Book 1

Ethical and Professional Standards, Behavioral Finance, and Private Wealth Management

KAPLAN SCHWESER

Book 1 – Ethical and Professional Standards, Behavioral Finance, and Private Wealth Management

SCHWESERNOTES™ 2013 CFA LEVEL III BOOK 1: ETHICAL AND PROFESSIONAL STANDARDS, BEHAVIORAL FINANCE, AND PRIVATE WEALTH MANAGEMENT

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WELCOME TO THE 2013 LEVEL III SCHWESERNOTES™

Thank you for trusting Kaplan Schweser to help you reach your goals. We are all very pleased to be able to help you prepare for the Level III CFA Exam. In this introduction, I want to explain the resources included with the SchweserNotes, suggest how you can best use Schweser materials to prepare for the exam, and direct you toward other educational resources you will find helpful as you study for the exam.

Besides the SchweserNotes themselves, there are many educational resources available at Schweser.com. Just log in using the individual username and password that you received when you purchased the SchweserNotes.

SchweserNotes™

These consist of five volumes with complete coverage of all 18 Study Sessions and all Learning Outcome Statements (LOS) with examples, Key Concepts, and Concept Checkers. At the end of several of the major topic areas, we include a Self-Test. Self-Test questions are created to be exam-like in format and difficulty in order to help you evaluate your progress. The Level III SchweserNotes Package also includes a sixth volume, the Level I and II Refresher, a review of important Level I and II material.

As you progress through the SchweserNotes, you will find three important study aids: (1) **Professor's Notes** contain additional information or tips to help you learn a topic, concept, or particularly difficult calculation; (2) **For the Exam** notes contain suggestions on how to study for the exam as well as opinions on how a topic might be tested and whether calculations are likely; (3) **Warm-Up** sections provide necessary background material not always found in the Level III curriculum.

Summaries of the Level III Standards are in the online Level III library. At Level III, standards come in two forms: the Code and Standards (Ethics) and Global Investment Performance Standards (GIPS®). Ethics will be tested in two selected response item sets in the afternoon of the Level III exam and account for 10% (36 points) of the 360 possible points. GIPS could be tested either in the afternoon in an item set (18 points and 5%) or in a constructed response essay question in the morning worth at least 18 points. In other words, standards at Level III could account for approximately 15% of your exam.

The first summary contains an outline of Ethics, focusing on the differences from Levels I and II and is filed under Ethics in the online library. It contains the requirements of all the standards as well as what you need to know for the Level III exam. The GIPS summary is filed under GIPS in the online library.

Practice Questions

To retain what you learn, it is important that you quiz yourself often. We offer CD, download, and online versions of the SchweserPro™ QBank, which contains thousands of Level III practice questions, item sets, essay questions, and explanations. Quizzes are available for each LOS, topic, or Study Session. Build your own exams by specifying the topics and the number of questions you choose.

Practice Exams

Schweser offers six complete 6-hour practice exams. Practice Exams Volume 1 and Volume 2 each contain three 360-point exams. Like the actual Level III CFA exam, the morning section of each exam contains all constructed response essay questions worth a total of 180 points. Each of the afternoon sections contains ten item set questions. The practice exams will help you develop the speed and skills you will need to pass the Level III exam. Each practice exam book contains answers with full explanations for self-grading and evaluation. By entering your item set answers at Schweser.com, you can use our Performance Tracker to find out how you have performed compared to other Schweser Level III candidates.

Schweser Library

We have created reference videos and documents, some of which are available to all SchweserNotes purchasers. Schweser Library video volumes range from 20 to 60 minutes in length and cover such topics as "Quantitative Methods," "Mortgage-Backed Securities," "Introduction to Portfolio Theory," "Determining an Individual Investor's Risk Tolerance," and "Swap Credit Risk." The full Schweser Library is included with our 16-week live or online classes and with our video instruction (online or CDs). The library also contains a master index for the 2013 Level III SchweserNotes, which is free with any SchweserNotes purchases.

Online Schweser Study Planner

Use your Online Access to tell us when you will start and what days of the week you can study. The online Schweser Study Planner will create a study plan just for you, breaking each study session into daily and weekly tasks to keep you on track and help you monitor your progress through the curriculum.

Additional Resources

Purchasers of the Essential Self-Study or Premium Instruction Packages also receive access to our Instructor-led Office Hours. Office Hours allow you to get your questions about the curriculum answered in real time and to see others' questions (and instructor answers) as well. Office Hours is a text-based live interactive online chat with our team of Level III experts. Archives of previous Office Hours sessions can be sorted by topic or date and are posted shortly after each session.

The Level III CFA exam is a formidable challenge (43 topic reviews and 360+ Learning Outcome Statements), and you must devote considerable time and effort to be properly prepared. There is no shortcut! You must learn the material, know the terminology, understand the concepts, and be able to score at least 252 points (70%) out of the 360 possible. Fifteen to 20 hours per week for 20 weeks is a good estimate of the study time required on average, but some candidates will need more or less time, depending on their individual backgrounds and experience.

To help you master this material and be well prepared for the CFA Exam, we offer several other educational resources, including:

Live Weekly Classroom Programs

We offer weekly classroom programs around the world. Please check Schweser.com for locations, dates, and availability.

16-Week Online Classes

Our 16-Week Online Classes are available at New York time (6:30–9:30 pm) or London time (6:00–9:00 pm) beginning in January. The approximate schedule for the 16-Week Online Classes (3-hour sessions) is as follows:

Class #	Class #
1) Intro/Ethics/Behavioral Finance; SS1, 2, 3	9) Equity Portfolio Management; SS11, 12
2) Private Wealth Management; SS4	10) Alternative Investments; SS13
3) Private Wealth Management; SS4	11) Risk Management; SS14
4) Institutional Portfolio Management; SS5	12) Risk Management Applications of Derivatives; SS15
5) Institutional PM / Capital Markets; SS5, 6	13) Risk Management Applications of Derivatives; SS15
6) Economics / Asset Allocation; SS7, 8	14) Execution / Monitoring and Rebalancing; SS16
7) Asset Allocation / Fixed Income; SS 8, 9	15) Evaluation and Attribution; SS17
8) Fixed-Income Derivatives; SS10	16) GIPS®; SS18

Archived classes are available immediately after each live class and can be viewed as often as desired at any time throughout the season. Candidates enrolled in the 16-Week Online Classes also have full access to supplemental on-demand video instruction in the Schweser Library and an e-mail address to use to send questions to the instructor at any time.

Late Season Review

Whether you use self-study or in-class, online, or video instruction to learn the CFA curriculum, a late-season review and exam practice can make all the difference. Our most complete late-season review courses are our residence programs in Windsor, Ontario (WindsorWeek), and Dallas/Fort Worth, Texas (DFW 5-day program). We also offer 3-day Exam Workshops in many cities (and online) that combine curriculum review with an equal component of hands-on practice with hundreds of questions and problem-solving techniques. Please visit us at Schweser.com for complete listings and course descriptions for all our late-season review offerings.

Mock Exam and Multimedia Tutorial

On May 18, 2013, the Schweser Mock Exam will be offered live in many cities around the world and as an online exam as well. The optional Multimedia Tutorial provides extended explanation and topic tutorials to get you exam-ready in areas where you miss questions on the Mock Exam. Please visit Schweser.com for a listing of cities and locations.

How to Succeed

There are no shortcuts; depend on the fact that CFA Institute will test you in a way that will reveal how well you know the Level III curriculum. You should begin early and stick to your study plan. You should first read the SchweserNotes and complete the Concept Checkers for each topic review. You should prepare for and attend a live class, an online class, or a study group each week. You should take quizzes often using SchweserPro Qbank and go back to review previous topics and Study Sessions as well. At the end of each topic area, you should take the Self-Test to check your progress. Additionally, you should be utilizing the CFA texts for any areas you feel particularly weak in. You should finish the overall curriculum at least four weeks (preferably five weeks) before the Level III exam so that you have sufficient time for Practice Exams and for further review of those topics that you have not yet mastered.

I would like to thank Kurt Schuldes, CFA, CAIA, Level III content specialist; Bryan Knueppel, director of print production; and Jared Heintz, lead editor, for their contributions to the 2013 Level III SchweserNotes for the CFA Exam.

Best regards,

David Hetherington

David Hetherington, CFA
VP and CFA Level III Manager

Kaplan Schweser

LOS COMMAND WORDS

Every LOS in the Level III curriculum has at least one command word, which describes how you will be expected to answer exam questions on the related topic(s). For example, LOS 40.d from Monitoring and Rebalancing, Study Session 16 says, "The candidate should be able to discuss the benefits and costs of rebalancing a portfolio to the investor's strategic asset allocation." The command word in the LOS is *discuss* and its definition (from the following list) is "to discourse about through reasoning or argument; to present in detail." In other words, you could be asked to write an answer in essay form as part of a morning case for an individual investor. The question could be quite direct, basically repeating the LOS by asking you to discuss associated costs and benefits. Alternatively, you might have to determine whether you agree or disagree with a statement made by an analyst, a financial adviser, or even the client and explain why (if you disagree). In addition or alternatively, questions from LOS 40.d could show up in the afternoon, where you have to identify the correct statement from a set of answers in an item set. In other words, the command word by itself does not specify how (i.e., constructed response essay or selected response item set) questions on the topic will be asked or how you will be required to answer.

LOS 34.e has three, quite different command words: "The candidate should be able to *calculate* and *interpret* value at risk (VAR) and *explain* its role in measuring overall and individual position market risk." The interpretation of *calculate* is quite straightforward; *compute* VAR from the data provided. *Interpret* could mean you have to write out (i.e., explain) what the calculated VAR figure means. *Explain* means you might have to be able to write an essay answer about the relevance and importance of VAR, et cetera. In other words, this LOS is quite open ended, indicating questions about VAR could show up in either or both the morning and afternoon sessions of the exam.

Please note: Because candidates have historically been interested in what calculations will be required on the exam, I have bolded the command words in the list that could be interpreted as requiring calculations or setting up and discussing equations (note that not all bolded command words are in the Level III LOS). However, I do not recommend skipping over calculations I have provided in the SchweserNotes when the LOS doesn't specifically require calculations. I personally have found that understanding the underlying mathematics goes a long way towards truly understanding the related topics and being able to write a coherent, correct answer.

To emphasize my suggestion for understanding all calculations in the Level III curriculum, a question on the 2009 exam relating to an LOS instructed the candidate to "discuss" a topic requiring detailed calculations!

Before you read through the list, please read the following note from CFA Institute:

> *The reading-specific learning outcome statements (LOS) contained in the study sessions are carefully designed to indicate what you should learn from each assignment. Although the format of the exam may not lend itself to using the following command words in the actual questions, you should be able to answer the exam questions if you can successfully accomplish the learning outcomes described by these command words in the LOS.*

Commonly Used Command Words[1]

Analyze	To study or determine the nature and relationship of the parts of by analysis.
Appraise	To judge and analyze the worth, significance, or status of.
Arrange	To put into a proper order or into a correct or suitable sequence, relationship, or adjustment.
Calculate	To ascertain or determine by mathematical processes.
Characterize	To describe the essential character or quality of.
Cite	To quote by way of evidence, authority, or proof.
Classify	To arrange in classes; to assign to a category.
Combine	To bring into such close relationship as to obscure individual characteristics.
Comment	To observe, remark, or express an opinion or attitude concerning what has been seen or heard about the subject at hand.
Compare	To examine the character or qualities of, for the primary purpose of discovering resemblances.
Compose	To form by putting together; to form the substance of.
Compute	To determine, especially by mathematical means.
Conclude	To make a decision about; to reach a logically necessary end by reasoning.
Construct	To create by organizing ideas or concepts logically and coherently.
Contrast	To compare in respect to differences.
Convert	To change from one form or function to another.
Create	To produce or bring about by a course of action or imaginative skill.
Criticize	To consider the merits and demerits of and judge accordingly; to find fault with.
Critique	To offer a critical review or commentary.
Define	To set forth the meaning of; specifically, to formulate a definition of.
Demonstrate	To prove or make clear by reasoning or evidence; to illustrate and explain, especially with examples.
Describe	To transmit a mental image, an impression, or an understanding of the nature and characteristics of.
Design	To conceive or plan out in the mind.
Determine	To come to a decision as the result of investigation or reasoning; to settle or decide by choice among alternatives or possibilities.
Diagram	To represent by or put into the form of a diagram.
Differentiate	To mark or show a difference in; to develop different characteristics in.
Discriminate	To mark or perceive the distinguishing or peculiar features of; to distinguish by discerning or exposing differences.
Discuss	To discourse about through reasoning or argument; to present in detail.
Distinguish	To perceive a difference in; to separate into kinds, classes, or categories.
Draft	To draw up, compose, prepare, frame.
Draw	To express graphically in words; to delineate.
Estimate	To judge the value, worth, or significance of.
Evaluate	To determine or fix the value of; to determine the significance or worth of, usually by careful appraisal and study.
Explain	To give the meaning or significance of; to provide an understanding of; to give the reason for or cause of.

1. Source: http://www.cfainstitute.org/Documents/cfa_and_cipm_los_command_words.pdf

Formulate	To put into a systematized statement or expression; to prepare according to a formula.
Give	To yield or furnish as a product, consequence, or effect; to offer for the consideration, acceptance, or use of another.
Identify	To establish the identity of; to show or prove the sameness of.
Illustrate	To make clear, especially by giving examples or instances.
Indicate	To point out or point to with more or less exactness; to show or make known with a fair degree of certainty.
Infer	To derive as a conclusion from factors or premises.
Interpret	To explain or tell the meaning of; to present in understandable terms.
Judge	To form an opinion about through careful weighing of evidence and testing of premises.
Justify	To prove or show to be valid, sound, or conforming to fact or reason; to furnish grounds or evidence for.
List	To enumerate.
Match	To pair up or put in a set as possessing equal or harmonizing attributes.
Modify	To make minor changes to give a new orientation to or to serve a new end.
Name	To mention or identify by name.
Order	To put in order; to arrange.
Outline	To indicate the principal features or different parts of.
Predict	To declare in advance; to foretell on the basis of observation, experience, or reason.
Prepare	To put into written form; to draw up.
Present	To offer or convey by way of message; to furnish or provide.
Rearrange	To put back into proper order or into a correct or suitable sequence, relationship, or adjustment.
Recommend	To bring forward as being fit or worthy; to indicate as being one's choice for something or as otherwise having one's approval or support.
Record	To set down in writing; to make an answer.
Relate	To show or establish logical or causal connection between.
Respond	To say or write something in return; to make an answer.
Restate	To state again in a new form.
Review	To make a formal or official examination of the state of; to go over or examine critically or deliberately.
Revise	To make a new, amended, improved, or up-to-date version of.
Select	To choose from a number or group—usually by fitness, excellence, or other distinguishing feature.
Separate	To set or keep apart; to make a distinction between; to sort.
Show	To set forth in a statement, account, or description; to make evident or clear.
Solve	To find a solution for a problem.
State	To express in words.
Subdivide	To divide the parts into more parts.
Summarize	To tell in or reduce to a summary.
Support	To provide with verification, corroboration, or substantiation.
Write	To put on paper; to record, state, or explain.

Readings and Learning Outcome Statements

Readings

The following material is a review of the Ethical and Professional Standards, Behavioral Finance, and Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute.

Study Session 1

Reading Assignments
Code of Ethics and Standards of Professional Conduct, CFA Program Curriculum, Volume 1, Level III (CFA Institute, 2013)

Study Session 2

Reading Assignments
Ethical and Professional Standards in Practice, CFA Program Curriculum, Volume 1, Level III (CFA Institute, 2013)

Study Session 3

Reading Assignments
Behavioral Finance, CFA Program Curriculum, Volume 2 (CFA Institute, 2013)

Study Session 4

Reading Assignments
Private Wealth Management, CFA Program Curriculum, Volume 2 (CFA Institute, 2013)

Learning Outcome Statements (LOS)

The CFA Institute learning outcome statements are listed in the following outline. These are repeated in each topic review. However, the order may have been changed in order to get a better fit with the flow of the review.

Study Session 1

The topical coverage corresponds with the following CFA Institute assigned reading:

1. **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 disciplinary review process for the enforcement of the Code of Ethics and Standards of Professional Conduct. (page 16)
   b. explain the ethical responsibilities required by the Code of Ethics and the Standards of Professional Conduct, including the multiple sub-sections of each standard. (page 17)

The topical coverage corresponds with the following CFA Institute assigned reading:

2. **"Guidance" for Standards I–VII**
   The candidate should be able to:
   a. demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by interpreting the Code and Standards in various situations involving issues of professional integrity. (page 21)
   b. recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct. (page 21)

Study Session 2

The topical coverage corresponds with the following CFA Institute assigned reading:

3. **Ethics in Practice**
   The candidate should be able to:
   a. explain the ethical and professional responsibilities required by each of the six provisions of the Code of Ethics and the seven Standards of Professional Conduct. (page 92)
   b. interpret the Code of Ethics and Standards of Professional Conduct in situations involving issues of professional integrity and formulate corrective actions where appropriate. (page 97)

The topical coverage corresponds with the following CFA Institute assigned reading:

4. **The Consultant**
   The candidate should be able to:
   a. evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct. (page 106)
   b. prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct. (page 106)

The topical coverage corresponds with the following CFA Institute assigned reading:

5. **Pearl Investment Management (A), (B), and (C)**

The candidate should be able to:

a. evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct. (page 110, 114, 119)
b. prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct. (page 110, 114, 119)

The topical coverage corresponds with the following CFA Institute assigned reading:

6. **Asset Manager Code of Professional Conduct**

The candidate should be able to:

a. explain the ethical and professional responsibilities required by the six components of the Asset Manager Code. (page 123)
b. determine whether an asset manager's practices and procedures are consistent with the Asset Manager Code. (page 130)
c. recommend practices and procedures designed to prevent violations of the Asset Manager Code. (page 123)

Study Session 3

The topical coverage corresponds with the following CFA Institute assigned reading:

7. **The Behavioral Finance Perspective**

a. contrast traditional and behavioral finance perspectives on investor decision making. (page 157)
b. contrast expected utility and prospect theories of investment decision making. (page 162)
c. discuss the effects of cognitive and knowledge capacity limitations on investment decision making. (page 164)
d. compare traditional and behavioral finance perspectives on portfolio construction and the behavior of capital markets. (page 170)

The topical coverage corresponds with the following CFA Institute assigned reading:

8. **The Behavioral Biases of Individuals**

The candidate should be able to:

a. distinguish between cognitive errors and emotional biases. (page 185)
b. discuss commonly recognized behavioral biases and their implications for financial decision making. (page 186)
c. analyze an individual's behavior for behavioral biases. (page 186)
d. evaluate the impact of biases on investment policy and asset allocation and discuss approaches to mitigate their effect. (page 186)

The topical coverage corresponds with the following CFA Institute assigned reading:

9. **Behavioral Finance and Investment Processes**

The candidate should be able to:

a. explain the uses and limitations of classifying investors into various types. (page 205)
b. discuss how behavioral factors affect adviser–client interactions. (page 210)
c. discuss how behavioral factors influence portfolio construction. (page 211)
d. explain how behavioral finance can be applied to the process of portfolio construction. (page 212)
e. discuss how behavioral factors affect analyst forecasts and recommend remedial actions for analyst biases. (page 213)
f. discuss how behavioral factors affect investment committee decision making and recommend techniques for mitigating their effects. (page 216)
g. describe how behavioral biases of investors can lead to market anomalies and observed market characteristics. (page 217)

Study Session 4

The topical coverage corresponds with the following CFA Institute assigned reading:

10. **Managing Individual Investor Portfolios**

The candidate should be able to:

a. discuss how source of wealth, measure of wealth, and stage of life affect an individual investors' risk tolerance. (page 232)
b. explain the role of situational and psychological profiling in understanding an individual investor. (page 232)
c. compare the traditional finance and behavioral finance models of investor decision making. (page 234)
d. explain the influence of investor psychology on risk tolerance and investment choices. (page 236)
e. explain the use of a personality typing questionnaire for identifying an investor's personality type. (page 236)
f. compare risk attitudes and decision-making styles among distinct investor personality types, including cautious, methodical, spontaneous, and individualistic investors. (page 236)
g. explain the potential benefits, for both clients and investment advisers, of having a formal investment policy statement. (page 237)
h. explain the process involved in creating an investment policy statement. (page 238)
i. distinguish between required return and desired return and explain the impact these have on the individual investor's investment policy. (page 239)
j. explain how to set risk and return objectives for individual investor portfolios and discuss the impact that ability and willingness to take risk have on risk tolerance. (page 239)
k. discuss each of the major constraint categories included in an individual investor's investment policy statement. (page 245)
l. formulate and justify an investment policy statement for an individual investor. (page 250)
m. determine the strategic asset allocation that is most appropriate for an individual investor's specific investment objectives and constraints. (page 257)
n. compare Monte Carlo and traditional deterministic approaches to retirement planning and explain the advantages of a Monte Carlo approach. (page 260)

The topical coverage corresponds with the following CFA Institute assigned reading:

11. **Taxes and Private Wealth Management in a Global Context**

The candidate should be able to:

a. compare basic global taxation regimes as they relate to the taxation of dividend income, interest income, realized capital gains, and unrealized capital gains. (page 272)
b. determine the impact of different types of taxes and tax regimes on future wealth accumulation. (page 275)
c. calculate accrual equivalent tax rates and after-tax returns. (page 287)
d. explain how investment return and investment horizon affect the tax impact associated with an investment. (page 278)
e. discuss the tax profiles of different types of investment accounts and explain their impact on after-tax returns and future accumulations. (page 293)
f. explain how taxes affect investment risk. (page 298)
g. discuss the relation between after-tax returns and different types of investor trading behavior. (page 299)
h. explain the benefits of tax loss harvesting and highest-in/first-out (HIFO) tax lot accounting. (page 302)
i. demonstrate how taxes and asset location relate to mean–variance optimization. (page 306)

The topical coverage corresponds with the following CFA Institute assigned reading:

12. **Estate Planning in a Global Context**

The candidate should be able to:

a. discuss the purpose of estate planning and explain the basic concepts of domestic estate planning, including estates, wills, and probate. (page 320)
b. explain the two principal forms of wealth transfer taxes and discuss the impact of important non-tax issues, such as legal system, forced heirship, and marital property regime. (page 321)
c. determine a family's core capital and excess capital, based on mortality probabilities and Monte Carlo analysis. (page 324)
d. evaluate the relative after-tax value of lifetime gifts and testamentary bequests. (page 330)
e. explain the estate planning benefit of making lifetime gifts when gift taxes are paid by the donor, rather than the recipient. (page 333)
f. evaluate the after-tax benefits of basic estate planning strategies, including generation skipping, spousal exemptions, valuation discounts, and charitable gifts. (page 335)
g. explain the basic structure of a trust and discuss the differences between revocable and irrevocable trusts. (page 339)
h. explain how life insurance can be a tax-efficient means of wealth transfer. (page 340)
i. discuss the two principal systems (source jurisdiction and residence jurisdiction) for establishing a country's tax jurisdiction. (page 341)
j. discuss the possible income and estate tax consequences of foreign situated assets and foreign-sourced income. (page 341)
k. evaluate a client's tax liability under each of three basic methods (credit, exemption, and deduction) that a country may use to provide relief from double taxation. (page 342)
l. discuss the impact of increasing international transparency and information exchange among tax authorities on international estate planning. (page 345)

The topical coverage corresponds with the following CFA Institute assigned reading:

13. **Low-Basis Stock**

The candidate should be able to:

a. explain the psychological considerations, investment risk, and tax issues related to concentrated holdings of low-basis stock. (page 355)
b. discuss how exposure to stock-specific risk is expected to change over the entrepreneurial, executive, and investor stages of an individual's "equity holding life." (page 355)
c. explain individual investors' attitudes toward holding their own company stock during the entrepreneurial, executive, and investor stages. (page 355)
d. critique the effectiveness of outright sales, exchange funds, completion portfolios, and hedging strategies as techniques for reducing concentrated equity risk. (page 360)

The topical coverage corresponds with the following CFA Institute assigned reading:

14. **Lifetime Financial Advice: Human Capital, Asset Allocation, and Insurance**

The candidate should be able to:

a. explain the concept and discuss the characteristics of "human capital" as a component of an investor's total wealth. (page 368)
b. discuss the earnings risk, mortality risk, and longevity risk associated with human capital and explain how these risks can be reduced by appropriate portfolio diversification, life insurance, and annuity products. (page 368)
c. explain how asset allocation policy is influenced by the risk characteristics of human capital and the relative relationships of human capital, financial capital, and total wealth. (page 371)
d. discuss how asset allocation and the appropriate level of life insurance are influenced by the joint consideration of human capital, financial capital, bequest preferences, risk tolerance, and financial wealth. (page 372)
e. discuss the financial market risk, longevity risk, and savings risk faced by investors in retirement and explain how these risks can be reduced by appropriate portfolio diversification, insurance products, and savings discipline. (page 372)
f. discuss the relative advantages of fixed and variable annuities as hedges against longevity risk. (page 375)
g. recommend basic strategies for asset allocation and risk reduction when given an investor profile of key inputs, including human capital, financial capital, stage of life cycle, bequest preferences, risk tolerance, and financial wealth. (page 371)

The following is a review of the Ethical and Professional Standards principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

CFA Institute Code of Ethics and Standards of Professional Conduct Guidance for Standards I–VII

Study Session 1

Exam Focus

In addition to reading this review of the ethics material, we strongly recommend that all candidates for the CFA® examination read the *Standards of Practice Handbook 10th Edition* (2010). Then work the end-of-chapter questions for ethics in the CFA program curriculum and review the ethics topic area again the week before the exam. As a Level III CFA candidate, it is your responsibility to comply with the *Code and Standards*. The complete *Code and Standards* are reprinted in Volume 1 of the CFA Program Curriculum.

LOS 1.a: Describe the structure of the CFA Institute Professional Conduct Program and the disciplinary review process for the enforcement of the Code of Ethics and Standards of Professional Conduct.

CFA® Program Curriculum, Volume 1, page 8

The CFA Institute Professional Conduct Program is covered by the CFA Institute Bylaws and the Rules of Procedure for Proceedings Related to Professional Conduct. The Program is based on the principles of fairness of the process to members and candidates and maintaining the confidentiality of the proceedings. The CFA Institute Board of Governors has overall responsibility for the Professional Conduct Program. The CFA Institute Board of Governors and the Disciplinary Review Committee (DRC) are responsible for enforcing the Code and Standards.

The CFA Institute Designated Officer, through the Professional Conduct staff, conducts inquiries related to professional conduct. Several circumstances can prompt such an inquiry:

1. Self-disclosure by members or candidates on their annual Professional Conduct Statements of involvement in civil litigation or a criminal investigation or that the member or candidate is the subject of a written complaint.
2. Written complaints about a member or candidate's professional conduct that are received by the Professional Conduct staff.
3. Evidence of misconduct by a member or candidate that the Professional Conduct staff received through public sources, such as a media article or broadcast.
4. A report by a CFA exam proctor of a possible violation during the examination.

Once an inquiry has begun, the Professional Conduct staff may request (in writing) an explanation from the subject member or candidate and may (1) interview the subject member or candidate, (2) interview the complainant or other third parties, and/or (3) collect documents and records relevant to the investigation.

The Designated Officer may decide (1) that no disciplinary sanctions are appropriate, (2) to issue a cautionary letter, or (3) to discipline the member or candidate. In a case where the Designated Officer finds a violation has occurred and proposes a disciplinary sanction, the member or candidate may accept or reject the sanction. If the member or candidate chooses to reject the sanction, the matter will be referred to a panel of DRC members and CFA Institute member volunteers associated with the DRC for a hearing. Based on material and presentations by the Designated Officer and the member or candidate under inquiry, the panel decides whether a violation of the Code and Standards occurred and what sanction should be imposed. Sanctions imposed may include public censure, suspension of membership and use of the CFA designation, revocation of the CFA charter, and suspension of a candidate's continued participation in the CFA Program.

LOS 1.b: Explain the ethical responsibilities required by the Code of Ethics and the Standards of Professional Conduct, including the multiple sub-sections of each standard.

CFA® Program Curriculum, Volume 1, page 14

Code of Ethics

Members of CFA Institute [including Chartered Financial Analyst® (CFA®) charterholders] and candidates for the CFA designation ("Members and Candidates") must:[1]

- Act with integrity, competence, diligence, respect, and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity of and uphold the rules governing capital markets.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

The Standards of Professional Conduct

I: Professionalism
II: Integrity of Capital Markets

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III: Duties to Clients
IV: Duties to Employers
V: Investment Analysis, Recommendations, and Actions
VI: Conflicts of Interest
VII: Responsibilities as a CFA Institute Member or CFA Candidate

Standards of Professional Conduct[2]

I. PROFESSIONALISM

A. **Knowledge of the Law.** Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate themselves from any violation of such laws, rules, or regulations.

B. **Independence and Objectivity.** Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

C. **Misrepresentation.** Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.

D. **Misconduct.** Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

II. INTEGRITY OF CAPITAL MARKETS

A. **Material Nonpublic Information.** Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.

B. **Market Manipulation.** Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

III. DUTIES TO CLIENTS

A. **Loyalty, Prudence, and Care.** Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.

2. Ibid.

B. **Fair Dealing.** Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.

C. **Suitability.**

1. When Members and Candidates are in an advisory relationship with a client, they must:

   a. Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.

   b. Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.

   c. Judge the suitability of investments in the context of the client's total portfolio.

2. When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take investment actions that are consistent with the stated objectives and constraints of the portfolio.

D. **Performance Presentation.** When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.

E. **Preservation of Confidentiality.** Members and Candidates must keep information about current, former, and prospective clients confidential unless:

1. The information concerns illegal activities on the part of the client or prospective client,

2. Disclosure is required by law, or

3. The client or prospective client permits disclosure of the information.

IV. DUTIES TO EMPLOYERS

A. **Loyalty.** In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.

B. **Additional Compensation Arrangements.** Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.

C. **Responsibilities of Supervisors.** Members and Candidates must make reasonable efforts to detect and prevent violations of applicable laws, rules, regulations, and the Code and Standards by anyone subject to their supervision or authority.

V. INVESTMENT ANALYSIS, RECOMMENDATIONS, AND ACTIONS

A. **Diligence and Reasonable Basis.** Members and Candidates must:

1. Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.

2. Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.

B. **Communication with Clients and Prospective Clients.** Members and Candidates must:

1. Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.

2. Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.

3. Distinguish between fact and opinion in the presentation of investment analysis and recommendations.

C. **Record Retention.** Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

VI. CONFLICTS OF INTEREST

A. **Disclosure of Conflicts.** Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.

B. **Priority of Transactions.** Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.

C. **Referral Fees.** Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

VII. RESPONSIBILITIES AS A CFA INSTITUTE MEMBER OR CFA CANDIDATE

A. **Conduct as Members and Candidates in the CFA Program.** Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA examinations.

B. **Reference to CFA Institute, the CFA Designation, and the CFA Program.** When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA Program.

LOS 2.a: Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by interpreting the Code and Standards in various situations involving issues of professional integrity.

LOS 2.b: Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

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I Professionalism

I(A) Knowledge of the Law. Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate from any violation of such laws, rules, or regulations.

Professor's Note: While we use the term "members" in the following, note that all of the Standards apply to candidates as well.

Guidance—Code and Standards vs. Local Law

Members must know the laws and regulations relating to their professional activities in all countries in which they conduct business. Members must comply with applicable laws and regulations relating to their professional activity. Do not violate Code or Standards even if the activity is otherwise legal. Always adhere to the most strict rules and requirements (law or CFA Institute Standards) that apply.

Guidance—Participation or Association with Violations by Others

Members should dissociate, or separate themselves, from any ongoing client or employee activity that is illegal or unethical, even if it involves leaving an employer (an extreme case). While a member may confront the involved individual first, he must approach his supervisor or compliance department. Inaction with continued association may be construed as knowing participation.

Recommended Procedures for Compliance—Members

- Members should have procedures to keep up with changes in applicable laws, rules, and regulations.
- Compliance procedures should be reviewed on an ongoing basis to assure that they address current law, CFAI Standards, and regulations.
- Members should maintain current reference materials for employees to access in order to keep up to date on laws, rules, and regulations.
- Members should seek advice of counsel or their compliance department when in doubt.
- Members should document any violations when they disassociate themselves from prohibited activity and encourage their employers to bring an end to such activity.
- There is no requirement under the Standards to report violations to governmental authorities, but this may be advisable in some circumstances and required by law in others.
- Members are strongly encouraged to report other members' violations of the Code and Standards.

Recommended Procedures for Compliance—Firms

Members should encourage their firms to:

- Develop and/or adopt a code of ethics.
- Make available to employees information that highlights applicable laws and regulations.
- Establish written procedures for reporting suspected violation of laws, regulations, or company policies.

Members who supervise the creation and maintenance of investment services and products should be aware of and comply with the regulations and laws regarding such services and products both in their country of origin and the countries where they will be sold.

Application of Standard I(A) Knowledge of the Law[3]

Example 1: (Notification of a known violation)

James White works for a brokerage firm responsible for an underwriting of securities. A colleague gives White information indicating the financial statements White filed with the regulator overstate the issuer's earnings. White seeks the advice of the brokerage firm's general counsel, who states that it would be difficult for the regulator to prove any wrongdoing.

Comment:

When in doubt, members and candidates should seek the advice of legal counsel but this advice does not absolve the member or candidate from complying with laws or regulations. White should report this situation to his supervisor and determine whether the regulator should be notified of the error by seeking an independent legal opinion.

Example 2: (Dissociating from a violation)

An employee of an investment bank is working on an underwriting and finds out the issuer has altered their financial statements to hide operating losses in one division. These misstated data are included in a preliminary prospectus that has already been released.

Comment:

The employee should report the problem to his supervisors. If the firm doesn't get the misstatement fixed, the employee should dissociate from the underwriting and, further, seek legal advice about whether he should undertake additional reporting or other actions.

Example 3: (Dissociating from a violation)

Tammy Harter's firm advertises its record of past performance by showing the 8-year return of a composite of its client accounts. However, Harter discovers that the composite deletes the performance of accounts that have left the firm during the 8-year period leading to inflated results. Harter's firm expects her to use the erroneous data in the firm's marketing materials when soliciting new clients.

Comment:

Misrepresenting performance is a violation of the Code of Ethics and Standard I(A). Although Harter did not calculate the performance herself, she would be assisting in violating this standard if she were to use the inflated performance data when soliciting clients. She must dissociate herself from the activity. She can bring the misleading number to the attention of the person responsible for calculating performance, her supervisor, or the compliance department at her firm. If her firm is not willing to recalculate the performance, she must stop using the misleading promotional material and should notify the firm of her reasons. If the firm insists she use the material, she may need to seek other employment considering her obligation to dissociate from the activity.

3. Ibid.

Example 4: (Adhering to the highest requirement)

William Charvel is a U.S. citizen working as an investment advisor in a developing country with minimal securities laws and no prohibition against the use of material nonpublic information. The developing country is experiencing high economic growth and rapidly expanding capital markets.

Comment:

Charvel would need to abide by the more strict Code and Standards rather than the less strict securities laws in the developing country. He should also be aware of the unregulated flow of information in the capital markets leading to the possibility of coming into possession of material nonpublic information. He would need to take these factors into consideration when giving investment advice to clients in addition to following Standard II(A) – Material Nonpublic Information.

Example 5: (Adhering to the highest requirement)

Emily Martin, a U.S. citizen, works for an investment adviser based in the United States and works in a country where investment managers are prohibited from participating in IPOs for their own accounts.

Comment:

Martin must comply with the strictest requirements among U.S. law (where her firm is based), the CFA Institute Code and Standards, and the laws of the country where she is doing business. In this case, that means she must not participate in any IPOs for her personal account.

Example 6: (Cultural and religious differences)

Chelsea Lincoln works for a large financial services firm that markets its products throughout the world. She is a portfolio manager for the firm's hedge fund which has received interest from several Middle Eastern investors who want investments that comply with Islamic law. Lincoln is not sure if the fund complies with Islamic law and knows the marketing materials do not address this issue.

Comment:

Members and candidates should be aware of the different cultures, religions, and government regulations in the countries they do business in. Lincoln's firm would be proactive in addressing the compliance of Islamic law in the products it offers to Middle Eastern investors and to only offer products that are suitable to prospective clients.

Example 7: (Reporting of potential unethical behavior)

A junior portfolio manager suspects that a broker responsible for new business from a foreign country is being allocated a portion of the firm's payments for third-party research and suspects that no research is being provided. He believes that the research payments may be inappropriate and unethical.

Comment:

He should follow his firm's procedures for reporting possible unethical behavior and try to get better disclosure of the nature of these payments and any research that is being provided.

I(B) Independence and Objectivity. Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

Guidance

Do not let the investment process be influenced by any external sources. Modest gifts are permitted. Allocation of shares in oversubscribed IPOs to personal accounts is NOT permitted. Distinguish between gifts from clients and gifts from entities seeking influence to the detriment of the client. Gifts must be disclosed to the member's employer in any case, either prior to acceptance if possible, or subsequently.

Guidance—Investment Banking Relationships

Do not be pressured by sell-side firms to issue favorable research on current or prospective investment-banking clients. It is appropriate to have analysts work with investment bankers in "road shows" only when the conflicts are adequately and effectively managed and disclosed. Be sure there are effective "fire walls" between research/investment management and investment-banking activities.

Guidance—Public Companies

Analysts should not be pressured to issue favorable research by the companies they follow. Do not confine research to discussions with company management, but rather use a variety of sources, including suppliers, customers, and competitors.

Guidance—Buy-Side Clients

Buy-side clients may try to pressure sell-side analysts. Portfolio managers may have large positions in a particular security, and a rating downgrade may have an effect on the portfolio performance. As a portfolio manager, there is a responsibility to respect and foster intellectual honesty of sell-side research.

Guidance—Fund Manager Relationships

Members responsible for selecting outside managers should not accept gifts, entertainment, or travel that might be perceived as impairing their objectivity.

Guidance—Credit Rating Agencies

Members employed by credit rating firms should make sure that procedures prevent undue influence by the firm issuing the securities. Members who use credit ratings should be aware of this potential conflict of interest and consider whether independent analysis is warranted.

Guidance—Issuer-Paid Research

Remember that this type of research is fraught with potential conflicts. Analysts' compensation for preparing such research should be limited, and the preference is for a flat fee, without regard to conclusions or the report's recommendations.

Guidance—Travel

Best practice is for analysts to pay for their own commercial travel when attending information events or tours sponsored by the firm being analyzed.

Recommended Procedures for Compliance

- Protect the integrity of opinions—make sure they are unbiased.
- Create a restricted list and distribute only factual information about companies on the list.
- Restrict special cost arrangements—pay for one's own commercial transportation and hotel; limit use of corporate aircraft to cases in which commercial transportation is not available.
- Allow token gifts only and no cash gifts of any size. Customary, business-related entertainment is okay as long as its purpose is not to influence a member's professional independence or objectivity. Firms should impose clear value limits on gifts.
- Restrict employee investments in equity IPOs and private placements. Require pre-approval of IPO purchases.
- Review procedures—have effective supervisory and review procedures.
- Have formal written policies on independence and objectivity of research.
- Appoint a compliance officer and provide clear procedures for employee reporting of unethical behavior and violations of applicable regulations.

Application of Standard I(B) Independence and Objectivity

Example 1: (Reimbursement of travel expenses)

David Brown, a mining analyst with Commodity Brokers, is invited by Western Metals to join a group of analysts in a tour of mining facilities in several states throughout the western U.S. The company arranges for chartered flights from site to site and for accommodations in modest hotels near the mines. Brown allows Western Metals to pick up his tab, as do the other analysts, with the exception of John Clinton, an employee of a mutual fund who insists on following his company's policy by paying for his hotel room himself.

Comment:

The policy of the company Clinton works for complies closely with Standard I(B) by avoiding the appearance of a conflict of interest, but Brown and the other analysts were not violating Standard I(B). In general, when allowing companies to pay for travel and/or accommodations, members and candidates must use their judgment, and not allow such arrangements to hinder their independence and objectivity. The trip was strictly for business and did not include lavish accommodations. The itinerary required chartered flights, for which the analysts were not expected to pay. These arrangements are not unusual and did not violate Standard I(B) so long as the analyst's independence and objectivity were not compromised. Members and candidates should consider whether they can remain objective and whether their integrity as perceived by their clients has been compromised.

Example 2: (Maintaining research independence)

An analyst in the corporate finance department of an investment-banking firm promises a client that her firm will provide full research coverage of the issuing company after the offering.

Comment:

This is not a violation, but she cannot promise favorable research coverage. Research must be objective and independent.

Example 3: (Maintaining research independence and intrafirm pressure)

Mike Stockton with Eagle Brokerage is an equity analyst who covers the natural gas industry. He has concluded that the stock of Clean Energy is overpriced at its current level, but he is concerned that a negative research report will hurt the positive relationship between Clean Energy and the investment-banking division of his firm. In fact, a senior manager of Eagle Brokerage has just sent him a copy of a proposal his firm has made to Clean Energy to underwrite a debt offering. Stockton needs to produce a report immediately and is concerned about issuing a less-than-favorable rating.

Comment:

Stockton's analysis of Clean Energy must be objective and based solely on consideration of fundamental analysis. Any pressure from other divisions within his firm is inappropriate. This conflict could have been eliminated if, in anticipation of the offering, Eagle Brokerage had placed Clean Energy on a restricted list. Stockton and his firm do not have to have an opinion or put out a report, but if they do it must be objective.

Example 4: (Maintaining research independence and pressure from outside the firm)

Mike Stockton, an equity analyst, is concerned about the negative repercussions of releasing an unfavorable research report on the natural gas company Clean Energy and the close relationships he has built over the years with Clean Energy's CEO, CFO, and investment relations officer. Specifically, he is concerned about the report leading to a decrease in Clean Energy's stock price causing him to be excluded from Clean Energy's quarterly earnings release conference calls, and no longer having access to top management.

Comment:

Stockton's analysis must be objective and based on company fundamentals. Any pressure from anyone within Clean Energy is inappropriate. Stockton should emphasize that his conclusions are based on quantitative fundamental analysis leading to relative valuation.

Example 5: (Maintaining research independence and sales pressure)

As a Sales Support Specialist for the fixed income department of her firm, Meagan Vaughn is involved in the sales, support, and advice to purchasers of fixed income securities. Her compensation is closely tied to the performance of the fixed income department. A large inventory of Beltran Company bonds has developed due to unfavorable publicity regarding their operations. Because of the high inventory, Vaughn's firm is pushing the Beltran bonds by having the sales force contact the firm's higher net worth clients.

Comment:

This is an example of unethical sales practices and thus a violation of the Code and Standards. Vaughn must refuse to push the bonds unless the market price of the bonds has already adjusted for the operating problem.

Example 6: (Maintaining research independence and prior coverage)

An employee's boss tells him to assume coverage of a stock and maintain a buy rating.

Comment:

Research opinions and recommendations must be objective and independently arrived at. Following the boss's instructions would be a violation if the analyst determined a buy rating is inappropriate. If the boss is a covered person bound by the Code and Standards, the boss is also in violation by insisting on a rating not based on objective and independent work.

Example 7: (Receiving gifts from other businesses)

Jeffrey Miller is an investment advisor who directs a large amount of his trades to a broker in Los Angeles. In return the broker gives Miller two box seats to all Los Angeles Lakers home games. Miller does not disclose this arrangement to his supervisor.

Comment:

Members and Candidates should strive to avoid situations that could impair or be perceived as impairing their ability to remain independent and objective. By accepting the box seats of substantial value, Miller has at a minimum given the impression that he may give the broker favorable treatment impeding Miller's independence and objectivity, thereby violating Standard I(B). Disclosure to his supervisor is not a solution.

Example 8: (Receiving gifts from clients)

A money manager receives a gift of significant value from a client as a reward for good performance over the prior period and informs her employer of the gift.

Comment:

No violation has occurred because the gift is from a client and is not based on performance going forward, but the gift must be disclosed to her employer. If the gift were contingent on future performance, the money manager would have to obtain permission from her employer. The reason for both the disclosure and permission requirements is that the employer must ensure that the money manager does not give advantage to the client giving or offering additional compensation to the detriment of other clients.

Example 9: (Travel expenses and the appearance of a conflict of interest)

John Larson is the investment manager of the Sun City Employee's Pension Plan. He recently completed a search for firms to manage the alternative investment allocation of the plan's diversified portfolio. He followed the plan's procedure of seeking presentations from a number of qualified firms and recommended that his board choose Select Advisers because of its experience, well-defined investment strategy, and performance record, which was compiled and verified in accordance with the CFA Institute Global Investment Performance Standards. Following the choice of Select Advisers, a reporter from the Sun City newspaper called Larson asking if there was any connection between the choice of Select Advisers and the fact that they were one of the sponsors of an "investment fact-finding trip to Europe" that Larson made earlier in the year. The trip was one of several conducted by the Society of Pension Plan Managers (SPPM), which had arranged the itinerary of meetings with economic, government, and corporate officials in major cities in several European countries. The SPPM obtains support for the cost of these trips from a number of investment managers, including Select Advisers; the SPPM then pays the travel expenses of the various pension plan managers on the trip and provides all meals and accommodations. The president of Select Advisers was one of the travelers on the trip.

Comment:

Although Larson probably gained valuable knowledge from the trip in managing the pension plan, his recommendation of Select Advisers may be tainted by the possible conflict of interest that incurred when he participated in a trip paid for partly by Select Advisers since he was in daily contact with the president of Select Advisers. To avoid violating Standard I(B), Larson's basic expenses for travel and accommodations should have been paid by his employer or the pension plan; contact with the president of Select Advisers should have been limited to informational or educational events only; and the trip, the organizer, and the sponsor should have been made a matter of public record. Even if his actions were not in violation of Standard I(B), Larson should have been sensitive to the possibility of public scrutiny of the trip and any subsequent decisions that could have been perceived as having been made as a result of the trip.

Example 10: (Maintaining research independence and additional compensation)

An analyst enters into a contract to write a research report on a company, paid for by that company, for a flat fee plus a bonus based on attracting new investors to the security.

Comment:

This is a violation because the compensation structure makes total compensation dependent on the conclusions of the report (a favorable report will attract investors and increase compensation). Accepting the job for a flat fee that does not depend on the report's conclusions or its impact on share price is permitted, with proper disclosure of the fact that the report is funded by the subject company.

Example 11: (Maintaining objectivity and service fees)

A trust manager at a bank selects mutual funds for client accounts based on the profits from "service fees" paid to the bank by the mutual fund sponsor.

Comment:

This is a violation because the trust manager has allowed the fees to affect his objectivity.

Example 12: (Objectivity and analysis)

An analyst performing sensitivity analysis for a security uses scenarios consistent with recent trends and historical norms in addition to worst-case scenarios.

Comment:

This is not a violation of Standard I(B) and is a recommended practice to use scenario analysis and stressing models in managing risk which conforms to Standard V(A) – Diligence and Reasonable Basis.

I(C) Misrepresentation. Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.

Guidance

Trust is a foundation in the investment profession. Do not make any misrepresentations or give false impressions. This includes oral and electronic communications. Misrepresentations include guaranteeing investment performance and plagiarism. Plagiarism encompasses using someone else's work (e.g., reports, forecasts, models, ideas, charts, graphs, and spreadsheet models) without giving that person credit. Knowingly omitting information that could affect an investment decision is considered misrepresentation.

Models and analysis developed by others at a member's firm are the property of the firm and can be used without attribution. A report written by another analyst employed by the firm cannot be released as another analyst's work.

Recommended Procedures for Compliance

A good way to avoid misrepresentation is for firms to provide employees who deal with clients or prospects a written list of the firm's available services and a description of the firm's qualifications. Employee qualifications should be accurately presented as well. To avoid plagiarism, maintain records of all materials used to generate reports or other firm products and properly cite sources (quotes and summaries) in work products. Information from recognized financial and statistical reporting services need not be cited.

Members should encourage their firms to establish procedures for verifying marketing claims of third parties whose information the firm provides to clients.

Application of Standard I(C) Misrepresentation

Example 1: (Misrepresenting the firm's abilities)

Alli Roe is a partner in the firm of Roe and Green, a small firm offering investment advisory services. She assures a prospective client that "we can perform all the financial and investment services you need." Roe and Green is competent at providing investment advice but cannot provide the full array of financial services that she claims her firm can provide.

Comment:

Roe has violated Standard I(C) by misrepresenting the services her firm can provide. She must limit herself to describing the investment advisory services her firm can provide and offer to help the client obtain the other financial and investment services that her firm cannot provide.

Example 2: (Disclosure of paid research)

Tony Greer is a sell-side analyst hired by publicly traded companies to promote their stocks. Greer creates a Web site and participates in online chat rooms promoting his research, which recommends the companies who hired him as strong buys. He does not disclose on his Web site or in the chat rooms the relationships he has with the companies he covers.

Comment:

Greer's Web site and chat room discussions are misleading to potential investors thus he has violated Standard I(C). His omissions regarding the relationship between himself and the companies he covers constitute a misrepresentation even if the recommendations are valid and supported with thorough research. By not disclosing the existence of an arrangement with the companies through which he receives compensation in exchange for his services, Greer has also violated Standard VI(A) – Disclosure of Conflicts.

Example 3: (Correcting errors)

A member makes an error in preparing marketing materials and misstates the amount of assets his firm has under management.

Comment:

The member must attempt to stop distribution of the erroneous material as soon as the error is known. Simply making the error unintentionally is not a violation, but continuing to distribute material known to contain a significant misstatement of fact would be.

Example 4: (Noncorrection of errors)

The marketing department states in sales literature that an analyst has received an MBA degree, but he has not. The analyst and other members of the firm have distributed this document for years.

Comment:

The analyst has violated the Standards, as he should have known of this misrepresentation after having distributed and used the materials over a period of years. Others in the firm who distribute the literature are not in violation as long as they do not know the analyst's background is misstated.

Example 5: (Plagiarism)

Research analyst Amanda Hayden, who works for a brokerage firm in Cape Town South Africa, has just read another analyst's report regarding a gold mine in South Africa that recently discovered a new gold field that could considerably extend the life of the mine. This information has not been made public. Hayden thinks the report is missing some important pieces of information thus it is incomplete. She subsequently contacts a representative of the mine who gives her the information she is looking for. Hayden updates the report by including the new information and distributes the report within her firm without acknowledging the original author's work.

Comment:

The work of the other analyst was the impetus for Hayden, therefore Hayden has plagiarized someone else's work by not acknowledging the part of the work done by another. She passed all the work off as her own, and therefore violated the Standard by not giving credit to the original author.

Example 6: (Misrepresenting information)

A member describes an interest-only collateralized mortgage obligation as guaranteed by the U.S. government because it is a claim against the cash flows of a pool of guaranteed mortgages, although the payment stream and the market value of the security are not guaranteed.

Comment:

This is a violation because of the misrepresentation.

Example 7: (Potential misrepresentation)

A member describes a bank CD as "guaranteed."

Comment:

This is not a violation as long as the limits of the guarantee provided by the Federal Deposit Insurance Corporation are not exceeded and the nature of the guarantee is clearly explained to clients.

Example 8: (Plagiarism)

Analyst Wade Swenson works for an investment research firm. His supervisor asked him to write a report on the Peak Company, which has been targeted by another firm as a possible takeover. His supervisor then hands him a report on the Peak Company written by another research firm and tells Swenson to "change a few numbers and get the report out the door." Swenson reviews the report and disagrees with some of the conclusions.

Comment:

If Swenson does as instructed he will be in violation of Standard I(C). What Swenson should do is write the report, noting which areas he agrees with along with citing the original author. Additionally, he should add his own analysis and conclusions, at which point he can then sign the report and distribute it.

Example 9: (Plagiarism)

Kurt Zoerb, an analyst for Trifecta, Inc., just returned from a seminar in which Stan Melby, a well-publicized quantitative analyst, discussed one of his new models. Zoerb tests the model on his own, making some minor changes but retaining the overall concept, producing some very encouraging results. Zoerb immediately announces to his supervisor at Trifecta that he discovered a new model which would make a great selling tool to present to prospective clients.

Comment:

Although Zoerb tested Melby's model on his own and even modified it, he must give credit to Melby as the original source of the idea. Zoerb can take credit for the final results supporting his conclusions with his own test data.

Example 10: (Plagiarism)

A member uses definitions he found online for such terms as *variance* and *coefficient of variation* in preparing marketing material.

Comment:

Even though these are standard terms, using the work of others word-for-word is plagiarism. The member should explain the terms in the member's own words.

Example 11: (Plagiarism)

A candidate reads about a research paper in a financial publication and includes the information in a research report, citing the original research report but not the financial publication.

Comment:

To the extent that the candidate used information and interpretation from the financial publication without citing it, the candidate is in violation of the Standard. The candidate should either obtain the report and reference it directly or, if he relies solely on the financial publication, the candidate should cite both sources.

Example 12: (Misrepresenting information)

Jim Adams runs a small investment management firm that subscribes to a service that provides research reports. Adams repackages those reports and sends them to his clients as his own work.

Comment:

Adams can rely on third-party research as long as it has a reasonable and adequate basis, but he cannot imply that he is the author of the report. By repackaging the research reports without giving credit to the authors Adams is misrepresenting the extent of his work misleading the firm's clients.

Example 13: (Misrepresenting information)

U.S. portfolio manager Scott Edwards works for Beta Investment Management and is part of a team responsible for managing a pool of fixed income securities which are then bundled and sold to off shore clients by the High Yield Corporation. Edwards discovers High Yield is marketing the securities as lower risk than they really are or than as they are described in the investment policy statement for the portfolio. He also discovers an independent rating agency has overstated the quality of the investments in the pool. Edwards notifies his supervisor who responds that High Yield owns the assets, is responsible for all the marketing and sales, and the risks are fully explained in the prospectus. The supervisor goes on to explain that since the investors are offshore the investments do not fall under the purview of U.S. securities regulators.

Comment:

Edwards is correct in being concerned for both his firm's reputation and protecting the investors from the misrepresented securities thus he should continue to pursue the matter. The Code and Standards also stress protecting the integrity of capital markets which in this case may be negatively impacted in addition to the direct investors.

Example 14: (Avoiding misrepresentation)

A portfolio manager for a pension plan and her team are considering including structured securities, specifically mortgage backed securities, in the portfolio. Upon performing their due diligence they discover the software models used to project the cash flows and yields on the securities are extremely complicated and result in different outcomes depending upon the assumptions used. Consequently the manager and her team are not able to determine whether or not the structured securities are a good investment. They further conclude that due to the variability of the outcomes and complexity of the computer based models, they neither fully understand nor would be able to explain the investment to someone else. Thus they decide not to include the structured securities in the portfolio.

Comment:

This is not a violation of Standard I(C) since the portfolio manager and her team should not include investments in the portfolio they do not fully understand. They don't understand the computer-based models and hence the intricacies of the investment itself, therefore they cannot explain the risk-and-return characteristics of the securities to the trustees and beneficiaries of the plan.

I(D) Misconduct. Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

Guidance

CFA Institute discourages unethical behavior in all aspects of members' and candidates' lives. Do not abuse CFA Institute's Professional Conduct Program by seeking enforcement of this Standard to settle personal, political, or other disputes that are not related to professional ethics.

Recommended Procedures for Compliance

Firms are encouraged to adopt these policies and procedures:

- Develop and adopt a code of ethics and make clear that unethical behavior will not be tolerated.
- Give employees a list of potential violations and sanctions, including dismissal.
- Check references of potential employees.

Application of Standard I(D) Misconduct

Example 1: (Competence and professionalism)

Dale Farmer is a trust officer at a small rural bank. During the week he frequently enjoys lunching with friends at the local country club where his clients routinely observe him having too many drinks. Back at work after lunch, he is clearly intoxicated while attempting to make investment decisions. Because of his drinking during lunch, his colleagues make sure they do business with him in the morning.

Comment:

By drinking excessively at lunch and subsequently being intoxicated at work, this conduct has raised questions about Farmer's professionalism and competence. His behavior reflects poorly on him, his employer, and the investment industry thus this is a violation of Standard I(D).

Example 2: (Deceit and fraud)

A member intentionally includes a receipt that is not part of his expenses for a company trip.

Comment:

Because this act involves deceit and fraud and reflects negatively on the member's integrity and honesty, it is a violation.

Example 3: (Deceit and fraud)

A member tells a client that he can get her a good deal on a car through his father-in-law, but instead gets her a poor deal and accepts part of the commission on the car purchase.

Comment:

The member has been dishonest and misrepresented the facts of the situation and has, therefore, violated the Standard.

Example 4: (Integrity and personal actions)

Gina Jackson manages a mutual fund dedicated to socially responsible investing. She is also an environmental activist opposed to commercial fishing companies that use drift nets. As a result of her participation at nonviolent protests, Jackson has been arrested numerous times for trespassing on private property and disorderly conduct even though her behavior can be described as nonviolent disobedience.

Comment:

Legal transgressions resulting from acts of civil disobedience in support of personal beliefs usually do not reflect poorly on the member or candidate's professional reputation, integrity, or competence thus under these circumstances Standard I(D) is not violated.

Example 5: (Professional misconduct)

Penny Kluge is a trader who trades securities for an in-house hedge fund. She notices that when the stocks she purchases for the fund go down in value this is not always reflected in the performance of the fund. She mentions this to the head trader who tells her he will look into the problem. As time passes she continues to periodically observe the same lack of correlation between the stocks she purchases for the fund when they decrease in value and the performance of the fund. This time she notifies the head of the compliance department who assures her the performance is being calculated correctly since the firm claims compliance with the Global Investment Performance Standards.

Comment:

Klug appears to have discovered professional misconduct by members of her firm and should continue to gather evidence to support her assertions. If internal communication within her firm does not correct the problem she should consider notifying the appropriate regulatory authorities. This is a rather drastic action and is an exception to her normal duty to her employer. Any such action would have to be based only on protecting clients or capital market integrity. She cannot simply ignore the problem. Because her firm appears to be part of the problem she would also be wise to seek qualified legal advice outside her firm. See also Standard IV(A) regarding whistleblowing and Standard IV(C) Responsibilities of Supervisors.

II Integrity of Capital Markets

II(A) Material Nonpublic Information. Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.

Guidance

Information is "material" if its disclosure would impact the price of a security or if reasonable investors would want the information before making an investment decision. Ambiguous information, as far as its likely effect on price, may not be considered material. Information is "nonpublic" until it has been made available to the marketplace. An analyst conference call is not public disclosure. Selectively disclosing information by corporations creates the potential for insider-trading violations. The prohibition against acting on material nonpublic information extends to mutual funds containing the subject securities as well as related swaps and options contracts.

Guidance—Mosaic Theory

There is no violation when a perceptive analyst reaches an investment conclusion about a corporate action or event through an analysis of public information together with items of nonmaterial nonpublic information.

Recommended Procedures for Compliance

Make reasonable efforts to achieve public dissemination of the information. Encourage firms to adopt procedures to prevent misuse of material nonpublic information. Use a "fire wall" within the firm, with elements including:

- Substantial control of relevant interdepartmental communications, through a clearance area such as the compliance or legal department.
- Review employee trades—maintain "watch," "restricted," and "rumor" lists.
- Monitor and restrict proprietary trading while a firm is in possession of material nonpublic information.

Prohibition of all proprietary trading while a firm is in possession of material nonpublic information may be inappropriate because it may send a signal to the market. In these cases, firms should take the contra side of only unsolicited customer trades.

Application of Standard II(A) Material Nonpublic Information

Example 1: (Acting on nonpublic information)

Julie Young is the majority shareholder in the business her family started, and she has decided to accept a tender offer to sell the business at a price significantly above the current market price. She tells her brother, who tells his wife, who tells her daughter, who tells her husband, who tells his stock broker Katisha Anthony, CFA, who buys shares of the stock for herself.

Comment:

Anthony has violated Standard II(A) because she traded the stock based on material nonpublic information. Any other of the individuals involved who are covered by the Code and Standards who just passed on the material non-public information are also in violation.

Example 2: (Acting on nonpublic information)

Ed Neiring, CFA, is riding an elevator up to his office when he overhears the president and chief financial officer for the Panda Noodle Company talking about how the company's earnings for the past quarter have unexpectedly and significantly dropped. The president adds that this drop will not be released to the public until next week. Neiring immediately calls his broker and tells him to sell his Panda stock.

Comment:

Neiring is in possession of material nonpublic information and by trading on this inside information, he has violated Standard II(A).

Example 3: (Controlling nonpublic information)

Craig Olson, an equity analyst, is assisting his firm with a secondary offering for Medical Business Solutions (MBS) which produces medical software used in doctor's offices. Olson participates in a conference call with other investment-banking employees of his firm and MBS' CEO. Olson learns that MBS' earnings for the next year are projected to decrease by 10%. Throughout the conference call marketing personnel and portfolio managers walk in and out of his office hearing about the projected drop in earnings. Before the conclusion of the conference call the portfolio managers sell the stock of MBS out of the firm's proprietary account and their client accounts in addition to other firm personnel selling the stock out of their personal accounts.

Comment:

Olson failed to prevent the transfer and misuse of material nonpublic information to others in his firm thus he violated Standard II(A). Anyone within the firm who traded on the information has also violated Standard II(A) by trading on insider information. Olson's firm should have prevented the communication of nonpublic information between departments of the firm by creating information barriers.

Example 4: (Acting on nonpublic information)

A member trades based on information he gets by seeing an advance copy of an article that will be published in an influential magazine next week.

Comment:

This is a violation since the article is nonpublic information until it has been published.

Example 5: (Acting on nonpublic information)

Cassandra Bingham, CFA, just received a call from the director of the local mobile meals organization asking if she can fill in for Ben Reynolds, president of Mountain Coffee, who happens to be a friend of Bingham's. The director tells Bingham that Reynolds had an emergency at work and couldn't do his regularly scheduled meal deliveries. Bingham calls Reynolds, who tells her he had to fire his firm's chief financial officer (CFO) due to accounting irregularities and asks Bingham not to tell anyone since this information has not been made public. Bingham subsequently sells her shares in Mountain Coffee, which significantly decrease in price once the information regarding the firing of the CFO is made public.

Comment:

Bingham has violated Standard II(A) by trading on material nonpublic information. What happened to the stock after the information was released is irrelevant.

Example 6: (Disclosure of material information)

Gabriela Pires is based in Mexico City and covers the Mexican market for her firm which is based in Brazil. She is invited to meet the president of a local manufacturing company, along with a small group of investors of the company. During the meeting, the president states that the company expects its workers to strike within the next week, which will halt all production. Can Pires use this information as a basis to change her rating on the company from "buy" to "sell"?

Comment:

The information is material and Pires must determine whether the information has been made public. According to Standard II(A) if the company has not made the information public (a small-group forum does not qualify as public dissemination), Pires cannot use the information.

Example 7: (Determining materiality)

A member's dentist, who is an active investor, tells the member that based on his research he believes that Acme, Inc. will be bought out in the near future by a larger firm in the industry. The member investigates and purchases shares of Acme.

Comment:

There is no violation because the dentist reached the conclusion on his own without using insider information. The information would be considered coming from an unreliable source, the dentist, thus making the information nonmaterial.

Example 8: (Mosaic theory)

Jamie Turner is an analyst covering the furniture industry. Although the furniture industry is currently experiencing a period of prosperity there is one company in particular she thinks might be in trouble. Modern Design Concepts (MDC) known for its extravagant new designs produced at substantial costs. Even though these designs initially attracted attention, in the long run, the public prefers more conservative furniture that is less trendy and will remain in style longer. She talked to retailers and designers who confirmed this buying trend. Based on that and financial statement analysis, Turner believes that MDC's next-quarter earnings will drop significantly. She then issues a sell recommendation for MDC. Immediately after receiving the recommendation, investment managers start reducing MDC stock in their portfolios.

Comment:

Information on quarterly earnings figures is material and nonpublic thus cannot be used to place trades. However, trading based on Turner's correct conclusion is not prohibited by Standard II(A) because she utilized the Mosaic theory. Turner arrived at her conclusion regarding the earnings drop based on a combination of nonmaterial nonpublic information (such as opinions from retailers and designers) and public information.

Example 9: (Mosaic theory)

Sheila Dickens, CFA, has attained the title of European Engineer and is an analyst for the European auto industry. She has just finished writing a report on what is purported to be the first fully electric full-size sedan in Europe that can cruise at speeds of 112 kilometers per hour with a range of 563 kilometers before needing to be recharged. The car has received rave reviews and publicity, thereby driving up the firm's stock price in anticipation of the cars being introduced into the market place. Through her research, which included interviewing company officials, salespeople, other automobile manufacturers, engineers, and by reading other analyst's reports on the car, she discovered what she believes to be a major design flaw in the battery system resulting in the car not meeting its performance expectations. Due to the design flaw she predicts that sales of the new car will be far less than projected by other industry analysts and thus concludes her report with a "sell" recommendation of the firm's stock. None of the individual pieces of information she gathered while conducting her research would be considered material nonpublic information. She is planning on making the report public tomorrow when she is interviewed on a European television financial news program.

Comment:

Dickens has utilized the mosaic theory by piecing together bits of public and nonmaterial information regarding the car thus she has not violated Standard II(A).

Example 10: (Analyst recommendations and material nonpublic information)

It is now the next day and Dickens is preparing to be interviewed on the financial news show by Margaretta Quintero, who is a member of CFA Institute. Before the show starts Dickens explains her theory regarding the car's faulty battery system to Quintero, who immediately places a call to her broker to sell all the shares of the automobile manufacturing firm's stock from her portfolio.

Comment:

Quintero is trading on material nonpublic information knowing the information will likely cause the stock price to decrease thus she has violated Standard II(A).

Example 11: (Acting on nonpublic information)

A member is having lunch with a portfolio manager from a mutual fund who is known for his stock-picking ability and often influences market prices when his stock purchases and sales are disclosed. The manager tells the member that he is selling all his shares in Able, Inc., the next day. The member subsequently shorts the stock.

Comment:

The fact that the fund will sell its shares of Able, Inc., is material because news of it will likely cause the shares to fall in price. Because this is also not currently public information, the member has violated the Standard by acting on the information.

Example 12: (Acting on nonpublic information)

A broker who is a member receives the sell order for the Able, Inc., shares from the portfolio manager in the previous example. The broker sells his shares of Able, Inc., prior to entering the sell order for the fund, but because his personal holdings are small compared to the stock's trading volume, his trade does not affect the price.

Comment:

The broker has acted on material nonpublic information (the fund's sale of shares) and has violated the Standard.

Professor's Note: The member also violated Standard VI(B) Priority of Transactions by front-running the client trade with a trade in his own account. Had the member sold his shares after executing the fund trade, he still would be violating Standard II(A) by acting on his knowledge of the fund trade, which would still not be public information at that point.

Example 13: (Acting on nonpublic information)

Retired investment professional Dick Fortner maintains his membership with CFA Institute and has a golf partner who is an officer of the local bank. Lately, the banking industry has been hit hard by a series of bad loans coupled with a poor economy, making for a very unfavorable outlook for the industry. On the golf course the bank officer tells Fortner the bank's earnings for the next quarter will exceed analyst's estimates by a large margin. Fortner believes the bank officer would not break securities laws by divulging insider information thus he purchases shares of the bank's stock as soon as he is able to. When the quarterly earnings statement is made public the bank also discloses losses on its loan portfolio resulting in the bank's stock price declining.

Comment:

Even though the stock price went down, Fortner violated Standard II(A) by trading on the quarterly earnings report which is considered material nonpublic information until the report is released to the public. Since Fortner is a member of CFA Institute it is his responsibility to determine whether or not the information is material nonpublic.

II(B) Market Manipulation. Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

Guidance

This Standard applies to transactions that deceive the market by distorting the price-setting mechanism of financial instruments or by securing a controlling position to manipulate the price of a related derivative and/or the asset itself. Spreading false rumors is also prohibited.

Application of Standard II(B) Market Manipulation

Example 1: (Company promotion and independent analysis)

A member posts false information about a firm on internet bulletin boards and stock chat facilities in an attempt to cause the firm's stock to increase in price. The member's sole intent is to use the price appreciation to benefit clients of the member.

Comment:

This is a violation of the Standard.

Example 2: (Price and personal trading practices)

An employee of a broker/dealer has acquired a significant number of shares of microcap stocks in various brokerage accounts for which the broker/dealer has a controlling interest in those stocks. The employee is able to artificially increase the bid price of those stocks by placing trades among their various accounts thereby manipulating the stock price.

Comment:

The employee has purposely distorted the price of the stock through manipulative trading violating Standard II(B) Market Manipulation.

Example 3: (Creating artificial price volatility)

Tou Yang is an analyst for Diversified Securities Corporation, which has a number of hedge funds among its brokerage clients. Two days before the publication of the quarter-end report for Firefox Microchip, Yang notifies his sales force that he is about to issue a report which will include his opinion that:

- Quarterly revenues will fall short of management's expectations.
- Firefox's chief executive officer is expected to join another company.
- Earnings will be as much as 15% lower than previously forecasted.

Yang times the release of his report specifically to sensationalize the negative aspects of the message in order to create significant downward pressure on Firefox's stock to the advantage of Diversified hedge fund clients. The report's conclusions are based on speculation and not facts. The research report is broadcast to all of Diversified clients and to the news media two days before the end of the quarter.

On the final trading day of the quarter Firefox's stock opens trading sharply lower allowing Diversified clients to cover their short positions at substantial gains.

Comment:

Yang violated Standard II(B) Market Manipulation by creating artificial price volatility designed to impact the price of an issuer's stock. Yang also violated Standard V(A) Diligence and Reasonable Basis by lacking an adequate basis for the recommendation.

Example 4: (Volume and personal trading)

A member is seeking to sell a large position in a fairly illiquid stock from a fund he manages. He buys and sells shares of the stock between that fund and another he also manages to create an appearance of activity and stock price appreciation, so that the sale of the whole position will have less market impact and he will realize a better return for the fund's shareholders.

Comment:

The trading activity is meant to mislead market participants and is, therefore, a violation of the Standard. The fact that his fund shareholders gain by this action does not change the fact that it is a violation.

Example 5: (Pump-priming strategy)

Chris Grode is chairman of the Guaranteed Futures Exchange which is launching a new bond futures contract. In order to entice speculators and hedgers to use its contract, the exchange needs to demonstrate it has the best liquidity. In order to do so, the exchange enters into agreements with members giving them significant reductions on their commissions in return for a commitment of a substantial minimum trading volume on the new contract over a specific period of time.

Comment:

Formal liquidity of a market is determined by the obligations of the market makers, but the actual liquidity is better estimated by the actual trading volume and bid-ask spreads. If the pump-priming strategy fails and market liquidity dries up then market participants have been mislead and a violation of Standard II(B) has occurred. Guaranteed has not violated Standard II(B) if it fully discloses its agreement with members to boost transactions over some initial launch period. Guaranteed's intent is not to harm investors but instead to give them a better service in which case it may engage in a liquidity-pumping strategy as long as it is disclosed.

Example 6: (Creating artificial price volatility)

Cheryl Evans, an analyst for a small research firm, has just returned from a fact finding trip to South America. While there she discovered a firm called Nutraskin which sells skin care products with sales skyrocketing. Based on her trip, Evans runs her own analysis resulting in projections which are 5% higher than Nutraskin's range of projected earnings per share. She subsequently contacts Nutraskin to get confirmation of her projections and told by a company representative they are standing by their earlier projected range of earnings. Evans contacts a select group of her firm's momentum trading clients telling them she expects Nutraskin's earnings to be 10% higher than the skin care company's projections hoping that will fuel interest in the stock thereby bidding up the stock price.

Comment:

Evans has violated Standard II(B) by fueling interest in the stock by exaggerating earnings estimates in addition to violating standard III(B) Fair Dealing by disclosing earnings projections to only a select group of clients. Evans should have framed her earnings projections in a range of possible outcomes, outlined her assumptions used in her models based on her trip to South America, and distributed the report to all clients of her firm in an equitable manner.

Example 7: (Pump and dump strategy)

Analyst Jessica Jenkins, CFA, has been logging onto several internet chat rooms talking about the Great Northern Railroad Company in which she owns shares of stock. In the chat rooms, she has been spreading false rumors the company received a large new shipping order which should increase the stock's price.

Comment:

Jenkins has violated Standard II(B) by intentionally trying to mislead market participants by disseminating false information.

Example 8: (Model input manipulation)

Joe Tanner is manager of the structured products division for Hancock Bank. He is responsible for the development of new structured products like asset backed securities, sales of those products, and the relationship with rating agencies. As part of the structured product development process he uses financial modeling software to determine the product's overall risk. During the analytical modeling process Tanner uses inputs that lead to favorable outcomes and reduced risk as an output thereby boosting the rating on those products by rating agencies. Due to the product's favorable rating and reduced risk, Tanner is easily able to sell these products to investors. Tanner's compensation is based on the rating assigned to the structured products by the rating agencies and the amount of sales of those structured products. Tanner's strategy was successful for several years until a recession hit causing many of the structured products Tanner sold to default, resulting in turmoil in the capital markets along with the collapse of Hancock Bank and the loss of his job.

Comment:

Tanner manipulated capital markets violating Standard II(B) by manipulating the inputs of the model he used reducing the reported risk of the structured products, resulting in artificially high ratings by the rating agencies. Not only were capital markets adversely affected, investor confidence and trust were also eroded, reducing the ability of capital markets to operate efficiently.

III Duties to Clients

III(A) Loyalty, Prudence, and Care. Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.

Guidance

Client interests always come first.

- Exercise the prudence, care, skill, and diligence under the circumstances that a person acting in a like capacity and familiar with such matters would use.

- Manage pools of client assets in accordance with the terms of the governing documents, such as trust documents or investment management agreements.
- Make investment decisions in the context of the total portfolio.
- Vote proxies in an informed and responsible manner. Due to cost benefit considerations, it may not be necessary to vote all proxies.
- Client brokerage, or "soft dollars" or "soft commissions" must be used to benefit the client.
- The "client" may be the investing public as a whole rather than a specific entity or person.

Recommended Procedures of Compliance

Submit to clients, at least quarterly, itemized statements showing all securities in custody and all debits, credits, and transactions.

Encourage firms to address these topics when drafting policies and procedures regarding fiduciary duty:

- Follow applicable rules and laws.
- Establish investment objectives of client. Consider suitability of portfolio relative to client's needs and circumstances, the investment's basic characteristics, or the basic characteristics of the total portfolio.
- Diversify.
- Deal fairly with all clients in regards to investment actions.
- Disclose conflicts.
- Disclose compensation arrangements.
- Vote proxies in the best interest of clients and ultimate beneficiaries.
- Maintain confidentiality.
- Seek best execution.
- Place client interests first.

Application of Standard III(A) Loyalty, Prudence, and Care

Example 1: (Identifying the client)

First National Bank serves as a trustee for Wiser Company's pension plan. Wiser is the target of a hostile takeover attempt by Franklin, Inc. In attempting to ward off Franklin, Wiser's managers persuade Mark Kay, an investment manager at First National Bank, to purchase Wiser stock for the employee pension plan. Wiser officials tell Kay this action would result in other accounts being placed with the bank. Although Kay believes the stock is overvalued and would not normally buy it, he purchases the stock to support Wiser's managers, to maintain the company's good favor, and to attract new business. The stock purchases cause Wiser's stock price to rise to such a level that Franklin retracts its takeover bid.

Comment:

Standard III(A) requires that a member or candidate, in evaluating a takeover bid, act prudently and solely in the interests of plan participants and beneficiaries. To meet this requirement, a member or candidate must carefully evaluate the short-term benefits of the takeover offer against the long-term prospects of the company and other investment opportunities. Kay, acting on behalf of his employer, the trustee, violated Standard III(A) by using the pension plan to perpetuate existing management, possibly to the detriment of the company's shareholders and plan participants, and to benefit himself. Kay's responsibilities to the plan participants and beneficiaries should take precedence over any other entities and his own self-interest. He should examine the takeover offer on its own merits and make an independent decision based on the appropriateness of the investment decision to the pension plan, not whether the decision benefits himself or the company that hired him.

Example 2: (Client commission practices)

A member uses a broker for client-account trades that has relatively high prices and average research and execution. In return, the broker pays for the rent and other overhead expenses for the member's firm.

Comment:

This is a violation of the Standard because the member used client brokerage for services that do not benefit clients and failed to get the best price and execution for his clients.

Example 3: (Brokerage arrangements)

In return for receiving account management business from Reliable Brokers, a member directs trades to Reliable Brokers on the accounts referred to her by Reliable Brokers, as well as on other accounts as an incentive to Reliable Brokers to send her more account business.

Comment:

This is a violation if Reliable Brokers does not offer the best price and execution or if the practice of directing trades to Reliable Brokers is not disclosed to clients. The obligation to seek best price and execution is always required unless clients provide a written statement that the member is not to seek best price and execution and that they are aware of the impact of this decision on their accounts.

Example 4: (Brokerage arrangements)

Katie Nelson is a trust officer for South Central Trust Company. Nelson's supervisor is responsible for reviewing Nelson's trust account transactions and her monthly reports of personal stock transactions. Nelson has been using Jack Wallace, a broker, almost exclusively for trust account brokerage transactions. Where Wallace makes a market in stocks, he has been giving Nelson a lower price for personal purchases and a higher price for sales than he gives to Nelson's trust accounts and other investors.

Comment:

Nelson is violating her duty of loyalty to the trust company's accounts by using Wallace for brokerage transactions simply because Wallace trades Nelson's personal account on favorable terms.

Example 5: (Excessive trading)

A member does more trades in client accounts than are necessary to accomplish client goals because she desires to increase her commission income.

Comment:

The member is using client assets (brokerage fees) to benefit herself and has violated the Standard.

Example 6: (Family accounts)

A new investment adviser has just started working for an investment management firm and signed up his father and brother as regular fee-paying clients. She did not mention anything about how she knows the new clients. Several years have now passed with the adviser's business having grown substantially to include a significant number of clients. An IPO is becoming available in which many of the adviser's clients are suitable for the IPO including his father and brother. To avoid the impression of favoring his family members the advisor does not allocate any shares of the IPO to his brother.

Comment:

The advisor has violated standard III(A) by not acting for the benefit of his brother's account since it is a regular fee-paying account. In addition the advisor should have disclosed the advisor was managing money for family members so the investment firm could verify that they did not receive favorable treatment to the detriment of other clients. The advisor would have been correct in not allocating shares to his brother's account if it had been managed outside the normal fee structure of the firm.

III(B) Fair Dealing. Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.

Guidance

Do not discriminate against any clients when disseminating recommendations or taking investment action. Fairly does not mean equally. In the normal course of business, there will be differences in the time e-mails, faxes, et cetera, are received by different clients. Different service levels are okay, but they must not negatively affect or disadvantage any clients. Disclose the different service levels to all clients and prospects, and make premium levels of service available to all who wish to pay for them.

Guidance—Investment Recommendations

Give all clients a fair opportunity to act upon every recommendation. Clients who are unaware of a change in a recommendation should be advised before the order is accepted.

Guidance—Investment Actions

Treat clients fairly in light of their investment objectives and circumstances. Treat both individual and institutional clients in a fair and impartial manner. Members and Candidates should not take advantage of their position in the industry to disadvantage clients (e.g., in the context of IPOs).

Recommended Procedures for Compliance

Encourage firms to establish compliance procedures requiring proper dissemination of investment recommendations and fair treatment of all customers and clients. Consider these points when establishing fair dealing compliance procedures:

- Limit the number of people who are aware that a change in recommendation will be made.
- Shorten the time frame between decision and dissemination.
- Publish personnel guidelines for pre-dissemination—have in place guidelines prohibiting personnel who have prior knowledge of a recommendation from discussing it or taking action on the pending recommendation.
- Simultaneous dissemination of new or changed recommendations to all candidates who have expressed an interest or for whom an investment is suitable.
- Maintain list of clients and holdings—use to ensure that all holders are treated fairly.
- Develop written trade allocation procedures—ensure fairness to clients, timely and efficient order execution, and accuracy of client positions.
- Disclose trade allocation procedures.
- Establish systematic account review—ensure that no client is given preferred treatment and that investment actions are consistent with the account's objectives.
- Disclose available levels of service.

Application of Standard III(B) Fair Dealing

Example 1: (Selective disclosure)

Terry Oliver, a respected analyst, follows the energy industry. In the course of his research, he finds that a small, relatively unknown and thinly traded company has just signed significant contracts with some of the companies he follows. After a considerable amount of investigation, Oliver decides to write a research report on the company with a purchase recommendation of the company's stock. While the report is being reviewed by the company for accuracy, Oliver schedules a dinner with several of his best clients to discuss the company. At the dinner, he mentions the purchase recommendation scheduled to be sent early the following week to all the firm's clients.

Comment:

Oliver violated Standard III(B) by disseminating the purchase recommendation to the clients with whom he had dinner a week before the recommendation was sent to all clients.

Example 2: (Fair dealing between funds)

Jason Peters, president of the Atelier Corporation, moves his company's pension fund to a particular bank primarily because of the excellent investment performance achieved by the bank's commingled fund for the prior 10-year period. A few years later, Peters compares the results of his pension fund with those of the bank's commingled fund. He is startled to learn that, even though the two accounts have the same investment objectives and similar portfolios, his company's pension fund has significantly underperformed the bank's commingled fund. Questioning the pension fund's manager, Trisha Scott, Peters is told that when a new security is placed on the recommended list, the security is first purchased for the commingled account and then on a pro rata basis for all other pension fund accounts. Similarly, when a sale is recommended, the security is sold first from the commingled account and then sold on a pro rata basis from all other accounts. Peters also learns that if the bank cannot get enough shares of a new IPO, its policy is to place the new issues only in the commingled account.

Seeing that Peters is neither satisfied nor pleased by the explanation, Scott adds that nondiscretionary accounts and personal trust accounts have a lower priority on purchase and sale recommendations than discretionary pension fund accounts. Furthermore, Scott states, the company's pension fund had the opportunity to invest up to 5% in the commingled fund.

Comment:

The bank's policy did not treat all customers fairly, and Scott violated her duty to her clients by giving priority to the commingled fund over all other funds and to discretionary accounts over nondiscretionary accounts. Scott must execute orders on a systematic basis that is fair to all clients. In addition, trade allocation procedures should be disclosed to all clients from the beginning. Disclosure of the bank's policy would not change the fact that the policy is unfair.

Example 3: (IPO distribution)

A member gets options for his part in an IPO from the subject firm. The IPO is oversubscribed and the member fills his own and other individuals' orders but has to reduce allocations to his institutional clients.

Comment:

The member has violated the Standard. He must disclose to his employer and to his clients that he has accepted options for putting together the IPO. He should not take any shares of a hot IPO for himself and should have distributed his allocated shares of the IPO to all clients in proportion to their original order amounts.

Example 4: (Transaction allocation)

A member is delayed in allocating some trades to client accounts. When she allocates the trades, she puts some positions that have appreciated in a preferred client's account and puts trades that have not done as well in other client accounts.

Comment:

This is a violation of the Standard. The member should have allocated the trades to specific accounts prior to the trades or should have allocated the trades proportionally to suitable accounts in a timely fashion.

Example 5: (Minimum lot allocation)

Because of minimum lot size restrictions, a portfolio manager allocates the bonds she receives from an oversubscribed bond offering to her clients in a way that is not strictly proportional to their purchase requests.

Comment:

Because she has a reason (minimum lot size) to deviate from a strict pro rata allocation to her clients, there is no violation of Fair Dealing.

III(C) Suitability.

1. When Members and Candidates are in an advisory relationship with a client, they must:
    a. Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.
    b. Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.
    c. Judge the suitability of investments in the context of the client's total portfolio.
2. When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take investment actions that are consistent with the stated objectives and constraints of the portfolio.

Guidance

In advisory relationships, be sure to gather client information at the beginning of the relationship, in the form of an investment policy statement (IPS). Consider clients' needs and circumstances and thus their risk tolerance. Consider whether or not the use of leverage is suitable for the client.

If a member is responsible for managing a fund to an index or other stated mandate, be sure investments are consistent with the stated mandate.

Recommended Procedures for Compliance

Members should:

- Put the needs and circumstances of each client and the client's investment objectives into a written IPS for each client.
- Consider the type of client and whether there are separate beneficiaries, investor objectives (return and risk), investor constraints (liquidity needs, expected cash flows, time, tax, and regulatory and legal circumstances), and performance measurement benchmarks.
- Review investor's objectives and constraints periodically to reflect any changes in client circumstances.

Application of Standard III(C) Suitability

Example 1: (Risk Profile entire portfolio)

Angela Viner, an investment adviser, suggests to Matt Zei, a risk-averse investor, that covered call options be used in his equity portfolio. The purpose would be to enhance

Zei's income and partially offset any decrease in value should the stock market or other circumstances adversely affect his holdings. Viner educates Zei about all possible outcomes, including the risk of incurring an added tax liability if a stock rises in price and is called away and, conversely, the risk of no downside protection if prices drop sharply.

Comment:

When determining suitability, the primary focus should be on the characteristics of the client's entire portfolio, not on an issue-by-issue analysis. The characteristics of the entire portfolio will determine whether the investment recommendations are taking client factors into account. Thus, the most important aspect of an investment is how it will affect the characteristics of the total portfolio. In this case, Viner properly considered the investment in the context of the entire portfolio and thoroughly explained the investment to her client.

Example 2: (IPS requirements and limitations)

Rob Quinn, portfolio manager of a property/casualty insurance company, wants to better diversify the company's investment portfolio and increase its returns. The company's investment policy statement (IPS) provides for highly liquid investments specified as large cap stocks, treasury bonds, international stocks, as well as investment grade corporate bonds with a maturity of no more than five years. In a recent presentation, a venture capital group offered very attractive prospective returns on some of their investments. An exit strategy is already in place but investors will have to commit to a minimum 3-year lock-up period, with a laddered exit option for a maximum of one-third of shares per year. Quinn does not want to miss this opportunity and after extensive analysis he invests 5% in the venture capital fund, leaving the portfolio's total equity exposure still below its upper limit.

Comment:

Quinn violated Standards III(A) and III(C) because the new investment locks up part of the company's assets for at least three or more years. Because the IPS requires highly liquid investments and describes accepted asset classes, private equity investments with a lock-up period do not qualify. Even without lock-up periods, an asset class with only an occasional illiquid market would not be suitable. Although the IPS normally describes objectives and constraints in great detail, the manager must make every effort to understand the client's business and circumstances. Having a better understanding of the client enables the manager to recognize, understand, and discuss with the client other material factors in the investment management process.

Example 3: (Risk Profile)

A member gives a client account a significant allocation to non-dividend paying high-risk securities even though the client has low risk tolerance and modest return objectives.

Comment:

This is a violation of the Standard.

Example 4: (Following the investment mandate)

A member puts a security into a fund she manages that does not fit the mandate of the fund and is not a permitted investment according to the fund's disclosures.

Comment:

This, too, is a violation of the Standard.

Example 5: (Suitability)

A member starts his own money management business but puts all clients in his friend's hedge funds.

Comment:

He has violated the Standards with respect to suitability. He must match client needs and circumstances to the investments he recommends and cannot act like a sales agent for his friend's funds.

III(D) Performance Presentation. When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.

Guidance

Members must avoid misstating performance or misleading clients/prospects about investment performance of themselves or their firms, should not misrepresent past performance or reasonably expected performance, and should not state or imply the ability to achieve a rate of return similar to that achieved in the past. For brief presentations, members must make detailed information available on request and indicate that the presentation has offered limited information.

Recommended Procedures for Compliance

Encourage firms to adhere to Global Investment Performance Standards. Obligations under this Standard may also be met by:

- Considering the sophistication of the audience to whom a performance presentation is addressed.
- Presenting performance of weighted composite of similar portfolios rather than a single account.
- Including terminated accounts as part of historical performance and clearly stating when they were terminated.
- Including all appropriate disclosures to fully explain results (e.g., model results included, gross or net of fees, etc.).
- Maintaining data and records used to calculate the performance being presented.

Application of Standard III(D) Performance Presentation

Example 1: (Performance calculation and length of time)

Dan Chechele of the Chechele Trust Company, states in a brochure sent to his potential clients that "You can expect a steady 25% annual compound growth rate in the value of your investments over the year." Chechele's common trust fund did increase at that rate for the past year which was the same return of the entire market. The fund, however, never averaged that growth rate for more than one year, and the average growth rate for all its trust accounts for the past five years was 5% per year.

Comment:

Chechele's brochure is in violation of Standard III(D) and should have disclosed that the 25% growth rate occurred only in one year and only in the firm's common trust fund. Chechele also neglected to include other client accounts. A claim of performance should take into account all categories of client accounts. Standard I(C) Misrepresentation, which prohibits statements of assurances or guarantees regarding an investment, was also violated by stating that clients can expect a steady 25% annual compound growth rate.

Example 2: (Performance presentation and prior employer)

Kyle Allen was recently hired by a new financial management firm, Capital Financial Advisers, as vice president and managing partner of the equity investment group. Capital recruited Allen because he had a proven 7-year track record with Gain Financial. As part of Capital's advertising and marketing campaign they have included the equity investment performance Allen achieved while at Gain Financial but does not identify the performance as being earned while at Gain. The advertisement was distributed to existing and prospective clients of Capital.

Comment:

By distributing an advertisement that contained material misrepresentations regarding the historical performance of Capital, Allen violated Standard III(D). Standard III(D) requires that members and candidates make a reasonable effort to ensure that performance information is accurate, fair, and a complete representation of a firm's or an individual's performance. Showing past performance of funds managed at a prior firm as part of a performance track record is not prohibited so long as it is accompanied by appropriate disclosures explaining where the performance came from and the person's specific role in achieving that performance. Allen should make full disclosure as to the source of the historical performance if he chooses to use his past performance from Gain in Capital's advertising.

Example 3: (Simulated results)

A member puts simulated results of an investment strategy in a sales brochure without disclosing that the results are not actual performance numbers.

Comment:

The member has violated the Standard.

Example 4: (Performance calculation and selected accounts)

In materials for prospective clients, a member uses performance figures for a large-cap growth composite she has created by choosing accounts that have done relatively well and including some accounts with significant mid-cap exposure.

Comment:

This is a violation of the Standard as the member has attempted to mislead clients and has misrepresented her performance.

III(E) Preservation of Confidentiality. Members and Candidates must keep information about current, former, and prospective clients confidential unless:

1. The information concerns illegal activities on the part of the client or prospective client,
2. Disclosure is required by law, or
3. The client or prospective client permits disclosure of the information.

Guidance

If illegal activities by a client are involved, members may have an obligation to report the activities to authorities. The confidentiality Standard extends to former clients as well.

The requirements of this Standard are not intended to prevent Members and Candidates from cooperating with a CFA Institute Professional Conduct Program (PCP) investigation.

Recommended Procedures for Compliance

Members should avoid disclosing information received from a client except to authorized co-workers who are also working for the client. Members should follow firm procedures for storage of electronic data and recommend adoption of such procedures if they are not in place.

Application of Standard III(E) Preservation of Confidentiality

Example 1: (Confidential information)

Cori Daniels, a financial analyst, provides investment advice to the trustees of St. Joseph's Medical Center. The trustees have given her a number of internal reports concerning St. Joseph's needs for renovation and expansion. They have asked Daniels to recommend investments that would generate capital appreciation in endowment funds to meet projected capital expenditures. Daniels is approached by a local business owner, Sara Evanson, who is considering a substantial contribution to either St. Joseph's Medical Center or to another local hospital. Evanson wants to find out the building plans of both institutions before making a decision, but she does not want to speak to the trustees.

Comment:

The trustees gave Daniels the internal reports so she could advise them on how to manage their endowment funds. Because the information in the reports is within the scope of the confidential relationship, Standard III(E) requires that Daniels refuse to divulge information to Evanson.

Example 2: (Possible illegal activity)

Gene Phillips manages money for a family-owned restaurant development corporation. He also manages the individual portfolios of several of the family members and officers of the corporation, including the chief executive officer (CEO). Based on the financial records from the corporation, as well as some questionable practices of the CEO that he has observed, Phillips believes that the CEO is embezzling money from the corporation and putting it into his personal investment account.

Comment:

Phillips should check with his firm's compliance department as well as outside counsel to determine whether securities regulations require reporting the CEO's financial records.

Example 3: (Confidential information)

A member has learned from his client that one of his goals is to give more of his portfolio income to charity. The member tells this to a friend who is on the board of a worthy charity and suggests that he should contact the client about a donation.

Comment:

The member has violated the Standard by disclosing information he has learned from the client in the course of their business relationship.

Example 4: (Possible illegal activity)

A member learns that a pension account client is violating the law with respect to charges to the pension fund.

Comment:

The member must bring this to the attention of her supervisor and try to end the illegal activity. Failing this, the member should seek legal advice about any disclosure she should make to legal or regulatory authorities and dissociate herself from any continuing association with the pension account.

IV Duties to Employers

IV(A) Loyalty. In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.

Guidance

Members must not engage in any activities which would injure the firm, deprive it of profit, or deprive it of the advantage of employees' skills and abilities. Members should always place client interests above interests of their employer but consider the effects of their actions on firm integrity and sustainability. There is no requirement that the employee put employer interests ahead of family and other personal obligations; it is expected that employers and employees will discuss such matters and balance these obligations with work obligations.

Guidance—Employer Responsibility

Members are encouraged to give their employer a copy of the Code and Standards. Employers should not have incentive and compensation systems that encourage unethical behavior.

Guidance—Independent Practice

Independent practice for compensation is allowed if a notification is provided to the employer fully describing all aspects of the services, including compensation, duration, and the nature of the activities *and* if the employer consents to all terms of the proposed independent practice before it begins.

Guidance—Leaving an Employer

Members must continue to act in their employer's best interests until resignation is effective. Activities which may constitute a violation include:

- Misappropriation of trade secrets.
- Misuse of confidential information.
- Soliciting employer's clients prior to leaving.
- Self-dealing.
- Misappropriation of client lists.

Employer records on any medium (e.g., home computer, PDA, cell phone) are the property of the firm.

Once an employee has left a firm, simple knowledge of names and existence of former clients is generally not confidential. Also, there is no prohibition on the use of experience or knowledge gained while with a former employer.

Guidance—Whistleblowing

There may be isolated cases where a duty to one's employer may be violated in order to protect clients or the integrity of the market, and not for personal gain.

Guidance—Nature of Employment

The applicability of this Standard is based on the nature of the employment—employee versus independent contractor. If Members and Candidates are independent contractors, they still have a duty to abide by the terms of the agreement.

Application of Standard IV(A) Loyalty

Example 1: (Former employer's records)

Alex Ray has been employed by Income Investment Management Corporation for 15 years. He began as an analyst but assumed increasing responsibilities and is now a senior portfolio manager and a member of the firm's investment policy committee. Ray has decided to leave Income Investment and start his own investment management business. He has been careful not to tell any of Income's clients that he is leaving because he does not want to be accused of breaching his duty to Income by soliciting Income's clients before his departure. Ray is planning to copy and take with him the following documents and information he developed or worked on while at Income: (1) the client list, with addresses, telephone numbers, and other pertinent client information; (2) client account statements; (3) sample marketing presentations to prospective clients containing Income's performance record; (4) Income's recommended list of securities; (5) computer models to determine asset allocations for accounts with different objectives; (6) computer models for stock selection; and (7) personal computer spreadsheets for Ray's major corporate recommendations which he developed when he was an analyst.

Comment:

Except with the consent of their employer, departing employees may not take employer property, which includes reports, records, books, and other materials, which may interfere with their employer's business. A violation of Standard IV(A) occurs even if the member or candidate takes employer records the member or candidate developed.

Example 2: (Soliciting former clients)

Anthony Johnson has hired Steve Lacey who previously worked for a competing firm for 15 years. When Lacey begins working for Johnson, he wants to contact his former clients because he knows them well and is certain that many will follow him to his new employer. Is Lacey in violation of the Standard IV(A) if he contacts his former clients?

Comment:

If Lacey took client lists or other information from his former employer and contacted those clients without his previous employer's permission this would be a violation of Standard IV(A). Additionally, the nature and extent of the contact with former clients may be governed by the terms of any non-compete agreement between the employee and the former employer after employment.

Simple knowledge of the name and existence of former clients is not confidential information, just as skills or experience that an employee gained while employed is not confidential or privileged information. The Code and Standards do not prohibit the use of experience or knowledge gained at one employer from being used at another employer. The Code and Standards also do not prohibit former employees from contacting clients of their previous firm if a non-compete agreement does not exist. Members and candidates are free to use public information after departing their firm to contact former clients without violating Standard IV(A).

In the absence of a non-compete agreement, as long as Lacey maintains his duty of loyalty to his employer before joining Johnson's firm, does not make use of material from his former employer without its permission after he has left, and does not take steps to solicit clients until he has left his former firm, he would not be in violation of the Code and Standards.

Example 3: (Competing with your current employer)

Several employees are planning to depart their current employer within a few weeks and have been careful to not engage in any activities that would conflict with their duty to their current employer. They have just learned that one of their employer's clients has undertaken a request for proposal (RFP) to review and possibly hire a new investment consultant. The RFP has been sent to the employer and all of its competitors. The group believes that the new entity to be formed would be qualified to respond to the RFP and eligible for the business. The RFP submission period is likely to conclude before the employees' resignations are effective. Is it permissible for the group of departing employees to respond to the RFP under their anticipated new firm?

Comment:

A group of employees responding to an RFP that their employer is also responding to would lead to direct competition between the employees and the employer. Such conduct would violate Standard IV(A) unless the group of employees received permission from their employer as well as the entity sending out the RFP.

Example 4: (Soliciting former clients)

A member solicits clients and prospects of his current employer to open accounts at the new firm he will be joining shortly.

Comment:

It is a violation of the Standard to solicit the firm's clients and prospects while he is still employed by the firm.

Example 5: (Employee-led buyout)

Two employees discuss joining with others in an employee-led buyout of their employer's emerging markets investment management business.

Comment:

There is no violation here. Their employer can decide how to respond to any buyout offer. If such a buyout takes place, clients should be informed of the nature of the changes in a timely manner.

Example 6: (Ownership of work)

A member is writing a research report on a company as a contract worker for Employer A (using Employer A's premises and materials) with the understanding that Employer A does not claim exclusive rights to the outcome of her research. As she is finishing the report, she is offered a full-time job by Employer B and sends Employer B a copy of a draft of her report for publication.

Comment:

She has violated the Standard by not giving Employer A the first rights to act on her research. She must also be careful not to take any materials used in preparing the report from Employer A's premises.

Example 7: (Ownership of work)

A member helps develop software for a firm while acting as an unpaid intern and takes the software, without permission, with her when she takes a full-time job at another firm.

Comment:

She is considered an employee of the firm and has violated the Standard by taking her employer's property without permission.

Example 8: (Starting your own firm)

A member prepares to leave his employer and open his own firm by registering with the SEC, renting an office, and buying office equipment.

Comment:

As long as these preparations have not interfered with the performance of his current job, there has been no violation. The solicitation of firm clients and prospects prior to leaving his employer would, however, be a violation of the Standard.

Example 9: (Outside work assignments)

A member is a full-time employee of an investment management firm and wants to accept a paid position as town mayor without asking his employer's permission.

Comment:

Because the member serving as mayor does not conflict with his employer's business interests, as long as the time commitment does not preclude performing his expected job functions well, there is no violation.

Example 10: (Soliciting former clients)

A member who has left one employer uses public sources to get the phone numbers of previous clients and solicits their business for her new employer.

Comment:

As long as there is no agreement in force between the member and his previous employer that prohibits such solicitation, there is no violation of the Standards.

IV(B) Additional Compensation Arrangements. Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.

Guidance

Compensation includes direct and indirect compensation from a client and other benefits received from third parties. Written consent from a member's employer includes e-mail communication.

Recommended Procedures for Compliance

Make an immediate written report to employer detailing any proposed compensation and services, if additional to that provided by employer. Details including any performance incentives should be verified by the offering party.

Application of Standard IV(B) Additional Compensation Arrangements

Example 1: (Notification of client bonus compensation)

Greg Houston, a portfolio manager for Marx Trust Company, manages the client account of Kristin Whitney. Houston is paid a salary by his employer, and Whitney pays the trust company a standard fee based on the market value of assets in her portfolio. Whitney proposes to Houston that "any year that my portfolio achieves at least a 15% return before taxes, you and your wife can fly to Hawaii at my expense and use my condominium during the third week of January." Houston does not inform his employer of the arrangement and vacations in Hawaii the following January as Whitney's guest.

Comment:

Houston violated Standard IV(B) by failing to inform his employer in writing of the compensation arrangement between himself and Whitney. The nature of the arrangement could result in Houston favoring Whitney's account to the detriment of the other accounts Houston handles for Marx Trust. Houston must obtain the consent of his employer to accept the additional compensation arrangement.

Example 2: (Notification of outside compensation)

A member is on the board of directors of a company whose shares he purchases for client accounts. As a member of the board, he receives the company's product at no charge.

Comment:

Because receiving the company's product constitutes compensation for his service, he is in violation of the Standard if he does not disclose this additional compensation to his employer.

IV(C) Responsibilities of Supervisors. Members and Candidates must make reasonable efforts to detect and prevent violations of applicable laws, rules, regulations, and the Code and Standards by anyone subject to their supervision or authority.

Guidance

Members must take steps to *prevent* employees from violating laws, rules, regulations, or the Code and Standards, as well as make reasonable efforts to *detect* violations. Members with supervisory responsibility should enforce firm policies regarding investment or non-investment behavior (e.g., mandatory vacations) equally.

Guidance—Compliance Procedures

Understand that an adequate compliance system must meet industry standards, regulatory requirements, and the requirements of the Code and Standards. Members with supervisory responsibilities have an obligation to bring an inadequate compliance system to the attention of firm's management and recommend corrective action. While investigating a possible breach of compliance procedures, it is appropriate to limit the suspected employee's activities.

A member or candidate faced with no compliance procedures, or with procedures he believes are inadequate, must decline supervisory responsibility in writing until adequate procedures are adopted by the firm.

Recommended Procedures for Compliance

A member should recommend that his employer adopt a code of ethics. Employers should not commingle compliance procedures with the firm's code of ethics—this can dilute the goal of reinforcing one's ethical obligations. Members should encourage employers to provide their code of ethics to clients.

Adequate compliance procedures should:

- Be clearly written.
- Be easy to understand.
- Designate a compliance officer with authority clearly defined.
- Have a system of checks and balances.
- Outline the scope of procedures.
- Outline what conduct is permitted.
- Contain procedures for reporting violations and sanctions.

Once the compliance program is instituted, the supervisor should:

- Distribute it to the proper personnel.
- Update it as needed.
- Continually educate staff regarding procedures.
- Issue reminders as necessary.
- Require professional conduct evaluations.
- Review employee actions to monitor compliance and identify violations.
- Enforce procedures once a violation occurs.

If there is a violation, respond promptly and conduct a thorough investigation while placing limitations on the wrongdoer's activities.

Application of Standard IV(C) Responsibilities of Supervisors

Example 1: (Supervising research activities)

Jane Mattock, senior vice president and head of the research department of H&V, Inc., a regional brokerage firm, has decided to change her recommendation for Timber Products from buy to sell. In line with H&V's procedures, she orally advises certain other H&V executives of her proposed actions before the report is prepared for publication. As a result of his conversation with Mattock, Dieter Frampton, one of the executives of H&V accountable to Mattock, immediately sells Timber's stock from his own account and from certain discretionary client accounts. In addition, other personnel inform certain institutional customers of the changed recommendation before it is printed and disseminated to all H&V customers who have received previous Timber reports.

Comment:

Mattock failed to supervise reasonably and adequately the actions of those accountable to her. She did not prevent or establish reasonable procedures designed to prevent dissemination of or trading on the information by those who knew of her changed recommendation. She must ensure that her firm has procedures for reviewing or recording trading in the stock of any corporation that has been the subject of an unpublished change in recommendation. Adequate procedures would have informed the subordinates of their duties and detected sales by Frampton and selected customers.

Example 2: (Supervising research activities)

Deion Miller is the research director for Jamestown Investment Programs. The portfolio managers have become critical of Miller and his staff because the Jamestown portfolios do not include any stock that has been the subject of a merger or tender offer. Georgia Ginn, a member of Miller's staff, tells Miller that she has been studying a local company, Excelsior, Inc., and recommends its purchase. Ginn adds that the company has been widely rumored to be the subject of a merger study by a well-known conglomerate and discussions between them are under way. At Miller's request, Ginn prepares a memo recommending the stock. Miller passes along Ginn's memo to the portfolio managers prior to leaving for vacation, noting that he has not reviewed the memo. As a result of the memo, the portfolio managers buy Excelsior stock immediately. The day Miller returns to the office, Miller learns that Ginn's only sources for the report were her brother, who is an acquisitions analyst with Acme Industries, and the "well-known conglomerate" and that the merger discussions were planned but not held.

Comment:

Miller violated Standard IV(C) by not exercising reasonable supervision when he disseminated the memo without checking to ensure that Ginn had a reasonable and adequate basis for her recommendations and that Ginn was not relying on material nonpublic information.

Example 3: (Supervising trading activities)

A member responsible for compliance by the firm's trading desk notices a high level of trading activity in a stock that is not on the firm's recommended list. Most of this trading is being done by a trainee, and the member does not investigate this trading.

Comment:

This is a violation of the member's responsibilities as supervisor. She must take steps to monitor the activities of traders in training, as well as investigate the reason for the heavy trading of the security by her firm's trading desk.

V Investment Analysis, Recommendations, and Actions

V(A) Diligence and Reasonable Basis. Members and Candidates must:

1. Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.
2. Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.

Guidance

The application of this Standard depends on the investment philosophy adhered to, members' and candidates' roles in the investment decision-making process, and the resources and support provided by employers. These factors dictate the degree of diligence, thoroughness of research, and the proper level of investigation required.

Guidance—Reasonable Basis

The level of research required to satisfy the requirement for due diligence will differ depending on the product or service offered. A list of some things that should be considered prior to making a recommendation or taking investment action includes:

- A firm's financial results, operating history, and business cycle stage.
- Fees and historical results for a mutual fund.
- Limitations of any quantitative models used.
- A determination of whether peer group comparisons for valuation are appropriate.

Guidance—Using Secondary or Third-Party Research

Members should encourage their firms to adopt a policy for periodic review of the quality of third-party research, if they have not. Examples of criteria to use in judging quality are:

- Review assumptions used.
- Determine how rigorous the analysis was.
- Identify how timely the research is.
- Evaluate objectivity and independence of the recommendations.

Guidance—Quantitative Research

Members must be able to explain the basic nature of the quantitative research and how it is used to make investment decisions. Members should consider scenarios outside those typically used to assess downside risk and the time horizon of the data used for model evaluation to ensure that both positive and negative cycle results have been considered.

Guidance—External Advisers

Members should make sure their firms have procedures in place to review any external advisers they use or promote to ensure that, among other things, the advisers:

- Have adequate compliance and internal controls.
- Present returns information that is correct.
- Do not deviate from their stated strategies.

Guidance—Group Research and Decision Making

Even if a member does not agree with the independent and objective view of the group, he does not necessarily have to decline to be identified with the report, as long as there is a reasonable and adequate basis.

Recommended Procedures for Compliance

Members should encourage their firms to consider these policies and procedures supporting this Standard:

- Have a policy requiring that research reports and recommendations have a basis that can be substantiated as reasonable and adequate.
- Have detailed, written guidance for proper research and due diligence.
- Have measurable criteria for judging the quality of research, and base analyst compensation on such criteria.
- Have written procedures that provide a minimum acceptable level of scenario testing for computer-based models and include standards for the range of scenarios, model accuracy over time, and a measure of the sensitivity of cash flows to model assumptions and inputs.
- Have a policy for evaluating outside providers of information that addresses the reasonableness and accuracy of the information provided and establishes how often the evaluations should be repeated.
- Adopt a set of standards that provides criteria for evaluating external advisers and states how often a review of external advisers will be performed.

Application of Standard V(A) Diligence and Reasonable Basis

Example 1: (Sufficient due diligence)

Helen Hawke manages the corporate finance department of Sarkozi Securities, Ltd. The firm is anticipating that the government will soon close a tax loophole that currently allows oil and gas exploration companies to pass on drilling expenses to holders of a certain class of shares. Because market demand for this tax-advantaged class of stock is currently high, Sarkozi convinces several companies to undertake new equity financings at once before the loophole closes. Time is of the essence, but Sarkozi lacks sufficient resources to conduct adequate research on all the prospective issuing companies. Hawke decides to estimate the IPO prices based on the relative size of each company and to justify the pricing later when her staff has time.

Comment:

Sarkozi should have taken on only the work that it could adequately handle. By categorizing the issuers as to general size, Hawke has bypassed researching all the other relevant aspects that should be considered when pricing new issues and thus has not performed sufficient due diligence. Such an omission can result in investors purchasing shares at prices that have no actual basis. Hawke has violated Standard V(A).

Example 2: (Client updates)

A member screens a database of investment managers and sends a recommendation of five of them to a client. Subsequently, but before the client receives the report, one of the recommended firms loses its head of research and several key portfolio managers. The member does not update her report.

Comment:

This is a violation as the member should have notified the client of the change in key personnel at the management firm.

Example 3: (Group research opinions)

A member writes a report in which she estimates mortgage rates. After reviewing it, a majority of the investment committee vote to change the report to reflect a different interest rate forecast. Must the member dissociate herself from the report?

Comment:

The same facts may give rise to different opinions and as long as the committee has a reasonable and adequate basis for its (differing) opinion, the member is under no obligation to ask that her name be removed from the report or to disassociate from issuing the report.

Example 4: (Sufficient scenario testing)

A member makes a presentation for an offering his firm is underwriting, using maximum production levels as his estimate in order to justify the price of the shares he is recommending for purchase.

Comment:

Using the maximum possible production without acknowledging that this is not the expected level of production (or without presenting a range of possible outcomes and their relative probabilities) does not provide a reasonable basis for the purchase recommendation and is a violation of the Standard.

Example 5: (Developing a reasonable basis)

A member posts buy recommendations in an internet chat room based on "conventional wisdom" and what the public is currently buying.

Comment:

A recommendation that is not based on independent and diligent research into the subject company is a violation of the Standard.

Example 6: (Reliance on third party research)

A member is a principal in a small investment firm that bases its securities recommendations on third-party research that it purchases.

Comment:

This is not a violation as long as the member's firm periodically checks the purchased research to determine that it has met, and still meets, the criteria of objectivity and reasonableness required by the Standard.

Example 7: (Due diligence in submanager selection)

A member selects an outside adviser for international equities based solely on the fact that the selected firm has the lowest fees for managing the international equities accounts.

Comment:

This is a violation of Standard V(A). The member must consider performance and service, not just fees, in selecting an outside adviser for client accounts.

Example 8: (Successful due diligence/failed investment)

A member investigates the management, fees, track record, and investment strategy of a hedge fund and recommends it to a client who purchases it. The member accurately discloses the risks involved with the investment in the hedge fund. Soon afterward, the fund reports terrible losses and suspends operations.

Comment:

The bad outcome does not mean there has necessarily been a violation of Standard V(A). A member who has performed reasonable due diligence and disclosed investment risks adequately has complied with the requirements of Standard V(A), regardless of the subsequent outcome.

V(B) Communication with Clients and Prospective Clients. Members and Candidates must:

1. Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.

2. Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.

3. Distinguish between fact and opinion in the presentation of investment analysis and recommendations.

Guidance

Proper communication with clients is critical to provide quality financial services. Members must distinguish between opinions and facts and always include the basic characteristics of the security being analyzed in a research report.

Members must illustrate to clients and prospects the investment decision-making process utilized.

All means of communication are included here, not just research reports.

In preparing recommendations for structured securities, allocation strategies, or any other nontraditional investment, members should communicate those risk factors specific to such investments. In all cases, members should communicate the potential gains and losses on the investment clearly in terms of total returns.

When using projections from quantitative models and analysis, members may violate the Standard by not explaining the limitations of the model, which provide a context for judging the uncertainty regarding the estimated investment result.

Recommended Procedures for Compliance

Selection of relevant factors in a report can be a judgment call, so be sure to maintain records indicating the nature of the research, and be able to supply additional information if it is requested by the client or other users of the report.

Application of Standard V(B) Communication with Clients and Prospective Clients

Example 1: (Sufficient disclosure of investment system)

Sarah Williamson, director of marketing for Country Technicians, Inc., is convinced that she has found the perfect formula for increasing Country Technicians' income and diversifying its product base. Williamson plans to build on Country Technicians' reputation as a leading money manager by marketing an exclusive and expensive investment advice letter to high-net-worth individuals. One hitch in the plan is the complexity of Country Technicians' investment system—a combination of technical trading rules (based on historical price and volume fluctuations) and portfolio-construction rules designed to minimize risk. To simplify the newsletter, she decides to include only each week's top-five buy and sell recommendations and to leave out details of the valuation models and the portfolio-structuring scheme.

Comment:

Williamson's plans for the newsletter violate Standard V(B) because she does not intend to include all the relevant factors behind the investment advice. Williamson need not describe the investment system in detail in order to implement the advice effectively; clients must be informed of Country Technicians' basic process and logic. Without understanding the basis for a recommendation, clients cannot possibly understand its limitations or its inherent risks.

Example 2: (Providing opinions as facts)

Richard Dox is a mining analyst for East Bank Securities. He has just finished his report on Boisy Bay Minerals. Included in his report is his own assessment of the geological extent of mineral reserves likely to be found on the company's land. Dox completed this calculation based on the core samples from the company's latest drilling. According to Dox's calculations, the company has in excess of 500,000 ounces of gold on the property. Dox concludes his research report as follows: "Based on the fact that the company has 500,000 ounces of gold to be mined, I recommend a strong BUY."

Comment:

If Dox issues the report as written, he will violate Standard V(B). His calculation of the total gold reserves for the property is an opinion, not a fact. Opinion must be distinguished from fact in research reports.

Example 3: (Notification of fund mandate change)

May & Associates is an aggressive growth manager that has represented itself since its inception as a specialist at investing in small-capitalization domestic stocks. One of May's selection criteria is a maximum capitalization of $250 million for any given company. After a string of successful years of superior relative performance, May expanded its client base significantly, to the point at which assets under management now exceed $3 billion. For liquidity purposes, May's chief investment officer (CIO) decides to lift the maximum permissible market-cap ceiling to $500 million and change the firm's sales and marketing literature accordingly to inform prospective clients and third-party consultants.

Comment:

Although May's CIO is correct about informing potentially interested parties as to the change in investment process, he must also notify May's existing clients. Among the latter group might be a number of clients who not only retained May as a small-cap manager but also retained mid-cap and large-cap specialists in a multiple-manager approach. Such clients could regard May's change of criteria as a style change that could distort their overall asset allocations.

Example 4: (Notification of fund mandate change)

Rather than lifting the ceiling for its universe from $250 million to $500 million, May & Associates extends its small-cap universe to include a number of non-U.S. companies.

Comment:

Standard V(B) requires that May's CIO advise May's clients of this change because the firm may have been retained by some clients specifically for its prowess at investing in domestic small-cap stocks. Other variations requiring client notification include introducing derivatives to emulate a certain market sector or relaxing various other constraints, such as portfolio beta. In all such cases, members and candidates must disclose changes to all interested parties.

Example 5: (Proper description of a security)

A member sends a report to his investment management firm's clients describing a strategy his firm offers in terms of the high returns it will generate in the event interest rate volatility decreases. The report does not provide details of the strategy because they are deemed proprietary. The report does not consider the possible returns if interest rate volatility actually increases.

Comment:

This is a violation on two counts. The basic nature of the strategy must be disclosed, including the extent to which leverage is used to generate the high returns when volatility falls. Further, the report must include how the strategy will perform if volatility rises, as well as if it falls.

Example 6: (Notification of changes to the investment process)

A member's firm changes from its old equity selection model, which is based on price-sales ratios, to a new model based on several factors, including future earnings growth rates, but it does not inform clients of this change.

Comment:

This is a violation because members must inform their clients of any significant change in their investment process. Here, the introduction of forecast data on earnings growth can be viewed as a significant change because the old single-variable model was based on reported rather than forecast data.

Example 7: (Notification of changes to the investment process)

A member's firm, in response to poor results relative to its stated benchmark, decides to structure portfolios to passively track the benchmark and does not inform clients.

Comment:

This is a significant change in the investment process and must be communicated to clients.

Example 8: (Notification of changes to the investment process)

At a firm where individual portfolio managers have been responsible for security selection, a new policy is implemented whereby only stocks on an approved list constructed by the firm's senior managers may be purchased in client accounts. A member who is a portfolio manager does not inform his clients.

Comment:

This is a violation of the Standard because it represents a significant change in the investment process.

Example 9: (Notification of changes to the investment process)

A member changes his firm's outside manager of real estate investments and provides information of this change only in the firm's annual report where outside advisers are listed.

Comment:

This is a violation of the Standard. The member should notify clients immediately of such a change in the firm's investment process.

Professor's Note: Remember, the argument that clients "won't care" about a process change can be turned around to "there's no reason not to disclose the change."

V(C) Record Retention. Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

Guidance

Members must maintain research records that support the reasons for the analyst's conclusions and any investment actions taken. Such records are the property of the firm. If no other regulatory standards are in place, CFA Institute recommends at least a 7-year holding period.

A member who changes firms must recreate the analysis documentation supporting her recommendation using publicly available information or information obtained from the company and must not rely on memory or materials created at her previous firm.

Recommended Procedures for Compliance

This record-keeping requirement generally is the firm's responsibility.

Application of Standard V(C) Record Retention

Example 1: (Record retention and IPS objectives and recommendations)

One of Nikolas Lindstrom's clients is upset by the negative investment returns in his equity portfolio. The investment policy statement for the client requires that the portfolio manager follow a benchmark-oriented approach. The benchmark for the client included a 35% investment allocation in the technology sector, which the client acknowledged was appropriate. Over the past three years, the portion put into the segment of technology stocks suffered severe losses. The client complains to the investment manager that so much money was allocated to this sector.

Comment:

For Lindstrom, it is important to have appropriate records to show that over the past three years the percentage of technology stocks in the benchmark index was 35%. Therefore, the amount of money invested in the technology sector was appropriate according to the investment policy statement. Lindstrom should also have the investment policy statement for the client stating that the benchmark was appropriate for the client's investment objectives. He should also have records indicating that the investment had been explained appropriately to the client and that the investment policy statement was updated on a regular basis.

Example 2: (Record retention and research process)

A member bases his research reports on interviews, his own analysis, and industry reports from third parties on his industry and related industries.

Comment:

The member must keep records of all the information that went into the research on which his reports and recommendations are based.

Example 3: (Records as firm, not employee, property)

When a member leaves a firm at which he has developed a complex trading model, he takes documentation of the model assumptions and how they were derived over time with him, because he will use the model at his new firm.

Comment:

Taking these materials without permission from his previous employer is a violation of his duties to his (previous) employer. While he may use knowledge of the model at the new firm, the member must recreate the supporting documents. The originals are the property of the firm where he worked on developing the model.

VI Conflicts of Interest

VI(A) Disclosure of Conflicts. Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.

Guidance

Members must fully disclose to clients, prospects, and their employers all actual and potential conflicts of interest in order to protect investors and employers. These disclosures must be clearly stated.

Guidance—Disclosure to Clients

The requirement that all potential areas of conflict be disclosed allows clients and prospects to judge motives and potential biases for themselves. Disclosure of broker/dealer market-making activities would be included here. Board service is another area of potential conflict.

The most common conflict which requires disclosure is actual ownership of stock in companies that the member recommends or that clients hold.

Another common source of conflicts of interest is a member's compensation/bonus structure, which can potentially create incentives to take actions that produce immediate gains for the member with little or no concern for longer-term returns for the client.

Such conflicts must be disclosed when the member is acting in an advisory capacity and must be updated in the case of significant change in compensation structure.

Guidance—Disclosure of Conflicts to Employers

Members must give the employer enough information to judge the impact of the conflict. Take reasonable steps to avoid conflicts, and report them promptly if they occur.

Recommended Procedures of Compliance

Any special compensation arrangements, bonus programs, commissions, and incentives should be disclosed.

Application of Standard VI(A) Disclosure of Conflicts

Example 1: (Conflicts of interest and business relationships)

Hunter Weiss is a research analyst with Farmington Company, a broker and investment banking firm. Farmington's merger and acquisition department has represented Vimco, a conglomerate, in all of its acquisitions for 20 years. From time to time, Farmington officers sit on the boards of directors of various Vimco subsidiaries. Weiss is writing a research report on Vimco.

Comment:

Weiss must disclose in his research report Farmington's special relationship with Vimco. Broker/dealer management of and participation in public offerings must be disclosed in research reports. Because the position of underwriter to a company presents a special past and potential future relationship with a company that is the subject of investment advice, it threatens the independence and objectivity of the report and must be disclosed.

Example 2: (Conflicts of interest and compensation arrangements)

Samantha Snead, a portfolio manager for Thomas Investment Counsel, Inc., specializes in managing defined-benefit pension plan accounts, all of which are in the accumulative phase and have long-term investment objectives. A year ago, Snead's employer, in an attempt to motivate and retain key investment professionals, introduced a bonus compensation system that rewards portfolio managers on the basis of quarterly performance relative to their peers and certain benchmark indices. Snead changes her investment strategy and purchases several high-beta stocks for client portfolios in an attempt to improve short-term performance. These purchases are seemingly contrary to the client investment policy statement. Now, an officer of Griffin Corporation, one of Snead's pension fund clients, asks why Griffin Corporation's portfolio seems to be dominated by high-beta stocks of companies that often appear among the most actively traded issues. No change in objective or strategy has been recommended by Snead during the year.

Comment:

Snead violated Standard VI(A) by failing to inform her clients of the changes in her compensation arrangement with her employer that created a conflict of interest. Firms may pay employees on the basis of performance, but pressure by Thomas Investment Counsel to achieve short-term performance goals is in basic conflict with the objectives of Snead's accounts.

Example 3: (Conflicts of interest and personal trading)

Bruce Smith covers East European equities for Marlborough investments, an investment management firm with a strong presence in emerging markets. While on a business trip to Russia, Smith learns that investing in Russian equity directly is difficult but that equity-linked notes that replicate the performance of the underlying Russian equity can be purchased from a New York-based investment bank. Believing that his firm would not be interested in such a security, Smith purchases a note linked to a Russian telecommunications company for his own account without informing Marlborough. A month later, Smith decides that the firm should consider investing in Russian equities using equity-linked notes, and he prepares a write-up on the market that concludes with a recommendation to purchase several of the notes. One note recommended is linked to the same Russian telecom company that Smith holds in his personal account.

Comment:

Smith violated Standard VI(A) by failing to disclose his ownership of the note linked to the Russian telecom company. Smith is required by the Standard to disclose the investment opportunity to his employer and look to his company's policies on personal trading to determine whether it was proper for him to purchase the note for his own account. By purchasing the note, Smith may or may not have impaired his ability to make an unbiased and objective assessment of the appropriateness of the derivative instrument for his firm, but Smith's failure to disclose the purchase to his employer impaired his employer's ability to render an opinion regarding whether the ownership of a security constituted a conflict of interest that might have affected future recommendations. Once he recommended the notes to his firm, Smith compounded his problems by not disclosing that he owned the notes in his personal account—a clear conflict of interest.

Example 4: (Conflicts of interest and business stock ownership)

An investment management partnership sells a significant stake to a firm that is publicly traded. The partnership has added the firm's stock to its recommended list and approved its commercial paper for cash management accounts.

Comment:

Members are required to disclose such a change in firm ownership to all clients. Further, any transactions in client accounts involving the securities of the public firm, and any recommendations concerning the public firm's securities, must include a disclosure of the business relation between it and the partnership.

Example 5: (Conflicts of interest and personal stock ownership)

A member provides clients with research about a company's stock, and his wife inherits a significant amount of stock in the company.

Comment:

The member must disclose this potential conflict to his employer and in any subsequent reports or recommendations he authors. His employer may prudently choose to reassign the stock.

Example 6: (Conflicts of interest and options and compensation arrangements)

A member's investment banking firm receives a significant number of options as partial compensation for bringing a firm public. The member will profit personally from a portion of these options as well.

Comment:

In any research report on the public firm's securities, the member must disclose the fact that these options exist and include their number and the expiration date(s). Because he will profit personally from these, he must also disclose the extent of his participation in these options.

Example 7: (Conflicts of interest and compensation arrangements)

A member accepts an offer from a stock promoter who will provide additional compensation when the member sells Acme stock to his clients. He does not inform his clients or his employer.

Comment:

The member is in violation of the Standard because he must disclose this additional compensation to those clients to whom he recommends the stock and to his employer. Both have a right to determine for themselves the extent to which this additional compensation might affect the member's objectivity.

Example 8: (Conflicts of interest and directorship)

A member who is a portfolio manager for a small investment management firm serving individuals accepts a job as a trustee of an endowment fund that has over €1.5 billion in assets and does not disclose this to her employer.

Comment:

This is a significant position that may require a substantial portion of the member's time and may involve decisions on security selection and trading. The member is in violation of the Standard by not disclosing this involvement to her employer and by not discussing it with her employer before accepting the position.

Example 9: (Conflicts of interest and requested favors)

A member replaces his firm's external manager, which has had average results, with a friend's firm.

Comment:

Taking such action without disclosing to his firm that the new manager is a personal friend is a violation of the Standards.

VI(B) Priority of Transactions. Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.

Guidance

Client transactions take priority over personal transactions and over transactions made on behalf of the member's firm. Personal transactions include situations where the member is a "beneficial owner." Personal transactions may be undertaken only after clients and the member's employer have had an adequate opportunity to act on a recommendation. Note that family member accounts that are client accounts should be treated just like any client account; they should not be disadvantaged.

Information about pending trades should not be acted on for personal gain. The overriding considerations with respect to personal trades are that they do not disadvantage any clients.

Recommended Procedures for Compliance

All firms should have in place basic procedures that address conflicts created by personal investing. The following areas should be included:

- Limited participation in equity IPOs. Members can avoid these conflicts by not participating in IPOs.
- Restrictions on private placements. Strict limits should be placed on employee acquisition of these securities and proper supervisory procedures should be in place. Participation in these investments raises conflict of interest issues, similar to IPOs.
- Establish blackout/restricted periods. Employees involved in investment decision-making should have blackout periods prior to trading for clients—no "front-running" (i.e., purchase or sale of securities in advance of anticipated client or employer purchases and sales). The size of the firm and the type of security should help dictate how severe the blackout requirement should be.
- Reporting requirements. Supervisors should establish reporting procedures, including duplicate trade confirmations, disclosure of personal holdings/beneficial ownership positions, and preclearance procedures.
- Disclosure of policies. When requested, members must fully disclose to investors their firm's personal trading policies.

Members should encourage their firms to adopt such procedures if they have not.

Application of Standard VI(B) Priority of Transactions

Example 1: (Family accounts as equals)

Erin Toffler, a portfolio manager at Esposito Investments, manages the retirement account established with the firm by her parents. Whenever IPOs become available, she first allocates shares to all her other clients for whom the investment is appropriate; only then does she place any remaining portion in her parents' account, if the issue is appropriate for them. She has adopted this procedure so that no one can accuse her of favoring her parents.

Comment:

Toffler has breached her duty to her parents by treating them differently from her other accounts simply because of the family relationship. As fee-paying clients of Esposito Investments, Toffler's parents are entitled to the same treatment as any other client of the firm. If Toffler has beneficial ownership in the account, however, and Esposito Investments has preclearance and reporting requirements for personal transactions, she may have to preclear the trades and report the transactions to Esposito.

Example 2: (Trading prior to report dissemination)

A brokerage's insurance analyst, Denise Wilson, makes a closed-circuit report to her firm's branches around the country. During the broadcast, she includes negative comments about a major company within the industry. The following day, Wilson's report is printed and distributed to the sales force and public customers. The report recommends that both short-term traders and intermediate investors take profits by selling that company's stocks. Several minutes after the broadcast, Ellen Riley, head of the firm's trading department, closes out a long call position in the stock. Shortly thereafter, Riley establishes a sizable "put" position in the stock. Riley claims she took this action to facilitate anticipated sales by institutional clients.

Comment:

Riley expected that both the stock and option markets would respond to the "sell" recommendation, but she did not give customers an opportunity to buy or sell in the options market before the firm itself did. By taking action before the report was disseminated, Riley's firm could have depressed the price of the "calls" and increased the price of the "puts." The firm could have avoided a conflict of interest if it had waited to trade for its own account until its clients had an opportunity to receive and assimilate Wilson's recommendations. As it is, Riley's actions violated Standard VI(B).

Example 3: (Personal trading)

A member who is a research analyst does not recommend a stock to his employer because he wants to purchase it quickly for his personal account.

Comment:

He has violated the priority of transactions by withholding this information from his employer and seeking to profit personally at his employer's expense. The member has likely violated his duty to his employer under Standard IV(A) Loyalty as well.

Example 4: (Trading for a family member account)

A member who manages a fund gets hot IPO shares for her husband's account from syndicate firms, even when the fund is unable to get shares.

Comment:

The member has violated the Standard by this action. She must act in the interest of the shareholders of the fund and place allocated shares there first. She must also inform her employer of her participation in these offerings through her beneficial interest in her husband's account(s).

Example 5: (Personal trading and disclosure)

A member allows an employee to continue his duties without having signed a required report of his personal trading activity over the last three months. The employee, a CFA candidate, has been purchasing securities for his own account just before firm buy recommendations have been released.

Comment:

The employee has violated the Standard. The member has also violated Standard IV(C) Responsibilities of Supervisors by allowing the employee to continue in his regular duties.

VI(C) Referral Fees. Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

Guidance

Members must inform employers, clients, and prospects of any benefit received for referrals of customers and clients, allowing them to evaluate the full cost of the service as well as any potential impartiality. All types of consideration must be disclosed.

Recommended Procedures for Compliance

Members should encourage their firms to adopt clear procedures regarding compensation for referrals. Firms that do not prohibit such fees should have clear procedures for approval, and members should provide their employers with updates at least quarterly regarding the nature and value of referral compensation received.

Application of Standard VI(C) Referral Fees

Example 1: (Disclosure of referral arrangements and outside parties)

Brady Securities, Inc., a broker/dealer, has established a referral arrangement with Lewis Brothers, Ltd., an investment counseling firm. Under this arrangement, Brady Securities refers all prospective tax-exempt accounts, including pension, profit-sharing, and endowment accounts, to Lewis Brothers. In return, Lewis Brothers makes available to Brady Securities on a regular basis the security recommendations and reports of its research staff, which registered representatives of Brady Securities use in serving customers. In addition, Lewis Brothers conducts monthly economic and market reviews for Brady Securities personnel and directs all stock commission business generated by referral account to Brady Securities. Willard White, a partner in Lewis Brothers, calculates that the incremental costs involved in functioning as the research department of Brady Securities amount to $20,000 annually. Referrals from Brady Securities last year resulted in fee income of $200,000, and directing all stock trades through Brady Securities resulted in additional costs to Lewis Brothers' clients of $10,000.

Diane Branch, the chief financial officer of Maxwell, Inc., contacts White and says that she is seeking an investment manager for Maxwell's profit-sharing plan. She adds, "My friend Harold Hill at Brady Securities recommended your firm without qualification, and that's good enough for me. Do we have a deal?" White accepts the new account but does not disclose his firm's referral arrangement with Brady Securities.

Comment:

White violated Standard VI(C) by failing to inform the prospective customer of the referral fee payable in services and commissions for an indefinite period to Brady Securities. Such disclosure could have caused Branch to reassess Hill's recommendation and make a more critical evaluation of Lewis Brothers' services.

Example 2: (Disclosure of interdepartmental referral arrangements)

James Handley works for the Trust Department of Central Trust Bank. He receives compensation for each referral he makes to Central Trust's brokerage and personal financial management department that results in a sale. He refers several of his clients to the personal financial management department but does not disclose the arrangement within Central trust to his clients.

Comment:

Handley has violated Standard VI(C) by not disclosing the referral arrangement at Central Trust Bank to his clients. The Standard does not distinguish between referral fees paid by a third party for referring clients to the third party and internal compensation arrangements paid within the firm to attract new business to a subsidiary. Members and candidates must disclose all such referral fees. Therefore, Handley would be required to disclose, at the time of referral, any referral fee agreement in place between Central Trust Bank's departments. The disclosure should include the nature and the value of the benefit and should be made in writing.

Example 3: (Disclosure of referral arrangements and employer compensation)

Yeshao Wen is a portfolio manager for a bank. He receives additional monetary compensation from his employer when he is successful in assisting in the sales process and generation of assets under management. The assets in question will be invested in proprietary product offerings such as affiliate company mutual funds.

Comment:

Standard VI(C) is meant to address instances where the investment advice provided by a member or candidate appears to be objective and independent but in fact is influenced by an unseen referral arrangement. It is not meant to cover compensation by employers to employees for generating new business when it would be obvious to potential clients that the employees are "referring" potential clients to the services of their employers.

If Wen is selling the bank's investment management services in general, he does not need to disclose to potential clients that he will receive a bonus for finding new clients and acquiring new assets under management for the bank. Potential clients are likely aware that it would be financially beneficial both to the portfolio manager and the manager's firm for the portfolio manager to sell the services of the firm and attract new clients. Therefore, sales efforts attempting to attract new investment management clients need not disclose this fact.

However, in this example, the assets will be managed in "proprietary product offerings" of the manager's company (e.g., an in-house mutual fund) and Wen will receive additional compensation for selling firm products. Some sophisticated investors may realize that it would be financially beneficial to the portfolio manager and the manager's firm if the investor buys the product offerings of the firm. Best practice, however, dictates that the portfolio manager must disclose to clients that he is compensated for referring clients to firm products. Such disclosure will meet the purpose of Standard VI(C), which is to allow investors to determine whether there is any partiality on the part of the portfolio manager when giving investment advice.

Example 4: (Disclosure of referral arrangements and outside parties)

An investment consultant conducts an independent and objective analysis of investment managers for a pension fund and selects the best one. Subsequently, the selected adviser makes a payment to the consultant.

Comment:

This is a violation of the Standard. The potential for a payment should have been disclosed to the pension fund. There are very likely regulatory or legal considerations with regard to such payment as well.

VII Responsibilities as a CFA Institute Member or CFA Candidate

VII(A) Conduct as Members and Candidates in the CFA Program. Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA examinations.

Professor's Note: The Standard is intended to cover conduct such as cheating on the CFA exam or otherwise violating rules of CFA Institute or the CFA program. It is not intended to prevent anyone from expressing any opinions or beliefs concerning CFA Institute or the CFA program.

Members must not engage in any activity that undermines the integrity of the CFA charter. This Standard applies to conduct which includes:

- Cheating on the CFA exam or any exam.
- Revealing anything about either broad or specific topics tested, content of exam questions, or formulas required or not required on the exam.
- Not following rules and policies of the CFA program.
- Giving confidential information on the CFA program to Candidates or the public.
- Improperly using the designation to further personal and professional goals.
- Misrepresenting information on the Professional Conduct Statement (PCS) or the CFA Institute Professional Development Program.

Members and candidates are not precluded from expressing their opinions regarding the exam program or CFA Institute but must not reveal confidential information about the CFA program.

Candidates who violate any of the CFA exam policies (calculator, personal belongings, Candidate Pledge) have violated Standard VII(A).

Members who volunteer in the CFA program may not solicit or reveal information about questions considered for or included on a CFA exam, about the grading process, or about scoring of questions.

Application of Standard VII(A) Conduct as Members and Candidates in the CFA Program

Example 1: (Sharing exam questions)

Ashlie Hocking is writing Level II of the CFA examination in London. After completing the exam, she immediately attempts to contact her friend in Sydney, Australia, to tip him off to specific questions on the exam.

Comment:

Hocking has violated Standard VII(A) by attempting to give her friend an unfair advantage, thereby compromising the integrity of the CFA examination process.

Example 2: (Compromising CFA Institute integrity as a volunteer)

Jose Ramirez is an investment-relations consultant for several small companies that are seeking greater exposure to investors. He is also the program chair for the CFA Institute society in the city where he works. To the exclusion of other companies, Ramirez only schedules companies that are his clients to make presentations to the society.

Comment:

Ramirez, by using his volunteer position at CFA Institute to benefit himself and his clients, compromises the reputation and integrity of CFA Institute and, thus, violates Standard VII(A).

Example 3: (Discussion of exam grading guidelines and results)

A member who is an exam grader discusses with friends the guideline answer for and relative candidate performance on a specific question he graded on the CFA exam.

Comment:

He has violated his Grader's Agreement and also the Standard by compromising the integrity of the CFA exam.

Example 4: (Writing after exam period end)

A candidate does not stop writing when asked to by the proctor at the CFA exam.

Comment:

By taking additional time compared to other candidates, this candidate has violated the Standard, compromising the integrity of the exam process.

Example 5: (Compromising CFA Institute integrity as a volunteer)

A member who is a volunteer on a CFA Institute committee tells her clients that what she learns through her committee work will allow her to better serve their interests.

Comment:

She has violated the Standard by using her CFA committee position to benefit herself personally and to any extent her 'inside' knowledge has benefited her clients.

Example 6: (Sharing exam content)

A candidate tells another candidate, "I'm sure glad that Bayes' formula was not on the Level I test this year."

Comment:

This is a violation of Standard VII(A). Candidates are not permitted to reveal any formulas required or not required on a CFA exam.

Example 7: (Sharing exam content)

A candidate tells his beloved CFA instructor, "I really appreciate the emphasis that you put on Financial Reporting and Analysis because that was a huge part of the test this year."

Comment:

This is a violation of Standard VII(A). Candidates are not permitted to disclose the relative weighting of topics on the exam.

Example 8: (Sharing exam content)

A candidate tells his mother, "There was an item set on the CFA exam on the Residual Income Model that just kicked my butt."

Comment:

This is a violation of Standard VII(A). Candidates are not permitted to disclose specific topics tested on the exam.

VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program.

When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA Program.

Guidance

Members must not make promotional promises or guarantees tied to the CFA designation. Do not:

- Over-promise individual competence.
- Over-promise investment results in the future (i.e., higher performance, less risk, etc.).

Guidance—CFA Institute Membership

Members must satisfy these requirements to maintain membership:

- Sign PCS annually.
- Pay CFA Institute membership dues annually.

If they fail to do this, they are no longer active members.

Guidance—Using the CFA Designation

Do not misrepresent or exaggerate the meaning of the designation.

Guidance—Referencing Candidacy in the CFA Program

There is no partial designation. It is acceptable to state that a Candidate successfully completed the program in three years, if in fact he did, but claiming superior ability because of this is not permitted.

Guidance—Proper Usage of the CFA Marks

The Chartered Financial Analyst and CFA marks must always be used either after a charterholder's name or as adjectives, but not as nouns, in written and oral communications.

Recommended Procedures for Compliance

Make sure that members' and candidates' firms are aware of the proper references to a member's CFA designation or candidacy, as this is a common error.

Application of Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program

Example 1: (Passing exams in consecutive years)

An advertisement for AZ Investment Advisers states that all the firm's principals are CFA charterholders and all passed the three examinations on their first attempt. The advertisement prominently links this fact to the notion that AZ's mutual funds have achieved superior performance.

Comment:

AZ may state that all principals passed the three examinations on the first try as long as this statement is true and is not linked to performance or does not imply superior ability. Implying that (1) CFA charterholders achieve better investment results and (2) those who pass the exams on the first try may be more successful than those who do not violates Standard VII(B).

Example 2: (Right to use the CFA designation)

Five years after receiving his CFA charter, Louis Vasseur resigns his position as an investment analyst and spends the next two years traveling abroad. Because he is not actively engaged in the investment profession, he does not file a completed Professional Conduct Statement with CFA Institute and does not pay his CFA Institute membership dues. At the conclusion of his travels, Vasseur becomes a self-employed analyst, accepting assignments as an independent contractor. Without reinstating his CFA Institute membership by filing his Professional Conduct Statement and paying his dues, he prints business cards that display "CFA" after his name.

Comment:

Vasseur has violated Standard VII(B) because Vasseur's right to use the CFA designation was suspended when he failed to file his Professional Conduct Statement and stopped paying dues. Therefore, he no longer is able to state or imply that he is an active CFA charterholder. When Vasseur files his Professional Conduct Statement and resumes paying CFA Institute dues to activate his membership, he will be eligible to use the CFA designation upon satisfactory completion of CFA Institute reinstatement procedures.

Example 3: (CFA Institute membership status)

A member still uses the initials CFA after his name even though his membership has been suspended for not paying dues and for not submitting a personal conduct statement as required.

Comment:

This is a violation of the Standard.

Example 4: (CFA logo – individual use only)

A member puts the CFA logo on his letterhead, his business cards, and the company letterhead.

Comment:

By putting the logo on the company letterhead (rather than the letterhead or business card of an individual who is a CFA charterholder), the member has violated the Standard.

Concept Checkers

1. In situations where the laws of a member or candidate's country of residence, the local laws of regions where the member or candidate does business, and the Code and Standards specify different requirements, the member or candidate must abide by:
   A. local law or the Code and Standards, whichever is stricter.
   B. the Code and Standards or his country's laws, whichever are stricter.
   C. the strictest of local law, his country's laws, or the Code and Standards.

2. According to the Standard on independence and objectivity, members and candidates:
   A. may accept gifts or bonuses from clients.
   B. may not accept compensation from an issuer of securities in return for producing research on those securities.
   C. should consider credit ratings issued by recognized agencies to be objective measures of credit quality.

3. Bill Cooper finds a table of historical bond yields on the Web site of the U.S. Treasury that supports the work he has done in his analysis and includes the table as part of his report without citing the source. Has Cooper violated the Code and Standards?
   A. Yes, because he did not cite the source of the table.
   B. Yes, because he did not verify the accuracy of the information.
   C. No, because the table is from a recognized source of financial or statistical data.

4. Which of the following statements about the Standard on misconduct is *most accurate*?
   A. Misconduct applies only to a member or candidate's professional activities.
   B. Neglecting to perform due diligence when required is an example of misconduct.
   C. A member or candidate commits misconduct by engaging in any illegal activity.

5. Ed Ingus, CFA, visits the headquarters and main plant of Bullitt Company and observes that inventories of unsold goods appear unusually large. From the CFO, he learns that a recent increase in returned items may result in earnings for the current quarter that are below analysts' estimates. Based on his visit, Ingus changes his recommendation on Bullitt to "Sell." Has Ingus violated the Standard concerning material nonpublic information?
   A. Yes.
   B. No, because the information he used is not material.
   C. No, because his actions are consistent with the mosaic theory.

6. Green Brothers, an emerging market fund manager, has two of its subsidiaries simultaneously buy and sell emerging market stocks. In its marketing literature, Green Brothers cites the overall emerging market volume as evidence of the market's liquidity. As a result of its actions, more investors participate in the emerging markets fund. Green Brothers *most likely*:
   A. did not violate the Code and Standards.
   B. violated the Standard regarding market manipulation.
   C. violated the Standard regarding performance presentation.

7. Cobb, Inc., has hired Jude Kasten, CFA, to manage its pension fund. The client(s) to whom Kasten owes a duty of loyalty are:
   A. Cobb's management.
   B. the shareholders of Cobb, Inc.
   C. the beneficiaries of the pension fund.

8. Which of the following actions is *most likely* a violation of the Standard on fair dealing?
   A. A portfolio manager allocates IPO shares to all client accounts, including her brother's fee-based retirement account.
   B. An investment firm routinely begins trading for its own account immediately after announcing recommendation changes to clients.
   C. After releasing a general recommendation to all clients, an analyst calls the firm's largest institutional clients to discuss the recommendation in more detail.

9. The Standard regarding suitability *most likely* requires that:
   A. an adviser must analyze an investment's suitability for the client prior to recommending or acting on the investment.
   B. a member or candidate must decline to carry out an unsolicited transaction that she believes is unsuitable for the client.
   C. when managing a fund to an index, a manager who is evaluating potential investments must consider their suitability for the fund's shareholders.

10. Which of the following is *most likely* a recommended procedure for complying with the Standard on performance presentation?
   A. Exclude terminated accounts from past performance history.
   B. Present the performance of a representative account to show how a composite has performed.
   C. Consider the level of financial knowledge of the audience to whom the performance is presented.

11. The CFA Institute Professional Conduct Program (PCP) has begun an investigation into Chris Jones, a Level II CFA candidate, and a number of his CFA Charterholder colleagues. Jones has access to confidential client records that could be useful in clearing his name, and he wishes to share this information with the PCP. Which of the following *most accurately* describes Jones's duties with regard to preservation of confidentiality?
   A. Sharing the confidential information with the PCP would violate the Standards.
   B. The Standards encourage, but do not require, that Jones support the PCP investigation into his colleagues.
   C. Jones may share confidential information about former clients with the PCP but may not share confidential information about current clients.

12. Connie Fletcher, CFA, works for a small money management firm that specializes in pension accounts. Recently, a friend asked her to act as an unpaid volunteer manager for the city's street sweep pension fund. As part of the position, the city would grant Fletcher a free parking space in front of her downtown office. Before Fletcher accepts, she should *most appropriately*:
   A. do nothing because this is a volunteer position.
   B. inform her current clients in writing and discuss the offer with her employer.
   C. disclose the details of the volunteer position to her employer and obtain written permission from her employer.

13. Sarah Johnson, a portfolio manager, is offered a bonus directly by a client if Johnson meets certain performance goals. To comply with the Standard that governs additional compensation arrangements, Johnson should:
   A. decline to accept a bonus outside of her compensation from her employer.
   B. disclose this arrangement to her employer in writing and obtain her employer's permission.
   C. disclose this arrangement to her employer only if she actually meets the performance goals and receives the bonus.

14. A member or candidate who has supervisory responsibility:
   A. should place particular emphasis on enforcing investment-related compliance policies.
   B. is responsible for instructing those to whom he has delegated authority about methods to detect and prevent violations of the law and the Code and Standards.
   C. has complied with the Standards if she reports employee violations to upper management and provides a written warning to the employee to cease such activities.

15. Which of the following actions is a *required*, rather than *recommended*, action under the Standard regarding diligence and a reasonable basis for a firm's research recommendations?
   A. Compensate analysts based on a measure of the quality of their research.
   B. Review the assumptions used and evaluate the objectivity of third-party research reports.
   C. Have a policy requiring that research reports and recommendations have a basis that can be substantiated as reasonable and adequate.

16. Claire Marlin, CFA, manages an investment fund specializing in foreign currency trading. Marlin writes a report to investors that describes the basic characteristics of her strategy, which is based on an expected appreciation of the euro relative to other major currencies. Marlin shows the projected returns from the strategy if the euro appreciates less than 5%, between 5% and 10%, or more than 10%, while clearly stating that these forecasts are her opinion. Has Marlin violated the Standard related to communication with clients?
    A. Yes.
    B. No, because she disclosed the basic characteristics of the investment.
    C. No, because she distinguished fact from opinion and discussed how the strategy may perform under a range of scenarios.

17. If regulations do not specify how long to retain the documents that support an analyst's conclusions, the Code and Standards recommend a period of at least:
    A. five years.
    B. seven years.
    C. ten years.

18. Daniel Lyons, CFA, is an analyst who covers several stocks including Horizon Company. Lyons's aunt owns 30,000 shares of Horizon. She informs Lyons that she has created a trust in his name into which she has placed 2,000 shares of Horizon. The trust is structured so that Lyons will not be able to sell the shares until his aunt dies, but he may vote the shares. Lyons is due to update his research coverage of Horizon next week. Lyons should *most appropriately*:
    A. update the report as usual, because he is not a beneficial owner of the stock.
    B. advise his superiors that he is no longer able to issue research recommendations on Horizon.
    C. disclose the situation to his employer and, if then asked to prepare a report, also disclose his beneficial ownership of the shares in his report.

19. Kate Wilson, CFA, is an equity analyst. Wilson enters two transactions for her personal account. Wilson sells 500 shares of Tibon, Inc., a stock on which her firm currently has a "Buy" recommendation. Wilson buys 200 shares of Hayfield Co., and the following day issues a research report on the Hayfield with a "Buy" recommendation. Has Wilson violated the Code and Standards?
    A. No.
    B. Yes; both of her actions violate the Code and Standards.
    C. Yes; only one of her actions violates the Code and Standards.

20. Hern Investments provides monthly emerging market research to Baker Brokerage in exchange for prospective client referrals and European equity research from Baker. Clients and prospects of Hern are not made aware of the agreement, but clients unanimously rave about the high quality of the research provided by Baker. As a result of the research, many clients with non-discretionary accounts have earned substantial returns on their portfolios. Managers at Hern have also used the research to earn outstanding returns for the firm's discretionary accounts. Hern has *most likely*:
    A. not violated the Code and Standards.
    B. violated the Code and Standards by using third-party research in discretionary accounts.
    C. violated the Code and Standards by failing to disclose the referral agreement with Baker.

21. After writing the CFA Level I exam, Cynthia White goes to internet discussion site *CFA Haven* to express her frustration. White writes, "CFA Institute is not doing a competent job of evaluating candidates because none of the questions in the June exam touched on Alternative Investments." White *most likely* violated the Standard related to conduct as a candidate in the CFA program by:
    A. publicly disputing CFA Institute policies and procedures.
    B. disclosing subject matter covered or not covered on a CFA exam.
    C. participating in an internet forum that is directed toward CFA Program participants

22. After passing all three levels of the CFA Exams on her first attempts and being awarded her CFA Charter, Paula Osgood is promoting her new money management firm by issuing an advertisement. Which of these statements would *most likely* violate the Standard related to use of the CFA designation?
    A. "To earn the right to use the CFA designation, Paula passed three exams covering ethics, financial statement analysis, asset valuation, and portfolio management."
    B. "Paula passed three 6-hour exams on her first attempts and is a member of her local investment analyst society."
    C. "Because of her extensive training, Paula will be able to achieve better investment results than managers who have not been awarded the CFA designation."

Answers – Concept Checkers

1. C To comply with Standard I(A) Knowledge of the Law, a member must always abide by the strictest applicable law, regulation, or standard.

2. A Gifts from clients are acceptable under Standard I(B) Independence and Objectivity, but the Standard requires members and candidates to disclose such gifts to their employers. Standard I(B) allows issuer-paid research as long as the analysis is thorough, independent, unbiased, and has a reasonable and adequate basis for its conclusions, and the compensation from the issuer is disclosed. Members and candidates should consider the potential for conflicts of interest inherent in credit ratings and may need to do independent research to evaluate the soundness of these ratings.

3. C According to Standard I(C) Misrepresentation, members and candidates must cite the sources of the information they use in their analysis, unless the information is factual data (as opposed to analysis or opinion) from a recognized financial or statistical reporting service. The U.S. Treasury is one example of a recognized source of factual data.

4. B Failing to act when required by one's professional obligations, such as neglecting to perform due diligence related to an investment recommendation, violates Standard I(D) Misconduct. Acts a member commits outside his professional capacity are misconduct if they reflect poorly on the member or candidate's honesty, integrity, or competence (e.g., theft or fraud). Violations of the law that do not reflect on the member or candidate's honesty, integrity, or competence (e.g., an act related to civil disobedience) are not necessarily regarded as misconduct.

5. A The statement from the CFO about the current quarter's earnings is material nonpublic information. Ingus violated Standard II(A) Material Nonpublic Information by acting or causing others to act on it.

6. B The intent of Green Brothers' actions is to manipulate the appearance of market liquidity in order to attract investment to its own funds. The increased trading activity was not based on market fundamentals or an actual trading strategy to benefit investors. It was merely an attempt to mislead market participants in order to increase assets under Green Brothers' management. The action violates Standard II(B) Market Manipulation.

7. C Standard III(A) Loyalty, Prudence, and Care specifies that for the manager of a pension or trust, the duty of loyalty is owed to the beneficiaries, not to the individuals who hired the manager.

8. B The firm must give its clients an opportunity to act on recommendation changes. Firms can offer different levels of service to clients as long as this is disclosed to all clients. The largest institutional clients would likely be paying higher fees for a greater level of service. The portfolio manager's brother's account should be treated the same as any other client account.

9. A According to Standard III(C) Suitability, a member or candidate who is in an advisory relationship with a client is responsible for analyzing the suitability of an investment for the client before taking investment action or making a recommendation. A member or candidate who believes an unsolicited trade is unsuitable for the client can either decline to carry it out or ask the client to provide a statement that suitability is not a consideration for this trade. When managing a fund to an index or stated mandate, the manager is responsible for ensuring that potential investments are consistent with the fund's mandate. Suitability for individuals would be a concern for an adviser who recommends the fund to clients, but not for the manager of the fund.

10. C Recommendations stated in Standard III(D) Performance Presentation include considering the sophistication and knowledge of the audience when presenting performance data. Other recommendations are to include terminated accounts from past performance history; to present the performance of a composite as a weighted average of the performance of similar portfolios, rather than using a single representative account; and to maintain the records and data that were used to calculate performance.

11. B Members and Candidates are required to cooperate with PCP investigations into their own conduct, and they are encouraged to cooperate with PCP investigations into the conduct of others. Sharing confidential information with the PCP is not a violation of Standard III(E) Preservation of Confidentiality. Any client information shared with the PCP will be kept in strict confidence. Standard III(E) states that members and candidates are required to maintain confidentiality of client records even after the end of the client relationship.

12. C According to Standard IV(A) Loyalty, members and candidates are expected to act for the benefit of the employer and not deprive the employer of their skills. Fletcher is performing work similar to the services that her employer provides. Although the position is a volunteer position, Fletcher will receive compensation in the form of a free parking space. In light of the circumstances, Fletcher must disclose the details of the position to her employer and get written permission before accepting the volunteer position.

13. B Johnson should disclose her additional compensation arrangement in writing to her employer and obtain her employer's written consent before accepting this offer, in accordance with Standard IV(B) Additional Compensation Arrangements.

14. B Reporting the violation and warning the employee are not sufficient to comply with Standard IV(C) Responsibilities of Supervisors. The supervisor must also take steps to prevent further violations while she conducts an investigation, such as limiting the employee's activity or increasing her monitoring of the employee. Supervisors should enforce investment-related and non-investment-related policies equally. A member or candidate may delegate supervisory duties to subordinates but remains responsible for instructing them about how to detect and prevent violations.

15. B Standard V(A) Diligence and Reasonable Basis requires analysts who use third-party reseatch to review its assumptions and evaluate the independence and objectivity of the research. The other choices are recommended procedures for compliance with the Standard.

16. A Standard V(B) Communication with Clients and Prospective Clients requires that members and candidates communicate the risk associated with the investment strategy used and how the strategy is expected to perform in a range of scenarios. These scenarios should include those different from the current trend, and Marlin should have discussed how her strategy would perform if the euro depreciates instead of appreciating as she expects.

17. B When no other regulatory guidance applies, Standard V(C) Record Retention recommends that records be maintained for a minimum of seven years.

18. C Even though the shares are held in trust, Lyons is considered a beneficial owner under Standard VI(A) Disclosure of Conflicts because he has a pecuniary interest in the shares and because he has the power to vote the shares. Lyons is obligated to inform his employer of the potential conflict. If Lyons's employer permits him to continue issuing investment recommendations on the company, Lyons must disclose the existence of a potential conflict in his reports.

19. C Only one of these transactions is a violation. Standard VI(B) Priority of Transactions requires members and candidates to give clients an adequate opportunity to act on a recommendation before trading for accounts in which the member or candidate has a beneficial ownership interest. Members and candidates may trade for their own accounts as long as they do not disadvantage clients, benefit personally from client trades, or violate any regulations that apply. The Standard does not prohibit members and candidates from entering personal transactions that are contrary to what their firms are recommending for clients, as long as the transaction does not violate any of these criteria.

20. C According to Standard VI(C) Referral Fees, Hern must disclose the referral arrangement between itself and Baker so that potential clients can judge the true cost of Hern's services and assess whether there is any partiality inherent in the recommendation of services.

21. B Standard VII(A) Conduct as Members and Candidates in the CFA Program prohibits candidates from revealing which portions of the Candidate Body of Knowledge were or were not covered on an exam. Members and candidates are free to disagree with the policies, procedures, or positions taken by the CFA Institute. The Standard does not prohibit participating in CFA Program-related internet blogs, forums, or social networks.

22. C Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program prohibits members and candidates from implying superior performance as a result of being a CFA charterholder. Concise factual descriptions of the requirements to obtain the CFA Charter are acceptable. Osgood's statement that she passed the exams on her first attempts is acceptable because it states a fact.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

ETHICS IN PRACTICE

Study Session 2

EXAM FOCUS

This topic review discusses ethical dilemmas in the investment profession and the best way to deal with them. It covers, in detail, specific Standards and the reasoning process behind each. The review also includes useful examples of ethical situations and the proper corrective action. I strongly recommend you read the cases carefully; there is valuable information contained within each.

ETHICAL RESPONSIBILITIES

LOS 3.a: Explain the ethical and professional responsibilities required by each of the six provisions of the Code of Ethics and the seven Standards of Professional Conduct.

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Code of Ethics

The Code of Ethics identifies six provisions that promote ethical standards among individuals in the investment profession.

1. The first provision focuses on the actions of investment professionals by stating that they should act with integrity, competence, diligence, and respect. They should also convey their actions in an ethical manner to their clients, potential clients, and employers.

2. The second provision calls for investment professionals to place personal interests below the interest of clients and the integrity of the investment profession.

3. The third provision asks investment professionals to act with care and maintain independent judgment when applying investment analysis, recommendations, and actions. Analysts must use independent judgment when engaging in activities that will ultimately affect client interests.

4. The fourth provision relates to the practice of the analyst and the practice of others within the investment profession. The analyst should not only act in an ethical manner, but should also promote ethical actions to others within the profession.

5. The fifth provision asks investment professionals to contribute to well-functioning markets by respecting the applicable rules and promoting those rules to others.

6. The sixth provision indicates that investment professionals should strive to maintain and improve their professional competence as well as the competence of others within the investment profession.

Standards of Professional Conduct

Standard I: Professionalism

This Standard covers the following four topics: knowledge of the law, independence and objectivity, misrepresentation, and misconduct.

Standard I(A) Knowledge of the Law

- Know the law, and when confronted with differences between the applicable law or regulation and the Code and Standards, honor the stricter of the two.
- Do not participate/assist in violations. If needed, dissociate from a violation.
- In cases of observed violations, report it to a supervisor and compliance officer, if necessary. Extreme cases may require resignation and/or reporting the violation to the proper authorities.

Standard I(B) Independence and Objectivity

- The client's best interest always comes first. Maintaining independence and objectivity is paramount. Do not accept any consideration (e.g., gifts, special treatment) which may interfere with this. Use judgment concerning what is a "threshold" of improper consideration.
- This Standard applies not only to investment managers but to plan sponsors, investment consultants, investment bankers, and dealmakers.

Standard I(C) Misrepresentation

- An analyst has a duty of competence and diligence to make sure that her analysis is properly documented and supported. There should be no guarantees or assurances. An accurate description of facts is permitted.
- Plagiarism is prohibited. Give credit and cite the sources of ideas, facts, and opinions taken from others.
- Do not misrepresent your own or your firm's experience or qualifications.

Standard I(D) Misconduct

- Investment professionals must not do anything that reflects poorly on their professional reputation, integrity, or competence.
- Trust must not be violated—this is especially important in the investment profession.

Standard II: Integrity of Capital Markets

Standard II covers the use of information for individual gain. You will notice reference to the **mosaic theory** (i.e., combining individual public and nonpublic, non-material pieces of information into a mosaic that "tells a story").

Standard II(A) Material Nonpublic Information

- Defined as "information that could affect an investment's value." Covered persons must not act or cause others to act on material, nonpublic information.
- To gain unfair profits is wrong, and it erodes confidence in the financial markets.
- Combining non-material, nonpublic information routinely from inside sources with material public information can form a *mosaic* and is an acceptable basis for trading.
- If accidentally encountering material nonpublic information, encourage the public release of the information from the subject firm.

Standard II(B) Market Manipulation

- This Standard prohibits any practices that inflate or misstate trading volume or mislead market participants.
- Deceptive practices interfere with fair/efficient operation of financial markets.

Standard III: Duties to Clients

Part of the definition of a profession is dedication to a greater good (i.e., performance in the best interests of clients rather than the practitioner).

Standard III(A) Loyalty, Prudence, and Care

- Always act with the client's best interest in mind, even if the employer is disadvantaged. There is a duty of loyalty to clients, and investment recommendations and actions must be sound. Prudent judgment is needed.
- Fiduciary responsibility is needed. Client loyalty also extends to mutual fund managers.

Standard III(B) Fair Dealing

- There can be no special treatment for favored clients.
- It is acceptable to offer *premium services* as long as the nature and costs of these services are fully disclosed and all levels of service are made available to all clients.
- Premium services should benefit those who utilize them but cannot unfairly disadvantage any other investor classes.

Standard III(C) Suitability

Before giving any investment advice or taking investment action, inquire about the client's investment experience and objectives and constraints. Obtaining the client's risk and return preferences is critical. Investment suggestions are then communicated clearly and effectively.

Professor's Note: Note the implicit reference to the investment policy statement (IPS), which contains the investor's objectives and constraints. The IPS is covered extensively in Study Session 4.

- Superior judgment is necessary. Judge investments in the context of the total portfolio. The importance of diversification must be stressed. If a client suggests imprudent investment actions, the investment adviser must advise the client in plain language.

Professor's Note: Here we see reference to thinking from a total portfolio perspective. You will see in Study Sessions 4 and 5 that you must always consider an investment in light of its impact on portfolio characteristics (i.e., do not consider the risk and return characteristics of the investment from a stand-alone perspective).

Standard III(D) Performance Presentation

Performance results must be presented fairly, accurately, and completely. Adherence to GIPS is strongly encouraged. [See Study Session 18 for a complete discussion of the Global Investment Performance Standards (GIPS).]

Standard III(E) Preservation of Confidentiality

All information concerning past, present, or prospective clients must be kept confidential unless it concerns illegal activities.

Standard IV: Duties to Employers

Individuals covered by the Code and Standards owe a duty to their clients, the profession, and their employer.

Standard IV(A) Loyalty

- Covered persons must always act for the benefit of their employer and not do anything to harm their employer or deprive the employer of the covered person's skills.
- If an employee chooses to join another firm, the employee cannot remove or copy the firm's property and represent it as his own. For example, the employee cannot take client lists, software, files, et cetera.

Standard IV(B) Additional Compensation Arrangements

Covered individuals should not accept any form of additional compensation (e.g., gifts, benefits) which could be expected to influence the covered individuals' actions or otherwise produce a conflict with the covered individuals' duty to other clients or employer. Written consent must be obtained from all parties involved.

Standard IV(C) Responsibilities of Supervisors

- A covered person who is a supervisor must make reasonable efforts to detect and prevent violations of laws and regulations.
- Adequate training and continuing education of employees subject to supervision is crucial.
- It is also a good idea to advise subordinates of the provisions contained in the Code and Standards.
- Delegation of work responsibilities does not relieve the supervisor of his responsibilities under the Code and Standards.

Standard V: Investment Analysis, Recommendations, and Actions

Standard V(A) Diligence and Reasonable Basis

- Covered persons must strive to protect their independent professional judgment and must be diligent and thorough in their work.
- Investment conclusions must be supported by facts, and analysts should make reasonable inquiries regarding reliability of sources.

Standard V(B) Communication with Clients and Prospective Clients

It is important that any communication with a client regarding investment decisions is not biased or misleading in any way and that all decisions are based upon the client's interests. The analyst should ascertain that all relevant information is included.

- Part 1: Covered persons must explain their investment decision-making process.
- Part 2: Covered persons must include relevant factors in their analyses, recommendations, or investment actions. The "communication" should include the reasonable and adequate basis for the conclusion reached. When deciding what topics to cover, consider the audience. Be as clear as possible when communicating technical material.
- Part 3: Covered persons must separate fact from opinion in presenting analysis and recommendations.

Standard V(C) Record Retention

Adequate records must be retained to support analyses and recommendations.

Standard VI: Conflicts of Interest

Conflicts of interest, perceived or real, can undermine clients' trust in investment professionals and the entire investment profession.

Standard VI(A) Disclosure of Conflicts

- Covered persons must disclose any matters that would adversely affect their independence and objectivity.
- Disclosures must be in clearly understood, plain language.

Standard VI(B) Priority of Transactions

Transactions for clients (first) and employers (after clients) always come before the investment professional's transactions.

Standard VI(C) Referral Fees

Compensation received by covered persons as a result of referring or recommending a product or service must be disclosed.

Standard VII: Responsibilities as a CFA Institute Member or CFA Candidate

This Standard covers behavior of CFA candidates and charterholders, especially as it pertains to protecting the integrity of the designation and representing the designation to others.

Standard VII(A) Conduct as Members and Candidates in the CFA Program

- Covered persons may not do anything to compromise the reputation/integrity of CFA Institute or the designation.
- Maintaining the security and integrity of the CFA exam is also covered in this Standard.

Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program

Covered individuals are barred from misrepresenting or exaggerating the CFA designation and program.

Interpreting the Code and Standards

LOS 3.b: Interpret the Code of Ethics and Standards of Professional Conduct in situations involving issues of professional integrity and formulate corrective actions where appropriate.

CFA® Program Curriculum, Volume 1, page 212

Following the Code and Standards and interpreting and applying them to real situations often involves real investments; strategies; and several different, perhaps competing, parties at interest. Real, ethical wisdom may be needed. Practice is needed to determine the principles/values at stake, come up with alternatives, and decide a course of action.

Here are a few helpful guidelines:

1. Is the course of action consistent with the intent of the Code and Standards?
2. Would the client agree that this action is the best alternative? Or would the client consider the action questionable?
3. Once the circumstances of the situation are disclosed, will the firm's reputation for fair dealing be enhanced or compromised? How would it look in the press?
4. Is the decision admirable and consistent with what would be expected from a leader?

VIOLATIONS AND CORRECTIVE ACTIONS[1]

The assigned reading concludes with several cases designed to demonstrate how to recognize violations of the Code and Standards and determine what actions are necessary to correct the violations. The specifics of each case will not be tested, but it is instructive to review the cases in order to develop your ability to spot violations and suggest corrective measures.

Argent Capital Management

Case Facts

Argent's Investment Council sets target industry and currency weights based on input from its Global Industries (industrial/commercial sectors) and Global Markets (economies/currencies) research groups. Asset allocation and currency decisions are separate. The Investment Council also determines next quarter's tactical positions. Based on the Investment Council's guidance, the Global Securities group recommends purchases and sales of securities, and the Foreign Exchange Desk implements the currency strategy.

Francoise Vandezande, CFA, is senior relationship manager in Argent's New York office and must meet with a defined benefit pension client whose portfolio has lost value over the last quarter due to foreign currency transactions that may have violated portfolio restrictions. She first calls the client's portfolio manager, Aidan McNamara, CFA, who explains that the Global Markets group manipulated the Investment Council into taking a large bet on the euro-yen exchange rate (long euro/short yen) that turned out to be wrong and negatively affected all portfolios. During the call, McNamara was unable to say if the strategy was consistent with his client's investment policy statement (IPS).

Vandezande reviews the client's IPS and determines that:

- The portfolio benchmark is the MSCI EAFE® Index.
- Currency risk may be managed, but no currency speculation is allowed. Futures and forwards hedges are limited to 100% of underlying exposure.
- The portfolio must be managed according to original mandate. No extreme positions that would be inconsistent with the original mandate are allowed.

Vandezande constructs an e-mail to her department head, the portfolio manager, the chief compliance officer, and the director of compliance.

Case Discussion

The portfolio manager is unfamiliar with the IPS, which is a violation of Standard III(C.1.b) related to suitability.

The benchmark does not hold short currency positions, and the IPS prohibits speculation. McNamara has not respected the constraints of the client's IPS.

1. The cases presented in this topic review are summaries of the cases in the CFA Institute required reading.

Suggested Actions

Vandezande should:

- Give the client a thorough explanation of the events, investment decision-making process, and rationale for recommending the unusual foreign exchange position.
- Explain how the situation will not be repeated in the future.

Senior management should:

- Modify the investment decision process to exclude certain portfolios.
- Reeducate portfolio managers on the importance of complying with the IPS.
- Periodically audit portfolios for compliance with client guidelines.

River City Pension Fund

Case Facts

Jack Aldred, CFA, is chief investment officer of the mature, defined-benefit River City Pension Fund. After taking the job six months ago, he recommended changes to the IPS, improved the performance reports, and convinced the Investment Commission to allow securities lending. Aldred wants to reduce the number of active managers due to overlap. He must also decide what to do about Northwest Capital Advisers—a small-cap value equity manager used by the pension fund since its inception 11 years ago.

Northwest's CEO Roger Gray, CFA, has built the company's reputation by donating investment expertise and obtaining grants for the River City Interfaith Coalition. Northwest employees have contributed large amounts to local election campaigns (including Aldred's manager, the city Treasurer), a practice which, a few years ago, was made illegal for corporate officers doing business with the municipality.

Northwest's always mediocre performance has become substantially worse. Aldred observes that the returns calculated by Northwest do not match the returns calculated by the custodian bank (Northwest's figures are higher) and that Northwest has strayed from its small-cap value mandate (value being an out of favor style) to include growth stocks (as evidenced by holdings-based characteristics provided by the custodian). Gray explains to Aldred that the return discrepancy was caused by the custodian bank's inappropriate small-cap pricing models.

Aldred was also concerned that one of Northwest's three original principals left the firm. Gray explained that the departure was on good terms and added that he had personally assumed responsibility for River City's pension plan. Aldred expressed his concerns to his manager and stated that he felt action was necessary. He further stated that he had some suggestions as to how to proceed but would do whatever the manager wished.

Case Discussion

Jack Aldred, CFA

Aldred may have violated Standard III(A) Loyalty, Prudence, and Care by suggesting that he would do whatever the manager wants (must fulfill fiduciary duty and act for pension beneficiaries' benefit). He may also have violated Code and Standard I(B) Independence and Objectivity by compromising his independent judgment.

Roger Gray, CFA

Gray may have violated Standard III(D) Performance Presentation for not presenting fair, accurate, and complete performance. Gray may have violated Standard III(C.2) related to suitability by not taking action consistent with the portfolio mandate. He may also have violated Standard I(A) Knowledge of the Law (if he himself made illegal campaign contributions) and Standard IV(C) Responsibilities of Supervisors. Gray may have also misstated asset values in violation of Standard III(D).

Suggested Actions

Jack Aldred, CFA, should:

- Decide which performance figures to use.
- Assess the portfolio's compliance with its mandate.
- Evaluate the impact of the principal's departure on future results.
- Advise his manager on how to proceed with Northwest's eligibility evaluation.

Roger Gray, CFA, should:

- Review pricing sources and methods to assess their fairness and accuracy.
- Ensure portfolio holdings are consistent with the portfolio mandate.
- Stop the illegal campaign contributions from employees and/or himself.

Macroeconomic Asset Management

Case Facts

Alice Chapman, CFA, and director of marketing for Macroeconomic Asset Management (MAM) is reviewing a letter from Arlington Verification Service stating that Arlington cannot issue a verification report for MAM because the review of policies, processes, sample portfolios, and composites revealed the following:

- Poor quality or missing documentation.
- Fee-paying discretionary portfolios excluded from composites.
- Inconsistent implementation of policies on asset valuation and external cash flows.
- Incomplete performance presentations.

After reading the letter, Chapman received an e-mail from one of her employees, Jack Storrs, stating that he has received a request for proposal (RFP) from Leeds Machine Tool Corporation. The RFP asks if MAM's GIPS compliance has been verified and if a compliant presentation with year-to-date results is available.

Knowing that taking on the Leeds portfolio would be a tremendous addition to MAM, Chapman considers continuing to claim compliance while challenging the verifier's report.

Case Discussion

Macroeconomic Asset Management claims compliance with GIPS as a firm, but Chapman can determine whether a compliance claim is true when deciding to communicate such information to clients and prospects. She may not be able to withdraw a compliance claim but can recommend to senior management that the claim be removed (which is justified given the report from Arlington Verification Service). If the verifier is correct, Chapman would violate Standard I(A) Knowledge of the Law by helping the firm make a false claim and would also violate Standard I(C) Misrepresentation. Standard III(D) Performance Presentation doesn't require compliance with GIPS but does require that Chapman not convey performance information to Leeds without determining that the information is a fair, accurate, and complete representation of MAM's performance. Chapman is aware of the significant shortcomings of MAM's performance presentation.

Suggested Actions

Alice Chapman should:

- Determine whether Arlington Verification Service's report is correct.
- Not make statements claiming compliance with GIPS unless the firm meets all of the requirements for compliance.
- Make a reasonable effort to ensure performance presentations are fair, accurate, and complete.

Bob Ehrlich

Case Facts

Bob Ehrlich, a performance analyst for a custodial bank's U.K. division, went to a lunch meeting for investment professionals. While at the luncheon, Ehrlich met Peter Neustadt, who suggested they meet later at a pub. At the pub, Neustadt explained that his small firm has many contacts and a promising future but lacks technological support. Neustadt suggests that Ehrlich work for him as a part-time consultant, because he has analytical talent and access to information. Neustadt also states that as his firm grows, the position could become full time. Neustadt further explains that his business represents newly created investment management firms with portfolio management and trading experience but no marketing or performance analytics skills. Neustadt states that he can put together the necessary marketing packages but needs performance data (benchmark returns, attributions, style analyses, etc.) that Ehrlich and his firm are good at producing.

Case Discussion

Neustadt's proposal is unacceptable, because it requires the use of assets belonging to Ehrlich's employer (for Ehrlich's personal benefit). This is a violation of the Code and Standards, which require covered persons to place the integrity of the profession and their employer's interests above their own. If Ehrlich were to use his employer's assets for personal benefit without authorization, he would violate Standard I(D) Misconduct.

If Ehrlich uses bank resources as proposed by Neustadt, he risks violating Standard IV(A) Loyalty (to employer) by violating his employer's trust for personal gain and misusing the employer's physical and intellectual property. He also risks divulging confidential information, which could compromise his employer's financial position and damage his employer's reputation. Distributing research purchased by his employer may violate legal restrictions and allow Neustadt to represent the data or research as his own.

Standard IV(B) Additional Compensation Arrangements requires members and candidates to obtain their employer's consent before accepting additional compensation. To avoid violating the Standard, Ehrlich must disclose Neustadt's proposal in full, including the use of the employer's resources, even though the employer is not likely to consent.

Standard VI(A) Disclosure of Conflicts requires Ehrlich to disclose the proposed arrangement to his employer, because it can reasonably be expected to interfere with his duties to his employer, such as protecting the firm's intellectual property. In addition, the arrangement with Neustadt would compete directly with the services of Ehrlich's firm.

Suggested Actions

Ehrlich should not accept Neustadt's proposal.

Alex Kaye

Case Facts

Alex Kaye, a member of CFA Institute, heads the Performance Measurement Advisery Services Department for a consulting firm. Kaye's firm has taken on a number of new clients for verification of GIPS compliance in addition to their current backlog of verification projects. Kaye's firm just lost a project manager and an analyst who could not handle the demanding workload. While waiting for new hires, Kaye has promoted Derek Nelson (who has nine months of verification analysis experience) to the project manager's position. Nelson is currently working on verifying the performance presentation records for Argent Asset Management for GIPS compliance.

With clients getting impatient, Kaye asked four team leaders to submit status reports and shortened time frames for completion.

Nelson responded with an e-mail to Kaye. The e-mail stated that before he could revise the time line for Argent Asset Management, he needed guidance on two issues:

1. Documentation for two-thirds of the sampled accounts is being archived and is not available. The documents include evidence of discretionary account status. The available one-third meets the discretionary status, and Argent maintains that the remaining two-thirds do as well. Nelson is unsure whether to wait for the documents, use what is available, or take Argent's word that all are discretionary.

2. Treatment of several large external cash flows was inconsistent with the stated policy for specific composites. The process is well controlled, but these instances (albeit random) had impacts that would have produced higher or lower composite returns if the cash flows were properly accounted for. Nelson wants to know if he can assume that on average the errors are offsetting, making the composite returns reasonably correct.

Case Discussion

The Code requires Kaye and Nelson to act with competence and diligence, exercise reasonable care and independent judgment in their professional activities, and maintain and improve their professional competence. Standard I(A) Knowledge of the Law requires Kaye and Nelson to understand and comply with applicable laws, rules, and regulations governing their professional activities. In this case, GIPS requirements, recommendations, and verification procedures would be applicable regulation. Two GIPS are applicable in this situation:

1. Verifiers must be sure that all discretionary-fee-based portfolios are included in a composite and that the discretion distinction is applied consistently over time.

2. Verifiers must sample the entire list (not just a sub-sample) of discretionary portfolios to determine the consistency of discretionary/non-discretionary classification as evidenced by the account agreement and the firm's guidelines.

Poor planning or intentional deception may be the reason Argent's account documents are unavailable. Sampling additional available account documents would not be conclusive, and taking Argent's word doesn't fulfill the duty to exercise care and independent judgment. In addition, GIPS indicate a larger sample is warranted or additional verification procedures are needed in light of the inconsistent external cash flow treatment.

Standard III(A) Loyalty, Prudence, and Care requires Kaye and Nelson to act for the benefit of their client. Kaye is potentially telling employees to shortcut their verification in the interest of time, placing his and his employer's interest ahead of the clients' interests.

Standard IV(C) Responsibilities of Supervisors requires Kaye to take reasonable measures to detect violations of laws, rules, regulations, and the Code and Standards. Kaye must prevent Nelson from violating the Code and Standards as well as GIPS.

Suggested Actions

Alex Kaye should:

- Stop taking on new clients until capacity warrants it.
- Make sure the staff is properly trained in GIPS verification procedures.
- Inform the staff that every assignment must receive due care.
- Give Nelson appropriate guidance to the issues raised in his e-mail.

For the Exam: On the exam, you will encounter case studies similar to the ones presented in this review. However, the ethics vignettes will probably be much longer and can incorporate multiple standards. For that reason, I strongly recommend you ***read the item set questions first.*** Then as you read through the vignette, you can underline the names and statements that are relevant. Remember, speed alone is not the key to exam day success. You must work efficiently.

Key Concepts

LOS 3.a

The Code of Ethics identifies six provisions and their related responsibilities regarding individuals in the investment profession.

1. Act with integrity, competence, diligence, respect, and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
2. Place the integrity of the investment profession and the interests of clients above their own personal interests.
3. Use reasonable care and exercise independent professional judgment.
4. Practice and encourage others to practice in a professional and ethical manner.
5. Promote the integrity of, and uphold the rules governing, capital markets.
6. Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

LOS 3.b

Following the Code and Standards and interpreting and applying them to real situations often involves real investments; strategies; and several different, perhaps competing, parties at interest. Real, ethical wisdom may be needed. Practice is needed to determine the principles/values at stake, come up with alternatives, and decide a course of action.

Here are a few helpful guidelines:

- Is the course of action consistent with the intent of the Code and Standards?
- Would the client agree that this action is the best alternative? Or would the client consider the action questionable?
- Once the circumstances of the situation are disclosed, will the firm's reputation for fair dealing be enhanced or compromised? How would it look in the press?
- Is the decision admirable and consistent with what would be expected from a leader?

The assigned article concludes with several cases designed to demonstrate how to recognize violations of the Code and Standards and determine what actions are necessary to correct the violations. The specifics of each case will not be tested, but it is instructive to review the cases in order to develop your ability to spot violations and suggest corrective measures. The best way to approach the ethics material is to read the Standards of Practice Handbook and the assigned readings to gain a thorough knowledge of ethics as presented by CFA Institute and to work through as many ethics practice questions as possible to acquire an intuitive feel for ethics violations and how they may be tested on the exam.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

THE CONSULTANT

Study Session 2

EXAM FOCUS

The ethics cases provide examples of the types of scenarios you will likely face on the Level III exam. Understanding how to analyze these cases and being able to recommend procedures to bring these illustrative firms into compliance is important. This case addresses conflicts of interest and methods to avoid current or potential conflicts.

CASE OUTLINE

Mark Vernley, CFA, is a petroleum engineer and owns an engineering consulting firm called Energetics, Inc. Energetics consults on asset and project valuations. Vernley has a large personal portfolio that includes a sizable investment in energy-related securities, including Highridge Oil Pipelines.

Energetics' employees are expected to be honest, fair, and to avoid potential conflicts of interest. Vernley is well-respected by his peers. However, Energetics does not have a formal compliance system in place.

Vernley was recently asked to write a proposal to help resolve conflicts between Highridge Oil Pipelines and several of Highridge's clients (oil shippers). Vernley's proposal was accepted by the appropriate regulatory agencies and was ready for implementation when Plains Pipeline Systems filed an objection with the regulatory agency claiming that Vernley's stock holdings constituted a conflict of interest. Although the regulatory agency discarded Plains Pipeline's objection, Vernley is concerned that his business could be hurt by further allegations of conflicts of interest.

LOS 4.a: Evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct.

LOS 4.b: Prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct.

CFA® Program Curriculum, Volume 1, page 229

Discussion: Conflicts of Interest in a Personal Portfolio

There are *two* approaches for dealing with potential conflicts of interest:

1. Avoidance through any of several methods:
    - *Refrain from investing in sensitive industries.*

- *Establish a "blind trust."* In a blind trust, control of the portfolio is turned over to a manager who has full discretion over portfolio assets within the guidelines that have been established. The beneficiary does not know the composition of the portfolio except at certain reporting periods.
- *Invest in mutual funds.* A mutual fund investment removes you from the direct investment decision-making process.

2. *Disclosure.* An alternative to avoidance is full disclosure of all potential conflicts of interest.

Discussion: Need for a Formal Compliance System

Energetics needs a formal compliance system established to avoid the potential for future conflicts of interest. Compliance programs have several key elements, including:

1. *Communication.* The employees must be informed of the standards and procedures which apply to them. The CFA Institute Code and Standards can serve as a basis for a more formal compliance system.

2. *Education.* Employees must be educated regarding the impact and implementation of the compliance system.

Compliance Procedures

Written compliance documents. The compliance program must be well documented for it to succeed. The following are ways to document compliance:

- Receive annual certification from employees that they are familiar with the standards and agree to conform to them.
- Require employees to report personal trades at least quarterly, including securities in which they hold a beneficial interest.
- Disclose to management any additional compensation from outside sources.
- Receive certification from employees that they are not competing with their employer. This also protects the firm.
- Receive information from employees of any certifications or standards required to continue in their profession.

Corporate Culture and Leadership

Corporate credos can be used to instill an ethical culture in the firm. The purpose of the credo is to infuse a set of guiding principles that members of the firm can follow so that the firm as a whole is an ethical entity. For a corporate credo to work, the firm's leadership must embrace its content. Corporate ethics work from the top down.

KEY CONCEPTS

LOS 4.a,b

The Consultant

- Mark Vernley, CFA—Energetics—accused of unethical behavior.
- Allegations of conflict of interest on a recent contract, based on his holdings of energy company shares.
- Conflicts, or perceived conflicts, should be disclosed.
- Disclosures—clear—plain language.
- Energetics needs a compliance manual and needs to better educate employees of procedures.
- Ethical culture and leadership need to be established.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

PEARL INVESTMENT MANAGEMENT (A)

Study Session 2

EXAM FOCUS

Pearl Investment Management (A) centers on the responsibilities of supervisors and employees within a firm, trading in client securities for personal accounts, and divulging confidential client information.

CASE OUTLINE

Peter Sherman recently attained an MBA in finance and took a position at Pearl Investment Management as an account manager. Pearl is an investment counseling firm that deals with portfolio and endowment management along with some large individual accounts. Research is maintained in house to reduce Pearl's reliance on brokerage firm research, to compare with prevailing opinions, and to analyze companies that are not followed in great depth.

Pearl's internal compliance policy should be consistent with the Code of Ethics and Standards of Professional Conduct because of the large number of CFA charterholders employed. Its policy manual also includes applicable laws and regulations that affect Pearl's operations and employee conduct. All employees are required to read and sign a statement declaring their knowledge of Pearl's policies, both when they join the firm and annually thereafter.

Sherman was required by his supervisor to read the policy manual and sign the compliance sheet as part of his orientation. His supervisor directed him to the compliance department if he had any questions. Sherman read the manual quickly and signed the compliance sheet. After a few months, Sherman is confident in his duties as an account manager. He is challenged by his duties and enjoys the close access to investment information and strategies. His own savings plan has benefited from his greater insight and comprehension.

Prior to his new position, Sherman invested his savings in no-load mutual funds. He is now looking for a greater return by creating his own portfolio. His interest in investing for his future has led him to read books on investments and portfolio strategy. Sherman enjoys talking about his newfound knowledge with friends and relatives. To begin the pursuit of his own portfolio, Sherman opened an account with a well-known discount broker and purchased a few of the stocks touted by Pearl.

Questions arising from this case include the following:

- What role is required of supervisors in the firm's compliance with its policies?

  Supervisors must take an active role in the firm's compliance with its policies. Employees must be fully aware of the firm's policies and should consult their supervisor or compliance department if they have any questions or uncertainty.

- What priority do client trades take over personal trades?

  Personal trades cannot be executed before or during client transactions. Investment professionals must make sure that their holdings do not compromise their ethical standards.

- What duty exists regarding a firm's use of proprietary information?

  Care must be taken not to divulge proprietary information to non-clients.

LOS 5.a: Evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct.

LOS 5.b: Prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct.

CFA® Program Curriculum, Volume 1, page 235

Discussion

The possible violations relate to supervisory responsibilities, the obligation to follow all applicable laws and regulations, the standards for trading in personal accounts, and the ban against transmitting confidential information.

Knowledge of the Law—Governing Laws and Regulations

Sherman has the responsibility of knowing all governing laws, and his supervisor also has a responsibility to educate and train employees. Sherman's brief introduction to the firm's policies and procedures and being told to go to the compliance office if he has questions do not constitute sufficient education and training. He should be informed of the firm's compliance with the CFA Institute Code and Standards. Although not technically bound by the Code and Standards himself, Sherman is obliged to abide by Pearl's policies and procedures.

Knowledge of the Law—Legal and Ethical Violations

Remember that supervisors, managers, and employees cannot ***knowingly*** participate in a violation of the Code and Standards. In order to properly recognize violations, they must be made aware of all facts giving rise to the violations.

Actions required: Sherman's supervisor needs to more actively monitor Sherman's and all employees' activities.

Responsibilities of Supervisors

Remember that according to Standard IV(C) Responsibilities of Supervisors, supervisors must make reasonable attempts to find out about and prevent violations of applicable laws or regulations and the Code and Standards. Just the existence of a compliance manual does not release the supervisor from responsibility. Education of employees must be ongoing.

Trading in Client Securities for Personal Accounts

Sherman may be in violation of Standard III(B) Fair Dealing and Standard VI(B) Priority of Transactions if he is trading in securities which are being actively pursued for Pearl's client accounts. His prior position in a mutual fund was not in violation because he did not have an inside track to the fund's management and relevant information.

Members of Pearl cannot trade in their own accounts before or during transactions that are instigated for the benefit of clients. This restriction includes both personal accounts and any other account in which they have a beneficial interest. Client portfolios always take precedence over personal trades. Sherman's actions may constitute *front-running* if he is trading before clients.

Actions **required:** Before placing personal orders, Sherman should get them approved by Compliance. He should never take actions ahead of clients.

Conveying Confidential Client Information

Sherman has a duty to uphold the propriety of Pearl's investment strategy. Divulging confidential information through his own investment activities or in discussions with friends and family is a breach under Standard IV(A) Loyalty and Standard III(A) Loyalty, Prudence, and Care. Sherman has breached a special trust.

Actions **required:** Sherman must not share specific investment recommendations or information about client accounts. This would be a fiduciary breach to the firm and its clients. If unsure, Sherman should consult with Compliance.

Study Session 2

KEY CONCEPTS

LOS 5.a,b

Pearl Investment Management (A)

- Peter Sherman is an unwary analyst and commits several violations.
- He begins working in the back office of Pearl and is quickly given a policy manual.
- He shares client information with friends and family.
- He front-runs some client trades.
- Violation of I(A) Knowledge of Law: Sherman must know regulations governing his behavior and that of Pearl.
- Violation of IV(C) Responsibilities of Supervisors: Supervisor should monitor compliance system.
- Violation of III(B) Fair Dealing and VI(B) Priority of Transactions: Trading ahead, personal trades.
- Violation of IV(A) Loyalty and III(A) Loyalty, Prudence, and Care: Sherman cannot communicate confidential client information.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

PEARL INVESTMENT MANAGEMENT (B)

Study Session 2

EXAM FOCUS

Pearl Investment Management (B) involves issues related to a candidate's compliance responsibilities, equitable treatment of clients, the fiduciary duties owed to clients, the appropriateness of investment recommendations, and the process of correcting trading errors in client accounts.

CASE OUTLINE

Peter Sherman, now a CFA candidate, has recently been assigned a special project related to problems in the misallocation of block trades among larger clients of Pearl. He was given the assignment based on his accounting experience and because none of his clients were involved (even though the majority of his accounts are *total rate of return* portfolios). The most complicated misallocation involved the initial public offering (IPO) of Gene Alteration Research Corporation. As team leader, Sherman corrected the portfolios that had transactions associated with the block trades. Part of the reconciliation involved shifting particular securities among accounts. After his adjustments, Sherman feels that all the transactions have been corrected and all clients have been treated fairly. He still wonders how the problems arose.

Because his review was hurried, Sherman did not have time to look over the individual clients' investment policy statements. He is certain that portfolio managers would direct only appropriate trades to the accounts of their clients. He is assured by the fact that the trading desk acts as a second check for the investment guidelines of clients. Gene Alteration Research Corporation has a conservative investment policy.

Issues raised in this case include the following:

- Did Sherman comply with the Code and Standards?

  Sherman relied on others' knowledge of the Code and Standards rather than his own.

- Have fiduciary duties been breached?

  None of Sherman's clients were included in the allocation of the IPO.

- Were the actions of the investment managers and the trading desk suitable for the clients based on their investment policy statements?

  An investment manager must determine in advance which accounts are appropriate for the new purchase by analyzing each account's objectives and constraints.

- Were corrections for trading errors in client accounts handled fairly?

  Client portfolios must be corrected in an appropriate manner and the reversal procedure handled fairly so that client portfolios do not bear unnecessary risk.

LOS 5.a: Evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct.

LOS 5.b: Prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct.

Discussion

Responsibility of Candidates to Comply with the Code and Standards

- As a CFA candidate, Sherman must depend more on his own knowledge of the Code of Ethics and the Standards of Professional Conduct with support from Pearl's compliance department. He cannot continue to rely on the company's explanation of the Standards.
- He is now susceptible to disciplinary action by CFA Institute. Because Pearl has incorporated many of the CFA Institute standards, much of his duty as a candidate to inform his employer of his higher obligation is relieved.

Actions required: Sherman must once again familiarize himself with Pearl's personnel policy and CFA Institute's *Standards of Practice Handbook* so he can better understand the subtleties of the Standards.

Dealing with Clients—Responsibilities to Clients

Fiduciary duty to clients has not been protected, and all clients must be treated fairly. There has been a violation of Standard III(A) Loyalty, Prudence, and Care, which requires members to act in clients' best interest. When reallocating IPO trades, Sherman needs to make sure they are done in the clients' best interest and are suitable to the client.

Dealing with Clients—Fair Dealing

When reallocating block trades, members must ensure that Standard III(B) Fair Dealing is followed. Do not favor large accounts. In IPO distributions, Pearl must use some type of fair pro rata system.

Actions required: Sherman must check and make sure that no client orders were entered that violated client guidelines. He must make sure that the allocation of block trades is done equitably.

Bearing the Financial Risk of Errors in Client Accounts

Client portfolios must not bear the risk of improper trades, and the firm must avoid shifting the burden to other accounts. The firm must take responsibility either directly or indirectly for improper transactions. Pearl should credit short-term interest to those accounts from which funds were removed to cover the trades.

Actions **required:** No client should have any financial loss. The firm should take the loss. Short-term interest should be credited to affected accounts.

KEY CONCEPTS

LOS 5.a,b

Pearl Investment Management (B)

- Sherman passes Level I and helps clear up allocation of block trade problem.
- He does this without consulting client IPS.
- He moves securities between accounts and thought that the trading desk would check IPS.
- As a CFA candidate, Sherman is now bound by the Code and Standards and is subject to disciplinary sanctions.
- Violation of III(A) Loyalty, Prudence, and Care: Sherman should take investment action in the client's best interest given the known facts and circumstances. Client IPS should have been consulted and reallocations should have been in the client's best interest. He should not have just relied on trading desk.
- Violation of III(B) Fair Dealing: Sherman favored large client accounts over others with similar objectives. In allocation of IPOs, firms should allocate purchase for all suitable accounts using a fair system, such as a pro rata system of distribution.
- Sherman should check all client investment objectives and make sure there are no violations of client guidelines.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

PEARL INVESTMENT MANAGEMENT (C)

Study Session 2

EXAM FOCUS

Pearl Investment Management (C) incorporates issues related to the appropriateness of investment recommendations, the use of insider information, failure to conform to the highest ethical standards, and neglecting to obey governing laws and standards.

CASE OUTLINE

After Peter Sherman passes Level II of the CFA® program, Tomas Champa, the head of Pearl's research division, has Sherman transferred to the research department. Sherman graciously accepts the transfer with the understanding that he could possibly be promoted from his junior analyst position when he passes Level III of the CFA program.

Champa remained in the United States after a 5-year stint working for a major international bank. He is not a CFA charterholder, but he has a great deal of practical experience. Champa is very excited about leading Pearl's new research work in international securities. He wishes to start with companies in developing countries whose economies have boomed in recent years. He tells his analysts to come up with emerging market research recommendations quickly or be scrutinized by management and clients.

Although Sherman is new to the department, Champa assigns him the difficult tasks because of his lack of biased notions about emerging market companies. Sherman is to center his efforts on Latin and South America, areas in which Champa believes he has special insights and can direct Sherman.

Sherman reads several brokerage reports on Latin American markets and has a discussion with Champa and the other analysts about trends in Latin and South America in relation to the historical environment in the United States. He also scans the statistical section of S&P's *International Stock Guide.*

Champa refers Sherman to Gonzalo Alves, who is well connected in Mexico and on the board of directors of several large Mexican firms. Alves tells Sherman about the Mexican economy and the companies he oversees as a director. He tells about the strategic direction of each company, some potential targets, and how variances in the Mexican economy will affect each company. Sherman believes the information Alves has given him will be quite useful in writing his reports, and he feels comfortable in doing so.

Sherman is assigned the project of generating a research report on several Mexican telecommunication and cable companies. Champa gives Sherman a deadline that does not allow him to do in-depth analysis and research. He finishes his report hastily by relying on excerpts from brokerage reports, trends, and ratios from the S&P *International Stock Guide* and on the opinions of Alves. He concludes with an internal *buy* recommendation for larger Pearl clients. Sherman does not cite the brokerage reports because they are widely read and distributed in the investment community.

Champa and his staff get a great deal of recognition for their timely response to market demand, and the portfolio managers ask them for additional recommendations. Champa brings together his staff the next day to assign additional Latin American industries to be researched. At the meeting, Jill Grant, who is also a CFA candidate, questions Sherman as to the lack of detail on the Mexican economy or historical exchange rate volatility between the peso and the U.S. dollar. She is concerned with the comparability of Mexican and American securities. Grant stresses that diversification occurs only when global markets have little correlation with the U.S. market. Sherman responds by stating, "Our clients are sophisticated investors; they know these things already." Champa supports his opinion. Several issues emerge from this case.

- Did Sherman exercise proper care and independent judgment in rendering his opinions?

  The case points out that Sherman's work was rushed due to pressure placed on Sherman from Champa.

- Did Sherman's conversation with Alves result in the use of material nonpublic information in his research recommendations?

  Alves shared information with Sherman on companies he oversees as a director. This information included the strategic direction, potential targets, and economic vulnerabilities that existed within each company.

- Did Sherman violate the Standards with respect to acknowledging the research of others used in his report?

  Only generally recognized public sources can be used without reference.

- Did Sherman have a *reasonable basis for his research opinion?*

  Sherman effectively used the recommendations of others, which may have had a reasonable basis or not.

- Can Sherman's research be considered "independent"? Is Sherman using reasonable judgment by accepting Champa's conjecture on the direction of the Mexican economy?

  Sherman should cite the brokerage reports to help provide a basis for his conclusions as well as recognize the input of others.

LOS 5.a: Evaluate professional conduct and formulate an appropriate response to actions that violate the Code of Ethics and Standards of Professional Conduct.

LOS 5.b: Prepare appropriate policy and procedural changes needed to assure compliance with the Code of Ethics and Standards of Professional Conduct.

Discussion

Proper Care and Independent Judgment

By giving in to Champa's pressure to expedite his research, Sherman is violating Standard V(A) Diligence and Reasonable Basis. He did not use suitable care or render independent professional judgment.

Actions required: Sherman must remind Champa of the responsibility to follow the necessary steps in performing research and in the portfolio decision-making process. The analysis must not be rushed.

Use of Insider Information

- Sherman has potentially violated Standard II(A) Material Nonpublic Information.
- Sherman's discussion about the Mexican market and several significant corporations with Alves may be illegal if material nonpublic information was transmitted.
- Champa and Alves may not be aware of the ethical violation committed because they are most familiar with foreign laws and customs. CFA charterholders are prohibited from using confidential information for their personal use or that of their clients. Local laws and customs are irrelevant because it is a violation of U.S. law and the CFA Institute Code of Ethics and the Standards of Professional Conduct.
- The case does not mention the *mosaic theory* which adds a clearer picture of the role of an analyst. The theory states that an analyst can compile nonmaterial and/or public information to provide a useful insight into the direction of a corporation.
- One of the most difficult challenges to CFA charterholders is reconciling CFA Institute Code and Standards with foreign laws, customs, and regulations. Adhering to a higher standard is often to the disadvantage of CFA charterholders and many times to their clients.
- Honoring the interests of clients and the integrity of the investment profession is a top priority of CFA charterholders. Alves may have valuable information, but Sherman may use it only if it is both ethical and legal.

Actions required: If Sherman has received material nonpublic information, he must disclose the fact to Pearl's compliance department. He must not use the information in his report in any fashion unless he makes a valid attempt to make it public knowledge. This process must be incorporated into the firm's policy statement.

Using the Research of Others

Acknowledgment of the use of others' research is required. Sherman must give credit to the research of others unless it is statistical in form and widely known to be public knowledge. Only recognized sources can be used without reference. His reliance on brokerage reports in his own work requires him to cite the author(s) or he is in violation of Standard I(C) Misrepresentation for committing plagiarism.

Actions **required:** Sherman must give proper credit to the author(s) of any brokerage report he used in preparation of his own report.

Reasonable Basis for a Research Opinion

Sherman must be thorough in his recommendation, have a reasonable foundation, and avoid any misrepresentations. He basically took over the work and recommendations of other analysts. Whether or not the recommendations have a solid basis or present any misrepresentations is unknown. By not carrying out independent research, Sherman may have violated Standard V(A) Diligence and Reasonable Basis.

The time pressure placed on Sherman did not allow for a complete review of the industry in the context of the national and global economies, nor an analysis of specific companies in relation to each other. His use of a few brokerage reports cannot be considered "appropriate research and investigation."

Relevant Factors and Fact vs. Opinion in Research Reports

Sherman must use appropriate discretion in determining what to include in his report. If he does not do so, he has ignored his obligation to the firm's clients and violated Standard V(B) Communication with Clients and Prospective Clients. By accepting Alves's conjecture on the direction of the Mexican economy, Sherman is not using reasonable judgment.

Grant, the other junior researcher, is obligated as a CFA candidate to confront Sherman and Champa through the compliance department, if she is not satisfied with the rationale provided for not including the relevant information.

Actions **required:** Sherman's report must be as complete as possible, supply a reasonable foundation for decisions, not misrepresent investment characteristics, and take into account the appropriateness of the investment for clients. All relevant factors must be considered in the investment recommendation.

Misrepresentation of Services and Performance Presentation

Depending on how Pearl informs its clients of their endeavor into the international sector, Pearl may be in violation of Standard I(C) Misrepresentation.

If Pearl cites a reaction to an evolving marketplace and the increased globalization of securities markets, no violation is evident. If Pearl is promoting its expertise in the international arena to gain new and existing clients, however, then a violation is quite evident.

Because Pearl is new to emerging markets, it cannot report actual performance on its investments until it has some meaningful concentration in the area or manages accounts made up entirely of emerging market securities. At this point, Pearl must make strong disclaimers as to the size of its emerging markets accounts and the timing of additions to the aggregate account.

Actions required: Pearl cannot boast of any *track record* in emerging markets investments. However, Pearl can tell clients of its qualifications and the returns it may produce in comparison with a different environment in which it used similar methodology. This must be incorporated in Pearl's policy statement.

KEY CONCEPTS

LOS 5.a,b

Pearl Investment Management (C)

- Sherman passes Level II and goes to work for Tomas Champa, Pearl's director of research.
- Sherman is instructed to come up with emerging markets research quickly, but he is not prepared for the assignment.
- Champa also directs him to use inside information—one of Champa's old banking contacts.
- Sherman also uses research of others.
- Violation of V(A) Diligence and Reasonable Basis: Time pressure to create substandard research.
- Violation of II(A) Material Nonpublic Information: If Sherman comes into possession of information, he needs to disclose this to compliance at Pearl.
- Violation of I(C) Misrepresentation: Sherman did not cite brokerage report sources—this is proprietary research of others. Also, Pearl misrepresents its expertise in emerging markets area.
- Violation of V(B.2): Research reports do not include relevant factors—the Standard requires judgment in inclusion of important factors in reports.

The following is a review of the Ethical and Professional Standards in Practice principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

ASSET MANAGER CODE OF PROFESSIONAL CONDUCT

Study Session 2

EXAM FOCUS

This material is an extension of Study Session 1. With that being said, you are likely to see these concepts tested alongside the Code and Standards material. It is likely that one of the ethics item sets will focus on the Asset Manager Code of Professional Conduct.

THE ASSET MANAGER CODE

LOS 6.a: Explain the ethical and professional responsibilities required by the six components of the Asset Manager Code.

CFA® Program Curriculum, Volume 1, page 249

There are six components to the Asset Manager Code of Professional Conduct[1] (the "Code"): (1) Loyalty to Clients, (2) Investment Process and Actions, (3) Trading, (4) Risk Management, Compliance, and Support, (5) Performance and Valuation, and (6) Disclosures. Related to these six components are ethical responsibilities:

- Always act ethically and professionally.
- Act in the best interest of the client.
- Act in an objective and independent manner.
- Perform actions using skill, competence, and diligence.
- Communicate accurately with clients on a regular basis.
- Comply with legal and regulatory requirements regarding capital markets.

Professor's Note: LOS 6.b is in the Concept Checkers.

PREVENTING VIOLATIONS

LOS 6.c: Recommend practices and procedures designed to prevent violations of the Asset Manager Code.

CFA® Program Curriculum, Volume 1, page 254

As mentioned previously, there are six parts to the Asset Manager Code. The following section will describe each part, along with procedures designed to minimize violations.

1. Reading 6, CFA Program Curriculum, Volume 1, Level III (CFA Institute, 2013).

Loyalty to Clients

Loyalty to clients deals with always putting the client's interests before your own, maintaining the confidentiality of client information, and not engaging in any business relationship or accepting gifts from others that could affect your judgment and objectivity. Appropriate procedures include:

- Designing salary arrangements that align the interests of the client with those of the manager without the manager taking undue risks that would conflict with the client's interests.
- Creating a procedure that delineates how confidential client information should be collected, utilized, and stored. The confidential information policy does not preclude disseminating necessary information to legal authorities in the event of an investigation.
- Creating an anti-money-laundering policy to detect and help prevent firms from being used for money laundering or other illegal activities.
- Determining what constitutes a *token* gift and allowing only token gifts from outside business relationships as to limit the influence of these individuals over the asset manager. Cash should never be accepted, and employees should always notify their supervisor in writing when they accept any gifts.

Investment Process and Actions

Investment process and actions deals with being competent and taking reasonable action that would not cause any harm to the client while still balancing the client's risk and return objectives:

- Never engage in market manipulation of security prices.
- Deal fairly with all clients when disseminating information, making recommendations, and placing trades as to not favor or disadvantage one client over another.
- Thoroughly investigate and research different investment options to have a reasonable basis for a recommendation.

Appropriate procedures include having different levels of service and products available to all clients as long as they are fully disclosed. The manager must analyze and understand the different investment options available and can also rely on third-party research as long as the manager takes reasonable steps to verify the research has a reasonable basis. When using complex derivative products, the manager should conduct stress testing to determine how the investment will react under different scenarios.

Managers must be able to explain the investment strategies to clients in a way that the client can understand and determine for themselves the suitability of the strategy. Managers must also disclose and get client agreement on any events that would cause the manager to change an investment strategy. In the event that a client is not in agreement with the proposed changes, the client should be allowed to cash out of their investment without any penalties.

Each client should have an investment policy statement (IPS) that would outline his risk and return objectives, along with any constraints. The IPS should be reviewed at least annually and should include appropriate benchmarks by which to evaluate the manager's performance. Investment recommendations should be made in the context of the client's total assets, even though only a portion of those assets may be placed with the investment manager.

Trading

Do not trade or cause others to trade on material nonpublic information (insider information); always place client trades before your own, using commissions generated (soft dollars) only to provide products and services that aid the portfolio manager in the investment decision-making process (i.e., ultimately benefit the client); seek best execution for all trades; and allocate shares equitably among clients.

Fire walls should be created between different departments (e.g., as between the research and investment banking departments) to restrict the flow of information. Information is considered nonpublic until it has been widely disseminated to the public. Disseminating information to a small group of individuals does not constitute making the information public. Managers are allowed to use the **mosaic theory**, which is putting together various pieces of public information and nonmaterial nonpublic information to arrive at material nonpublic information.

Procedures to ensure that client trades are given higher priority over employee personal trades would include requiring employees to seek prior approval for investing in initial public offerings or private placements, creating restricted watch lists of securities that are owned or that will be traded by clients, and requiring employees to provide quarterly information regarding their own personal trades.

Soft dollar commissions. Managers should disclose to clients the soft dollar arrangements and how they aid the manager in the investment decision-making process.

Best execution. If the client directs trades through a particular broker, the manager should notify clients and seek acknowledgement from them that they may not be receiving best execution.

Fair treatment. Procedures to ensure that shares are allocated fairly would include using block trades or allocating shares on a pro rata basis so that all interested clients (for which the investment is suitable) are allocated shares in an equitable manner. Trading policies for initial public offerings and private placements should be explicitly stated.

Risk Management, Compliance, and Support

Managers must:

- Develop policies and procedures for complying with the Code and Standards and all regulatory requirements.
- Establish a firm-wide system for identifying and measuring the manager's risk positions.
- Appoint a compliance officer who is responsible for administering the Code and Standards and investigating possible infractions.
- Ensure that portfolio information disseminated to clients is accurate and complete and reviewed by an independent third party.

- Maintain records in an easily accessible format for an appropriate amount of time (at least seven years).
- Have sufficient, qualified staff along with adequate resources to thoroughly analyze investment opportunities, make investment decisions, and monitor investment progress.
- Institute a contingency plan in the event of a natural disaster.

Procedures include having documentation that ensures adherence to the Code, along with internal controls and self assessment mechanisms. A compliance officer should be designated who reports directly to the CEO or board of directors and who is responsible for making sure compliance procedures are in place and followed. The compliance officer is also responsible for employee training related to compliance procedures and policies and ongoing self evaluations. The officer should also review employee trading practices to ensure client trades are placed before employee trades. The compliance officer should also provide a copy of the Code to all employees and document that the employees have read and understand the Code. The compliance officer investigates any misconduct involving compliance issues and works with management on disciplinary measures.

Companies should develop contingency plans, also called disaster-recovery plans or business-continuity plans, in the event of a disruption in normal business operations, such as a power outage, fire, natural disaster, or acts of terrorism. The plan must be comprehensive, communicated to all key individuals, and tested periodically on a firm-wide basis. Items that should be included in the contingency plan include:

- Off-site backup for all client accounts.
- Back-up plans to continue operations (e.g., trading, researching, and monitoring of investments).
- Procedures to continue communication with employees, clients, suppliers, and vendors.

Another procedure relating to compliance and support is having an independent third-party review of portfolio assets. This helps increase clients' confidence in the portfolio manager. Also, records should be kept for a minimum of seven years unless otherwise required by local laws or regulations.

Performance and Valuation

Performance and valuation deals with reporting investment results in an accurate manner without misrepresentation and using fair market values when determining portfolio asset values.

Procedures include fairly and accurately reporting investment results without misrepresenting the manager's performance by taking credit for accounts he wasn't managing or representing only periods of exceptional performance. Any hypothetical models should be fully disclosed. A good guideline to follow would be the Global Investment Performance Standards (GIPS®), which incorporates a high level of quality in reporting requirements.

Because manager compensation is sometimes based on performance results, managers may be tempted to manipulate performance results in an attempt to increase their compensation. To avoid this conflict of interest, procedures for valuing asset accounts should include transferring the responsibility of valuing asset accounts to an independent third party. Also, valuing client accounts should be done using readily accepted valuation techniques on a consistent basis.

Disclosures

Managers must communicate with the client on a timely basis in an understandable manner that does not misrepresent any information and must disclose the following to the client:

- Any information she would need to know to be able to make an informed decision regarding the investment manager, the organization, investment options, or the investment process.
- Potential conflicts of interest such as soft or bundled commissions, referral fees, sales incentive programs, brokerage arrangements, and stocks held by clients that are also held by firm employees.
- Any regulatory or disciplinary action taken against the manager or its personnel.
- The investment decision-making process and strategies, including inherent risks associated with a particular strategy or investment, lock-up periods, use and extent of derivatives, etc.
- Fee schedules, a projection of fees charged, and the methodologies used in determining fees charged.
- A discussion of any soft or bundled commissions, how those commissions are being spent, and the benefits to the client.
- Performance of the client's account investments on a regular and timely basis.
- Valuation methods used to determine values and make investment decisions.
- Proxy voting policies of the manager.
- How trades are allocated.
- The results of any audits performed on the client's account or fund.
- Any significant personnel or organizational changes.
- Firm-wide risk management processes.

KEY CONCEPTS

LOS 6.a

There are six components to the Asset Manager Code of Professional Conduct (the "Code"):

1. Loyalty to Clients.
2. Investment Process and Actions.
3. Trading.
4. Risk Management, Compliance, and Support.
5. Performance and Valuation.
6. Disclosures.

Related to these six components are ethical responsibilities:

- Always act ethically and professionally.
- Act in the best interest of the client.
- Act in an objective and independent manner.
- Perform actions using skill, competence, and diligence.
- Communicate accurately with clients on a regular basis.
- Comply with legal and regulatory requirements regarding capital markets.

LOS 6.b

The best way to answer this LOS is to review as many different scenarios as possible dealing with unethical asset manager behavior and the breaches in procedures that led to that behavior.

LOS 6.c

Loyalty to clients

- Always put the client's interests before your own by designing appropriate compensation arrangements for managers.
- Determine how confidential client information should be collected, utilized, and stored.
- Determine the amount of which token gifts can be accepted.

Investment process and actions

- Take reasonable care when dealing with client accounts.
- Don't engage in market manipulation.
- Deal fairly with all clients.
- Have a reasonable basis for all investment recommendations.

Trading

- Do not trade on material nonpublic information.
- Always place client trades before your own.
- Use soft dollars to aid the manager in the investment decision-making process.
- Seek best execution and allocate trades equitably among all clients.

Risk management, compliance, and support

- Ensure compliance with the Asset Manager Code and legal and regulatory requirements.
- Appoint a compliance officer.
- Disseminate portfolio information in an accurate manner.
- Have an independent third party review client accounts.
- Appropriately maintain records.
- Hire qualified staff with sufficient resources.
- Have a contingency plan in place.

Performance and valuation

- Report results in an accurate manner using fair market values.

Disclosures deal with any kind of material information disclosed to the client, such as conflicts of interest, regulatory disciplinary actions, the investment decision-making process, and strategies including inherent risks, fee schedules, calculation of performance results, proxy voting issues, allocating shares of stock, and the results of any audits.

Concept Checkers

LOS 6.b: Determine whether an asset manager's practices and procedures are consistent with the Asset Manager Code.

CFA® Program Curriculum, Volume 1, page 265

1. Terillium Traders is a small stock brokerage firm that specializes in buying and selling stocks on behalf of client accounts. Several of Terillium's brokers have recently been placing both a bid and an offer on the same security about two hours before the market opens for trading. This allows their trades to be one of the first ones made after the markets open. Just before the markets open, these brokers would then cancel one of the orders in anticipation that the market would move in favor of the other order. Which component, if any, of the Asset Manager Code of Professional Conduct has *most likely* been violated?
   A. The component dealing with investment process and actions related to market manipulation.
   B. The Trading section of the Code because this is an example of "front-running" client trades.
   C. Loyalty to Clients, the section pertaining to placing client interests before their own.

2. Harriet Fields, an investment adviser specializing in selling municipal bonds, advertises on television explaining the safety and security of these bonds. The bonds she is currently selling are limited obligation bonds backed only by the revenue generated from the projects they fund, which include a housing project and a golf course. Fields tells her prospective clients that the bonds are safe, secure, and offer generous interest payments. Which of the following statements is *most correct* regarding Fields's actions?
   A. Fields did not violate the Code because municipal bonds are generally regarded as being safe investments.
   B. Fields violated the part of the Code dealing with performance and valuation.
   C. Fields violated the Code when she misrepresented the bonds by not explaining their inherent risks.

3. World Investment Advisers is a large sales force of registered investment representatives which has affiliations with many firms that produce investment-related products, such as mutual funds, life insurance, mortgages, and annuities. World Investment Advisers representatives market these products to the investing public and are able to pick and choose the best products for any particular client's needs. One of the affiliated firms is a mutual fund company called Life Investors. The company has a special agreement with World Investment in which World Investment has identified Life Investors as a "preferred product provider" in their internal marketing materials to their investment representatives. In return for this preferential treatment by World Investment, Life Investors has reimbursed World Investment for the cost of these marketing materials out of the trading commissions generated from the sale of Life Investors mutual funds by World Investment sales representatives. Which of the following statements regarding any violations of the Code is *most correct*? World Investment violated the Code relating to:
A. accepting gifts of minimal value because Life Investors is paying for the marketing materials that could influence World Investment's representatives.
B. having a reasonable and adequate basis for making investment decisions.
C. soft commissions by using client brokerage to pay for marketing materials.

4. Liz Jenkins, CFA, is an asset manager for Gray Financial, a financial services firm that has adopted the Asset Manager Code of Professional Conduct in managing client accounts. Jenkins has a client who has recently been depositing into his account bearer bonds (coupon bonds) issued by Gas Tech, a natural gas exploration company. Shortly after depositing the bonds, the client has then been requesting disbursement of funds from these bonds. Jenkins suspects this client may be using the firm in an illegal money laundering scheme. Which of the following items regarding how the firm should act is *least correct*?
A. The firm should monitor the suspicious activity without the client knowing he is being investigated.
B. The firm may elect to have a different person or entity of the firm other than the compliance officer conduct the investigation.
C. A report should be filed with the appropriate legal authorities.

5. Kendall Asset Managers has branch offices in several different geographical locations spread out by hundreds of miles, and in some instances, located in remote areas. Due to their remote locations and small staffs, some offices do not have a compliance officer, and brokers working in these offices have sometimes had to take on the responsibility of hiring the branch manager. Some brokers work out of their homes and use their own personal e-mail to contact clients. Some branches only keep records in electronic form for seven years. Which of the following is not a breach of the Code regarding Kendall Asset Managers?
A. Keeping records in electronic form for seven years.
B. Communicating with clients via personal e-mail.
C. Having the brokers in a remote office hire the branch manager.

6. Clarissa Steeber is a mutual fund manager who has included viatical contracts as part of the fund assets. Viatical contracts are life insurance contracts that have paid a percentage of the net present value of the death benefit to the insured. The contract pays off when the insured dies, and many of these contracts are on people with terminal illnesses. Steeber also is involved in several other outside business activities, such as purchasing and selling luxury automobiles and real estate. Steeber does not disclose these outside business activities to her employer or clients. Which of the following statements is *most correct* regarding Steeber's actions in relation to the Code? Steeber is:
   A. not obligated to disclose these outside business activities because they do not present a conflict of interest.
   B. in violation of the Code for not disclosing her outside business activities to her employer.
   C. in violation of the Code by including risky and perhaps fraudulent viatical contracts in the fund portfolio assets.

Answers – Concept Checkers

1. A This is an example of market manipulation that is part of the Investment Process and Actions section of the Code. By placing trades in anticipation of the market and getting preferential treatment in getting their trades placed first, Terillium is distorting the market process and, thus, manipulating the market. Front-running is when a trade is placed based on information that a large transaction will take place that could affect the price of a security, and the trader is attempting to profit based on this information. Loyalty to Clients, specifically placing client interests before your own, deals with aligning manager interests with client interests and avoiding situations in which they would conflict, such as inappropriate compensation arrangements.

2. C Fields violated the Disclosures section of the Code by misrepresenting the bonds as being safe and secure when in fact they were investing in risky projects and backed only by the revenue generated from those projects. Misrepresentation can include any untrue statement or the lack of information given. Portfolio managers must explain the risks involved in an investment, not make any misrepresentations of the investment, and provide appropriate disclosures such as would be contained in an investment's prospectus. Performance and valuation deals with presenting the track record of the manager and disseminating client account values to the client. Fields violated at least two of the ethical responsibilities related to the Code, which are (1) to always act in an ethical manner and (2) to act for the benefit of your clients.

3. C This is a violation of the Code dealing with trading, specifically related to the use of soft dollar commissions, also referred to as client brokerage, which are trading commissions paid to World Investment by Life Investors. Soft commissions are assets of the client and should only be used to purchase goods or services to aid in the investment decision-making process (e.g., purchasing research) and should not be used to pay for marketing materials. Because we don't know the fee schedule of the other mutual fund companies, we can't determine if the part of the Code dealing with best execution was violated.

4. C As part of the section of the Code dealing with loyalty to clients, specifically related to preserving the confidentiality of client information, firms should have written policies dealing with how to collect, manage, and store confidential client information. In some situations, firms should develop anti-money-laundering policies to prohibit the firm from being used for money laundering or other illegal purposes. Procedures should include contacting the compliance officer in case of suspicious activity. The compliance officer would have the responsibility of investigating the illegal trading activity and also the responsibility of determining whether legal authorities should be notified. The firm may decide to delegate the investigation to another person or entity within the firm, such as the legal department. Parties involved in any suspicious activity should not be notified that they are under investigation.

5. A Records must be kept (in either hard copy or electronic form) for a minimum of seven years or even longer if otherwise mandated by local laws or other regulations. Communicating with clients using personal e-mail is not acceptable because this type of communication may be difficult to monitor as mandated by the Compliance and Support part of the Code. Part of an effective compliance system is to have a designated compliance officer who can develop and implement written compliance policies. Allowing the brokers in an office to hire and presumably fire the person who is responsible for supervising them does not allow for effective internal controls, which need to be present to prevent fraudulent behavior.

6. B As part of the Code relating to loyalty to clients, outside business activities must be disclosed to her employer and clients because these activities could potentially affect this manager's ability to be independent, objective, and loyal to her clients.

SELF-TEST: ETHICAL AND PROFESSIONAL STANDARDS

Professor's Note: These selected response item set questions were written at Kaplan Schweser and are designed to be like the exam.

Item Set #1

Lewis Smithers, CFA, is the lead portfolio manager for Fundamental Investments Corp., a money manager serving several hundred wealthy individual investors. He spent his morning reading several articles on Phoenix-based Pineda Canyon Development in real estate industry publications. He concluded that while Pineda is a majority owner of several developers with huge portfolios of mountainside real estate perfect for the development of ski resorts, the company lacks the cash to build the resorts.

While lunching at his club, Smithers ran into Judith Carson, an old college friend he hadn't seen in months. Carson is managing partner of a land-speculation endeavor that owns thousands of acres of prime real estate. During the course of their conversation, Carson asked Smithers to invest in the partnership, which was about to buy a land developer and its acreage near Sassy River.

When Smithers returned to the office after lunch, he found an e-mail from Liam O'Toole, his largest client, who is knowledgeable about and likes to invest in real estate. O'Toole, who in the past did business with money manager Big Ideas International, had read in Big Ideas' prospect newsletter that a large Arizona developer was close to a deal to sell property in the Sassy River Valley. The article did not identify the parties to the transaction but did reveal the acreage of the land and the proposed sale price. O'Toole wanted to know if Smithers had heard about this deal and if he could get O'Toole a piece of it in exchange for a week at O'Toole's condo in St. Thomas.

Smithers suspected Pineda was the seller and Carson's real estate partnership was the buyer. Seeking to verify this, Smithers called Carson and asked if the partnership's big deal involved Pineda Canyon Development. Carson responded by saying she could neither confirm nor deny that a transaction with Pineda or any other specific company was in the works. A couple of days later, however, Smithers observed Carson and two of her business partners having dinner with Pineda executives. Smithers checked public records and discovered that Pineda was the majority shareholder in the only major development company with significant land ownership in the Sassy River Valley. Smithers concluded that Carson's firm was about to purchase the Sassy River developer from Pineda.

That afternoon, Smithers prepared a purchase recommendation for Pineda stock. He cited the expected sale of Sassy River Valley land for enough cash to fund both the construction of several ski resorts and retire some high interest notes. Smithers worked up some revenue and profit numbers, detailed the location of the property, and submitted a report for approval by the company president.

1. In preparing his recommendation to purchase Pineda, Smithers violated:
   A. none of the Standards.
   B. Standard III(A) Loyalty, Prudence, and Care with regard to Carson's information.
   C. Standard V(A) Diligence and Reasonable Basis with regard to his recommendation on Pineda stock.

2. Immediately after submitting his purchase recommendation to his boss, Smithers takes three actions. Which of the following actions *most likely* does not violate the Code and Standards?
   A. Advising his cousin to purchase Pineda stock.
   B. Immediately downgrading two ski equipment manufacturers based only on "trends in the industry."
   C. Advising a colleague in Fundamental's bond department of this new information regarding Pineda's debt.

3. Fundamental's president, Dana Aaronson, is so impressed with Smithers's report that she sends it to the fulfillment department for printing and faxing five minutes after receiving it from Smithers's supervisor, who has read and approved the report. In her handling of the report, how many of the following Standards has Aaronson violated?
   - I(B) Independence and Objectivity.
   - IV(C) Responsibilities of Supervisors.
   - V(A) Diligence and Reasonable Basis.
   - II(A) Material Nonpublic Information.

   A. One.
   B. Three.
   C. None.

4. With regard to his information-gathering activities and the creation of his report, did Smithers or anyone else violate Standard III(A) Loyalty, Prudence, and Care?
   A. No one violated the Standard.
   B. Carson's discussion with Smithers about the partnership's plans is a violation of the Standard.
   C. Smithers's use of O'Toole's tip to get more information out of Carson is a violation of the Standard.

5. Because O'Toole brought the information about the real estate deal to Smithers's attention, Smithers purchased Pineda stock for O'Toole immediately after submitting his report to management. The purchase *most likely* violated:
   A. Standard III(B) regarding fair dealing.
   B. Standard III(C) regarding suitability of investments.
   C. Standard II(A) regarding material nonpublic information.

6. The Pineda report has been dispatched by e-mail, fax, or mail to every client. The purchase will be announced in one day, not enough time to disseminate Smithers's research to clients with no e-mail or fax capability. Fundamental's trading manager, Bill Johnson, is considering various directives regarding the trading of Pineda stock. Which of the following instructions for portfolio managers is *best*?
   A. Make no trades until the written reports are delivered to every client in 48 hours.
   B. Do not purchase Pineda stock for your own accounts until all of the suitable accounts you manage contain the stock.
   C. Do not execute any pending sell order for Pineda stock until the client has been informed of the rating change.

Item Set #2

Gerard Cutty, CFA, a technology stock analyst and money manager at Unique Investments, has been hearing rumors for months that Simpson Semiconductor was near a breakthrough on a next-generation telecommunications microchip. Simpson is best known for its expert design engineers, perennially shaky balance sheet, and extremely volatile stock.

One morning, as he is listening to a recorded *Barron's* interview with Simpson's CEO, who is also a CFA charterholder, he learns that Simpson has struck a licensing agreement with Simak Foundry, a privately held chip fabricator in Malaysia. Then he reads in *The Asian Wall Street Journal* that a Malaysian bank has loaned $500 million to Simak for construction of a new plant.

Cutty owns an apartment in Paris that is leased to Gladys Catcher, CFA. The lease is about to expire, and Cutty and Catcher are currently in the process of renegotiating the terms of the lease. Cutty has other potential tenants for the apartment who are willing to pay more than what Catcher is currently paying, so he would like to negotiate a significant increase in the monthly payments.

Catcher works for a Paris public relations firm that handles accounts for a lot of Asian technology companies. Cutty calls Catcher, and after learning that her firm handled the Simak account, he asks what she knows about the Simak loan. Catcher says Simak has inked a deal with a big U.S. firm to make a new kind of microchip. She refuses to identify the firm but does provide some impressive performance numbers for the new chip.

After conducting a detailed patent search using the chip performance figures as a guide, Cutty learns that a Simpson engineer has filed for a series of patents related to the new technology over the past 18 months and confirms Catcher's information on the performance of the new chip.

Cutty works up some revenue and market share projections, then concludes that if the new technology works, it could triple the company's profits over the next three years. He writes up a research report on Simpson, detailing the licensing deal, specs on the new chip, and his opinion about the company's growth potential. Cutty then raises his rating on Simpson from neutral to high-risk buy.

Mary Wabb, lead portfolio manager for Unique Investments, calls Cutty into her office after reviewing the analyst's report. Wabb asks Cutty about his sources and methodology, and Cutty explains his thinking process. She then thanks Cutty for his good work and tells him he will receive Unique's World Series tickets this year. After Cutty leaves, Wabb makes minor edits to the report and sends it to the fulfillment department for inclusion in the daily e-mail report and weekly printed report for clients and prospects. Then Wabb instructs the trading desk to purchase Simpson stock for all client accounts after the reports have been issued.

The day after Cutty's report is released, rival analyst Sue Ellen Slusher, CFA, publishes her own analysis of Simpson Semiconductor. She has talked with executives at Werfel Wafers, and she believes Simpson will never reap the profits from the new technology because she thinks Simpson infringed on one of Werfel's patents. In her report, Slusher specifically cites Cutty's report, quoting him directly and rebutting his conclusions point by point with her own research, criticizing his lack of thoroughness and questioning his abilities as an analyst and his academic and professional credentials. Specifically, she says that she's a better analyst than he is because "he earned his charter way back in 1986, when the CFA® exam was a lot easier to pass than it is today, but I earned my charter last year."

7. In the production of his research report, Cutty violated:
   A. Standard V(B) Communications with Clients and Prospective Clients.
   B. Standard V(A) Diligence and Reasonable Basis.
   C. none of the Standards.

8. Which of the following statements regarding potential violations of Standard III(A) Loyalty, Prudence, and Care in this scenario is *most accurate?*
   A. Neither Cutty, Catcher, nor Simpson violated the Standard.
   B. Cutty violated the Standard by using Catcher's information.
   C. Catcher violated the Standard by revealing information about her client, Simak.

9. Which of the following statements, if found in Cutty's report without clarification, would *most likely* violate Standard V(B) Communications with Clients and Prospective Clients?
   A. "Simpson controlled 25% of the communications-chip market five years ago but commands just a 14% share today."
   B. "Simpson's sales have faltered in recent years, but I believe the new technology will bring back the days of 25% revenue growth."
   C. "After a few phone calls and an analysis of the relevant information from our internal database, I concluded that Simpson's new technology was more than just a rumor."

10. Which of Wabb's actions *most likely* violated the Code and Standards? Her:
   A. newsletter instructions violated Standard III(B) Fair Dealing.
   B. trading instructions violated Standard III(C) Suitability.
   C. handling of Cutty's research report violated Standard IV(C) Responsibilities of Supervisors.

11. Which of the following actions could Cutty have taken while researching his report on Simpson *without* violating CFA Institute Standards of Professional Conduct?
    A. Ignoring a rival analyst's report on a Simpson competitor with a similar technology.
    B. Using statements from the Standard & Poor's report on Simpson without verifying them.
    C. Attributing the information about the $500 million loan to Simak to a "leading financial publication."

12. According to CFA Institute Standards of Professional Conduct, Slusher violated:
    A. Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program because of her criticism of Cutty's credentials.
    B. Standard I(B) Independence and Objectivity because of her criticism of Cutty's research report and conclusions.
    C. Standard I(C) Misrepresentation for her use of material from Cutty's report.

Item Set #3

Chandra Patel, CFA, manages private client portfolios for QED Investment Advisers. Part of QED's firm-wide policy is to adhere to CFA Institute Standards of Professional Conduct in the management of all client portfolios, and to this end, the firm requires that client objectives, investment experience, and financial limitations be clearly established at the outset of the relationship. This information is updated at regular intervals not to exceed 18 months. The information is maintained in a written IPS for each client.

Anarudh Singh has been one of Patel's clients ever since she began managing money ten years ago. Shortly after his regular situational update, Singh calls to inform Patel that his uncle is ill, and it is not known how long the uncle will survive. Singh expects to inherit "a sizeable sum of money," mainly in the form of municipal bonds. His existing portfolio allocation guidelines are for 75% to be invested in bonds. Singh believes that the expected inheritance will allow him to assume a more aggressive investment profile and asks Patel to begin moving toward a 75% allocation to equities. He is specifically interested in opening sizable positions in several technology firms, some of which have only recently become publicly traded companies. Patel agrees to begin making the changes to the portfolio and the next day begins selling bonds from the portfolio and purchasing stocks in the technology sector as well as in other sectors. After placing the trade orders, Patel sends Singh an e-mail to request that he come to her office sometime during the next week to update his IPS. Singh replies to Patel, saying that he can meet with her next Friday.

A few days before the meeting, however, Singh's uncle dies and the portfolio of municipal bonds is transferred to Singh's account with QED. Patel sees this as an opportunity to purchase more technology stocks for the portfolio and suggests taking such action during her meeting with Singh, who agrees. Patel reviews her files on technology companies and locates a report on NetWin. The analyst's recommendation is that this stock is a "core holding" in the technology sector. Patel decides to purchase the stock for Singh's account, as well as several other wealthy client accounts with high risk tolerance levels, but due to time constraints she does not review the holdings in each account. Patel does examine the aggregate holdings of the accounts to determine the approximate weight that NetWin should represent in each portfolio.

Since Patel has very recently passed the Level III examination and has been awarded her CFA charter, QED sends a promotional e-mail to all of the firm's clients. The e-mail states, "QED is proud to announce that Chandra Patel is now a CFA (Chartered Financial Analyst). This distinction, which is the culmination of many years of work and study, is further evidence of the superior performance you've come to expect at QED." Patel also places phone calls to several brokers that she uses to place trades for her accounts to inform them of her accomplishments, stating that she passed all three CFA examinations on her first attempts. One of the people Patel contacts is Max Spellman, a long-time friend and broker with TradeRight Brokers, Inc. Patel uses the opportunity to discuss her exclusive trading agreement with TradeRight for Singh's account.

When ordering trades for Singh's account, Patel's agreement with TradeRight for brokerage services requires her to first offer the trade to TradeRight and then to another broker if TradeRight declines to take the trade. TradeRight never refuses the trades from any manager's clients. Patel established the relationship with TradeRight because Singh, knowing the firm's fee schedule relative to other brokers, asked her to do so. However, because TradeRight is very expensive and offers only moderate quality of execution, Patel is considering directing trades on Singh's account to BullBroker, which charges lower commissions and generally completes trades sooner than TradeRight.

13. Do QED's policies comply with CFA Institute Standards of Professional Conduct with respect to the information contained within their clients' IPSs and the frequency with which the information is updated?
    A. Only one policy complies with the Standards.
    B. Both policies comply with the Standards.
    C. Neither policy complies with the Standards.

14. In light of Singh's comments during his telephone call to Patel prior to his uncle's death, which of the following actions that Patel can take comply with CFA Institute Standards of Professional Conduct? Patel:
    A. must adhere, in principle, to the existing strategy but may begin altering the account's composition based upon Singh's expectations.
    B. must not place any trades in the account until she meets with Singh to develop a new portfolio strategy based on the updated information.
    C. must adhere to the existing portfolio strategy until she meets with Singh to develop a new portfolio strategy based upon updated financial information but may place trades which are consistent with the existing strategy.

15. According to CFA Institute Standards of Professional Conduct, may Patel reallocate Singh's portfolio toward technology stocks after his uncle dies but before the meeting with Singh?
    A. Yes, because the funds have actually been transferred, and the timing is no longer uncertain.
    B. No, because Patel and Singh must meet and revise the IPS and portfolio strategy before reallocating.
    C. Yes, because the total value of the municipal bonds received into the account will be too large relative to the other assets in the portfolio.

16. Did Patel violate any CFA Institute Standards of Professional Conduct when she purchased the NetWin stock for Singh's portfolio or for the other clients' portfolios?
    A. Patel violated the Standards for both Singh's portfolio and the other clients' portfolios.
    B. Patel did not violate the Standards in regards to either Singh's portfolio or the other clients' portfolios.
    C. Patel violated the Standards in regards to either Singh's portfolio or the other clients' portfolios but not both.

17. Which of the following statements regarding the promotional announcement of Patel passing the Level III exam and her phone calls about her accomplishment is *least accurate?* The:
    A. phone calls are not likely a violation unless she did not actually pass the exams on her first attempts.
    B. announcement violates the Code of Ethics because it implies that obtaining a CFA charter leads to superior performance.
    C. fact that a promotional announcement was made violates the restrictions on misrepresenting the meaning of the CFA designation.

18. If Patel continues to trade with TradeRight, will she be violating any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because Patel is obligated to seek the best possible price and execution for all clients.
    C. Yes, because Patel failed to properly notify Singh that using TradeRight would lead to higher commissions and opportunity costs.

Item Set #4

MH Securities is a subsidiary of MH Group, a large Korean conglomerate, and has recently established offices in the United States and Canada. MH plans to target Korean Americans and Canadians for its services, which include selling the firm's research services as well as Korean equities, bonds, and won-denominated certificates of deposit (CDs). Chan-Heung Lee, CFA, has been hired to develop, implement, and oversee MH's compliance activities. Because there are very few compliance procedures in place, Lee will have to build the entire compliance framework. His objective is to conform to the CFA Institute Code and Standards. As one of his first steps, Lee decides to interview several MH employees to determine what formal and informal policies and procedures currently exist at the firm. Lee calls meetings with Jamie Jin, Nadine Yu, and Mark Larson, each of whom is a CFA charterholder.

Jamie Jin has recently been hired as an investment officer by MH. Jin informs Lee during their meeting that her previous employer, Rearguard Funds, has agreed to pay her a 25 basis point commission plus an annual bonus for all Rearguard Funds she sells to MH clients. Jin is unsure whether she will even use any Rearguard products with her new clients but agrees to the arrangement in case a client specifically requests a Rearguard product. Because the likelihood of actually receiving any compensation from Rearguard seems remote, Jamie has not previously disclosed the arrangement to MH.

In his meeting with Nadine Yu, an equity analyst at MH, Lee discovers that Yu has recently and abruptly changed her investment recommendation on Korean won-denominated bonds from buy to sell. She has prepared a research report to this effect and provides a copy to Lee in accordance with one of the firm's few existing compliance procedures. Her change of opinion is based upon nonpublic information provided to her in confidence by a friend on the monetary board at the Bank of Korea. While Lee is surprised at the abrupt change in the recommendation, he does not question the rationale and allows the report to be issued. Having received approval for her investment recommendation, Yu simultaneously releases the report to her individual and institutional research service subscribers as well as to MH's portfolio managers.

Lee's final meeting is with a new hire, Mark Larson, who has recently agreed to go to work for MH starting at the beginning of the next month. Lee is meeting with Larson to discuss new clients that Larson is expected to bring to MH. Larson, without providing details, assures Lee that he will have no problem increasing MH's client base. Prior to leaving his current employer, Affinity Advisers, Larson contacts 25 individuals from an Affinity prospect list by calling them, using public records and not Affinity's records, on Saturday mornings from his home. Of the prospects, a list of 10 individuals had previously been rejected as being too small for Affinity, but they still meet MH standards. The other list of 15 individuals remained viable prospects for Affinity. After learning of their status with Affinity, Larson suggests that all 25 prospects consider directing their business to him and his new firm, MH.

Lee's meetings with Jin, Yu, and Larson help him formulate compliance procedures. Lee decides that he will develop a written compliance manual that will be distributed to all of the firm's employees. The manual will delineate procedures for reporting violations and sanctions, describe the supervision hierarchy and each supervisor's duties, and outline the steps to monitor and evaluate the compliance program. Lee also designates Jin as the employee with ultimate responsibility for the compliance procedures and their enforcement.

19. Because there are currently no compliance procedures in place, Lee should:
    - A. implement procedures based upon Korean securities laws and adjust these to conform with the CFA Institute Code and Standards as situations arise.
    - B. implement a comprehensive set of compliance procedures immediately and verify their conformance with the CFA Institute Code and Standards as circumstances dictate.
    - C. determine what constitutes adequate compliance procedures under the CFA Institute Code and Standards and then implement such procedures immediately.

20. Prior to her meeting with Lee, did Jin's decision regarding the disclosure of the arrangement with Rearguard Funds violate any CFA Institute Standards of Professional Conduct?
    - A. Yes.
    - B. No, because she disclosed the arrangement with Rearguard to Lee in their meeting.
    - C. No, because there was very little likelihood that she would actually receive a commission from Rearguard.

21. With regard to Yu's recommendation that investors sell Korean bonds, did Lee and Yu violate any CFA Institute Standards of Professional Conduct?
    A. Neither Lee nor Yu violated any CFA Institute Standards.
    B. Both Lee and Yu violated the CFA Institute Standards.
    C. Only one person violated the CFA Institute Standards.

22. With respect to the release of Yu's investment recommendation, did Yu violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes. Yu should have released the recommendation to the portfolio managers first.
    C. Yes. Yu should have released the recommendation to the individual and institutional clients first.

23. In soliciting the list of 10 previously rejected prospects and the list of 15 viable prospects, did Larson violate any CFA Institute Standards of Professional Conduct?
    A. No, regarding both lists.
    B. Yes, regarding both lists.
    C. Yes, regarding only one of the lists.

24. Does the compliance program developed by Lee after his meetings with MH employees comply with CFA Institute Standards of Professional Conduct?
    A. Yes.
    B. No. Authority to enforce the compliance program should rest with the compliance officer.
    C. No. Assigning supervisory duties takes away the responsibility of all supervisors to detect all violations of the compliance procedures.

Item Set #5

Kyle Hogue, CFA, is an emerging market analyst for Garrison Equity Funds, a U.S-based mutual fund manager. Hogue has been covering the South American markets for five years and generally makes several 1-week trips per year to visit various countries and businesses in his assigned markets. As part of his trips, Hogue meets with government officials to discuss economic policies of the country and with executives of firms within the country to gather information on both short- and long-term prospects for the companies.

During Hogue's latest data-gathering trip, he spent the majority of his time in Brazil. Brazilian legislators and economic policymakers informed Hogue that the country's taxation system was about to be restructured and that trade barriers were going to be relaxed. Under the new tax structure, foreign entities with operations in Brazil will face an increase in effective tax rates, while local firms will be given a 5-year reduction in their effective tax rate, which can be extended up to a maximum of 15 years. New policies with regard to foreign trade will reduce tariffs on foreign imports of consumer goods, but high tariffs will remain in effect for industrial and agricultural products, Brazil's largest contributors to its growing GDP. The policymakers give Hogue a confidential economic report used internally by government officials to read and return. The report contains detailed data on the general trends he had been discussing with the government and economic officials. Hogue photocopies the report and then returns the original as requested by his hosts.

Hogue also met with several Brazilian brokerage firms and members of the Brazilian stock exchange. During their first meeting, Hogue informed them that his research on the Brazilian market was being purchased by outside clients in record numbers. Hogue mentions that American investors are very excited about one company in particular, Brazil AgriTech, Inc. (BAI). Hogue notes that 3,000 investors have expressed great interest in purchasing BAI stock either directly or through Garrison's Brazil Fund within the next two months. He does not mention that only 600 investors actually expressed interest in purchasing the stock directly and that the remaining investors were existing clients who had expressed interest in purchasing shares of the Brazil Fund but had no specific opinions about the individual holdings.

During his final meeting with the exchange members, Hogue convinced two exchange specialists to enter into a contract with the exchange to increase their daily trading volume of BAI stock as well as the stock of Banc de Brazil (BDB), the country's largest private banking institution. BDB provides both commercial and investment banking services and has recently added brokerage services to its product mix. The trading contract will be effective the following day and will last for one year but will not be renewable at the end of its term. It is disclosed to potential investors in the marketing collateral.

Two days later, after returning to his office in the United States, Hogue has noticed that the stock price of BAI has risen and the bid-ask spread of BDB has narrowed, which he fully expected to occur. Hogue puts together a sell recommendation on BAI stock, noting in the report sharply lower growth in agricultural technological innovation and the increase in foreign-owned farms with access to better technologies developed outside of Brazil. He also constructs a buy recommendation on BDB stock, citing several key fundamental factors that make the stock attractive as well as a "deepening level of local market liquidity that will create attractive price entry points as a result of a temporary 1-year contract to increase market liquidity for BDB." Hogue releases the recommendation reports first to his "tier one" clients that pay the highest fees. He then issues shorter versions of the reports to the rest of his "tier two" clients later that day with a disclosure that more information is available upon request. Hogue also sells all holdings of BAI stock in the Brazil Fund and purchases shares of BDB with the proceeds the day after the recommendations are released.

Hogue's supervisor, Marianne Jones, CFA, questions him regarding his method of distributing recommendations to his clients. Jones is relatively new to the firm and just wants to make sure everything is on the "up and up." Hogue explains that he offers different levels of service to his clients and that in order to receive a lesser subscription to his research reports, they must sign a waiver. He goes on to say:

> "All clients are offered both levels of service so that clients are fully informed before making a decision. The details of the service levels, including fees charged for both, are contained in my marketing brochures along with 10-year performance figures for the Brazil fund. Because I have only been managing the fund for five years, I have included my predecessor's performance to present a full 10-year period. Our management styles are very similar, however, so this minor detail is only disclosed to those clients who ask. I generally find that my clients are only interested in the last five

years of data anyway. The brochure presents market-value-weighted return data before any fees or taxes are deducted. These return calculation methods are disclosed in clear language in the brochure."

25. Did Hogue violate any CFA Institute Standards of Professional Conduct by meeting with Brazilian economic and governmental officials or by photocopying the economic report?
    A. No, regarding both the meeting and the photocopying.
    B. Yes, regarding both the meeting and the photocopying.
    C. Yes, regarding either the meeting or the photocopying, but not both.

26. During his first meeting with the Brazilian brokers and stock exchange members, did Hogue violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because he attempted to manipulate the market price of a Brazilian security.
    C. Yes, because he failed to maintain independence and objectivity by meeting with influential Brazilian market participants.

27. Did the increased trading volume contract that Hogue negotiated between the Brazilian market specialists for the BDB stock violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because the intent of the contract is to distort the trading volume of BDB in order to attract investors.
    C. Yes, because the contract discriminates against clients who will purchase the stock after the 1-year term is over.

28. When he distributed his buy and sell recommendations on BDB and BAI, respectively, did Hogue violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because he has released the two versions of the report at different times.
    C. Yes, because he has issued two versions of the same report, which is a disadvantage to clients paying lower fees.

29. Has Hogue violated any CFA Institute Standards of Professional Conduct with respect to the time period of returns and method of calculating returns used in his performance presentation?
    A. Yes, regarding both the time period and calculation method.
    B. No, regarding both the time period and calculation method.
    C. Yes, regarding either the time period or calculation method, but not both.

30. By charging "tier one" and "tier two" clients different fees, has Hogue violated any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because the two classes of clients creates an inherent conflict of interest.
    C. Yes, because having two classes of clients inappropriately discriminates against the lower fee clients.

Item Set #6

Jose Gonzales, CFA, was recently hired as a quantitative analyst for StatInvest, Inc., a national investment research firm covering investments in the United States and Canada. Gonzales has worked in similar positions for 11 years. Prior to joining StatInvest, Gonzales worked as an analyst and portfolio manager for Rutherford & Co., a much smaller company that served a regional market.

In his first assignment with StatInvest, Gonzales must put together a report that will be distributed to investors on a monthly basis. The report will center on investments within the North American industrial sector. Gonzales begins by rebuilding a quantitative stock selection model that he created and used while at Rutherford & Co. The model was originally designed to select stocks in the consumer products sector based on fundamental, technical, and quantitative factors. Gonzales has kept the primary algorithms for stock screening the same in the new model but has updated the key identifiers to coincide with the industrial sector rather than the consumer products sector.

Once the model is complete, Gonzales backtests the model to determine its accuracy and consistency in selecting investments with positive performance. He determines that in each of the last ten years, the model would have indicated a buy on the single best performing stock for the year. The model would have also indicated a buy on several stocks that had zero or slightly negative returns. Satisfied with the results, Gonzales begins to write his first report. Following are several excerpts from the report:

- "StatInvest's model for selecting industrial sector stocks is based on a computerized algorithm that selects securities according to a factor screening mechanism. Dozens of fundamental, technical, and quantitative factors are used as selection criteria to recommend long and short positions."
- "If StatInvest's industrial sector model had existed ten years ago, investors would have had an average annual rate of return of 23% over the 10-year period. This estimate is based on backtesting of our model, which consistently recommended the top-performing stocks for each year over the past decade."
- "The current buy recommendations include Pearson Metals, Nuvo Chemical Co., and Luna Mining. These three investment opportunities will provide returns in excess of 15% over the next 12 months. However, if a significant number of market participants develop (or are already using) models similar to StatInvest's model, returns on these three company's common stock could be different from our expectations."

After the report is issued, Gonzales backs up his electronic files on a disk and has the disk archived in the firm's offsite storage facility along with all of the hard copy files supporting his model and the recommendation. Gonzales also begins to compile records to support investment recommendations he issued while working at Rutherford & Co. so that similar recommendations may be issued for StatInvest's consumer products division. All of the recommendations had an adequate basis at the time of issuance and were issued only a short time ago. After reanalyzing that relevant information and looking for significant changes in the company's financial positions, Gonzales determines that the recommendations are still valid. After Gonzales compiles the supporting documentation, he issues the recommendations.

Several clients who have been subscribing to Gonzales's monthly report have expressed a desire to have their portfolios professionally managed. Gonzales refers all clients expressing such an interest to Samantha Ovitz, CFA, a portfolio manager and partner of Ryers & Ovitz, Inc. In return for the referrals, Ryers & Ovitz subscribes to several periodic reports published by StatInvest, including the industrial sector report written by Gonzales. Ovitz, however, does not disclose the referral arrangement to clients and prospects because the funds used to pay for StatInvest research are allocated from a general overhead account and not directly from client fees, and because StatInvest's reports have a general disclaimer stating that "all referrals provided by StatInvest are in exchange for some benefit, whether monetary, in kind, or other compensation."

Ovitz is a board member of her local CFA society and, through her position, often speaks to local media regarding the society's events as well as current issues in the investment community. Ovitz has often been quoted in the press expressing her disagreement with long-standing policies of CFA Institute. Despite her disagreements, however, Ovitz is also known to heavily promote the CFA designation in her dealings with the media. In a recent interview with a local newspaper, Ovitz noted the superior track record of CFA charterholders versus non-charterholders with respect to investment performance and ethical business practices. After reading the article, the chairman of the local CFA Society board called Ovitz to thank her for doing such an excellent job of maintaining the prestigious image of the CFA designation.

31. By developing the quantitative model to select stocks in the industrial sector, did Gonzales violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because the underlying premise of the model is not based on adequate research or a reasonable basis.
    C. Yes, because the basic model is the property of his former employer and Gonzales has not obtained permission to use the model.

32. In his first report on investments in the industrial sector, did Gonzales's description of the stock selection model or its historical results violate any CFA Institute Standards of Professional Conduct?
    A. Both the model description and its historical results were violations of the Standards.
    B. Neither the model description nor its historical results were violations of the Standards.
    C. Either the model description or its historical results were violations of the Standards but not both.

33. In his first report on investments in the industrial sector, did Gonzales's three investment recommendations violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because he failed to distinguish between fact and opinion with regard to expected performance.
    C. Yes, because he provided an inherent guarantee of investment performance that cannot reasonably be expected.

34. With regard to his record retention actions and his reissuance of past investment recommendations, has Gonzales violated any CFA Institute Standards of Professional Conduct?
    A. Both his record retention and past recommendations are violations of the Standards.
    B. Either his record retention or past recommendations are violations of the Standards but not both.
    C. Neither his record retention nor past recommendations are violations of the Standards.

35. Does the referral arrangement between StatInvest and Ryers & Ovitz, Inc., violate any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because the referral arrangement is not properly disclosed to clients and prospects of Ryers & Ovitz, Inc.
    C. Yes, because Ryers & Ovitz pays for the research out of a general overhead account, which disadvantages some clients.

36. In her dealings with the local media, has Ovitz violated any CFA Institute Standards of Professional Conduct?
    A. No.
    B. Yes, because she has improperly exaggerated the meaning of the CFA designation.
    C. Yes, because her comments regarding her disagreement with CFA Institute policies compromise the reputation of the organization.

Item Set #7

Patricia Spraetz, CFA, is the chief financial officer and compliance officer at Super Performance Investment Advisers. Super Performance is a large investment firm that manages discretionary investment accounts. The company has incorporated the Code and Standards into its compliance manual. Spraetz's most recent investigation involved Karen Jackson, a portfolio manager for Super Performance and a compensated board member of NewBio, a rapidly growing biotech company. Jackson is not a CFA charterholder. Super Performance's biotech analyst had previously determined that NewBio was a questionable investment and elected not to add it to the firm's monitored list. Recently, the board of NewBio needed to raise capital, and Jackson purchased NewBio for her clients who invest in biotech stocks.

Super Performance has three portfolio managers (Linda Cole, Thomas Bermudez, and Anthony Ring) who recently have been awarded the right to use the CFA designation and another portfolio manager (Diane Takao) who is scheduled to take the Level III CFA Exam this year. The firm wants to include information about these individuals in a brochure.

Brenda Ford, a CFA Institute member, has been a full-time analyst for Super Performance for 12 years. She recently started providing investment services to private clients on her own time. Ford's direct supervisor at Super Performance told her she could start the business and gave her advice about how to get started on her own. Ford also sent a letter to each of her clients disclosing her employment at Super Performance.

Super Performance recently hired Ron Anderson, CFA, who previously worked as an independent investment adviser. Anderson wants to keep his existing clients for himself, and has obtained written consent from Super Performance to do so.

Tetsuya Wang, CFA, a trader at Super Performance, placed an order to purchase 70,000 shares of Imperial Shipping Company on behalf of his clients. Due to a clerical error within Super Performance, the wrong ticker symbol was entered for the trade, and 70,000 shares of Industrial Storage Company were inadvertently acquired. By the time the error was discovered two hours later, Industrial Storage Company shares had declined in price and there was a loss on the reversing trade.

Joe Kikuchi, manager at Eastern Trading, the brokerage firm that executed the trade, offered to absorb the loss on the trade, as well as the commission expense, thus making up the loss for all of Wang's clients. Eastern will do this if Super Performance assures Eastern that it will place orders to purchase or sell an aggregate of 1 million shares over the next two years with Eastern Trading. Super Performance's orders with Eastern have averaged 500,000 shares each year for the last five years. Eastern delivers best price and execution, offers reasonable commission prices, and provides Wang with soft dollars for research.

Williams & Fudd is a major brokerage and investment-banking firm. Super Performance is one of the top three holders of each of the securities listed on Williams & Fudd's "PrimeShare #10" equity security list. On the morning of August 22, Williams & Fudd released a research report recommending the purchase of Skelmerdale Industries to its clients, including Super Performance. On the afternoon of August 23, Super Performance bought 1.5 million shares of Skelmerdale.

37. After reviewing the Jackson case, Spraetz reviews Super Performance's policy statement. Which of the following excerpts from the policy statement concerning responsibilities to clients is likely to be the *most* relevant to the case?
    A. "Avoid misrepresenting the characteristics of the investment, as not all investments are suitable for all clients."
    B. "Keep sufficient records to justify all investment actions in the event that those actions are challenged in the future."
    C. "Distinguish between fact and opinion. Well-formed opinions are a cornerstone of money management but must always be identified as opinions."

38. To satisfy the Code of Ethics, Spraetz must act with:
    A. integrity, competence, and diligence.
    B. conviction, skill, and ethical awareness.
    C. honesty, professionalism, and goodwill.

39. Which of the following statements in Super Performance's marketing brochure *best* complies with the Code and Standards?
    A. Linda Cole is one of more than 100 CFAs at Super Performance.
    B. Diane Takao is a Level III CFA candidate.
    C. Anthony Ring, a Chartered Financial Analyst, has more than ten years of portfolio management experience.

40. Which of the following statements regarding Standard IV Duties to Employers is *most accurate*?
    A. Neither Ford nor Anderson violated the Standard.
    B. Either Ford or Anderson violated the Standard but not both.
    C. Both Ford and Anderson violated the Standard.

41. Wang rejects Kikuchi's offer to cover the costs of Wang's trading error. Which of the following is *most likely* to be the underlying rationale for the rejection?
    A. Trade volume.
    B. Commissions.
    C. Soft dollars.

42. Super Performance's purchase of Skelmerdale stock violates:
    A. the fair dealing standard because clients were never told about the stock.
    B. the disclosure of conflicts standard because clients were unaware of Super Performance's history of investing in Williams & Fudd's recommendations.
    C. no standards.

SELF-TEST ANSWERS: ETHICAL AND PROFESSIONAL STANDARDS

Item Set #1

1. A Smithers has assembled both material public and nonmaterial nonpublic information as the basis for his recommendation. By putting all of the information together, Smithers has utilized the mosaic theory to come to a conclusion of material nonpublic nature without actually using material nonpublic information. Carson is not Smithers's client, and Smithers owes Carson no fiduciary responsibility under Standard III(A). Smithers had no reason to believe Carson would misrepresent anything about the situation.

2. C Sharing information between the stock and bond divisions within a single company does not violate any fiduciary duties. It is possible that by not sharing the information, Smithers could violate a fiduciary duty to Fundamental's bond-investing clients. Smithers may not use the information he possesses about Pineda to advise his cousin to purchase the stock. Such an action would violate Standard III(B) related to fair dealing and possibly Standard VI(B) related to priority of transactions (if Smithers has a beneficial interest in the cousin's account). Immediately downgrading the ski equipment manufacturers implies the downgrades were issued solely because of a new deal for Pineda, an act that violates Standard V(A) Diligence and Reasonable Basis.

3. C Nothing in Aaronson's conduct implies any violation of the independence and objectivity Standard, nor the Standard regarding use of material nonpublic information. As president of the firm, Aaronson is NOT responsible for making sure that each analyst has a reasonable basis for every recommendation. Aaronson is entitled to rely on reasonable procedures to detect and prevent such violations. Therefore, she has not violated any of the four listed standards.

4. A Standard III(A) Loyalty, Prudence, and Care requires members and candidates to act for the benefit of their clients and comply with applicable fiduciary duties. As managing partner, Carson is presumably authorized to speak for the partnership and attempt to bring in new investors. She has a fiduciary duty to the limited partners, but revealing the purchase plans to Smithers did not violate that duty as the deal had already been struck, and the information would not affect the purchase price. Smithers has a fiduciary duty to O'Toole, but the analyst used the information to uncover an investment opportunity, potentially benefiting O'Toole as well as all of Fundamental's clients. No other actions in the scenario reflect a breach of fiduciary duty.

5. A O'Toole is an experienced real estate investor, and Pineda is probably a good fit for him. Because O'Toole is Smithers's biggest client, it can be assumed that Smithers has worked with O'Toole extensively and is familiar with his investment needs and preferences. As such, the purchase most likely satisfies Standard III(C) Suitability. By favoring O'Toole over other clients, however, Smithers violates the fair dealing Standard and his fiduciary duty to other clients besides O'Toole. Smithers should not have purchased stock in Pineda for O'Toole until the report had been disseminated to all clients with an interest in the investment.

6. C The fair dealing Standard requires brokers to inform clients of any pending rating changes. If the clients still want to sell Pineda, Fundamental must sell it for them. While telling portfolio managers not to buy Pineda for themselves until clients have been served is a good idea, the instruction falls short because individual portfolio managers

may be able to buy the stock for themselves before their colleague's clients have been contacted. Waiting to make buys until everyone has received a mailed report sounds fair, but it violates the firm's fiduciary duty to discretionary clients and those who can be reached by phone, fax, or e-mail before the merger announcement is made. In addition, Standard III(B) Fair Dealing requires fair dissemination of recommendations, not "equal" dissemination, which is not always practical.

Item Set #2

7. C Cutty's use of someone with whom he does personal business as a source could be perceived by some as a conflict of interest. However, there seems to be no ill intent, and Cutty corroborated Catcher's information from an additional source (the patent search). The research reports Standard requires that the analyst use reasonable judgment and distinguish between fact and opinion—Cutty did that. Cutty's broad-based research also satisfies the requirements of the reasonable basis Standard.

8. A Cutty owes no fiduciary duty to Catcher. Simpson's CEO did not reveal material information, but as CEO he likely would not have been violating a fiduciary duty even if he had. Catcher is in public relations, and her job is to discuss her clients' business with third parties. As such, she is authorized to release information—Standard III(A).

9. C While Cutty clearly states that his opinion is based on his own conclusions rather than verifiable facts, he violates Standard V(B) by not providing details about the evaluation process, which was quite complicated. Therefore, choice C is not an adequate description of the process, and it is a violation of the Standard. Cutty's use of "I believe" suggests the statement about sales in choice B is his opinion. Historical market-share data is a fact, not an opinion, and can be stated as such as in choice A. Therefore, choices A and B are not violations.

10. B Because Simpson is a risky stock, it is probably not suitable for all clients, and a blanket purchase order violates Standard III(C) Suitability. Wabb's instructions for the fulfillment department meet the requirements of Standard III(B) Fair Dealing, as the Standard does not require that everyone be notified at the same time, only that the dissemination of information is handled fairly. In this case, everyone with e-mail will get the information at the same time, and those without e-mail will get it later, but at the same time as their low-tech peers. Wabb acted correctly as a supervisor by verifying Cutty's facts and procedures.

11. B Members are in compliance with Standard V(A) Diligence and Reasonable Basis if they depend on the research of others they know to be competent and diligent. S&P qualifies as such a source. A rival's report about a competitor with similar technology could have a material effect on Cutty's financial model for Simpson and must be considered. Cutty should acknowledge the appropriate source of his information, so his clients can assess for themselves the credibility of the source and the veracity of the information.

12. A Slusher's claim that her credentials are superior to Cutty's because she earned her charter more recently is a violation of Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program. Slusher did not plagiarize Cutty's work because she cited him as the author. Just because Slusher disagrees with and criticizes Cutty's well-researched opinion does not mean she has violated the independence and objectivity standard.

Item Set #3

13. A According to Standard III(C) Suitability, members and candidates must consider investment experience, objectives (risk and return), and constraints before investing funds on the client's behalf or recommending investments to the client. The firm has complied with the information content. The IPS must be updated at least annually or after significant changes in client circumstances, according to the guidance statement accompanying Standard III(C). Thus, the firm has not complied with Standard III(C) in this regard.

14. C According to Standard III(C) Suitability, Patel must observe the written investment objectives now in effect as determined in cooperation with the client and may trade only on that basis. Because the anticipated change in Singh's financial condition was subject to an event of indeterminable timing, she should continue to honor the existing written investment objectives until a change (1) is warranted by an actual increase in the client's total financial assets and (2) has been agreed upon with her client.

15. B According to Standard III(C) Suitability, investment recommendations and actions must be consistent with a client's written objectives and constraints (usually in the form of an IPS). Because Singh's written IPS would not allow the large allocation to technology stocks prior to receiving the inheritance, the IPS must be updated by Singh and Patel prior to taking any actions that deviate from the original IPS. Patel will violate Standard III(C) by reallocating the portfolio before meeting with Singh.

16. A According to Standard III(C) Suitability, Patel must analyze the appropriateness and suitability of NetWin stock on a case-by-case basis before buying it. This will necessarily consider the basic characteristics of the security and how these will affect overall portfolio characteristics relative to the existing investment strategy for each portfolio. Patel has not analyzed the effect that the stock will have on any of the individual portfolios in question and has thus violated the Standard. Patel cannot look at aggregate measures to determine the appropriate weight that the security should represent in the individual portfolios because the portfolios are being managed individually, not in aggregate.

17. C An announcement that a member of a firm has received the right to use the CFA® designation is not a violation of the Code or Standards. However, Standard VII(B) requires that any reference to the Charter must not misrepresent or exaggerate the meaning or implications of the CFA designation. A Charterholder cannot claim that holding a Charter leads to superior performance results. The letters "CFA" can only be used as an adjective (never a noun, as in "he is a CFA"). As long as it is true, stating that she passed her exams on her first attempts is not a violation.

18. A Because Singh directed Patel to use TradeRight, this should be considered client-directed brokerage. While Patel should inform Singh of the implications of that choice, Patel has no option but to follow the client's direction according to Standard III(A) Loyalty, Prudence, and Care. Singh was fully aware of the fees charged by TradeRight relative to other brokerage firms and elected to use TradeRight anyway. Answer choice B is generally correct in the absence of client direction.

Item Set #4

19. C In order to best conform to the CFA Institute Code and Standards, Lee should first define what constitutes adequate standards. According to Standard IV(C) Responsibilities of Supervisors, "'adequate' procedures are those designed to meet industry standards, regulatory requirements, the requirements of the Code and

Standards, and the circumstances of the firm." Once this has been done, he should implement the procedures immediately.

20. A In order to be in compliance with Standard IV(B), Jin must disclose all additional compensation arrangements, in writing, to her employer. It does not matter whether Rearguard actually pays her a commission on the funds or whether the firm previously had such a policy. In addition, the relationship with Rearguard creates a potential conflict of interest between Jin and her clients because she may be tempted to increase her income by recommending Rearguard Funds that are inappropriate for her clients' needs. Standard VI(A) Disclosure of Conflicts requires disclosure of such conflicts to clients and prospects. There is no indication that Jin has made such a disclosure.

21. B Yu is in violation of Standard II(A) Material Nonpublic Information, as she has used material nonpublic information in her investment recommendations. She is forbidden to act upon such information. Lee, the firm's compliance officer, has violated Standard IV(C) Responsibilities of Supervisors in the discharge of his responsibility as a supervisor. Given the abrupt change in the recommendation, Lee should have attempted to determine if there was a reasonable basis for the dramatic shift in opinion.

22. A According to Standard III(B) Fair Dealing, members and candidates must ensure that all clients are treated equitably with regard to investment recommendations and investment actions. Because MH has clients that subscribe to their research service but do not pay for portfolio management services and the firm has clients that pay for discretionary portfolio management, investment recommendations must be communicated to research subscribers and the firm's portfolio managers simultaneously in order to ensure that all clients have equal opportunity to trade on the firm's research without being disadvantaged because of the type of service the client receives.

23. C According to Standard IV(A) Loyalty, Larson must not solicit current or prospective Affinity clients prior to his leaving. Larson is allowed to solicit prospects that have been rejected by Affinity as long as he does so on his own time, does not use Affinity's client lists, and his actions do not impair his performance at work. His solicitation of prospects who are still viable for Affinity is a clear violation of duty to his employer under Standard IV(A).

24. B According to Standard IV(C) Responsibilities of Supervisors, the responsibility to implement procedures and the authority to enforce the procedures should both reside with the compliance officer (in this case Lee, rather than Jin, who is an investment officer).

Item Set #5

25. C In meeting with the officials, Hogue is performing proper due diligence on the Brazilian market to support his recommendations to clients. This is entirely appropriate. There is no indication that he is being inappropriately influenced by the policymakers, and the meeting is not a violation of the Standards. By photocopying the report, however, Hogue has violated Standard I(D) Misconduct. Under the Standard, he is not to commit any professional act involving dishonesty or deceit or conduct himself in a way that reflects poorly on his professional reputation, integrity, or competence. The report was marked confidential and Hogue was instructed to return it after he had a chance to read it. The intent was not to distribute the report for Hogue's professional benefit. He has, therefore, deceived the officials by photocopying the report without receiving permission.

26. B Hogue clearly exaggerated the American investors' interest in BAI stock in an attempt to get local market participants to buy the stock in anticipation of increased American investment. By pumping the stock, the price rose, and Hogue sold the Brazil Fund position and recommended investors do the same to take advantage of the artificially high prices. Hogue cites poor business prospects in his sell recommendation, a clear indication of his devious intent in claiming the high level of interest from American investors. By manipulating market prices in Brazil, Hogue has violated Standard II(B) Market Manipulation.

27. A The contract is fully disclosed to potential investors in the marketing collateral. Thus, investors can evaluate for themselves the true cost of the transactions. Therefore, the intent of the increased liquidity is not to deceive investors, but rather to increase the market liquidity and ease of trading for foreign investors. The contract does not violate Standard II(B) Market Manipulation because it is disclosed. If it were not disclosed, however, it would constitute a violation.

28. B Standard III(B) Fair Dealing requires members and candidates to deal fairly with their clients. Hogue can offer different levels of service so long as it is disclosed to his clients and all service levels are available to all clients. Because his "tier one" clients pay higher fees, the depth of research they receive may be greater than the "tier two" clients without violating the Standard. By releasing the reports at different times, however, the "tier two" clients are put at a great disadvantage simply because they subscribe to a lesser level of service. This is a violation of Standard III(B), which says that members can offer different services to clients, but different levels of service must not disadvantage clients.

29. C According to Standard III(D) Performance Presentation, Hogue must disclose the fact that the 10-year performance history of the fund is comprised of five years of his performance and five years of his predecessor's performance. By not disclosing this, the presentation is misleading and violates Standard III(D). It does not matter that the investment styles are similar or that he believes most investors are only interested in the last five years of data. Performance presentations need to be fair, accurate, and complete. His method of calculating returns before fees and taxes on a market-value-weighted basis is acceptable and fully disclosed. Therefore, the calculation methodology does not constitute a violation of Standard III(D).

30. A Hogue is allowed to offer different levels of service without violating Standard III(B) Fair Dealing, as long as the different levels of service are fully disclosed and offered to all clients and prospects. Hogue has his "tier two" clients sign a waiver indicating they are aware of the different levels of service offered by the firm. Thus, he has complied with the Standard.

Item Set #6

31. A Gonzales has recreated the model that he developed while working for his previous employer. He did not take the model or its supporting documentation from his employer. Instead he has reproduced them from memory and customized the model to fit his current requirements. Therefore, he has not violated Standard I(C) Misrepresentation by committing plagiarism, nor Standard IV(A) Loyalty because he recreated the model at StatInvest and did not simply copy the model and use it for his new employer's gain. By updating the key identifiers to reflect the industrial sector and by backtesting the model, Gonzales has complied with Standard V(A) by having a reasonable and adequate basis, supported by appropriate research and investigation, for his analysis.

32. C The description provided by Gonzales is an accurate depiction of the process by which the model selects stocks to recommend for either a purchase or sell. Gonzales does not provide every detail regarding the individual factors used to screen the stocks or how the algorithm works because these are proprietary details. In describing the historical results of the model, however, Gonzales has violated Standard III(D) Performance Presentation and Standard I(C) Misrepresentation. In his report, Gonzales omitted the fact that the model selected several stocks with zero or negative returns. By not including this result in the report, Gonzales is not portraying a fair, accurate, and complete performance record [a violation of Standard III(D)] and, thus, intentionally misleads his clients with the recommendations [a violation of Standard I(C)]. Clients are lead to believe that the model only picks top performers and, therefore, the recommendations in the report imply that they will fall into this category.

33. C Gonzales has provided a guarantee that the investment returns are going to provide a return in excess of 15%. This is a misrepresentation of the risk inherent in the stocks and is a violation of Standard I(C) Misrepresentation, which prohibits such misrepresentations.

34. C Standard V(C) Record Retention requires members and candidates to maintain records supporting their research and investment recommendations. Gonzales has kept a copy of both his electronic and hard copy files used to generate his report and has thus complied with the Standard with regard to his record retention practices. The fact that the records are stored off site is not relevant as long as they are being appropriately maintained. Gonzales has also not violated any Standards by compiling research to support an investment recommendation he made while at another firm. As long as he did not reissue the recommendation without supporting documentation or take (without permission) the supporting documentation from the previous employer, he has not violated the Standards.

35. B Ovitz cannot rely on disclosures made by StatInvest but must disclose the referral arrangement to clients and prospects herself. It does not matter that a general overhead account is designated as the source of funds for the research purchased from StatInvest. Ryers & Ovitz, Inc., and StatInvest have an agreement that provides a form of compensation to both parties and may pose a cost to the client either directly or indirectly. In order to assess the full cost of either firms' services, the client must be aware of the referral arrangement. By not actively disclosing the agreement, Ovitz has violated Standard VI(C) Referral Fees.

36. B Standard VII(A) prohibits members and candidates from taking any action that compromises the integrity or reputation of CFA Institute, the CFA designation, or the CFA exam. Members and candidates are allowed, however, to disagree with CFA Institute policies and express their lack of agreement. Therefore, Ovitz did not violate Standard VII(A). Ovitz did violate Standard VII(B), which prohibits members and candidates from exaggerating the meaning of the CFA designation. Ovitz has implied that CFA charterholders are better investment managers and more ethical than other investment professionals, which overstates the implications of being a charterholder.

Item Set #7

37. B There is no evidence that Jackson misrepresented the characteristics of NewBio. Because she only purchased it for clients who already invest in biotech stocks, these are clients for whom biotech presumably fits their objectives and constraints. The issue concerning fact versus opinion does not appear relevant to the situation. The key issue is that Jackson acted against the advice of Super Performance's biotech analyst, who is on record as not liking the stock, so she may be hard pressed to produce records justifying her purchase of NewBio stock.

38. A The first component of the Code of Ethics states, "Act with integrity, competence, diligence, and in an ethical manner..." All of the traits described are good for an analyst to have, but none of the other combinations can be found explicitly in the Code of Ethics.

39. B The CFA and Chartered Financial Analyst designations must always be used as adjectives, never as nouns or common names. The description of Diane Takao as a Level III CFA candidate is accurate.

40. C Together, Standard IV(A) Loyalty and Standard IV(B) Additional Compensation Arrangements require that Ford and Anderson obtain written consent from both their employer (Super Performance) and the clients for whom they undertake independent practice. Anderson received written permission from his employer, but not from his clients. Ford received only verbal permission from her employer, and while she notified her clients in writing, she did not receive their permission. As such, both Ford and Anderson violated the Standard.

41. C Logic dictates that even though Eastern is volunteering to cover the costs of Wang's trading error, they will seek to offset this cost in some way. The most likely method for Eastern to recoup these costs is to reduce the soft dollar compensation to Super Performance. In so doing, Super Performance is effectively transferring resources that belong to the client (soft dollars) to itself, and this violates its fiduciary duty to its clients. The other factors listed seem reasonable or are unlikely to be affected under the situation.

42. C There is no violation. Super Performance manages discretionary accounts, so its clients need not be told about the stock, and the company can purchase the stock without disenfranchising any clients. There is no significance to a 48-hour period for trading. Super Performance's purchase of Williams & Fudd recommendations violates no Standard. As long as the firm believes Williams & Fudd's research is good and buys the stock on the open market, there is no conflict of interest.

The following is a review of the Behavioral Finance principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

THE BEHAVIORAL FINANCE PERSPECTIVE[1]

Study Session 3

EXAM FOCUS

This opening topic review introduces the concept of behavioral finance, contrasts it with traditional finance theory, and then explores its affects on investment decision making. Behavioral finance is a relatively modern concept, and the CFA Institute introduced it into the curriculum at an early stage in the evolution of the concept. It is highly likely behavioral finance will be tested with a dedicated item set or as part of a constructed response question. In constructed response it is often linked into an investment policy statement question.

Some candidates find this study session confusing. Much of the terminology is redundant in that more than one term can mean the same thing. Many of the concepts are overlapping, and most of the questions depend heavily on comprehending the terminology. Your focus should be on understanding the basic meaning of each term as given in the material.

TRADITIONAL FINANCE VS. BEHAVIORAL FINANCE

LOS 7.a: Contrast traditional and behavioral finance perspectives on investor decision making.

CFA® Program Curriculum, Volume 2, page 6

Traditional finance (TF) focuses on how individuals should behave. It assumes people are rational, risk-averse, and selfish utility maximizers who act in their own self interests without regard to social values—unless such social values directly increase their own personal utility. Such individuals will act as *rational economic men*, which will lead to efficient markets where prices reflect all available, relevant information. Traditional finance is concerned with normative analysis and determining the rational solution to a problem. It uses prescriptive analysis to look for practical tools and methods to find those rational solutions.

Behavioral finance (BF) is normative analysis, which focuses on how individuals behave and make decisions. It draws on concepts of traditional finance, psychology, and neuroeconomics. Neuroeconomics has been used to look at decision making under uncertainty, drawing on studies of brain chemistry to understand how decision making utilizes both rational and emotional areas of the brain. Behavioral finance recognizes that the way information is presented can affect decision making, leading to both

1. Terminology used throughout this topic review is industry convention as presented in Reading 7 of the 2013 CFA Level III exam curriculum.

emotional and cognitive biases. Individuals are *normal* and may or may not act in a risk-averse utility maximization manner. Their resulting decisions may be suboptimal from a rational (traditional finance) perspective. This can result in markets that temporarily or persistently deviate from efficiency.

Behavioral finance can be divided into two general categories: micro and macro. *Micro behavioral finance* is concerned with describing the decision-making processes of individuals. It attempts to explain why individuals deviate from traditional finance theory. *Macro behavioral finance* focuses on explaining how and why markets deviate from what we would term *efficient* in traditional finance.

Traditional Finance

Traditional finance is based on neoclassical economics and assumes individuals are risk-averse, have perfect information, and focus on maximizing their personal utility function. Investors who behave this way are then defined as rational, or a *rational economic man (REM)*. Such behavior leads to efficient markets where prices reflect available, pertinent information. A rational investor will exhibit utility theory, which asserts individuals have a limited budget and will select the mix of goods and services that maximize their utility. A rational decision maker will follow four self-evident rules or axioms:

- Completeness assumes individuals know their preferences and use them to choose between any two mutually exclusive alternatives. Given a choice between D or E, they could prefer D, E, or be indifferent.
- Transitivity assumes individuals consistently apply their completeness rankings. If D is preferred to E and F is preferred to D, then F must be preferred to E.
- Independence assumes rankings are also additive and proportional. If D and F are mutually exclusive choices where D is preferred and J is an additional choice that adds positive utility, then D + x(J) will be preferred to F + x(J). In this case, x is some portion of J.
- Continuity assumes utility indifference curves are continuous, meaning that unlimited combinations of weightings are possible. If F is preferred to D, which is preferred to E, then there will be a combination of F and E for which the individual will be indifferent to D.

For the Exam: Many of the assertions that are said to be self-evident under TF are not so self-evident under BF. Behavioral finance essentially asserts that this is not the way individuals always act. Most of the terminology you see here should be familiar from Levels I and II with some additions. The next section covers Bayes' formula, which was called Bayes' Theorem and posterior probabilities at Level I.

The decision process of a REM who follows these axioms can be explained using event diagrams, Bayes' formula, and updating probabilities for new information. Bayes' formula:

$$P(A \mid B)=\frac{P(B \mid A)}{P(B)}P(A)$$

where:
P(A|B) = probability of event A occurring given that event B has occurred; conditional probability of event A
P(B|A) = probability of event B occurring given that event A has occurred; conditional probability of event B
P(B) = unconditional probability of event B occurring
P(A) = unconditional probability of event A occurring

Example: Applying Bayes' formula

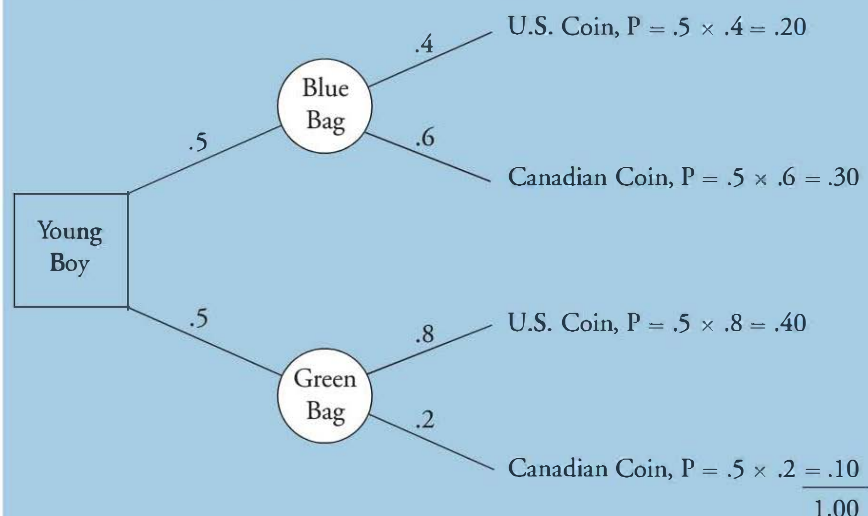
Assume a blue bag and a green bag each contain 10 coins:

- The blue bag contains 4 U.S. coins and 6 Canadian coins.
- The green bag contains 8 U.S. coins and 2 Canadian coins.

Without looking at the bags, a young boy reaches into one of them and withdraws a U.S. coin. Determine the probability that the boy reached into the blue bag.

Answer:

The first step is to draw the event diagram.



- Each bag contains 10 coins for a total of 20 coins. The probability of any single coin coming from either the blue or green bag is 10/20 = .5.
- The probability of withdrawing a U.S. coin from the blue bag is 4 out of 10 = 40%.
- The probability if withdrawing a U.S. coin from the green bag is 8 out of 10 = 80%.

If it was not known a U.S. coin had been drawn, then the probability the blue bag was selected would be 50% as there were only two choices. However, knowing a U.S. coin was drawn allows the probabilities to be updated for this information. Knowing a U.S. coin was pulled from a bag, what is the probability the boy reached into the blue bag? The answer is the probability of selecting a U.S. coin from the blue bag (.5 × .4 = .20) over the total probability that a U.S. coin would be selected from either bag (.40 + .20 = .60) for a probability of .20/.60 = 33.3%. Using the equation, it is:

$$P(A \mid B) = \frac{P(B \mid A)}{P(B)} P(A) = \frac{40\%}{60\%}(50\%) = 33.3\%$$

where:
P(A|B) = probability that the blue bag was selected given that the boy withdrew a U.S. coin (to be determined)
P(B|A) = probability of withdrawing a U.S. coin given that the blue bag was selected = 40%
P(B) = probability of withdrawing a U.S. coin = 60%
P(A) = probability of selecting the blue bag = 50%

For the Exam: A Level III candidate developed a study plan six months before the exam after carefully considering their personal strengths and weaknesses, their available study time, and the exam weight of each topic. It is now three weeks prior to the exam and, as often happens, the candidate is behind on the study plan. The candidate becomes even more determined to complete the original study plan.

It could be said the candidate is failing to adjust probability weights for new information. The new information is that the remaining time to study is only three weeks, and the original study plan is no longer optimal. The candidate has not updated the study schedule to weigh study time for the probability material is important on the exam and for the limited three weeks of study time available. Subsequent BF concepts will also suggest the candidate is committing numerous cognitive and emotional errors to the candidate's detriment.

RISK AVERSION

Traditional finance generally assumes individuals are risk-averse and prefer greater certainty to less certainty. In contrast, behavioral finance assumes that individuals may be risk-averse, risk-neutral, risk-seeking, or any combination of the three; the way something is presented can affect decision making. The concepts can be illustrated by considering what a person would pay to participate in an investment with an equal probability of the investment paying back immediately GBP 100 or GBP 200. In other words, it would pay back on average GBP150.

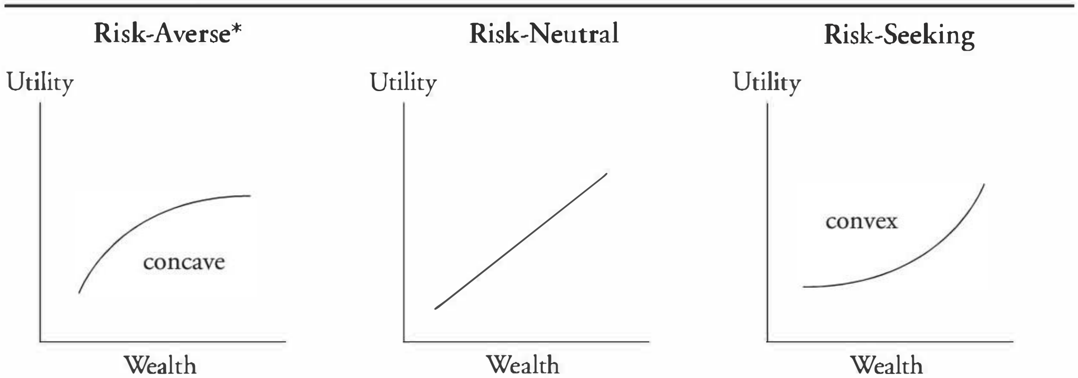
Risk-averse. The risk-averse person suffers a greater loss of utility for a given loss of wealth than they gain in utility for the same rise in wealth. Therefore, they would pay less than GBP 150 for an uncertain, but expected, payoff of GBP 150.

Risk-neutral. The risk-neutral person gains or loses the same utility for a given gain or loss of wealth and would be willing to pay GBP 150 for the expected payoff of GBP 150.

Risk seeker. The risk-seeking person gains more in utility for a rise in wealth than they lose in utility for an equivalent fall in wealth. Therefore, they would pay more than GBP 150.

In each case, the person's utility (satisfaction) is a function of wealth and can be described graphically.

Figure 1: Utility Function of Wealth



* Generally assumed for Traditional Finance Theory

Challenges to Traditional Finance and the Rational Economic Man

Behavioral finance does not assume individuals are always risk-averse, that they adhere to Bayes' formula, that they act in their own self-interest, or that they have perfect information. Individuals sometimes act as rational economic men (REM), but at other times, their behavior is better explained by psychology. Challenges to REM include:

- Decision making can be flawed by lack of information or flaws in the decision-making process.
- Personal inner conflicts that prioritize short-term (spending) goals over long-term (saving) goals can lead to poor prioritization.
- Lack of perfect knowledge is perhaps the most serious challenge to REM. How many individuals can properly asses the impacts of a change in central bank policy on their future wealth?
- Wealth utility functions may not always be concave as assumed by utility theory, and individuals can sometimes exhibit risk seeking behavior.

UTILITY THEORY AND PROSPECT THEORY

LOS 7.b: Contrast expected utility and prospect theories of investment decision making.

CFA® Program Curriculum, Volume 2, pages 16

For the Exam: This material is very theoretical, and it is not always clear in the reading exactly what could be relevant to any particular LOS. You would be wise to work through the end-of-chapter questions for the CFA readings to get a better sense of what level of detail is expected.

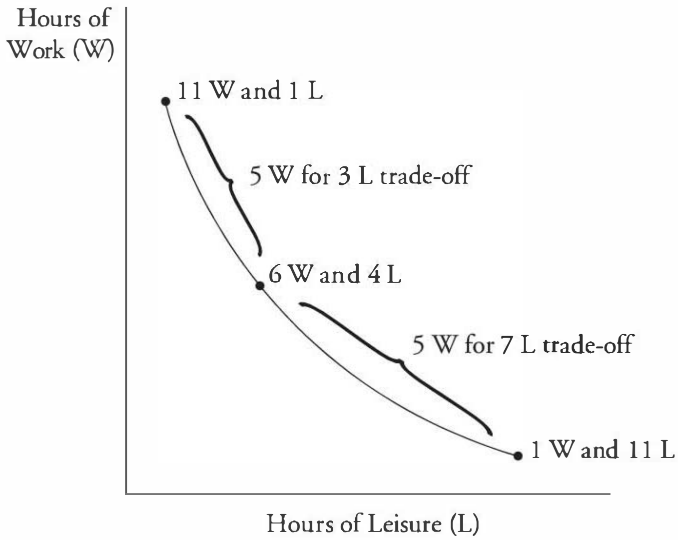
Utility Theory and Indifference Curves

Traditional finance is based in **utility theory** with an assumption of diminishing marginal return. This leads to two consequences. First, the risk-averse utility function is concave. As more and more wealth is added, utility (satisfaction) increases at a diminishing rate. Second, it leads to convex indifference curves due to a diminishing marginal rate of substitution.

For example, consider an individual looking at the trade-off between paid hours of work (W) and unpaid hours of leisure (L). Suppose an individual has 12 hours available in a day after allowing for sleep, eating, and other needs. How would the individual split work hours and leisure hours to maintain an indifferent level of satisfaction?

- Suppose the individual currently works 11 hours with 1 hour of leisure. Having little leisure time, the individual might trade 5W for 3L, a 5/3 trade-off, that results in a total of 6W and 4L at the same level of satisfaction.
- From the new indifference point, adding more leisure adds less marginal utility. The individual might only give up 5 more W for 7L, a 5/7 trade-off, resulting in 1W and 11L.
- At any point on the indifference curve, they are equally satisfied.

Figure 2: Trade-Off between Work and Leisure

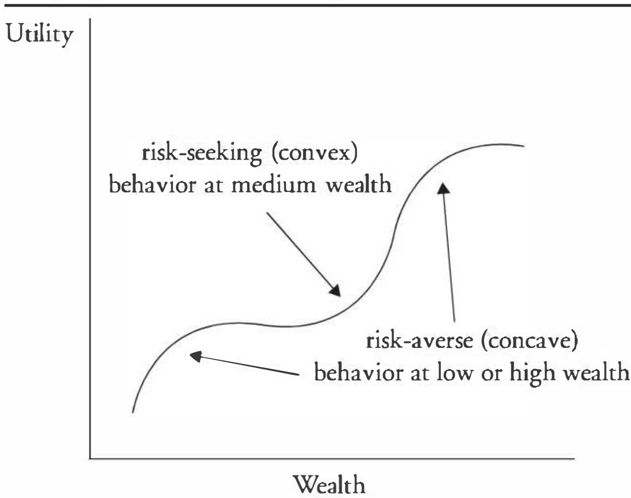


While indifference curves and utility theory appear rational, they ignore that many individuals are unable to quantify such mathematical trade-offs. Indifference curves also don't explicitly consider risk and the assumption of risk aversion. For example, during recessions when jobs are scarce, the trade-off of W for L would likely change.

Complex Risk Functions

Behavioral finance observes that individuals sometimes exhibit risk-seeking as well as risk-averse behavior. Many people simultaneously purchase low-payoff, low-risk insurance policies (risk-averse behavior) and low-probability, high-payoff lottery tickets (risk-seeking behavior). Combinations of risk seeking and risk aversion may result in a complex double inflection utility function.

Figure 3: Friedman-Savage, Double-Inflextion Utility Function



Decision Theory

Decision theory is focused on making the ideal decision when the decision maker is fully informed, mathematically able, and rational. The theory has evolved over time.

- Initial analysis focused on selecting the highest probability-weighted payoff.
- Later evolution separated expected value, which is just the market price of an item paid by anyone versus expected utility. Expected utility is subjective and depends on the unique preferences of individuals and their unique rate of diminishing marginal utility and substitution.
- Risk is defined as a random variable due to the one outcome that will occur from any probability-weighted analysis. For example, a stock has an E(R) of 10% but returns 12%. Risk can be incorporated into analysis by maximizing expected utility.
- In contrast, uncertainty is unknowable outcomes and probabilities. It is, by definition, immeasurable and not amenable to traditional utility maximization analysis.
- Subjective analysis extends decision theory to situations where probability cannot be objectively measured but is subjective.

LOS 7.c: Discuss the effects of cognitive and knowledge capacity limitations on investment decision making.

CFA® Program Curriculum, Volume 2, page 21

In traditional finance, all investors are assumed to possess the same information and interpret it accurately and instantly, without bias, in evaluating investments and in making utility-maximizing decisions. Behavioral finance acknowledges that investors do not always make decisions consistent with this form of utility maximization.

Bounded Rationality

Bounded rationality assumes knowledge capacity limits and removes the assumptions of perfect information, fully rational decision making, and consistent utility maximization. Individuals instead practice satisfice. Outcomes that offer sufficient satisfaction, but not optimal utility, are sufficient.

Professor's Note: Cognitive limitations stem from a lack of the resources, mental or mechanical, to thoroughly interpret information. Knowledge limitations refer to the inability to have all relevant information.

Example: Satisfice and bounded rationality

Jane Smith has excess funds she can deposit to earn interest. She wants the funds to be backed by the government, so she visits the bank closest to her workplace. The rate seems acceptable, and she makes the deposit after verifying that the deposits are government insured. Is her behavior consistent with a rational economic man?

Answer:

No. Smith is showing bounded rationality and satisfice. The rate was adequate and met the condition of government guarantee, so she accepted it. She did not research all other options or have perfect information (bounded rationality). There is no reason to expect that this particular rate is the optimal solution.

Prospect Theory

For the Exam: The LOS and end-of-chapter questions are conceptually focused and not mathematically focused. The discussion of the evaluation phase of prospect theory specifically says "a quantitative illustration ... is complex and not necessary to review here." No math is provided.

Bounded rationality relaxes the assumptions of perfect information and maximizing expected utility. Prospect theory further relaxes the assumption of risk aversion and instead proposes loss aversion. Prospect theory is suited to analyzing investment decisions and risk. It focuses on the framing of decisions as either gains or losses and weighting uncertain outcomes. While utility theory assumes risk aversion, prospect theory assumes loss aversion.

Under prospect theory, choices are made in two phases. In the first phase, the editing phase, proposals are framed or edited using simple heuristics (decision rules) to make a preliminary analysis prior to the second evaluation phase. In the editing phase, economically identical outcomes are grouped and a reference point is established to rank the proposals. The goal of the editing phase is to simplify the number of choices that must be made before making the final evaluation and decision. Doing so addresses the cognitive limitations individuals face in evaluating large amounts of information. The risk is that the selection of the reference point frames the proposal as a gain or loss and affects the subsequent evaluation or decision step.

In the second phase, the evaluation phase, investors focus on loss aversion rather than risk aversion. The difference is subtle, but the implication is that investors are more concerned with the *change in wealth* than they are in the resulting level of wealth, per se. In addition, investors are assumed to place a greater value in change on a loss than on a gain of the same amount. Given a potential loss and gain of equal sizes, the increase in utility associated with the potential gain is smaller than the decrease in utility (i.e., disutility) associated with the potential loss. Investors tend to fear losses and can become risk seeking (assume riskier positions) in an attempt to avoid them.

Experiments have shown that most individuals will not take a gamble that offers 50/50 odds of equal but opposite payoffs. For example, the average individual will not take a gamble with 50% probability of winning $100 and 50% probability of losing $100, even though the expected outcome is $0. The possible gain would have to be increased to at least $200 (at least double the possible loss) to entice the average individual to take the gamble.

Example: Framing the decision as a gain or loss

Portfolio Assets	*Current Price*	*Cost Basis*	*Yesterday's Close*	*Year-end Close*
A	10	7	11	9
B	12	13	13	13
C	14	9	15	13

Which asset has the largest percentage loss?

Answer:

It depends on the selected (framed) reference point to determine perceived loss. A perception can affect subsequent decisions. For example, if yesterday's close is the reference point, every asset has a perceived loss with Asset A having the largest percentage loss. However, if cost basis is the selected reference, then B has the largest percentage loss while A and C have gains.

Editing Phase

The early editing phase can involve a large number of operations. The precise sequence and number of steps is determined by the data. The first three steps may apply to individual proposals.

1. **Codification** codes the proposal as a gain or loss of value and assigns a probability to each possible outcome. To do this, the reference point must be selected.

2. **Combination** simplifies the outcomes by combining those with identical values. For example, an investor might probability weight expected returns of a stock (codification) and then combine identical outcomes.

Figure 4: Example of Combination

Outcomes:		*Combined Outcomes:*	
Probability (p)	*E(R)*	*Probability (p)*	*E(R)*
.10	–5%	.10	–5%
.20	0%	.20	0%
.20	10%		
.30	10%	.50	10%
.20	20%	.20	20%
1.00		1.00	

3. **Segregation** can be used to separate an expected return into both a risk-free and risky component of return. For example, assume a gamble offers a 75% chance of a $100 payoff and a 25% chance of paying $150. This can be segregated as a 100% risk-free payoff of $100 and a 25% chance of another $50.

The next three steps may apply when comparing two or more proposals.

4. **Cancellation** removes any outcomes common to two proposals. Overlapping outcomes would not affect any decision.

Figure 5: Example of Cancelation

	Before Cancelation:			*After Cancelation:*		
Proposal A:						
E(R)	5%	10%	15%			15%
p	.333	.333	.333			.333
Proposal B:						
E(R)	5%	10%		5%	10%	
p	.50	.50		.167	.167	

5. **Simplification** applies to very small differences in probabilities or to highly unlikely outcomes. For example, a 49% chance of $500 with a 50% chance of $700 and a 1% chance of $750 might be simplified as an equal chance of $500 or $700.

6. **Detection of dominance** would discard from consideration any proposal that is clearly dominated. The previous 50/50 chance of $500 or $700 dominates an equal chance of $400 or $600 in every regard: higher average, higher minimum, and higher maximum.

Editing choices can sometimes lead to the preference anomaly known as the **isolation effect**, where investors focus on one factor or outcome while consciously eliminating or subconsciously ignoring others. It is referred to as an anomaly because the sequence of the editing can lead to different decisions.

Example: The isolation effect

Assume an individual is asked to choose between two lotteries:

- Lottery 1 offers payoffs of a 33% chance of $3,000 or nothing.
- Lottery 2 offers payoffs of a 20% chance of $5,500 or nothing.

The expected (probability weighted) payoffs are $1,000 and $1,100 respectively.

Not surprisingly empirical studies show that most individuals select the higher and rational payoff of Lottery 2.

However, framing the lottery (e.g., changing the order of presentation) can affect the selection. Suppose the expected payoffs of Lottery 1 and Lottery 2 in this case were maintained, but they were recast to occur in the second stage of a two-stage lottery. In the new game, the first stage has a 67% chance in ending in a zero payoff and a 33% chance of moving on to the second stage. The second stage will consist of either Lottery 3 or Lottery 4, but an individual must select to participate in either Lottery 3 or Lottery 4 before the first stage is played. In other words, it is not known if the individual has moved to the second stage before selecting Lottery 3 or Lottery 4. They do know that:

- Lottery 3 offers payoffs of a 100% chance of $3,000 or nothing.
- Lottery 4 offers payoffs of a 60% chance of $5,500 or nothing.

What is surprising is that a majority of individuals now choose Lottery 3 even though it has an expected payoff of $1,000 versus $1,100 for Lottery 4. This is the opposite of the choice made when confronted with choosing between Lottery 1 and Lottery 2.

Expected payoffs:

Lottery 1: $.33 \times \$3{,}000 \approx \$1{,}000$

Lottery 2: $.20 \times \$5{,}500 = \$1{,}100$

Lottery 3: $.33 \times 1.00 \times \$3{,}000 \approx \$1{,}000$

Lottery 4: $.33 \times .60 \times \$5{,}500 \approx \$1{,}100$

Empirical studies have shown the framing and order of the lottery can produce inconsistent and irrational choices.

Professor's Note: Please do not send in emails saying the calculations above are not precise. The ≈ sign was used intentionally, and the calculations are demonstrating the simplification step.

The Evaluation Phase

In the **evaluation phase**, investors place values on alternatives in terms of weighted and probability-weighted outcome to determine expected utility. A quantitative illustration is complex and specifically stated to be unnecessary to the purpose of the reading (thus, it is not presented here). The equation is shown as:

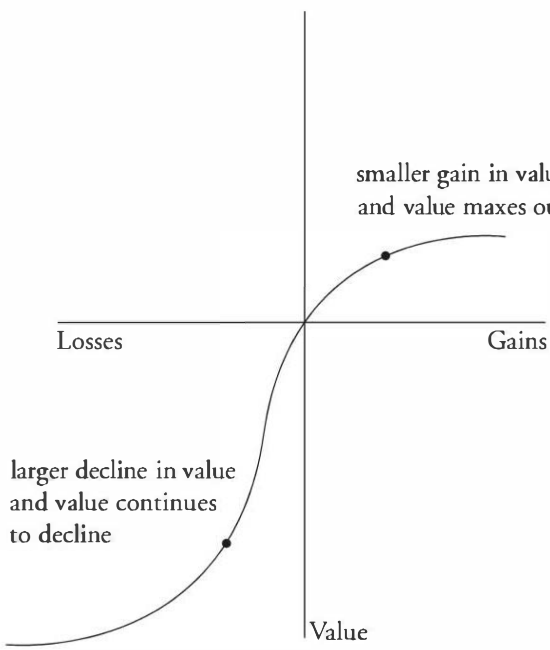
$$\text{utility} = w(p_1)v(X_1) + w(p_2)v(X_2) + \ldots$$

where:
p_1 and p_2 = probability weights of possible outcomes X_1 and X_2
v = a function that assigns value to an outcome
w = a probability weighting function

The important implications are:

- *w* reflects a tendency of individuals to overreact to small probabilities and underreact to large probabilities.
- The value function is based on changes and is not level.
- The resulting value function is S-shaped and asymmetric. Individuals experience a greater decline in value for a given loss than a rise in value for a corresponding gain.

Figure 6: Value Function



- As a result, most investors are risk averse when presented with gains. Empirical studies show that when given an equal chance of making \$100 or losing \$70, most individuals will not take the bet. They are risk averse and want a higher expected payoff than \$15.
- However, most individuals are risk seekers when confronted with likely losses. Offered the choice of a sure loss of \$75 or a 50/50 chance of winning \$30 or losing \$200, they exhibit risk-seeking behavior by taking the bet that has an expected payoff of –\$85. The bet is worse than the sure loss of \$75.
- This could explain why many investors over-concentrate in high-risk and low-risk investments but not medium-risk investments.

Figure 7: Summary of Traditional Finance versus Bounded Rationality and Prospect Theory

Traditional Finance Assumes:	*Bounded Rationality* and Prospect Theory** Assume:*
Unlimited perfect knowledge	Capacity limitations on knowledge*
Utility maximization	Satisfice*
Fully rational decision making	Cognitive limits on decision making*
Risk aversion	Reference dependence to determine gain or loss leading to possible cognitive errors**

Capital Markets and Portfolio Construction

LOS 7.d: Compare traditional and behavioral finance perspectives on portfolio construction and the behavior of capital markets.

CFA® Program Curriculum, Volume 2, page 27

The Traditional Finance Perspective

Much of modern portfolio theory is premised on the *efficient market hypothesis* (EMH). The EMH presumes market prices reflect all relevant available information. The aggregate decision making of market participants is correct even if individual investors are wrong. The resulting efficient prices reflect intrinsic value and do not allow investors to earn excess, risk-adjusted returns after allowing for transaction costs. The EMH proposes three versions of efficiency:

- A market is weak-form **efficient** if current prices incorporate all past price and volume data. If markets are weakly efficient, managers cannot consistently generate excess returns using technical analysis (charting).
- If a market is semi-strong form **efficient**, prices reflect all public information, including past price and volume data. The moment valuable information is released, it is fully and accurately reflected in asset prices. If markets are semi-strong form efficient, managers cannot consistently generate excess returns using technical or fundamental analysis.
- Strong-form **efficiency** requires prices to reflect all privileged nonpublic (i.e., inside) information as well as all public information, including past price and volume data. If a market is strong-form efficient, no analysis based on inside and/or public information can consistently generate excess returns. Strong-form efficiency is not generally accepted as nonpublic information is associated with excess returns.

For the Exam: Presume the EMH is generally correct, but also be aware of the evidence that supports and contradicts it.

Support for the EMH

The weak form of the EMH has been the most studied and supported. If past security prices show strong serial correlation, then past prices could be used to predict subsequent changes. Nevertheless, historical studies show virtually zero serial correlation, which is consistent with weak-form efficiency. Stock price changes appear random.

However, the random nature of stock prices does not by itself support the further notion that the *price is right* and that price correctly reflects intrinsic value. Accepting the price as right when it does not, in fact, reflect intrinsic value could lead to a serious misallocation of portfolio resources.

Tests of the semi-strong form have focused on two areas:

- Event studies, such as the announcement of a stock split, look for evidence that such events are predictive of future stock price movement. In itself, a stock split creates no economic value and should not affect the split adjusted price. However, splits are strongly associated with abnormal dividend increases that might reflect rising economic value. Event studies show that stock prices rise abnormally for up to two years before the split and complete an upward adjustment coincident with the split announcement. This is consistent with the semi-strong EMH. Of course, if you knew ahead of time that the split and dividend increases were coming, it would allow you to earn excess returns. The ability to benefit from advance inside information is consistent with semi-strong form but is a rejection of strong-form efficiency.
- Other studies focus on the aggregate ability of professional managers to generate positive excess return or alpha. Studies of mutual fund managers show the majority have negative alphas both before and after management fees. This is consistent with semi-strong EMH. This is sometimes referred to as *no free lunch*, which asserts that it is difficult or impossible to consistently outperform on a risk-adjusted basis.

Challenges to EMH

Some studies do find evidence that appears to be or is inconsistent with the EMH. If such market anomalies persist, those anomalies argue for inefficiency of markets. Several different forms of anomalies have been identified.

Fundamental anomalies would relate future stock returns to stock fundamentals, such as P/E or dividend yield. Fundamental anomalies would be violations of both semi-strong and strong-form efficiency.

Numerous studies have shown evidence that value stocks with lower P/E, P/B, and P/S, higher E/P and B/P, and dividend yield outperform growth stocks (which tend to have the opposite fundamental characteristics).

Studies show abnormal positive returns for small-cap stocks.

Other studies suggest the abnormal return of value stocks is not evidence of excess return but of higher risk. Fama and French (1995, 2008) propose extending the capital asset pricing model (CAPM) to include market cap and B/P as priced risks. Analysis using these revised risk premiums suggests the apparent excess returns are just a failure to properly adjust (upward) for risk.

For the Exam: This discussion is a perfect example of the kind of material you will commonly see at Level III. You could be asked to discuss evidence that contradicts the EMH and then to critique that same evidence. You are expected to understand both sides of the issue when the material is well discussed in the curriculum.

Technical anomalies relate to studies of past stock price and volume. Technical anomalies would be violations of all three forms of efficiency. (Hint: Remember the semi-strong and strong forms encompass the weak form as well.)

- Studies have shown that when a short-term (1-, 2-, or 5-day) moving average of price moves above (below) a longer-term (50-, 150-, or 200-day) moving average, it signals a buy (sell). Other studies show that when a stock price rises above a resistance level, it signals a buy; if the stock price moves below a support level, it signals a sell. As such, the signals do provide value.
- Calendar anomalies appear to show that stocks (small-cap stocks in particular) have abnormally high returns in January, in the last day of each month, and in the first four days of each month.
- Such technical anomalies appear to be violations of all forms of EMH. Transaction costs remove most of the benefits, and any remaining benefit(s) should disappear as an investor buys and sells securities to exploit the opportunities. In other words, the investor will arbitrage the opportunities. The ability of investors to withdraw funds from a manager may limit arbitrage activity. An arbitrageur takes positions in anticipation those prices will correct, often using high leverage. For example, the arbitrageur could take a position to exploit the January effect, buying a stock in anticipation of the rise. If prices do not move up as quickly as expected, the arbitrageur's investors may become dissatisfied and withdraw funds. The arbitrageur must then sell, pushing down the stock price, which is the opposite of what was expected. Such liquidity issues may put limits on the ability of arbitrage to establish market efficiency. A highly leveraged arbitrageur must be correct and market prices must quickly correct quickly and in the way expected.

The Behavioral Finance Perspective

Traditional finance (TF) assumes markets are efficient and prices reflect fundamental value. New information is quickly and properly reflected in market prices. Portfolio managers can focus on identifying efficient portfolios on the efficient frontier that meet the client's objectives of risk and return while also observing the investor's constraints. (These ideas of portfolio management will be extensively covered in later study sessions.) However, if prices are not correctly reflecting intrinsic value, or at least providing the best indication possible, this approach to portfolio management is flawed.

Behavioral finance (BF) challenges these traditional finance notions. It has not yet been able to propose a unified, alternative theory. Four alternative behavioral models have been proposed: (1) consumption and savings, (2) behavioral asset pricing, (3) behavioral portfolio theory, and (4) the adaptive markets hypothesis.

For the Exam: The previous section on TF, along with a conceptual understanding of the four alternative models that follows, is the most direct answer to LOS 7.d.

1. **Consumption and savings**: Traditional finance assumes investors are able to save and invest in the earlier stages of life to fund later retirement. This requires investors to show self control by delaying short-term spending gratification to meet long-term goals. The consumption and savings approach proposes an alternative *behavioral life-cycle model* that questions the ability to exercise self control and suggests individuals instead show mental accounting and framing biases. Investors mentally account and frame wealth as current income, assets currently owned, and present value of future income.

   Traditional finance assumes that all forms of wealth are interchangeable. Behavioral finance presumes the mental accounting for wealth by source makes individuals less likely to spend from current assets and expected future wages. Therefore, individuals will overcome at least some of their lack of self-control to save some of what they will need to meet long-term goals. This also makes them subject to framing bias. For example, if individuals perceive a bonus as current income, they are more likely to spend it. If they perceive it as future income, they are more likely to save it.

2. **Behavioral asset pricing**: Traditional asset pricing models (e.g., CAPM) assume market prices are determined through an unbiased analysis of risk and return. The intrinsic value of an asset is its expected cash flows discounted at a required return, based on the risk-free rate and a fundamental risk premium. The behavioral asset pricing model adds a **sentiment premium**[2] to the discount rate; the required return on an asset is the risk-free rate, plus a fundamental risk premium, plus a sentiment premium. The sentiment premium can be estimated by considering the dispersion of analysts' forecasts. A high dispersion suggests a higher sentiment premium.

   Under the traditional CAPM, the sentiment premium would be unwarranted. If this added, erroneous error is systematic and predictable, it might be possible to exploit it. If it is random, it will be more difficult to exploit.

For the Exam: The reading does not elaborate on this point, but consider the earlier discussion of arbitrage. If a price can be identified as wrong and is expected to quickly correct, it can be exploited to earn excess profit. If it just stays wrong, the arbitrage does not work.

2. The sentiment premium is referred to as a **stochastic discount factor** (SDF) in the proposed asset pricing model and is based on investor sentiment relative to fundamental value. Shefrin, Hersh, and Meir Statman, 1994. "Behavioral Capital Asset Pricing Theory." *Journal of Financial and Quantitative Analysis*, vol. 35, no. 2.

3. **Behavioral portfolio theory (BPT)**: Based on empirical evidence and observation, rather than hold a well-diversified portfolio as prescribed by traditional finance, individuals construct a portfolio by layers. Each layer reflects a different expected return and risk. BPT further asserts that individuals tend to concentrate their holdings in nearly risk-free or much riskier assets. Allocation of funds to an investment of each layer depends on:
   - The importance of each goal to the investor. If a high return for the goal is important, funds will be allocated to the high-return (high-risk) layer. If low risk is crucial to the goal, funds will be allocated to the low-risk (low-return) layer.
   - Asset selection will be done by layer and based on the goal for that layer. If high return is the goal, then higher-risk, more-speculative assets will be selected.
   - The number of assets in a layer will reflect the investor's risk aversion. Risk-averse investors with a concave utility function will hold larger numbers of assets in each layer.
   - If an investor believes they hold an information advantage (have information others do not have), more concentrated positions will be held.
   - If an investor is loss-averse, the investor will hold larger cash positions to avoid the possible need to sell assets at a loss to meet liquidity needs.

   The resulting overall portfolio may appear to be diversified but is likely to be sub-optimal because the layers were constructed without regard to their correlation with each other. Such layering can explain:

   - The irrational holding of both insurance and lottery tickets, as discussed earlier.
   - Holding excess cash and low-risk bonds in the low-risk layer and excessively risky assets in the high-risk layer. (This also includes not holding more moderate-risk assets.)

4. **Adaptive markets hypothesis (AMH)**: The AMH assumes successful market participants apply heuristics until they no longer work and then adjust them accordingly. In other words, success in the market is an evolutionary process. Those who do not or cannot adapt do not survive.

   Because AMH is based on behavioral finance theory, it assumes investors satisfice rather than maximize utility. Based on an amount of information they feel is sufficient, they make decisions to reach subgoals, steps that advance them toward their desired goal. In this fashion, they do not necessarily make optimal decisions as prescribed by utility theory or act as REM. Through trial and error, these heuristic rules that work come to be adopted by more and more participants until they are reflected in market pricing and then no longer work. The market evolves.

   AMH leads to five conclusions:

   - The relationship of risk and return should not be stable. The market risk premium changes over time as the competitive environment changes.
   - Active management can find opportunities to exploit arbitrage and add value.
   - No strategy should work all the time.
   - Adaption and innovation are essential to continued success.
   - Survivors change and adapt.

   AMH is essentially EMH with bounded rationality, satisficing, and evolution. In AMH, the degree to which the market is efficient will depend on the degree

Study Session 3

of competition in the market, the availability of profit, and the flexibility of participants to exploit opportunity.

Hopefully, in time, the insights of behavioral finance will allow for the construction of portfolios that are efficient from a traditional finance perspective and understandable to investors. If an investor can understand the portfolio, the investor is more likely to stay with it for the long run.

KEY CONCEPTS

LOS 7.a

Traditional finance is *prescriptive*; it explains how investors *should* make investment decisions based on mathematical models and theories. Behavioral finance is *descriptive*; it tries to explain *observed* investor decision making.

To maximize utility, a rational investor will make decisions conforming to the four axioms of utility: completeness, transitivity, independence, and continuity.

With the receipt of new, relevant information, rational investors revise expectations utilizing a Bayesian framework.

LOS 7.b

Traditional finance is based in utility theory and an assumption of diminishing marginal return. This leads to two consequences. First, the risk-averse utility function is concave. As more and more wealth is added, utility (satisfaction) increases at a diminishing rate. Second, it leads to convex indifference curves due to a diminishing marginal rate of substitution.

Decision theory is focused on making the ideal decision when the decision maker is fully informed, mathematically able, and rational. The theory has evolved over time.

- Initial analysis focused on selecting the highest probability-weighted payoff.
- Later evolution separated expected value, which is just the market price of an item paid by anyone, from expected utility. Expected utility is subjective and depends on the unique preferences of individuals and their unique rate of diminishing marginal utility and substitution.
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- In contrast, uncertainty is unknowable outcomes and probabilities. It is, by definition, immeasurable and not amenable to traditional utility maximization analysis.
- Subjective analysis extends decision theory to situations where probability cannot be objectively measured but is subjective.

LOS 7.c

Bounded rationality means that individuals act as rationally as possible, given their lack of knowledge and lack of cognitive ability.

Rather than optimize, individuals satisfice. Investors gather what they consider to be an adequate amount of information and apply heuristics to arrive at an acceptable decision. The result is that the investor takes steps and accepts short-term goals toward the ultimately desired goal. The investor does not necessarily make the theoretically optimal decision from a tradition finance perspective.

LOS 7.d

Traditional finance (TF) assumes markets are efficient and prices reflect fundamental value. New information is quickly and properly reflected in market prices. Portfolio managers can focus on identifying efficient portfolios on the efficient frontier that met the client's objectives of risk and return while observing the investor's constraints. (These ideas of portfolio management will be extensively covered in later study sessions.) However, if prices are not correctly reflecting intrinsic value, or at least providing the best indication possible, this approach to portfolio management is flawed.

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3. **Behavioral portfolio theory (BPT)**: Based on empirical evidence and observation, rather than hold a well-diversified portfolio as prescribed by traditional finance, individuals construct a portfolio by layers. Each layer reflects a different expected return and risk. BPT further asserts that individuals tend to concentrate their holdings in nearly risk-free and much riskier assets. Allocation of funds to and investment of each layer depends on the importance of each goal to the investor. If a high return for the goal is important funds will be allocated to the high return (high risk) layer in the form of more speculative assets. If low risk is crucial to the goal then funds will be allocated to the low risk (low return layer) in the form of larger cash positions and low risk bonds. Risk-averse investors with a concave utility function will hold larger numbers of assets in each layer. If an investor believes they hold an information advantage (have information others do not have) more concentrated positions will be held.

4. **Adaptive markets hypothesis** (AMH): The AMH assumes successful market participants apply heuristics until they no longer work and then adjust them accordingly. In other words, success in the market is an evolutionary process. Those who do not or cannot adapt do not survive. AMH assumes investors satisfice rather than maximize utility.

Concept Checkers

1. An investor has ranked three investments and labeled them as A, B, and C. He prefers investment A to investment B and investment B to investment C. Not being able to rank investment A relative to investment C would *most likely* violate which of the four axioms of utility?
   A. Continuity.
   B. Dominance.
   C. Transitivity.

2. Applying the independence axiom of utility, an investor who prefers investment A to investment B and has the option to add all or a portion of investment C to his selection would **NOT** prefer:
   A. (A + C) to (B + C).
   B. (A + 0.25C) to (B + 0.25C).
   C. (B + 0.75C) to (A + 0.75C).

3. Data for two investments are presented below:

Investment	*Expected Return*	*Standard Deviation*
A	8%	20%
B	10%	20%

   A rational investor who selects investment B over investment A would *most likely* have a utility function characterized as:
   A. concave.
   B. convex.
   C. linear.

4. An investor who actively seeks risk in investing *most likely* experiences:
   A. constant marginal utility.
   B. decreasing marginal utility.
   C. increasing marginal utility.

5. According to prospect theory, investors are more concerned with changes in wealth than in returns, per se. Prospect theory suggests that investors:
   A. are risk averse.
   B. can be loss averse.
   C. place more value on gains than on losses of equal magnitude.

Study Session 3

6. Based on the following data, **determine** and **explain** using expected utility whether or not the investor is likely to make the investment.

Outcome	*Utility*	*Probability of Occurrence*	*Subjective Probability Factor*
–8%	–120	15%	1.25
0%	–10	40%	1.15
6%	50	30%	0.85
10%	100	15%	0.65
Total	20	100%	

7. At lunch, two portfolio managers discuss their recent trades. One complains that it is extremely difficult if not impossible to gather and analyze all relevant available information before trading. He admits that he often just "goes with" the information he has. **Determine** the behavioral bias most likely indicated by his actions and **explain** your choice.

8. Satisficing is *best* described as:
   A. making short-term, suboptimal decisions.
   B. making utility-maximizing decisions.
   C. a form of bounded rationality that causes investors to act rationally.

9. Two analysts are overheard discussing market efficiency. They make the following statements:

"I don't care who you are. The stock market is semi-strong efficient, so you can't consistently generate excess returns. There are no free lunches!"

"The January effect is proof enough that markets are not strong-form efficient."

Determine whether you agree or disagree with each statement, and if you disagree, **justify** your decision. Answer in the template provided.

Statement	*Agree/Disagree*	*Justification*
"I don't care who you are. The stock market is semi-strong efficient, so you can't consistently generate excess returns. There are no free lunches!"	Agree Disagree	
"The January effect is proof enough that markets are not strong-form efficient."	Agree Disagree	

10. Two analysts are overheard discussing technical trading rules. One says, "I have noticed over the last year or so that the market rises to about 11,000 and then falls back. It seems to do that every two to three months. At the bottom, it goes to about 10,000 and then rebounds. It's sort of like watching a roller coaster." From a technical standpoint, the numbers 10,000 and 11,000 in the analyst's statement would *most likely* be referred to respectively as:
A. a fundamental anomaly and a technical anomaly.
B. a support and a resistance level.
C. both would be considered fundamental anomalies.

11. Two analysts are overheard discussing technical trading rules. One says, "I have noticed over the last year or so that the market rises to about 11,000 and then falls back. It seems to do that every two to three months. At the bottom, it goes to about 10,000 and then rebounds. It's sort of like watching a roller coaster."

The market consistently staying in a band between 10,000 and 11,000 is *most likely* to be used as evidence against which form of market efficiency?
A. Weak-form efficient.
B. Semi-strong form efficient.
C. Strong-form efficient.

12. An analyst states that investors should not conclude that market prices do not fully reflect all public information simply because they can temporarily wander from their intrinsic values. Use a liquidity argument to **explain** why the analyst is correct.

13. Beth Smargen, CFA candidate, makes the following statement:

"The behavioral asset pricing model incorporates a sentiment premium when valuing assets. For example, the more strongly analysts feel about a security, the greater the sentiment premium and the higher the price."

In the template, **indicate** by circling whether you agree or disagree with Smargen's statement. If you disagree, justify your decision.

Statement	*Agree/Disagree*	*Justification*
"The behavioral asset pricing model incorporates a sentiment premium when valuing assets. For example, the more strongly analysts feel about a security, the greater the sentiment premium and the higher the price."	Agree Disagree	

Answers – Concept Checkers

1. C According to transitivity, investment rankings must be applied consistently. If an investor prefers investment A to investment B and prefers investment B to investment C, he must prefer investment A to investment C. Continuity is the axiom of utility that must apply for indifference curves to be smooth and unbroken (continuous). Dominance has two, similar meanings. In portfolio theory, dominance is a characteristic of portfolios on the efficient frontier (EF). Portfolios on the EF are said to dominate any portfolio below the efficient frontier. In a similar fashion, during the editing phase of prospect theory, an investor will eliminate any investment opportunity he perceives as being dominated by others.

2. C Adding choice C to both A and B will not affect the preference ranking of A and B. If the investor prefers A to B and we add C to both choices, the investor will prefer (A + C) over (B + C). This also applies to adding a portion of C.

3. A A rational investor will maximize return for a given level of risk and minimize risk for a given level of return. Rational investors experience decreasing marginal utility, meaning that their utility functions are concave. Each additional unit of wealth increases their utility but at a decreasing rate. Risk-neutral investors more or less ignore risk and have linear utility functions (constant marginal utility), and risk seekers have convex utility functions. We are told the investor is rational, so we can rule out the linear and convex utility functions.

4. C An investor who actively seeks risk in investments would be classified as risk seeking and would experience increasing marginal utility; each additional unit of wealth produces more utility than the previous unit, so the investor derives utility out of riskier investments with high expected returns. This investor would have a convex utility function. Constant marginal utility refers to risk-neutral investors with linear utility functions, and decreasing marginal utility applies to risk-averse investors with concave utility functions.

5. B One of the foundations of prospect theory loss aversion. Investors focus on risk relative to gains and losses (changes in wealth) rather than risk relative to returns. The result is that the disutility associated with a loss is greater than the increase in utility from a gain of the same magnitude.

6. Determine the investor's subjective probability for each outcome and then find the subjective weighted average utility:

1	*2*	*3*	*4*	
Outcome	*Utility*	*Probability of Occurrence*	*Subjective Probability Factor, w*	*Subjective Probability (3 × 4)*
–8%	–120	15%	1.25	18.75%
0%	–10	40%	1.15	46.00%
6%	50	30%	0.85	25.50%
10%	100	15%	0.65	9.75%
Total	20	100%		

$$\begin{aligned}\text{Exp(Utility)} &= wP_{-8\%}U_{-8\%} + wP_{0\%}U_{0\%} + wP_{6\%}U_{6\%} + wP_{10\%}U_{10\%}\\ &= 0.1875(-120) + 0.46(-10) + 0.255(50) + 0.0975(100)\\ &= -22.50 - 4.6 = 12.75 = 9.75 = -4.60\end{aligned}$$

The investor is **not likely** to make the investment because its subjective probability-weighted average utility is negative.

7. The manager's actions are indicative of *bounded rationality*. According to bounded rationality, investors attempt to make the most rational decision possible based on an amount of information they deem satisfactory. Rather than gather and analyze all relevant available information, the investor gathers and analyzes enough information to make a positive decision, not necessarily the optimal decision. Note that *satisficing* would have been an acceptable answer with the same discussion.

8. A Satisficing refers to making the most rational decision possible given the available information and the investor's limited cognitive ability. Rather than making the optimal, utility-maximizing decision, investors act as rationally as possible in making decisions (bounded rationality). Each decision is seen as suboptimal but positive in that it moves the investor toward the desired goal.

9.

Statement	Agree/Disagree	Justification
"I don't care who you are. The stock market is semi-strong efficient, so you can't consistently generate excess returns. There are no free lunches!"	Disagree	"No free lunch" would imply that the efficient market hypothesis is valid, that markets are strong-form efficient.
"The January effect is proof enough that markets are not strong-form efficient."	Agree	The January effect is a calendar anomaly that seems to suggest that public information is not accurately reflected in prices. Thus, it disputes semi-strong form efficiency. Strong-form efficiency states all information is reflected in prices. Thus a violation of either weak-form or semi-strong form is also a violation of strong form.

10. **B** Support levels act like floors to security or index price levels. As the security or index price approaches the floor, buy pressure tends to push it up. Resistance levels act like ceilings. As the security or index price approaches the resistance level, sell pressure tends to push it down.

11. **A** The numbers 11,000 and 10,000 represent a technical trading band formed by a resistance level (11,000) and a support level (10,000). Support and resistance levels are technical trading indicators and are usually considered evidence against weak-form efficiency.

12. An underlying assumption of the efficient markets hypothesis is that arbitrage forces will move instantaneously to correct mispricing. Liquidity concerns, however, can delay or even prohibit the forces of arbitrage. For example, a hedge fund manager may be constrained from quickly taking a position because of liquidity constraints. If the fund is open quarterly for subscription or withdrawal, liquidity needs are uncertain. Realizing he may have to meet liquidity needs by unwinding a position before the profit is realized or even at a loss, the manager can be hesitant to assume the position in the first place. If enough managers face similar constraints, market prices could stray from their intrinsic values and remain that way for extended periods.

13.

Statement	Agree/Disagree	Justification
"The behavioral asset pricing model incorporates a sentiment premium when valuing assets. For example, the more strongly analysts feel about a security, the greater the sentiment premium and the higher the price."	Disagree	The sentiment premium in the BAPM can be derived from the agreement or disagreement among analysts, not the strengths of their sentiments per se. The more widely dispersed analysts' opinions, the greater the sentiment premium, the higher the discount rate applied to assets' cash flows, and the lower their prices.

The following is a review of the Behavioral Finance principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

THE BEHAVIORAL BIASES OF INDIVIDUALS[1]

Study Session 3

EXAM FOCUS

This assignment builds on the previous reading. It goes into more details on various biases. Expect exam questions that present situations where you must identify which bias or biases are displayed. Because many of the biases are closely related, read each exam situation closely and identify from the facts presented which bias is the best fit to the facts. Also know the implications of a bias on investment decision making or policy and be able to identify whether it is better to accommodate or mitigate a bias.

COGNITIVE ERRORS AND EMOTIONAL BIASES

The assumptions of traditional finance that individuals act as rational economic men who objectively consider all relevant information to make rational decisions and that this process results in efficient markets is not completely accurate. Behavioral finance looks at normal behavior of individual market participants (Behavioral Finance Micro) and the effect of such behavior on markets (Behavioral Finance Macro). A better understanding of the biases of clients (and of the professionals who work with those clients) should allow for the construction of portfolios that better approximate the efficiency of traditional finance and with which clients are better able to adhere to with during adverse conditions.

LOS 8.a: Distinguish between cognitive errors and emotional biases.

CFA® Program Curriculum, Volume 2, page 49

Cognitive errors are due primarily to faulty reasoning and could arise from a lack of understanding proper statistical analysis techniques, information processing mistakes, faulty reasoning, or memory errors. Such errors can often be corrected or mitigated with better training or information. In contrast emotional biases are not related to conscious thought and stem from feelings or impulses or intuition. As such they are more difficult to overcome and may have to be accommodated. Despite the distinction in grouping biases as either cognitive or emotional, a bias may have elements of both cognition and emotion. When trying to overcome or mitigate biases that are both emotional and cognitive, success is more likely by focusing on the cognitive issues.

Professor's Note: You should always look at the combination of facts and information presented in any question to see if the bias in a particular situation is arising more from cognitive or emotional thinking before determining if it is likely it can be mitigated or if it must be accommodated.

1. Terminology used throughout this topic review is industry convention as presented in Reading 8 of the 2013 CFA Level III exam curriculum.

LOS 8.b: Discuss commonly recognized behavioral biases and their implications for financial decision making.

CFA® Program Curriculum, Volume 2, page 50

LOS 8.c: Analyze an individual's behavior for behavioral biases.

CFA® Program Curriculum, Volume 2, pages 50

LOS 8.d: Evaluate the impact of biases on investment policy and asset allocation and discuss approaches to mitigate their effect.

CFA® Program Curriculum, Volume 2, pages 79

Cognitive Errors

While cognitive errors arise primarily from statistical or information or reasoning deficiencies or faulty memory, they can also have an emotional element. Market participants may unconsciously tilt away from behavior that causes personal distress or pain while tilting towards behavior that causes pleasure. In general cognitive errors are easier to mitigate or correct with better information, asking the right questions, or seeking qualified advice.

Cognitive errors can be divided into 5 "belief perseverance" biases that reflect a desire to stick with a previous decision and 4 "processing errors where the information analysis process is flawed.

Cognitive Errors: Belief Perseverance

1. **Conservatism** bias occurs when market participants hold on to a prior view or opinion and fail to adequately consider new information. In Bayesian terminology they overweight the initial probabilities and do not adjust probabilities for the new information.

Example: Conservatism

John Mue has carefully analyzed the historical data and concluded that recessionary environments occur on average 20% of the time. Mue has incorporated this probability into his strategic asset allocation recommendations. When new information is presented by a coworker showing that the actions of the central bank significantly affect the recession probabilities and that the new head of the central bank has announced tightening monetary conditions, Mue goes on vacation without making any adjustments to his work.

Answer:

Mue is showing conservatism by sticking with his original work and not considering the impact of the new information. In this case there may be an emotional aspect as well as Mue chooses the pleasure of a vacation over doing hard work.

Consequences and implications of conservatism may include market participants who are:

- Unwilling or slow to update a view and therefore hold an investment too long.
- Hold an investment too long to avoid the mental effort or stress of updating a view.

Conservatism detection starts with participants becoming aware of their own biases. The more difficult the thought process or information, the more likely conservatism bias will occur. Conversely easy changes may be made too often because they involve little mental effort. Thus conservatism can lead to either too little or too much change and turnover.

2. **Confirmation** bias occurs when market participants look for new information or distort new information to support an existing view. It is a kind of selection bias. Client's who get involved with the portfolio process by researching some of their portfolio holdings may become overly attached to some holdings and only bring up information favorable to the holding. This would be confirmation bias.

   Consequences and implications of confirmation may include market participants who:

   - Consider positive but ignore negative information and therefore hold investments too long.
   - Set up the decision process or data screens incorrectly to find what they want to see.
   - Under diversify as they become overly convinced their ideas are correct.
   - Over concentrate in the stock of their employer believing they have an information advantage in to that security.

   Confirmation detection starts with seeking out contrary views and information. For example if an analyst focuses on bottom's up fundamental financial statement analysis then the analyst could consult with a top down economic forecaster to gain an alternative view.

3. **Representativeness bias** can take several forms. In each case an overly simple decision rule takes the place of more thorough analysis.
    - Representativeness might rely on an overly simplistic past classification to categorize new information. For example a stock classified as a growth stock continues to be evaluated as a growth stock even when new information suggest otherwise. The new information is not properly considered.
    - In *base-rate neglect* new information is given too much importance, taken to represent too much, and underlying probabilities are not sufficiently considered. For example a portfolio manager has classified a stock as value stock based on a few past criteria, a somewhat superficial classification. As subsequent performance of the stock is evaluated it is compared to other value stocks without adequate consideration of whether it really is a value stock.
    - In *sample-size neglect* new information is also overweighed and taken as too representative without considering that the new data or result is only a sample of what could have occurred. For example a properly categorized growth stock reports a one time and abnormally low increase in EPS. As a result it is immediately and improperly reclassified as a value stock without any further analysis.

Example: Representativeness

XYZ company has long been recognized as a growth stock delivering superior earnings growth and stock price appreciation. While earnings have continued to grow, last year's revenue has not and neither has the stock price. If an analyst suffers from base-rate neglect and sample-size neglect would he be more likely to buy or sell the stock? What if the analyst treats the growth classification as representative?

Answer:

If the analyst exhibits sample-size and base-rate neglect the analyst will ignore XYZ's long record as a growth stock, focus on the short-term disappointing result and may recommend sale without considering the long term possibility it will revert to growth behavior.

However if the analyst over relies on the initial growth classification the analyst may assume it will return to growth and recommend purchase without properly considering all of the recent results.

Consequences and implications of representativeness may include market participants who:

- Attach too much importance to new pieces of information and have excessive turnover.
- Make decisions based on simple rules of thumb and classification without thorough and more difficult analysis, attaching either too much or too little importance to new information.

Representativeness detection starts with a better understanding of the laws of probability and statistical analysis. Helpful questions that might detect the bias include assessing the probability a given investment is properly categorized in a certain group of ideas and not in a different group. By thinking in probabilities, it is more likely risk will be considered and sufficient diversification will occur.

In evaluating the performance of a portfolio this would include analyzing: How the performance compares to similar portfolios (rather than to the general market alone)? Have there been changes in the managers of the portfolio? What is the general reputation of the manager? Has the portfolio or manager changed style or investment approach due to changing conditions?

4. **Illusion of control** bias arises from a belief by market participants that they can control or affect outcomes when they cannot. It is often associated with emotional biases: *illusion of knowledge* (belief you know things you do not know), *self-attribution* (belief you personally caused something to happen), and *overconfidence biases* (an unwarranted belief you are correct).

   Consequences and implications of illusion of control may include market participants who:

   - Trade more than is appropriate as they mistakenly believe they can control the outcome of a trade or are overconfident in their analysis.
   - Fail to adequately diversify.

   Illusion of control detection starts with realizing investment results are probabilistic. Participants should seek out opposing viewpoints to consider alternative outcomes. Keeping good records to document the thinking behind ideas and reviewing results to see if there are patterns behind which ideas work, which don't, and the actual past probability of being right is essential.

5. **Hindsight bias** is a selective memory of past events or evaluation of what was knowable at that time. Participants tend to remember their correct views and forget the errors. They also overestimate what could have been known.

   Consequences and implications of hindsight may include market participants who:

   - Overestimate the rate at which they correctly predicted events which could reinforce an emotional overconfidence bias.
   - Become overly critical of the performance of others. For example they might criticize the stock selections of an analyst whose recommendations underperformed the market when the recommendations outperformed the market groups for which the analyst was responsible.

   Hindsight detection starts with asking questions like "Do I really remember what I predicted and recommended?" Participants should also maintain and review complete records to determine past errors as well as successes. They should remember there will be periods when strategies are in or out of favor and review success relative to appropriate benchmarks.

Cognitive Errors: Information-Processing Biases

These are related more to the processing of information and less to the decision making process.

1. **Anchoring and adjustment bias** arise when market participants use psychological heuristic experience based trial and error rules to unduly affect probabilities. Generally when individuals are forced to estimate an unknown, they often select an arbitrary initial value and then try to adjust it up or down as they process information. This makes it closely related to conservatism and a reluctance to change as new information is received. New information is not dependent on initial estimates or starting points and the new data should be objectively considered without regard to any initial anchor point.

   Consequences and implications of anchoring and adjustment may include market participants who stay anchored to an initial estimate and do not adjust for new information.

   Anchoring and adjustment detection starts with asking questions such as "Am I staying with this stock because I originally recommended it at a higher price. In other words am I becoming dependent on that previous price? Or would I recommend it based on an all new analysis if this was the first time I evaluated it?"

2. **Mental accounting bias** arises when money is treated differently depending on how it is categorized. For example a client might mentally treat wages differently from a bonus when determining saving and investment goals.

   Consequences and implications of mental accounting may include market participants:

   - Structuring portfolios in layers to meet different priority goals. This may help clients overcome other biases. But it ignores correlation between layers of the portfolio and results can be suboptimal from a traditional perspective.
   - Failing to lower portfolio risk by adding assets with very low correlation.
   - Segregating return into arbitrary categories of income, realized gains and losses, or unrealized gains and losses. The result tends to be an overemphasis on income generating assets, resulting in a lower total return.

   Mental accounting could be detected by examining what the portfolio could have achieved if the entire client assets were examined as one portfolio considering the effects of correlation among all parts of the portfolio. An excessive focus on source of return (i.e., income versus price appreciation) could be detected by analyzing the maximum total return consistent with the investor's risk objective and constraints. If this is considerably better than the existing expected return of the portfolio, too much attention is being placed on source of return. For example, if the portfolio has an expected return of 6.7% and the return is primarily income but another portfolio with the same risk but less income has an expected return of 7.5%, it would appear better to accept the portfolio generating less income.

Professor's Note: It is important not to jump to simplistic labeling of something as all good or all bad. For example layering a portfolio can be a "good" way help a client untrained in the concepts of portfolio theory to make better decisions yet it can be "bad" in not achieving a fully optimal portfolio.

You should notice how much the terminology overlaps and it is certainly possible to describe a situation in which more than one bias is present. However for the exam you should know the basic definition of each bias and select the bias for which the facts most closely match the definition.

3. **Framing bias** occurs when the answer given is affected by the way in which the question is asked or "framed." In other words the way the question is framed affects how the information is processed leading to the answer given. For instance if a stock is priced at GBP20 and that is compared to a cost basis of GBP 15 the holder is more likely to sell (and experience the pleasure of realizing a gain). But if the priced is compared to a close of GBP25 the holder is less likely to sell (and experience the pain of a loss). If only one or two reference points are considered (as above) it could be called *narrow framing*.

Example: Decision framing bias

Investors were shown 3 efficient portfolios and the 95% confidence interval of expected returns for each portfolio. For example the first portfolio was shown as having a range of 0.1% to 6.7%, while the other portfolios had wider ranges. Next the same portfolios were shown but the expected return was listed and then the standard deviation. If investors show loss aversion and framing bias, under which conditions would the investors be likely to pick the lowest return portfolio?

Answer:

If shown the range of returns they would be more likely to pick the lowest returning portfolio because it frames the data to show the first portfolio with a positive lower return while the other portfolios, with wider ranges, are more likely to show a lower number that is negative. The first number seen in the display of data is framing the final decision. In contrast the other display of data starts with expected positive return numbers and does not directly show any negative numbers, only a standard deviation. Thus investors often select a portfolio with a higher return number.

A number of other biases might also be present. Because the example distinguishes how the information is displayed, and the order the information is presented, decision framing is the best answer.

Consequences and implications of framing bias may include market participants who:

- Fail to properly assess risk and end up overly risk-averse or risk-seeking.
- Choose suboptimal risk for their portfolio or assets based on the way a presentation is made.
- Become overly concerned with short term price movement and trade too often.

Framing could be detected by asking a question such as "Is my decision based on realizing a gain or a loss?" Instead a more appropriate analysis might compare current price to intrinsic value analysis.

4. **Availability** bias starts with putting undue emphasis on the information that is readily available. It is a mental short cut to focus excessively on what is easy to get. It can include some or all of the following:
   - Retrievability, which is simply to focus on what is first thought of.
   - Categorization, which puts excessive emphasis on how an idea is first categorized. For instance a manager assumes a stock is a growth stock and therefore screens it for issues such as P/E and growth rate (failing to consider other issues like leverage ratios).
   - Narrow range of experience could occur when the frame of reference is too narrow. For example a CFA Level III candidate prepares for the exam by working all of the old exam questions. The candidate then says it is unfair when other types of questions are asked on the exam. The frame of reference is too narrow, especially when the readings change and old questions and answers may no longer be relevant.
   - Resonance occurs when individuals assume what interests them is representative of what other people will find important.

   Consequences and implications of availability may include market participants who:

   - Choose a manger based on advertizing or recalling they have heard the name.
   - Limit investment choices to what they are familiar with resulting in:
     - Under diversification.
     - Inappropriate asset allocation.

   Availability could be overcome by maintaining a carefully researched and constructed Investment Policy Statement (IPS); through appropriate research and analysis of all decisions; and a long term focus. Questions such as "where did I hear of this idea could help detect availability bias." Problems created by availability include overreacting and trading too much based on recent and easily available news or relying on available information or opinions that are of low quality and relevance.

Emotional Biases

While there is no formally accepted definition, these six biases generally arise from emotion and feelings rather than any conscious thought.

Professor's Note: Some of the terms about to be discussed here have already come up in the discussion of cognitive biases. If the context of a discussion emphasizes a view is based on unconscious emotion that the holder is unwilling or unable to change it will be more appropriate to see it as an emotional bias. On the other hand if the facts suggest the bias can be overcome with a relatively simple change in thought process or information it is better to see it as a cognitive bias.

1. **Loss-aversion** bias has already been well discussed previously. It arises from feeling more pain in a loss than pleasure in an equal gain.

   Consequences and implications of loss-aversion may include:

   - Feeling less pleasure in a gain in value for a profit than pain in a decline in value for an equal loss.
   - To avoid the pain of loss an investment holder will tend to hold on to losers too long but may sell winners too quickly.
   - Trade too much by selling for small gains which raises transaction costs and lowers returns.
   - Incurring too much risk by continuing to hold assets that have deteriorated in quality and lost value.
   - If an initial decline in value occurs, then taking excessive risk in the hope of recovering. Investment managers can be particularly susceptible to this behavior.
   - Allowing the framing of the reference point to determine if a position is seen as a gain or loss.
   - Treating money that is made on a trade differently than other funds and taking excess risk with such money.
   - Myopic loss aversion refers to a situation where market participants overemphasize the short term potential losses that can occur on stocks and under emphasize the long term return. This results in a risk premium on stocks that is too high given their long term characteristics and an under-weighting in stocks.

   Loss aversion could be overcome by maintaining a disciplined well thought out process based on future prospects of an investment, not perceived gain or loss.

2. **Overconfidence** bias leads market participants to overestimate their own intuitive ability or reasoning. It can show up as *illusion of knowledge* where they think they do a better job of predicting than they actually do. Combined with *self-attribution bias*, individuals will take personal credit when things go right (*self-enhancing*) but blame others or circumstances for failure (*self-protecting*). While it is both cognitive and emotional, it is more emotional in nature because it is difficult for most individuals to correct and is rooted in the desire to feel good.

   Overconfidence arising from an illusion of knowledge is based a general feeling that the individual will be right. *Prediction overconfidence* leads individuals to underestimate uncertainty and standard deviation of their predictions while *certainty overconfidence* occurs when they overstate the probability they will be right.

   Consequences and implications of overconfidence may include:

   - Underestimate risk and overestimate return.
   - Under diversification.
   - Excessive turnover and transaction costs resulting in lower return.

   Overconfidence might be overcome by establishing long-term financial goals with a budget to assure adequate savings and investments are made to meet all goals. In other words, maintain an Investment Policy Statement and Strategic Asset Allocation.

3. **Self-control** bias is a failure to address long-term goals due to insufficient self-discipline.

Self-Control Failure

Many CFA candidates fail the Level III exam the first time because they do not exercise sufficient self-control to study enough.

However it is combining a failure of self-control with other biases that causes the more serious problems:

- Overconfidence due to assuming that passing Levels I and II will indicate success at Level III.
- Representativeness as they assume the way they studied and the exam skills required at Levels I and II will be sufficient at Level III.

Consequences and implications of self-control may include:

- Insufficient savings accumulation to fund retirement needs.
- Taking excessive risk in the portfolio to try and compensate for insufficient savings accumulation.
- An overemphasis on income producing assets to meet shorter term distribution needs.

Professor's Note: You should be noticing a number of references to the idea analyzing a portfolio on a total return basis and not income versus change in value. This theme will continue in later sessions. Total return is the general approach to take on the exam unless given specific direction otherwise.

Self-control bias might be overcome by establishing an appropriate investment plan and a budget to achieve sufficient savings. Both should be reviewed on a regular basis.

4. **Status quo** bias is based on an emotion desire to do nothing. If investment choices include the option to maintain existing choices, or if a choice will happen unless the participant opts out; status quo choices become more likely.

Consequences and implications of status quo may include:

- Holding portfolios with inappropriate risk.
- Not considering other, better investment options.

Status quo is very hard to overcome so education regarding reasonable risk/return combinations and the danger of overconcentration in an (employer's) stock is essential.

Study Session 3

Professor's Note: Status quo and the next two biases are very closely related. But status quo is maintaining a choice out of inertia, while endowment bias arises when some intangible value unrelated to investment merit is assigned to a holding, and regret-aversion is just what it says, if you make a change and it goes badly you will feel bad about it so do nothing and then you are not to blame. All three can lead to the same result (keep what you have) but the reason for doing so is slightly different.

5. **Endowment bias** could be shown when one spouse holds on to the securities their deceased spouse purchased for some reason like sentiment that is unrelated to the current merits of the securities. In studies individuals have been asked to state their minimum sale price for an asset (say $25) and their maximum purchase price (say $23). The fact that they will sell it at a price higher than they would pay has been explained as endowment. Once they own it, they act as if it is worth more than they would pay.

   Consequences and implications of endowment may include:

   - Failing to sell an inappropriate asset resulting in inappropriate asset allocation.
   - Holding things you are familiar with because they provide some intangible sense of comfort.

   Endowment is common with inherited assets and might be detected or mitigated by asking a question such as "Would you make this same investment with new money today?" If inherited assets are significant holdings in the portfolio it may be essential to address the bias. Starting a disciplined diversification program could be a way to ease the discomfort of sales.

6. **Regret-aversion bias** occurs when market participants do nothing out of excess fear that actions could be wrong. They attach undue weight to actions of commission (doing something) and don't consider actions of omission (doing nothing). Their sense of regret and pain is stronger for acts of commission.

   Consequences and implications of regret-aversion may include:

   - Excess conservatism in the portfolio because it is easy to see that riskier assets do at times underperform. Therefore, do not buy riskier assets and you won't experience regret when they decline.
   - This leads to long-term underperformance and a failure to meet goals.
   - *Herding behavior* is a form of regret-aversion where participants go with the consensus or popular opinion. Essentially the participants tell themselves they are not to blame if others are wrong too.

   Regret-aversion might be mitigated through effective communication on the benefits of diversification, the outcomes consistent with the efficient frontier tradeoff of risk/return, and the consequences of not meeting critical long-term investment goals.

Further Implications of Biases on Investment Policy and Asset Allocation

Investment practitioners who understand behavioral biases have a better chance of constructing and managing portfolios that benefit normal clients. By first acknowledging and then accommodating or modifying biases, more optimal results are likely. This starts with asking the right questions:

- What are the biases of the client?
- Are they primarily emotional or cognitive?
- How do they effect portfolio asset allocation?
- Should the biases be moderated or adapted to?
- Is a behaviorally modified asset allocation warranted?
- What are the appropriate quantifiable modifications?

Goals-Based Investing (GBI)

Professor's Note: GBI will be similar to the layers in behavioral portfolio theory (BPT). BPT explained the layers as reflecting whether higher return or lower risk was important to the goal. GBI starts with the importance of achieving the goal.

GBI starts with establishing the relative importance to the client of each of the client's goals.

- Essential needs and obligations should be identified and quantified first. These would include essential living expenses and should be met with low risk investments as the base layer of the portfolio assets.
- Next might come desired outcomes such as annual giving to charity which can be met with a layer of moderate risk investments.
- Finally low priority aspirations such as increasing the value of the portfolio to leave it to a foundation at death could be met with higher risk investments.

GBI is consistent with the concept of loss-aversion in prospect theory. The client can see that more important goals are exposed to less risky assets and less potential loss. It is better suited to wealth preservation than to wealth accumulation. By utilizing the mental accounting of layers to meet goals, the client can better understand the construction of the portfolio.

Behaviorally Modified Asset Allocation (BMAA)

BMAA is another approach to asset allocation that incorporates the client's behavioral biases. A worst case scenario for many clients is to abandon an investment strategy during adverse periods. The outcome can be very detrimental because the change is likely to occur at a low point, right before a recovery for the strategy begins. Determining in advance a strategy the client can adhere to during adverse periods would be a better outcome. BMAA considers whether it is better to moderate or adapt to the client's biases in order to construct a portfolio the client can stick with.

BMAA starts with identifying an optimal strategic asset allocation consistent with traditional finance. It then considers the relative wealth of the client and the emotional versus cognitive nature of the client's biases to adjust that allocation.

- A high level of wealth versus lifestyle and what the client considers essential needs would be a low standard of living risk (SLR). With a low SLR the client can afford to deviate from an optimal portfolio. The rich can afford to be eccentric.
- Biases that are primarily cognitive in nature are easier to modify. Working with the client can accomplish this and allow for less deviation from a traditionally efficient portfolio mix.
- In contrast emotionally based biases are generally harder to modify and may have to be accommodated, resulting in a less efficient portfolio.
- Finally the amount of deviation to accept from a traditional optimal allocation should be established. Typically this would be done by setting a range in which an asset class can deviate from optimal before it must be adjusted back. For example suppose an optimal allocation would call for 60% equity for the client.

The table below demonstrates how the process could be implemented in order to create an asset allocation that the client will be able to adhere to over the long run.

Figure 1: When to Accommodate Versus When to Modify

Relative Wealth (RW) and SLR:	*Biases are Primarily:*	*Accommodate to or Modify the Biases of the Client:*	*Allowable Deviations Up or Down from Optimal Weight:*
High RW and low SLR	Emotional	Accommodate	10 to 15%
High RW and low SLR	Cognitive	Some of both	5 to 10%
Low RW and high SLR	Emotional	Some of both	5 to 10%
Low RW and high SLR	Cognitive	Modify	0 to 3%

- The specific deviation numbers chosen are arbitrary and are intended to show that low SLR and emotional biases can be accommodated with large deviations from the optimal weights. The client can afford to allow their emotions to be accommodated.
- In contrast high SLR and cognitive errors require the biases be addressed with the client and moderated to achieve a near optimal asset allocation. Those with low wealth cannot afford to deviate and cognitive errors are easier to overcome.
- The other two cases fall in between.

Case Study, Ms. Z:

Ms. Z is a new client of BF Advisors. BF begins each client relationship with an extensive set of interviews. These interviews determined Ms. Z has very low needs in relation to her wealth. With even modest diversification there is no reasonable likelihood she could outlive her assets. In addition she is expected to inherit large sums from her mother's estate. The estate settlement is expected in the next year.

BF also uses a set of standardized questions to identify the biases of each client. Ms. Z shows strong tendencies to conservatism, sample-size neglect, framing, endowment, and availability biases. After completing the questions she meets with her BF portfolio manager and asks for further information regarding the biases. She has always enjoyed studying new areas and learning new approaches to life.

Recommend whether her biases should be accommodated or modified, and whether her portfolio will deviate from a traditional optimal allocation.

Answer:

Ms. Z has very low SLR which would allow her biases to be accommodated however her biases are primarily cognitive (except for endowment bias). In addition she likes to learn suggesting that it may be easy to moderate her biases. Therefore a mix of accommodation and modification is appropriate, though in her case we will lean towards modification and smaller deviations from a traditional optimal asset allocation.

KEY CONCEPTS

LOS 8.a

Cognitive errors result from the inability to analyze information or from basing decisions on partial information. Individuals try to process information into rational decisions, but they lack the capacity or sufficient information to do so. Cognitive errors can be divided into belief perseverance errors and processing errors. **Emotional biases** are caused by the way individuals frame the information and the decision rather than the mechanical or physical process used to analyze and interpret it. Emotional bias is more of a spontaneous reaction.

LOS 8.b,c

Cognitive Errors: Belief Perseverance
- Conservatism bias.
- Confirmation bias.
- Representativeness bias.
- Control bias.
- Hindsight bias.

Cognitive Errors: Information Processing
- Anchoring and adjustment.
- Mental accounting bias.
- Framing bias.
- Availability bias.

Emotional Biases
- Loss aversion bias.
- Overconfidence bias.
- Self-control bias.
- Status quo bias.
- Endowment bias.
- Regret-aversion bias.

LOS 8.d

Conservatism Bias
Impact: Slow to react to new information or avoid the difficulties associated with analyzing new information. Can also be explained in terms of Bayesian statistics; place too much weight on the base rates.
Mitigation: Look carefully at the new information itself to determine its value.

Confirmation Bias
Impact: Focus on positive information about an investment and ignore or dismiss anything negative. Can lead to too much confidence in the investment and to overweighting it in the portfolio.
Mitigation: Actively seek out information that seems to contradict your opinions and analyze it carefully.

Representativeness Bias
Impact: Place information into categories utilizing an if-then heuristic. Place too much emphasis on perceived category of new information. Likely to change strategies based on a small sample of information.
Mitigation: Consciously take steps to avoid base rate neglect and sample size neglect. Consider the true probability that information fits a category. Use *Periodic Table of Investment Returns.*

Illusion of Control Bias
Impact: The illusion of control over one's investment outcomes can lead to excessive trading with the accompanying costs. Can also lead to concentrated portfolios.
Mitigation: Seek opinions of others. Keep records of trades to see if successful at controlling investment outcomes.

Hindsight Bias
Impact: Overestimate accuracy of their forecasts and take too much risk.
Mitigation: Keep detailed record of all forecasts, including the data analyzed and the reasoning behind the forecast.

Anchoring and Adjustment
Impact: Tend to remain focused on and stay close to their original forecasts or interpretations.
Mitigation: Give new information thorough consideration to determine its impact on the original forecast or opinion.

Mental Accounting Bias
Impact: Portfolios tend to resemble layered pyramids of assets. Subconsciously ignore the correlations of assets. May consider income and capital gains separately rather than as parts of the same total return.
Mitigation: Look at all investments as if they are part of the same portfolio to analyze their correlations and determine true portfolio allocation.

Framing Bias
Impact: Narrow a frame of reference; individuals focus on one piece or category of information and lose sight of the overall situation or how the information fits into the overall scheme of things.
Mitigation: Investors should focus on expected returns and risk, rather than on gains or losses. That includes assets or portfolios with existing gains or losses.

Availability Bias: Four causes are retrievability, categorization, narrow range of experience, and resonance.
Impact: Select investments based on how easily their memories are retrieved and categorized. Narrow range of experience can lead to concentrated portfolios.
Mitigation: Develop an IPS and construct a suitable portfolio through diligent research.

Loss Aversion Bias
Myopic loss aversion combines the effects of time horizon and framing.
Impact: Focus on current gains and losses. Continue to hold losers in hopes of breaking even. Sell winners to capture the gains.
Mitigation: Perform a thorough fundamental analysis. Overcome mental anguish of recognizing losses.

Overconfidence Bias
Impact: Hold under-diversified portfolios; underestimate the downside while overestimating the upside potential. Trade excessively.
Mitigation: Keep detailed records of trades, including the motivation for each trade. Analyze successes and losses relative to the strategy used.

Self-Control Bias
Impact: Lack discipline to balance short-term gratification with long-term goals. Tend to try to make up the shortfall by assuming too much risk.
Mitigation: Maintain complete, clearly defined investment goals and strategies. Budgets help deter the propensity to over-consume.

Status Quo Bias
Impact: Risk characteristics of the portfolio change. Investor loses out on potentially profitable assets.
Mitigation: Education about risk and return and proper asset. Difficult to mitigate.

Endowment Bias
Impact: Value of owned assets higher than same assets if not owned. Stick with assets because of familiarity and comfort or were inherited.
Mitigation: Determine whether the asset allocation is appropriate.

Regret Aversion Bias
Impact: Stay in low-risk investments. Portfolio with limited upside potential. Stay in familiar investments or "follow the herd."
Mitigation: Education is primary mitigation tool.

Goals-based investing recognizes that individuals are subject to loss aversion and mental accounting. Builds a portfolio in layers, each consisting of assets used to meet individual goals. Pyramiding: bottom layer comprised of assets designated to meet the investor's most important goals. Each successive layer consists of increasingly risky assets used to meet less and less import goals. Provides investor with ability to see risk more clearly. Although portfolio probably won't be efficient, it will tend to be fairly well diversified.

Behaviorally Modified Asset Allocation
- Emotional biases are more often accommodated through deviations from the rational asset portfolio allocation.
- Higher wealth relative to lifestyle needs allows for greater deviations from the rational portfolio.
- The emotional biases of the lower-wealth individual are treated about the same as the cognitive biases of the wealthier individual.
- The amount of deviation is also affected by the number of different asset classes in the portfolio.
- The lower the suggested deviation from the rational portfolio asset allocation, the greater the need to mitigate the investor's behavioral biases.
    - Due to significant standard of living risk, for example, the cognitive biases of the low-wealth investor must be mitigated.

Concept Checkers

1. Which of the following would *most likely* be classified as an emotional bias? The investor:
   A. has difficulty interpreting complex new information.
   B. only partially adjusts forecasts when he receives new information.
   C. has a tendency to value the same assets higher if he owns them than if he does not own them.

2. Which of the following would *most likely* indicate that an investor is subject to an emotional bias?
   A. Regularly basing decisions on only a subset of available information.
   B. Reacting spontaneously to a negative earnings announcement by quickly selling a stock.
   C. Remaining invested in a profitable technology stock even though new information indicates its PE ratio is too high.

3. A cognitive error is *best* indicated by which of the following?
   A. Taking more and more risk because the investor mentally attributes his recent investing success to his strategies.
   B. Ending up with a suboptimal asset allocation because the investor does not use a holistic approach to construct the portfolio.
   C. Experiencing a significant loss on an investment because the investor hoped to recover from a negative position that subsequently worsened.

4. Don Henry has just received new information regarding his investment in Orange, Inc. The new information appears to conflict with his earlier forecast of what the stock price should be at this point. Nonetheless, he is unwilling to incorporate the new information into his forecast and to revise it accordingly. What behavioral trait is Henry displaying?
   A. Conservatism bias.
   B. Confirmation bias.
   C. Anchoring and adjustment.

5. Abby Lane is a savvy investor who has investments scattered across many different accounts, from bank savings and before- and after-tax retirement accounts to taxable nonretirement accounts. She also has several different investing goals ranging from important short-term goals to longer-term "wish list" goals. Even though she has many investments along with different goals, she is smart enough to take into consideration the correlation between her assets. She allocates the assets according to her risk-return profile across different asset classes, viewing the investments as comprising a single portfolio with a single measure of risk. What behavioral trait would represent the *opposite* way Lane approaches investing?
   A. Framing bias.
   B. Mental accounting.
   C. Overconfidence bias.

6. Twenty years ago, Jane Ivy set up her initial asset allocation in her defined contribution plan by placing an equal amount in each asset class and never changed it. Over time, she increased her contribution by 1% per year until she reached the maximum amount allowed by law. Due to her steadfastness and good fortune, coupled with matching funds from her employer, she now finds herself in her early 40s with a million-dollar retirement account. Which of the following biases does Ivy suffer from, and how should she remedy that bias?
   A. Representativeness; make sure the sample size is correct and new information is interpreted correctly.
   B. Status quo bias; educate the investor on tradeoffs between risk and return and subsequent proper asset allocation.
   C. Availability bias; develop an investment policy statement through diligent research rather than information that is readily available.

Answers – Concept Checkers

1. C This describes the *endowment bias*, where individuals place a higher value on assets they own than if they did not own those same assets. The other two answer choices describe cognitive errors that are due to the inability to analyze all the information.

2. B Emotional biases tend to elicit more of a spontaneous reaction than a cognitive error would. Making a decision based only on partial information is indicative of a cognitive error. Ignoring a high PE ratio could be indicative of the conservatism bias, which is reacting slowly to new information or avoiding analyzing new information. It could also indicate the confirmation bias, where the investor focuses on positive information and ignores negative information. Both conservatism and confirmation biases are cognitive errors of belief perseverance.

3. B This describes the cognitive error of *mental accounting* in which the investor ends up with a layered pyramid as her portfolio. The different layers of investments do not take into consideration the correlation between the assets and are viewed in isolation from each other; thus, the asset allocation tends to be suboptimal from a risk-return perspective. Taking more risk as a result of attributing investing success to a particular strategy represents overconfidence which is an emotional bias.

4. A This describes the conservatism bias where individuals mentally place more emphasis on the information they used to form their original forecast than on new information. Anchoring and adjustment is closely related to the conservatism bias but is characterized as individuals being stuck on a particular forecasting number and is not associated with how investors relate new information to old information as the conservatism bias does. The confirmation bias is when individuals notice only information that agrees with their perceptions or beliefs. They look for confirming evidence while discounting or even ignoring evidence that contradicts their beliefs.

5. B Lane is investing based on traditional finance theory, which assumes investors make rational decisions and view their assets in a single portfolio context with an asset allocation that takes into consideration the correlation between the assets. The *opposite* approach would be *mental accounting*, where the investor views his assets in different "accounts," each with a separate purpose to achieve a separate goal. The resulting portfolio resembles a pyramid comprised of layers with each layer making up a different set of assets used to accomplish a separate goal. The correlation between those assets is not taken into consideration; thus, the assets are usually not optimally allocated among different asset classes. The *framing bias* is when individuals view information differently depending upon how it is received. *Overconfidence* is when people think they know more than they do, have more and better information than others, and are better at interpreting it, leading to under-diversified portfolios and excessive trading.

6. B Ivy is suffering from the *status quo bias*, where investors leave their asset allocation alone and don't change it according to changing market conditions or changes in their own circumstances. The other two answer choices correctly describe ways of mitigating those behavioral traits.

The following is a review of the Behavioral Finance principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

BEHAVIORAL FINANCE AND INVESTMENT PROCESSES[1]

Study Session 3

EXAM FOCUS

This topic review focuses on the influence of behavioral traits on all aspects of the investment process—creating the investment policy statement, the client/adviser relationship, portfolio construction, analyst forecasts, and market anomalies. Be able to discuss the benefit to both clients and advisers of incorporating behavioral finance into the client's investment policy statement and the limitations of classifying investors into behavioral types. Be able to explain how behavioral finance influences the client/adviser relationship and to discuss the benefits to both of incorporating the behavioral aspects of investing into the relationship. Understand how investors tend to construct portfolios from a behavioral perspective. Be able to explain how behavioral biases affect analysts in their forecasting and the remedial actions that should be taken to reduce the influence of those biases. Also, know how behavioral biases affect the decision-making processes of investment committees. Lastly, be able to discuss the influence of behavioral biases on entire markets.

CLASSIFYING INVESTORS INTO BEHAVIORAL TYPES

LOS 9.a: Explain the uses and limitations of classifying investors into various types.

CFA® Program Curriculum, Volume 2, page 104

Financial market participants, both investors and financial advisers, have found that when the psychology of investing is recognized in creating the client's investment policy statement and subsequent implementation, the outcome is likely to be favorable. Applying a strictly traditional finance perspective can lead to pitfalls and unpleasant surprises for both the client and adviser. For example, investors who are overly risk averse or risk seeking react more emotionally to investing than would be expected of the typical, average investor. The adviser will have better success by addressing these clients' emotional biases rather than ignoring them and taking a more traditional finance perspective.

The traditional finance perspective seeks to educate clients based on more quantitative measures of investing, such as standard deviation and Sharpe ratios, and these are of little interest to the client who reacts more emotionally to investing. The goal of viewing the client/adviser relationship from a psychological perspective as compared to a purely traditional finance perspective is for the adviser to better understand his client and to

1. Terminology used throughout this topic review is industry convention as presented in Reading 9 of the 2013 CFA Level III exam curriculum.

make better investment decisions. By incorporating behavioral biases into clients' IPSs, clients' portfolios will tend to be closer to the efficient frontier, and clients will be more trusting and satisfied and tend to stay on track with their long-term strategic plans. Ultimately, since everyone is happy, the result is a better overall working relationship between client and adviser.

Behavioral Models

We will discuss three behavioral models: (1) the Barnewall two-way model, (2) the Bailard, Biehl, and Kaiser five-way model, and (3) the Pompain model.

The **Barnewall two-way behavioral model**[2] was developed in 1987 and classifies investors into only two types: passive and active. *Passive investors* are those who have not had to risk their own capital to gain wealth. For example they might have gained wealth through long, steady employment and disciplined saving or through inheritance. As a result of accumulating wealth passively, they tend to be more risk averse and have a greater need for security than their "active" counterparts. *Active investors* risk their own capital to gain wealth and usually take an active role in investing their own money. Active investors are much less risk averse than passive investors and are willing to give up security for control over their own wealth creation.

Professor's Note: The causal relationship between steadily accumulating wealth over time and a high aversion to risk could go in either direction. Either one can lead to the other.

The **Bailard, Biehl, and Kaiser (BB&K) five-way model**[3], developed in 1986, classifies investors along two dimensions according to how they approach life in general. The first dimension, *confidence*, identifies the level of confidence usually displayed when the individual makes decisions. Confidence level can range from confident to anxious. The second dimension, *method of action*, measures the individual's approach to decision making. Depending on whether the individual is methodical in making decisions or tends to be more spontaneous, method of action can range from careful to impetuous.

BB&K categorize investors into five behavioral types, which lie at different points in a grid formed by confidence/method of action. For example, the "straight arrow" investor would lie in the center of the grid, with the other four behavioral types scattered around the center.

Using the two dimensions like axes on a graph, the five behavioral types of the BB&K model are summarized in the following according to confidence and method of action, as indicated in Figure 1.

2. Barnewall, Marilyn. 1987. "Psychological Characteristics of the Individual Investor." *Asset Allocation for the Individual Investor*. Charlottesville, VA: The Institute of Chartered Financial Analysts.
3. Bailard, Brad M., David L. Biehl, and Ronald W. Kaiser. 1986. Personal Money Management, 5th ed. Chicago: Science Research Associates.

1. The **adventurer** has the following traits:
   - Confident and impetuous (northeast quadrant).
   - Might hold highly concentrated portfolios.
   - Willing to take chances.
   - Likes to make own decisions.
   - Unwilling to take advice.
   - Advisors find them difficult to work with.

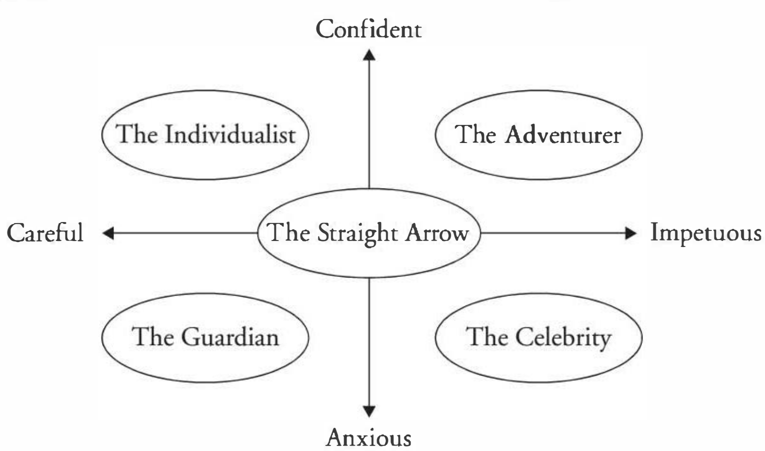
2. The **celebrity** has the following traits:
   - Anxious and impetuous (southeast quadrant).
   - Might have opinions but recognizes limitations.
   - Seeks and takes advice about investing.

3. The **individualist** has the following traits:
   - Confident and careful (northwest quadrant).
   - Likes to make own decisions after careful analysis.
   - Good to work with because they listen and process information rationally.

4. The **guardian** has the following traits:
   - Anxious and careful (southwest quadrant).
   - Concerned with the future and protecting assets.
   - May seek the advice of someone they perceive as more knowledgeable than themselves.

5. The **straight arrow** has the following traits:
   - Average investor (intersection of the two dimensions).
   - Neither overly confident nor anxious.
   - Neither overly careful nor impetuous.
   - Willing to take increased risk for increased expected return.

Figure 1: Classification of Investors According to the BB&K Behavioral Model[4]



4. Based on Exhibit 1, 2013 Level III curriculum, vol. 2, p 105.

The **Pompian behavioral model**[5], developed in 2008, identifies four behavioral investor types (BITs). Pompian suggests that the adviser go through a 4-step process to determine the investor's BIT.

1. Interview the client to determine if she is active or passive as an indication of her risk tolerance.

2. Plot the investor on a risk tolerance scale.

3. Test for behavioral biases.

4. Classify the investor into one of the BITs.

Figure 2 shows the results of the Pompian method of classifying investors. You will notice that both the *Passive Preserver* and the *Active Accumulator* tend to make emotional decisions. The *Friendly Follower* and *Independent Individualist* tend to use a more thoughtful approach to decision making. The most common cognitive and emotional biases associated with each investor type are listed following Figure 2.

Figure 2: Four Investor Types, Investment Styles, and Behavioral Biases[6]

Investor Type	*Risk Tolerance*	*Investment Style*	*Decision Making*
Passive Preserver	Low	Conservative	Emotional
Friendly Follower	↓	↓	Cognitive
Independent Individualist			Cognitive
Active Accumulator	High	Aggressive	Emotional

Most common *emotional* biases exhibited:

- **Passive Preserver**: Endowment, loss aversion, status quo, regret aversion.
- **Friendly Follower**: Regret aversion.
- **Independent Individualist**: Overconfidence, self-attribution.
- **Active Accumulator**: Overconfidence, self-control.

Most common *cognitive* biases exhibited:

- **Passive Preserver**: Mental accounting, anchoring and adjustment.
- **Friendly Follower**: Availability, hindsight, framing.
- **Independent Individualist**: Conservatism, availability, confirmation, representativeness.
- **Active Accumulator**: Illusion of control.

5. Pompian, Michael. 2008. "Using Behavioral Investor Types to Build Better Relationships with Your Clients." *Journal of Financial Planning*, October 2008: 64-76.

6. Based on Exhibit 4, 2013 Level III curriculum, vol. 2, p 108.

Behavioral Investor Types (BITs)

As previously mentioned, the last step in Pompian's process of determining which behavioral bias the investor is exhibiting is to categorize the investor into a behavioral investor type (BIT). There are four BITs, ranging from conservative to aggressive investing. The first BIT is the **Passive Preserver**, characterized as having low risk tolerance, an emotional bias, not willing to risk his own capital, usually not financially sophisticated, and possibly difficult to advise because he is driven by emotion.

The **Friendly Follower** would also be considered a passive investor who has low to moderate risk tolerance and suffers mainly from cognitive errors, which are errors resulting from faulty reasoning and not emotional biases. A Friendly Follower tends to overestimate her risk tolerance and wants to be in the most popular investments with little regard to market conditions or how the investment fits into her overall long-term investment plan. Since a Friendly Follower tends to approach investing from a more cognitive (thinking) perspective, the best course of action in advising her is to use more quantitative methods in educating her on the benefits of portfolio diversification.

The **Independent Individualist** is an active investor who is willing to risk his own capital and give up security to gain wealth. He has moderate to high risk tolerance and suffers from cognitive biases. He is strong-willed, likes to invest, does his own research, and tends to be a contrarian. The Independent Individualist tends to be difficult to advise but will listen to sound advice. Therefore, the best approach to advising him is regular education on investing concepts relevant to the investor.

The **Active Accumulator** is an active investor with a high tolerance for risk who approaches investing from an emotional perspective. The Active Accumulator is an aggressive investor who often comes from an entrepreneurial background and likes to get deeply involved in her investing. She is strong-willed, confident, and likes to control her investing, making her the most difficult of all the BITs to advise. Thus, the best course of action for the adviser is to take control of the investment process and not let the investor control the situation.

Limitations on Classifying Investors into Behavioral Types

Many times, individuals act irrationally at unpredictable moments, making it difficult to apply the different behavioral investor traits consistently for any one investor over a period of time. This leads to several limitations of classifying investors into the various behavioral investor types:

- Many individuals may simultaneously display both emotional biases and cognitive errors. This can make it difficult and inappropriate to try and classify them as to whether their biases are emotional or cognitive; they are both.

- An individual might display traits of more than one behavioral investor type, making it difficult to place the individual into a single category.
- As investors age, they will most likely go through behavioral changes, usually resulting in decreased risk tolerance along with becoming more emotional about their investing.
- Even though two individuals may fall into the same behavioral investor type, the individuals should not necessarily be treated the same due to their unique circumstances and psychological traits.
- Individuals tend to act irrationally at unpredictable times because they are subject to their own specific psychological traits and personal circumstances. In other words, people don't all act irrationally (or rationally) at the same time.

THE CLIENT/ADVISER RELATIONSHIP

LOS 9.b: Discuss how behavioral factors affect adviser–client interactions.

CFA® Program Curriculum, Volume 2, page 113

The goal of the client/adviser relationship is constructing a portfolio that the client is comfortable with and will be happy staying in over the long term. This is more easily accomplished once the adviser recognizes the need to incorporate behavior biases into the investment decision-making process.

The success of the typical client/adviser relationship can be measured in four areas, and each one is enhanced by incorporating behavioral finance traits:

1. *The adviser understands the long-term financial goals of the client.* Behavioral finance helps the adviser understand the reasons for the client's goals. The client/adviser relationship is enhanced because the client feels the adviser truly understands him and his needs.

2. *The adviser maintains a consistent approach with the client.* Behavioral finance adds structure and professionalism to the relationship, which helps the adviser understand the client before giving investment advice.

3. *The adviser acts as the client expects.* This is the area that can be most enhanced by incorporating behavioral finance into the client/adviser relationship. Once the adviser thoroughly understands the client and her motivations, the adviser knows what actions to perform, what information to provide, and the frequency of contact required to keep the client happy.

4. *Both client and adviser benefit from the relationship.* The primary benefit of incorporating behavioral finance into the client/advisor relationship is a closer bond between the two. This results in happier clients and an enhanced practice and career for the adviser.

Risk Tolerance Questionnaires

As one of the first steps in the client/adviser relationship, the adviser has the client fill out a risk tolerance questionnaire. Unfortunately, the same individuals can give different answers to the same set of questions depending on their frame of mind or current circumstances. In addition, most questionnaires are not structured to measure behavioral biases. This means there are a number of limitations to the traditional questionnaire.

First, since an individual's responses are affected by the wording of questions (framing), the same questions can produce different results if the structure of the questions is changed only slightly. Then, since client answers reflect all their behavioral biases, and those in turn are affected by the client's circumstances, administering a questionnaire only during the initial meeting is insufficient. Since the client's IPS should be analyzed annually for appropriateness, the questionnaire should also be administered annually.

Advisers also may interpret what the client says too literally, when client statements should only act as indicators. The successful adviser is able to determine the client's intent, for example, when he states a minimum allowable return in a given year. Rather than interpret the minimum allowable return literally, the adviser should use the statement as an indicator of the client's attitude toward risk and return. As a consequence, risk tolerance questionnaires are probably better suited to institutional investors, where less interpretation is required. Institutional investors are generally more pragmatic and tend to approach investing from a thinking/cognitive approach with a better understanding of risk and return.

Behavioral Factors and Portfolio Construction

LOS 9.c: Discuss how behavioral factors influence portfolio construction.

CFA® Program Curriculum, Volume 2, page 115

Research on defined contribution and 401k retirement plans in the U.S. indicates ways behavioral finance influences portfolio construction and how the insight gained might be applied in portfolio construction to achieve results more consistent with traditional finance theory. The studies show evidence of the following.

Status quo bias as investors do not make changes to their portfolio even when transaction costs are zero. Portfolio theory would clearly suggest that as time passes and the investors are aging, their optimal portfolio mix will shift. These changes are not being made. In addition, the investors generally accept whatever default investor option is offered by the employer and the contribution default rate. Neither is optimal as the asset mix is usually heavily weighted to money market funds and the contribution rate is lower than allowable.

To counteract this bias some companies have autopilot options such as target date funds. A target date fund has a stated retirement date and the manager of the fund automatically shifts the asset mix in ways suitable for investors planning to retire on that date. Once the investor picks the target date fund, the manager makes the adjustments for passage of time and the client does not need to take any action.

Naïve diversification as investors equally divide their funds among whatever group of funds is offered. According to a study, when offered a stock and bond fund, investors allocated 50/50. Then, if offered a stock and balanced fund, investors still allocated 50/50. Others suggest investors follow **conditional naïve diversification**. They select a smaller number of funds (e.g., three to five), and then allocate equally. In either case some argue this is motivated by seeking to avoid regret. Owning equal amounts of all, investors did not miss the best performer.

Excessive **concentration in employer stock** is also evident. This will be discussed in a later study session but it is very risky as retirement fund performance is now linked to compensation at an underlying source, the company. This could be based on *familiarity and overconfidence*. Employees may think, "I know the company and see it every day; surely it is a good investment." If past performance has been good and you are familiar with it that would be *naïve extrapolation of past results. Framing and status quo effect of matching contributions* is exhibited as if the employer's contribution is made in employer stock. In such cases the employees then increase the amount they chose to place in the employer stock. *Loyalty effect* is simply a desire to hold employer stock as a sign of loyalty to the company. When *financial incentives* are offer by the employer to invest in employer stock, the decision may be rational, but the holdings are in excess of what can be justified.

Excessive trading of holdings is evident in the brokerage account holdings of individuals even though individuals show status quo in retirement funds. This could be due to *overconfidence* as the individuals think they have superior stock selection skills or *self selection* as trading-oriented investors put their money in brokerage accounts and others put money in retirement portfolios at their company. Investors also show a *disposition effect* in selling stocks that appreciate (e.g., winners) but holding on to stocks that depreciate (e.g., losers).

Home bias is seen in under diversification and failing to invest outside the investor's home country.

LOS 9.d: Explain how behavioral finance can be applied to the process of portfolio construction.

CFA® Program Curriculum, Volume 2, page 115

Behavioral Portfolios vs. Mean Variance Portfolios

Investors exhibit behavioral biases when they construct portfolios in *layers*, comprising a pyramid with each layer having a specific purpose in achieving a different goal. This is also referred to as **mental accounting** because the assets in each layer of the pyramid are viewed separately from each other with no regard to how they are correlated.

In the pyramid structure, the most pressing goals are placed on the bottom layer and are met using low-risk, conservative investments. Each successive layer going toward the top of the pyramid is comprised of riskier assets to accomplish less immediate or less important goals. The top of the pyramid is comprised of risky, more speculative assets to meet "wish list" types of goals. Behavioral finance can be applied and benefit the portfolio management process by:

- Leading to the use of portfolios such as target funds, which work around the bias of investors to be static.
- Leading managers and clients to discuss the relative importance of goals and perceived risk. Tiered investment portfolios that the client can understand and maintain could be superior to traditional portfolios that consider correlation but that the client is unwilling to stay with.

Analyst Forecasts and Behavioral Finance

LOS 9.e: Discuss how behavioral factors affect analyst forecasts and recommend remedial actions for analyst biases.

CFA® Program Curriculum, Volume 2, page 120

Research has shown that experts in varying fields make forecasting errors as a result of behavioral biases, and financial analysts are subject to those same biases. Surprisingly, it is analysts' superior skills in analyzing companies that makes them vulnerable to forecasting errors. An understanding of their weaknesses can help analysts limit the degree of their forecasting inaccuracies.

There are three primary behavioral biases that can affect analysts' forecasts: (1) overconfidence, (2) the way management presents information, and (3) biased research.

Overconfidence

Professor's Note: Remember that overconfidence leads to underestimating risk and setting confidence intervals that are too narrow.

Analysts can be susceptible to overconfidence as a result of undue faith in their own forecasting abilities caused by an inflated opinion of their own knowledge, ability, and access to information. Analysts also tend to remember their previous forecasts as being more accurate than they really were (a form of hindsight bias). There are several behavioral biases that contribute to overconfidence.

Analysts are subject to the *illusion of knowledge bias* when they think they are smarter than they are. This, in turn, makes them think their forecasts are more accurate than the evidence indicates. The illusion of knowledge is fueled when analysts collect a large amount of data. This leads them to think their forecasts are better because they have more and better information than others. Gathering additional information could add to an analyst's overconfidence without necessarily making the forecast more accurate. The *illusion of control bias* can lead analysts to feel they have all available data and have reduced or eliminated all risk in the forecasting model; hence, the link to overconfidence.

Exhibiting *representativeness*, an analyst judges the probability of a forecast being correct on how well the available data represent (i.e., fit) the outcome. The analyst incorrectly combines two probabilities: (1) the probability that the information fits a certain information category, and (2) the probability that the category of information fits the conclusion.

An analyst exhibits the *availability bias* when he gives undue weight to more recent, readily recalled data. Being able to quickly recall information makes the analyst more likely to "fit" it with new information and conclusions. The *representativeness* and *availability biases* are commonly exhibited in reactions to rare events.

To subconsciously protect their overconfidence, analysts utilize **ego defense mechanisms**. One ego defense mechanism is the *self-attribution bias*. Analysts take credit for their successes and blame others or external factors for failures. Self-attribution bias is an ego defense mechanism, because analysts use it to avoid the cognitive dissonance associated with having to admit making a mistake.

The relationship between self-attribution bias, illusion of knowledge, and overconfidence are fairly obvious. By aligning past successes with personal talent, the analyst adds to the feeling of complete knowledge, which in turns fuels overconfidence.

Hindsight bias is another ego defense mechanism. In effect, the analyst selectively recalls details of the forecast or reshapes it in such a way that it fits the outcome. In this way, the forecast, even though it technically was off target, serves to fuel the analyst's overconfidence. Hindsight bias then leads to future failures. By making their prior forecasts fit outcomes, analysts fail to properly recalibrate their models.

There are several actions analysts can take to minimize (mitigate) overconfidence in their forecasts. For example, they can self-calibrate better. *Self-calibration* is the process of remembering their previous forecasts more accurately in relation to how close the forecast was to the actual outcome. Getting prompt and immediate feedback through self evaluations, colleagues, and superiors, combined with a structure that rewards accuracy, should lead to better self-calibration. Analysts' forecasts should be unambiguous and detailed, which will help reduce hindsight bias.

To help counteract the effects of overconfidence, analysts should seek at least one counterargument, supported by evidence, for why their forecast may not be accurate. Analysts should also consider *sample size*. Basing forecasts on small samples can lead to unfounded confidence in unreliable models. Lastly, Bayes' formula is a useful tool for reducing behavioral biases when incorporating new information. Bayes' formula is discussed in the topic review, *The Behavioral Finance Perspective*.

Influence by Company Management

The way a company's management presents (frames) information can influence how analysts interpret it and include it in their forecasts. The problem stems from company managers being susceptible to behavioral biases themselves. There are three cognitive biases frequently seen when management reports company results: (1) framing, (2) anchoring and adjustment, and (3) availability.

Framing refers to a person's inclination to interpret the same information differently depending on how it is presented. We know, for example, that simply changing the order in which information is presented can change the recipient's interpretation of the information. In the case of company information, analysts should be aware that a typical management report presents accomplishments first.

Anchoring and adjustment refers to being "anchored" to a previous data point. Being influenced by (anchored to) the previous forecast, analysts are not able to fully incorporate or make an appropriate adjustment in their forecast to fully incorporate the effect of new information. The way the information is framed (presenting the company's accomplishments first), combined with anchoring (being overly influenced by the first information received), can lead to overemphasis of positive outcomes in forecasts.

Availability refers to the ease with which information is attained or recalled. The enthusiasm with which managers report operating results and accomplishments makes the information very easily recalled and, thus, more prominent in an analyst's mind. The more easily the information is recalled, the more emphasis (weight) it is given in the forecasting process.

Analysts should also look for **self-attribution bias** in management reports that is a direct result of the structures of management compensation packages. For example, management typically receives salary increases and bonuses based on operating results. Management is thus inclined to overstate results (overemphasize the positive), as well as the extent to which their personal actions influenced the operating results. Thus, self-attribution naturally leads to excessive optimism (overconfidence).

Analysts must also be wary of recalculated earnings, which do not necessarily incorporate accepted accounting methods. Again, since management compensation is based largely on operating results, there is a motivation to present the best possible data. The analyst should be particularly sensitive to earnings that are restated in a more favorable light than originally presented.

To help avoid the undue influence in management reports, analysts should focus on quantitative data that is verifiable and comparable rather than on subjective information provided by management. The analyst should also be certain the information is framed properly and recognize appropriate base rates (starting points for the data) so the data is properly calibrated.

Analyst Biases in Research

Biases specific to analysts performing research are usually related to the analysts' collecting too much information, which leads to the illusions of knowledge and control and to representativeness, all of which contribute to overconfidence. Two other common biases found in analysts' research are the *confirmation bias* and the *gambler's fallacy*.

The **confirmation** bias (related to *confirming evidence*) relates to the tendency to view new information as confirmation of an original forecast. It helps the analyst resolve cognitive dissonance by focusing on confirming information, ignoring contradictory information, or interpreting information in such a way that it conforms to the analyst's way of thinking. The confirmation bias can also be seen in analysts' forecasts where they associate a sound company with a safe investment, even though the stock price and the current economic environment would indicate otherwise.

The **gambler's fallacy**, in investing terms, is thinking that there will be a reversal to the long-term mean more frequently than actually happens. A *representative bias* is one in which the analyst inaccurately extrapolates past data into the future. An example of a representative bias would be classifying a firm as a growth firm based solely on previous high growth without considering other variables affecting the firm's future.

> *Professor's Note: The gambler's fallacy can be effectively demonstrated with a coin toss example. Consider an individual who is watching a coin being tossed. He knows intellectually that the probability of heads or tails turning up in any single toss is 50%. Before the coin is tossed the first time, he maintains this 50%/50% prior probability. Now, assume the coin is tossed five times, and heads turns up all five times. Knowing that the long-term mean is 50% heads and 50% tails, the individual starts to feel the probability of tails turning up on the next toss has increased above 50%. In fact, if the run of heads increases, the individual's subjective probability that tails will come up on the next toss will also increase, even though the probability of either heads or tails stays at 50% with every toss.*

There are many actions an analyst can take to prevent biases in research, some of which are the same as when they are interpreting management reports. For example, analysts should be aware of the possibility of *anchoring and adjustment* when they recalibrate forecasts given new information. They should use metrics and ratios that allow for comparability to previous forecasts. They should take a systematic approach with prepared questions and gather data before forming any opinions or making any conclusions.

Analysts should use a structured process by incorporating new information sequentially and assigning probabilities using Bayes' formula to help avoid conclusions with unlikely scenarios. They should seek contradictory evidence, formulating a contradictory opinion instead of seeking more information that proves their initial hypothesis. They should get prompt feedback that allows them to re-evaluate their opinions and gain knowledge for future insight, all the while documenting the entire process.

INVESTMENT COMMITTEES

LOS 9.f: Discuss how behavioral factors affect investment committee decision making and recommend techniques for mitigating their effects.

CFA® Program Curriculum, Volume 2, page 131

Many investment decisions are made in a group setting (e.g., stock recommendations by research committees, analysts working in a team setting, pension plan decisions being approved by a board of trustees, or an investment club deciding which stocks to buy). The thinking is that the collective expertise of the individual members will contribute to better investment decision making. In a group setting, the individual biases mentioned before can be either diminished or amplified with additional biases being created.

Social proof bias is when a person follows the beliefs of a group. Research has shown that the investment decision making process in a group setting is notoriously poor. Committees do not learn from past experience because feedback from decisions is generally inaccurate and slow, so systematic biases are not identified.

The typical makeup of a committee coupled with group dynamics leads to the problems normally seen with committees. Committees are typically comprised of people with similar backgrounds and, thus, they approach problems in the same manner. In a group setting, individuals may feel uncomfortable expressing their opinion if it differs with others or a powerful member of the group. The remedy is for committees to have the following features:

- Comprised of individuals with diverse backgrounds.
- Members who are not afraid to express their opinions even if it differs from others.
- A committee chair who encourages members to speak out even if the member's views are contrary to the group's views.
- A mutual respect for all members of the group.

BEHAVIORAL FINANCE AND MARKET BEHAVIOR

LOS 9.g: Describe how behavioral biases of investors can lead to market anomalies and observed market characteristics.

CFA® Program Curriculum, Volume 2, page 133

In an efficient market, one should not be able to consistently generate excess returns using any form of information. Once information is known to investors, it should be instantaneously and fully incorporated into prices. But this does not mean that all apparent pricing exceptions to the efficient market hypothesis are anomalies.

- An excess return before fees and expenses that disappears after properly reflecting all costs required to exploit it is not an anomaly.
- Some apparent anomalies are simply a reflection of an inadequate pricing model. If another model with an additional risk factor removes the excess return, it may not be an anomaly.
- Apparent anomalies can just be small sample size. Just because flipping a coin three times generates three heads, does not make the odds on the next flip anything more than 50/50.
- An anomaly may exist for only the short-run and disappear once it becomes known and exploited.
- Some apparent anomalies are a rational reflection of relevant economic factors. Year-end trading anomalies may just reflect rational behavior to reduce taxes.

But other deviations from the EMH and rationality do persist and behavioral finance can offer insight into these.

Momentum Effect

All forms of the EMH assert technical-price-based trading rules should not add value. Yet studies continue to show evidence of correlation in price movement. A pattern of returns that is correlated with the recent past would be classified as a **momentum effect**. This effect can last up to two years, after which it generally reverses itself and becomes negatively correlated, with returns reverting to the mean. This effect is caused by investors following the lead of others, which at first is not considered to be irrational. The collective sum of those investors trading in the same direction results in irrational behavior, however. There are several forms of momentum that can take place, which are discussed in the following.

Herding is when investors trade in the same direction or in the same securities, and possibly even trade contrary to the information they have available to them. Herding sometimes makes investors feel more comfortable because they are trading with the consensus of a group. Two behavioral biases associated with herding are the *availability bias* (a.k.a. the *recency bias* or *recency effect*) and *fear of regret*. In the availability bias, recent information is given more importance because it is most vividly remembered. It is also referred to as the availability bias because it is based on data that are readily available, including small data samples or data that do not provide a complete picture. In the context of herding, the recent data or trend is extrapolated by investors into a forecast.

Regret is the feeling that an opportunity has passed by and is a *hindsight bias*. The investor looks back thinking they should have bought or sold a particular investment (note that in the availability bias, the investor most easily recalls the recent positive performance). Regret can lead investors to buy investments they wish they had purchased, which in turn fuels a **trend-chasing effect**. Chasing trends can lead to excessive trading, which in turn creates short-term trends.

Financial Bubbles and Crashes

Financial bubbles and subsequent crashes are periods of unusual positive or negative returns caused by panic buying and selling, neither of which is based on economic fundamentals. The buying (selling) is driven by investors believing the price of the asset will continue to go up (down). A bubble or crash is defined as an extended period of prices that are two standard deviations from the mean. A crash can also be characterized as a fall in asset prices of 30% or more over a period of several months, whereas bubbles usually take much longer to form.

Typically, in a bubble, the initial behavior is thought to be rational as investors trade according to economic changes or expectations. Later, the investors start to doubt the fundamental value of the underlying asset, at which point the behavior becomes irrational. Recent bubbles were seen in the technology bubble of 1999–2000 and increased residential housing prices in the United Kingdom, Australia, and the United States.

In bubbles, investors sometimes exhibit rational behavior—they know they are in a bubble but don't know where the peak of the bubble is. Or, there are no suitable alternative investments to get into, making it difficult to get out of the current investment. For investment managers, there could be performance or career incentives encouraging them to stay invested in the inflated asset class.

There are several different types of behavior that are evident during bubbles. Investors usually exhibit *overconfidence*, leading to excessive trading and underestimating the risk involved. Portfolios become concentrated, and investors reject contradictory information. Overconfidence is linked to the *confirmation bias*, in which investors look for evidence that confirms their beliefs and ignore evidence that contradicts their beliefs. *Self-attribution bias* is also present when investors take personal credit for the success of their trades (they make no attempt to link ex post performance to strategy).

Hindsight bias is present when the investor looks back at what happened and says, "I knew it all along." *Regret aversion* is present when an investor does not want to regret missing out on all the gains everyone else seems to be enjoying. The *disposition effect* is prevalent when investors are more willing to sell winners and hold onto losers, leading to the excessive trading of winning stocks.

As the bubble unwinds in the early stages, investors are anchored to their beliefs, causing them to under-react because they are unwilling to accept losses. As the unwinding continues, the disposition effect dominates as investors hold onto losing stocks in an effort to postpone regret.

Value vs. Growth

Two anomalies discussed by Fama and French[7] are associated with value and growth stocks. Value stocks have low price-to-earnings ratios, high book-to-market values, and low price-to-dividend ratios, with growth stocks having the opposite characteristics. In their 1998 study, Fama and French found that value stocks historically outperformed growth stocks in 12 of 13 markets over a 20-year period from 1975 to 1995. They also found that small-capitalization stocks outperformed large-caps in 11 of 16 markets. Additionally, they contend that in their three factor model, comprised of size, value, and market beta, the value stock mispricing anomaly disappears and is instead due to risk exposures of companies with a particular size and book-to-market value being more vulnerable during economic downturns.

Other studies have offered behavioral explanations, identifying the value and growth anomalies as a mispricing rather than an adjustment for risk. For example, in the **halo effect**, the investor transfers favorable company attributes into thinking that the stock is a good buy. A company with a good record of growth and share price performance is seen as a good investment with continued high expected returns. This is a form of representativeness in which investors extrapolate past performance into future expected returns, leading growth stocks to become overvalued.

The **home bias** anomaly is one where investors favor investing in their domestic country as compared to foreign countries. This also pertains to companies that are located closer to the investor. This bias can be related to a perceived information advantage or the

7. Fama, Eugene F. and Kenneth R. French, 1998. "Value versus Growth: The International Evidence." *Journal of Finance*, vol 53, no. 6: 1975-1999.

comfort one feels from being closer to the home office or executives of the company. Analysts may see this as having easier access to those individuals, or a desire of the investor to invest in their community.

KEY CONCEPTS

LOS 9.a:

Incorporating behavioral biases into the client's IPS should result in the following:

- Portfolios that are closer to the efficient frontier.
- More satisfied clients.
- Clients who are better able to stay on track with their long-term strategic plans.
- Better working relationships between the client and adviser.

Limitations of classifying investors into behavioral types include the following:

- Individuals can display emotional and cognitive errors at the same time.
- The same individual may display traits of more than one behavioral investor type.
- As investors age, they become more risk averse and emotional toward investing.
- Individuals who fall into the same behavioral type shouldn't necessarily be treated the same.
- Unpredictably, individuals tend to act irrationally at different times.

LOS 9.b:

There are four areas of the client/adviser relationship that can be enhanced by incorporating behavioral finance into the relationship:

1. Behavioral finance helps the adviser understand the reasons for the client's goals.
2. Behavioral finance adds structure and professionalism to the relationship.
3. The adviser is better equipped to meet the client's expectations.
4. A closer bond between them results in happier clients and an enhanced practice for the adviser.

LOS 9.c:

Behavioral biases exhibited by defined contribution (DC) plan participants:

- *Status quo bias:* Investors make no changes to their initial asset allocation.
- *Naïve diversification (1/n naïve diversification):* Employees allocate an equal proportion of their retirements funds to each mutual fund in the plan.

Reasons employees invest in their own company's stock.

- *Familiarity:* They underestimate its risk; they become overconfident in their estimate of the company's performance.
- *Naïve extrapolation:* The company's recent good performance is extrapolated into expected future performance.
- *Framing:* If the employer's contribution is in company stock, employees tend to keep it rather than sell it and reallocate.
- *Loyalty:* Employees hold company stock in an effort to help the company (e.g., to prevent a takeover by another firm).
- *Financial incentive:* Tax incentives or the ability to purchase the stock at a discount lead to holding too much company stock.

Due to *overconfidence*, retail investors trade their brokerage accounts excessively. The result can be lower returns due to trading costs. *Disposition effect*: Investors tend to sell winners too soon and hold losers too long.

Home bias is closely related to *familiarity*. It leads to staying completely in or placing a high proportion of assets in the stocks of firms in their own country.

Mental accounting: Investors tend to construct portfolios in layers (pyramids). Each layer is used to meet a different goal. Investors see each layer as having a separate level of risk and ignore correlations of assets in the different layers.

LOS 9.d

Behavioral finance insights could lead to portfolio construction using:

- Target funds to overcome status quo bias.
- Layered portfolios that accommodate perceptions of risk and importance of goals to build portfolios the client will stay with.

LOS 9.e:

Analysts typically exhibit three biases: (1) overconfidence; (2) interpreting management reports; and (3) biases in their own research.

Behavioral biases that contribute to overconfidence:

- The illusion of knowledge bias.
- The self-attribution bias.
- Representativeness.
- The availability bias.
- The illusion of control bias.
- Hindsight bias.

Actions analysts can take to minimize overconfidence:

- Get feedback through self evaluations, colleagues, and superiors, combined with a structure that rewards accuracy, leading to better self-calibration.
- Develop forecasts that are unambiguous and detailed, which help to reduce hindsight bias.
- Provide one counterargument supported by evidence for why their forecast may not be accurate.
- Consider sample size and model complexity.
- Use Bayes' formula.

Reporting by company management is subject to behavioral biases:

- Framing.
- Anchoring and adjustment.
- Availability.

Analysts should be aware of the following when a management report is presented:

- Results and accomplishments are usually presented first, giving more importance to that information.
- Self-attribution bias in the reports.
- Excessive optimism.
- Recalculated earnings.

Actions the analyst can take to prevent undue influence in management reports:

- Focus on verifiable quantitative data.
- Be certain the information is framed properly.
- Recognize appropriate base rates so the data is properly calibrated.

Analyst biases in research:
- Usually related to collecting too much information.
- Leads to illusions of knowledge and control as well as representativeness.
- Inaccurately extrapolate past data into the future.
- Can suffer from *confirmation bias* and *gambler's fallacy*.

To prevent biases in research:
- Ensure previous forecasts are properly calibrated.
- Use metrics and ratios that allow comparability to previous forecasts.
- Take a systematic approach with prepared questions and gathering data first before making conclusions.
- Use a structured process; incorporate new information sequentially assigning probabilities using Bayes' formula.
- Seek contradictory evidence and opinions.

LOS 9.f:
Committee forecasts are usually no better than an individual's. In committees individual behavioral biases can be diminished or amplified. *Social proof bias* is when a person follows the beliefs of a group.

Committees are typically comprised of people with similar backgrounds; they tend to approach problems in the same manner. Individuals may feel uncomfortable expressing their opinions. To overcome these problems, construct committees with individuals who have diverse backgrounds, are not afraid to express their opinions, and have respect for the other members of the group.

LOS 9.g:
Market anomalies:
- *Momentum effect.* Patterns in returns that are caused by investors following the lead of others; they tend to trade in the same direction, which is referred to as *herding*.
- *Financial bubbles and crashes.* Periods of unusual positive or negative returns caused by panic buying or selling. They can be defined as a period of prices two standard deviations from their historical mean. A crash can also be characterized as a fall in asset prices of 30% or more over a period of several months; bubbles usually take much longer to form. Behavioral biases exhibited during bubbles are overconfidence, confirmation bias, self-attribution bias, hindsight bias, regret aversion, and the disposition effect.
- *Value stocks.* Low price-to-earnings, high book-to-market, low price-to-dividend ratios. Growth stocks have the opposite characteristics.

CONCEPT CHECKERS

1. **Identify** three uses and three limitations of classifying investors into behavioral types.

2. **List** and **explain** two areas that are considered critical to a successful client/adviser relationship and how incorporating behavioral finance can enhance the relationship.

3. Which of the following is *least* indicative of the pyramid structure seen when individuals create portfolios?
   A. The correlation between the assets in the pyramid is ignored.
   B. Individuals subconsciously view the pyramid as having a single level of risk.
   C. People tend to place their money into different "buckets," which is referred to as mental accounting.

4. Behavioral finance would support building portfolios using which of the following techniques?
   A. In a pyramid with low priority investment goals funded with low risk assets.
   B. In a balanced fund with stocks and bonds.
   C. Using target date funds.

5. **Explain** why and how hindsight bias is used in an analyst forecasts.

6. Which of the following is the *least* desirable trait to have in an investment committee?
   A. The committee members come from diverse backgrounds.
   B. The committee members are generally in consensus with one another.
   C. The chairperson of the committee encourages individuals to speak out.

7. **Explain** what causes bubbles and crashes and **list** two ways of quantitatively identifying them.

Answers – Concept Checkers

1. Uses of classifying investors into behavioral types include:
   - Portfolios that are closer to the efficient frontier and more closely resemble ones based on traditional finance theory.
   - More trusting and satisfied clients.
   - Clients who are better able to stay on track with their long-term strategic plans.
   - Better overall working relationships between the client and adviser.

   Limitations of classifying investors into behavioral types include:
   - Individuals may display both emotional and cognitive errors at the same time, with either behavior appearing irrational.
   - The same individual may display traits of more than one behavioral investor type at the same time; therefore, the investment adviser should not try to classify the individual into only one behavioral investor type.
   - As investors age, they will most likely go through behavioral changes, usually resulting in decreased risk tolerance, along with becoming more emotional about their investing.
   - Even though two individuals may fall into the same behavioral investor type, each individual would not be treated the same due to their unique circumstances.
   - Individuals tend to act irrationally at different times, seemingly without predictability.

2. A successful client/adviser relationship can be defined in four areas, with each one being enhanced by an understanding of how behavioral finance can play an important part in the relationship.
   - The adviser understands the long-term financial goals of the client. Behavioral finance helps the adviser understand the reasons for the client's goals, making the client feel like they are better understood.
   - The adviser maintains a consistent approach with the client. Behavioral finance adds structure and professionalism to the relationship, which helps the adviser understand the client before investment advice is given.
   - The adviser invests as the client expects. Once the adviser understands the motivations for the client's goals, the adviser is better equipped to meet the client's expectations.
   - Both client and adviser benefit from the relationship. The primary benefit of incorporating behavioral finance into the client/advisor relationship is a closer bond between them, resulting in happier clients and an enhanced practice for the adviser.

3. **B** In the pyramid structure, investors view each separate layer or investment within that layer as having a separate level of risk associated with the goal they are trying to accomplish with that investment. It is in the traditional finance theory approach of portfolio construction where all the investor's assets are viewed as one complete portfolio with a single level of risk. In the pyramid structure, the correlation between the assets in the pyramid is ignored, whereas in the traditional finance portfolio construction, the correlation between the asses is taken into consideration. In the pyramid structure, individuals tend to think of each layer separately, which is referred to as mental accounting.

4. **C** Target date funds overcome the status quo bias of individuals and adjust the portfolio as they age. A simple balanced approach does not make the adjustment and a pyramid approach is suggested, but low priority goals can be funded with higher risk assets.

5. Hindsight bias is an ego defense mechanism analysts use to protect themselves against being wrong in their forecast. It is used by selectively recalling what actually happened, allowing the analyst to adjust their forecast accordingly and making it look like their forecast was more accurate than it actually was. Hindsight bias is possible when the original forecast is vague and ambiguous, a poor forecasting trait, allowing the forecast to be adjusted.

6. **B** Committee members always being in consensus with each other is an undesirable trait of a committee, which could lead to poor investment decision making. It is more desirable to have a committee comprised of individuals with diverse backgrounds who are encouraged, and not afraid, to voice their opinions, even if the opinion differs from the others. These traits lead to better overall decisions being made.

7. Financial bubbles and crashes are periods of unusual positive or negative returns *caused by panic buying and selling*, neither of which are based on economic fundamentals. In a bubble, the buying is due to investors believing the price of the asset will continue to go up. Another way of defining a bubble or crash is a period of prices for an asset class that is two standard deviations away from the price index's mean value. A crash can also be characterized as a fall in asset prices of 30% or more over a period of several months.

Self-Test: Behavioral Finance

Use the following information for Questions 1 through 6.

Frank Brooks and Peter Timmons are portfolio managers for the largest mutual fund of Liberty Financial Advisers, which provides a variety of mutual funds for both individuals and institutions. Brooks has been a portfolio manager for eight years and has seen both bull and bear markets. Timmons is his assistant and has been at Liberty Financial Advisers for the two years following his graduation from a prestigious Master of Science in Finance program.

In their discussion over lunch, Brooks and Timmons discuss the latest quarterly earnings announcements for several firms in their portfolio. Despite optimistic projections for some firms, most announcements were quite disappointing. Timmons states that he is not convinced that their prospects are as grim as the announcements suggest.

The next day, Brooks and Timmons provide a presentation to Liberty Financial Advisers' clients. Their guest presenter is Stephen Davis, an economist at the local university who frequently provides economic commentary for national media outlets. During his presentation, Davis states that it is likely the United States will enter a recession next year. He recommends that the clients shift their assets into investment grade bonds and noncyclical stocks. He states that he has been successful in predicting recessions over the past 15 years and is certain of his forecasts. He states further that the only time he has been wrong in predicting the business cycle is when Congress unexpectedly increased spending beyond that expected. He states that if that had not happened, his prediction of a mild recession would have been correct, instead of the mild expansion that actually occurred.

During the afternoon session, Brooks discusses the various strategies at Liberty Financial Advisers. In the value/neglected firm strategy, Liberty Financial Advisers seeks out firms trading at reasonable valuations with no analyst following. Brooks states that several academic studies showed these firms to be good investments over a 3-year time horizon from July in year $t = 0$ to June 30 of year $t = +3$, following their identification on June 30 of year $t = 0$. Brooks states that he has adopted this strategy for his portfolio.

Later that evening at dinner, Brooks, Timmons, and Davis discuss the day's events. Commenting on investment strategies, Davis states that he focuses on growth stocks with 6-quarter earnings growth and monitors his portfolio on a quarterly basis. Davis also states that when the short-term moving average rises above the long-term moving average, this signals an opportune time to trade.

1. Which of the following *best* describes Timmons's behavioral characteristic? Timmons:
   A. uses frame dependence.
   B. uses anchoring.
   C. is loss averse.

2. Which of the following *best* describes Davis's behavioral characteristic? Davis:
   A. uses frame dependence.
   B. is overconfident.
   C. is loss averse.

3. Which of the following *most likely* explains Davis's behavioral characteristic? Davis:
   A. uses a bottoms-up approach to assess his skills.
   B. is susceptible to cognitive dissonance.
   C. is susceptible to feelings of regret.

4. Which of the following *best* explains Davis's defense of his past inaccurate forecast? Davis is exhibiting the behavioral bias of:
   A. self attribution.
   B. representativeness.
   C. illusion of knowledge.

5. Which of the following *best* describes Brooks's investment strategy regarding value/neglected firms? Brooks's strategy is based on a:
   A. support level.
   B. moving average.
   C. resistance level.

6. Which of the following *best* describes the trading signal indicated by Davis's investment strategy? Davis is describing a:
   A. resistance level in which the stock is thought to be overvalued, eventually reverting back to its mean.
   B. moving average where the short-term moving average is above the long-term moving average, indicating a "buy" signal.
   C. moving average where the short-term moving average is above the long-term moving average, indicating the stock is overvalued, and the investor should sell.

Self-Test Answers: Behavioral Finance

1. **B** Timmons uses anchoring. Despite the disappointing earnings announcements, he states that he is not convinced that the firms' prospects are as grim. He under-adjusts to new information because his beliefs about the firms are anchored in his previous optimistic forecasts.

2. **B** Davis is overconfident. He states that he is certain of his forecasts and reports a remarkable (and perhaps not fully disclosed) performance record.

3. **B** When professionals are overconfident, they tend to be susceptible to cognitive dissonance. The professional will ignore information that conflicts with his image of being successful. Davis admits only one past forecasting mistake in 15 years, which he then blames on an event outside of his control.

4. **A** Davis states that if Congress had not unexpectedly increased spending above what he had expected, then his prediction would have been correct. He is exhibiting self attribution bias, in which the analyst takes credit for successes and blames external events for failures, by claiming their forecast would have been accurate if the factors that were incorporated into the forecasting model hadn't changed. The illusion of knowledge bias is when analysts think they are smarter than they actually are, which can be fueled by collecting a large amount of data. The representativeness bias is when the analyst judges the probability of a forecast being correct based on how much the available data represents the outcome.

5. **A** This is the sort of odd question you do see occasionally on the exam. It is based more on the general CFA curriculum than on the specific reading. It is completely unpredictable, and the most important issue is to not spend too long on it. If you do not think of an answer, guess and move on.

   First, recognize Brooks's strategy is to buy out of favor cheap stocks. Second, notice all of the answer choices are technical analysis charting terms. Third, think creatively to select or eliminate answers. A support level refers to a price moving down and then rallying back up. It vaguely fits in with buying a low-price stock. Nothing in the data or question relates to a moving average of price. So eliminate answer "B". A resistance level might refer to a ceiling or floor on a price chart. It is not a wrong answer but "A" is the best-fit answer.

6. **B** Davis is describing the moving average trading tactic in which the short-term moving average is above the long-term average, indicating a buy signal.

The following is a review of the Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

MANAGING INDIVIDUAL INVESTOR PORTFOLIOS[1]

Study Session 4

EXAM FOCUS

In the past, the morning session of the exam has been heavily weighted towards portfolio management questions. It will typically be 9–14 questions. However, the questions have had multiple parts. Each question part will display the number of minutes it is allocated, and those minutes will be the maximum point score you can earn. There will likely be one or two questions devoted directly to the investment policy statement (IPS) and they could total an hour or more. There may be IPS questions for both an individual and an institution. There is likely to be a strategic asset allocation (SAA) question tied into that IPS question. Many of the other questions may also tie into the IPS. That makes the next two Study Sessions extremely important to the Level III exam.

To answer IPS questions successfully, you must:

1. Be familiar with and understand a large number of potential issues that might apply in a given situation. These are covered in the SchweserNotes and in the CFA readings for Study Sessions 4 and 5. There is no substitute for reading the material.

2. Carefully read and understand the facts of the case to determine which issues from #1 above are relevant. Because each case is unique, you cannot expect to pass just by repeating what you saw as the answer to a previous question. CFA Institute says that the Level III exam is unique in requiring a high level of judgment and it is these questions where that most comes into play. You will have the opportunity to practice this as you go forward in the Schweser material.

3. Recognize that there is a process at work in constructing an IPS and doing a strategic asset allocation (SAA). The CFA material provides examples of the output from this process and discusses the inputs but does not focus on the construction process. However, the exam has required candidates to construct an IPS and then use it. We have extensive "For the Exam" boxes throughout our material to help you understand the process.

1. The terminology used throughout this topic review is industry convention as presented in Reading Assignment 10 of the 2013 CFA Level III exam curriculum.

4. The last stage is to construct a written answer that reflects #1, #2, and #3. This has not been required on other levels of the exam. The morning session is generally referred to as *essay*; however, the more precise term is *constructed response*. The key points that should appear in your answer have been decided, and your answer is evaluated strictly in terms of how well it makes and supports those points in coherent fashion. Practice writing an effective constructed response answer many times before the exam.

5. You must also deal with frustration. A significant percentage of Level III candidates find this section extremely frustrating because it does not meet their personal sense of consistency. Past answers are quite consistent on the main, important issues (with a few exceptions, we will discuss these). But they also include a range of random, not particularly significant, comments. The random comments do no harm but are frustrating to candidates who try to just repeat what they have seen in past answers. Try to move past that and learn what is expected. The exam process has well tested the ability to learn technical and rather precise techniques and math. The Level III material will continue to draw on those skills. However, this exam will likely test your ability to find what another trained professional would have been expected to find and write, when confronted with sometimes contradictory issues.

The next pages will lay out a variety of issues with which you are expected to be familiar. They may or may not be relevant to a given portfolio question. The exam will likely test the ability to determine what is relevant to a particular case and then apply it.

INVESTOR PROFILING AND RISK TOLERANCE

LOS 10.a: Discuss how source of wealth, measure of wealth, and stage of life affect an individual investors' risk tolerance.

LOS 10.b: Explain the role of situational and psychological profiling in understanding an individual investor.

CFA® Program Curriculum, Volume 2, page 157

Due to the variety of individual circumstances, the adviser may utilize *situational profiling* as a starting point in understanding the client and his needs. Situational profiling begins with determining the investor's source of wealth, measure of perceived wealth versus needs, and stage of life. These can provide insight into the individual's risk tolerance and return objectives.

Source of Wealth

Generally, wealth is created either *actively* through entrepreneurial activities or *passively. Passive wealth might come from* inheritance, windfall, or through long, secure employment and conservative investment. The manner in which an individual has accumulated wealth provides clues about his psychological makeup and his *willingness* to take risk.

Active wealth creation. Wealth that has been accumulated through *entrepreneurial activity* may be the result of considerable risk taking. Thus, an individual classified as an entrepreneur could exhibit a significant willingness to take risk. Keep in mind, however, that entrepreneurs might be willing to accept *business risk* because they feel in control of the firm and their futures. The method of wealth acquisition can lead to different attitudes toward *investment risk*.

The bottom line is that when someone is classified as an entrepreneur, it may indicate an above-average willingness to tolerate risk. You must, however, be careful to look for statements and/or actions that confirm the assumption or might indicate otherwise. Willingness can be indicated by both statements and actions.

Passive wealth creation. Wealth acquired through windfall or inheritance could indicate a lack of knowledge related to and discomfort with making investment decisions. These individuals may have below-average *willingness* to tolerate risk. Due to their lack of investment experience, these investors generally have little confidence in their abilities to regain their wealth should they experience significant losses and thus can have a strong desire to protect it.

An individual who has accumulated wealth through conservative consumption and savings over a lifetime of secure employment has probably demonstrated a policy of delayed consumption and careful, low-risk investments. This individual has demonstrated a desire for long-term financial security and would be classified as having below-average willingness to take risk.

Measure of Wealth

Generally, there is a positive correlation between a client's *perception* of wealth and his willingness to take investment risk. If an investor perceives his wealth as small, he will have low risk tolerance and wish to hold only low-volatility investments. The opposite is of course true for an individual who perceives his wealth as large.

Stage of Life

According to conventional wisdom, investors in the earlier stages of life have the ability to add to their portfolios through employment-related income and have time to recover from short-term market downturns. They are able to tolerate greater portfolio volatility and take risk.

Life stages are a progression and the normal progression is:

- *Foundation* phase when individuals are seeking to accumulate wealth through a job and savings, seeking education, or building a business. Their long time horizon can allow considerable risk taking. However, they often have little financial wealth to risk, and this may reduce ability to take risk. On the other hand, those who inherit wealth can often assume high risk given their long time horizon. The conclusion will depend on the specifics of the investor's circumstances.

- *Accumulation* phase when earnings or business success rise and financial assets can be accumulated. Financial demands, such as buying a house or educating children, may also rise. This could be a time of maximum savings and wealth accumulation with a higher ability to bear risk.
- *Maintenance* phase, which often means retirement. Preserving wealth and living off the portfolio return often become important. The ability to bear risk will be declining but is probably not low. Life expectancy can be long, with a need to maintain purchasing power. Being too conservative could lead to a decline in standard of living.
- *Distribution* stage means assets exceed any reasonable level of need for the individual and a process of distributing assets to others can begin. This might involve gifts now or making plans for distribution at death. For the wealthy, financial objectives may extend beyond their death so that the time horizon remains long and ability to bear risk could remain high, depending on the overall situation.

This progression is not always linear. Setbacks or windfalls along the way could move someone ahead or back, regardless of the simple passage of time.

Professor's Note: Individual client characteristics can dramatically alter the generalities previously described. A retired individual with very low needs relative to wealth can have high ability to take risk. An elderly client with significant wealth and goals to pass this on to future generations may choose a significantly more aggressive portfolio allocation than would be implied by naively considering stage of life.

TRADITIONAL FINANCE VS. BEHAVIORAL FINANCE

LOS 10.c: Compare the traditional finance and behavioral finance models of investor decision making.

CFA® Program Curriculum, Volume 2, page 159

Traditional finance (i.e., modern portfolio theory) assumes investors exhibit three characteristics:

1. *Risk aversion.* Investors minimize risk for a given level of return or maximize return for a given level of risk and measure risk as volatility.

2. *Rational expectations.* Investors' forecasts are unbiased and accurately reflect all relevant information pertaining to asset valuation.

3. *Asset integration.* Investors consider the correlation of a potential investment with their existing portfolios. They focus on the impact of adding a new asset on the return and risk of the total portfolio.

Based on these assumptions, it can be expected asset prices will reflect economic factors, and portfolios can be constructed holistically—this means by looking at weighted average returns and risk calculations that rely on covariance (and correlation).

In contrast, **behavioral finance** assumes other factors may also be relevant. Decision models also need to consider:

Professor's Note: Consider this a cursory review of terms that are better covered in other Study Sessions. We suggest you focus on the difference between the lists for traditional and behavioral finance.

1. *Loss aversion* occurs when the framing of a decision as a gain or loss affects the decision. For example, given a choice between (1) a small known loss of $800 and (2) a 50/50 chance of losing $1,600 or $0 (which is, on average, losing $800), individuals choose uncertainty and choose the 50/50. But rephrase this as gains and they choose certainty. For example (1) a small known gain of $800 or (2) a 50/50 chance of gaining $1,600 or $0 (which is, on average, gaining $800), individuals choose certainty and take the sure $800. Phrased as a gain, they take certainty, which is consistent with traditional finance. Phrased as a loss, they take uncertainty, hoping to avoid a loss, hence the term *loss aversion.*

2. *Biased expectations* are a cognitive error that can occur from overconfidence in predicting the future. Some examples include assuming the results of the average manager will be those of a particular manager, excessively focusing on outlier events, and mistakenly letting one asset represent another asset.

3. *Asset segregation* occurs when investors view assets in isolation and do not consider the effect of correlation with other assets. As a result:
   - Asset prices will reflect both underlying economics and the investor's subjective feelings.
   - Portfolio construction will be segmented by layers with each layer reflecting the priority of its goals to that investor. Assets will be selected by layer.

INVESTOR PSYCHOLOGY AND PERSONALITY TYPES

LOS 10.d: Explain the influence of investor psychology on risk tolerance and investment choices.

CFA® Program Curriculum, Volume 2, page 160

LOS 10.e: Explain the use of a personality typing questionnaire for identifying an investor's personality type.

CFA® Program Curriculum, Volume 2, page 161

LOS 10.f: Compare risk attitudes and decision-making styles among distinct investor personality types, including cautious, methodical, spontaneous, and individualistic investors.

CFA® Program Curriculum, Volume 2, page 163

Behavioral models indicate that the investment valuation and decision process incorporates more than the traditional fundamental financial variables seen in portfolio theory. Behavioral finance assumes investors also include individual preferences based on personal tastes and experiences. That is, individuals value personal and investment characteristics that may or may not be considered in traditional finance valuation processes.

Additionally, individuals tend to construct portfolios one asset at a time rather than using a diversified portfolio (i.e., asset integration) approach. Wealth creation is determined not from an overall portfolio perspective but by making investment decisions that relate to specific goals (e.g., pyramiding).

Investor attitudes are affected by numerous personal factors, including socioeconomic background, experiences, wealth, and even frame of mind. Through the use of questionnaires that focus on non-investment-related questions concerning personal attitudes and decision making, investors can be categorized within broad *personality types*.

The personality typing questionnaire should be considered only a first step. The results of the questionnaire should be used as a starting point in determining the client's risk tolerance and attitude toward and understanding of investment decision making. Having a better understanding of the client helps the manager anticipate the client's concerns, structure a discussion of the client's investment program in terms the client will understand, and construct a relevant IPS.

Personality Types

Four very general categories of attitude and style result from this type of questionnaire and may provide indications into investment-related behavior. Through the

Study Session 4

questionnaire process, investors can be classified as *cautious*, *methodical*, *individualistic*, or *spontaneous*.

Cautious investors exhibit a strong desire for financial security. They prefer safe, low-volatility investments with little potential for loss. They do not like making their own investment decisions but are difficult to advise and will sometimes even avoid professional help. Their inability to make decisions can lead to missed investment opportunities. Once they have made investment decisions, their portfolios exhibit low turnover. Look for individuals who minimize risk and have trouble making decisions.

Methodical investors diligently research markets, industries, and firms to gather investment information. Their investment decisions tend to be conservative and, because they base decisions on facts, they rarely form emotional attachments to investments. They continually seek confirmation of their investment decisions, so they are constantly on the lookout for better information. Look for individuals who are conservative, gather lots of data, and look for more information.

Individualistic investors do their own research and are very confident in their ability to make investment decisions. When faced with seemingly contradictory information, they will devote the time needed to reconcile the differences. Individualistic investors tend to have confidence in their ability to achieve their long-term investment objectives. Look for individuals who are confident and make their own decisions.

Spontaneous investors constantly adjust their portfolios in response to changing market conditions. They fear that failing to respond to changing market conditions will negatively impact their portfolios. They acknowledge their lack of investment expertise but at the same time tend to doubt investment advice. Their reactions to changing investment trends combined with a tendency to over-manage their portfolios leads to high turnover. Portfolio performance is diminished by high trading costs. Look for individuals who have high portfolio turnover, chase fads, and continue to want to do something.

THE INVESTMENT POLICY STATEMENT

LOS 10.g: Explain the potential benefits, for both clients and investment advisers, of having a formal investment policy statement.

CFA® Program Curriculum, Volume 2, page 165

For the Exam: We now turn to the construction process for an investment policy statement (IPS). An IPS can range from a simple 1-page document prepared by the investment manager to a large book prepared by other experts retained by the client. For purposes of the exam, the IPS focus is on the Objectives and Constraints (O&C) section. For the exam, the terms *IPS* and *O&C* may be used interchangeably, though technically O&C is just part of IPS. Strategic asset allocation (SAA) may or may not be a part of the IPS. Some authors suggest it is, others do not include it in the IPS itself but treat it as a separate step. The exam generally treats it as a separate step.

The investment policy statement (IPS), in fact the entire process of developing the IPS, is valuable for both the client and the investment adviser. Ultimately the IPS must be internally consistent with the return and risk objectives, reasonable given the prevailing capital market conditions, and consistent with the client's constraints. However, it is more reasonable to approach the construction in parts. The IPS will include the financial objectives of the client (the O in O&C) as well as the constraints (the C).

For the *client*, the benefits of the IPS include:

- The IPS identifies and documents investment objectives and constraints.
- The IPS is dynamic, allowing changes in objectives and/or constraints in response to changing client circumstances or capital market conditions.
- The IPS is easily understood, providing the client with the ability to bring in new managers or change managers without disruption of the investment process.
- Developing the IPS should be an educational experience for the client.
    - Clients learn more about themselves and investment decision making.
    - They are better able to understand the manager's investment recommendations.

For the *adviser*, the benefits include:

- Greater knowledge of the client.
- Guidance for investment decision making.
- Guidance for resolution of disputes.
    - Signed documentation that can be used to support the manager's investment decisions as well as the manager's denials of client investment requests.

LOS 10.h: Explain the process involved in creating an investment policy statement.

CFA® Program Curriculum, Volume 2, page 166

For the Exam: Expect one or more questions requiring you to construct an IPS and then use it in follow-on questions, such as selecting the optimal SAA. A typical IPS will start with two objectives: return, then risk. Next it will discuss the five constraints: time horizon, taxes, liquidity, legal, and unique. An easy way to remember this is RRTTLLU (Return, Risk, Time horizon, Taxes, Liquidity, Legal, Unique).

However, the order of presentation is not the same as the way you think about creating the IPS. The exam question may ask for RRTTLLU or it may ask for the constraints (TTLLU) and then R and R, or for only some of the items. To construct the IPS, you should think through the facts presented, the material from the reading assignments, and how they affect the constraints (TTLLU). This will largely lead you to the correct assessment of the risk and return objective. Ultimately, the risk and return have to be compatible. However, if you think in terms of appropriate risk setting the appropriate return, you will make fewer mistakes.

- As you determine the client's objectives and constraints, be sure to address each separately using the information in the case. *Objectives:* required return and risk tolerance. Constraints: time horizon, tax considerations, liquidity needs, legal and regulatory concerns, and unique circumstances.

- If a follow-on question asks for the SAA, it is important that you check the consistency of the asset classes and overall SAA with the objectives and constraints of the IPS.

The wrong approach to answering exam questions can lead to wasted time and costly mistakes. When approaching an essay question:

- Pay attention to the minutes assigned to the question. The minutes are part of the instructions. If a question is assigned 2 minutes you should give a brief answer. But if the same question were given 8 minutes, the answer starts the same but you should go into considerably more detail, as it is worth 4 times the points. This falls under the heading of showing good judgment.
- Then read over the question *before* you start reading the story to know what you need to address. As you read, underline anything you were taught would be relevant. In an IPS question, almost everything will be relevant and the story can run for a page or more. All of the wordy parts matter, including modifiers like "a lot" or "very," as well as notes like "I'm surprised," et cetera.
- Practice making small notes in the margin that you can understand so you do not forget to work all the relevant information into your answer, such as which specific facts are going to affect each R, each T, each L, and U.
- Think before you write, reread the actual question, and then start to answer it, being sure to answer each specific item requested.

The overall process for creating an IPS is much the same for individual and institutional clients. You will see some differences as you move along in the material. The most prominent is that willingness to bear risk is generally not an issue in institutional portfolios. It is presumed such portfolios can focus on the objective issue of ability to bear risk.

Client Objectives

LOS 10.i: Distinguish between required return and desired return and explain the impact these have on the individual investor's investment policy.

LOS 10.j: Explain how to set risk and return objectives for individual investor portfolios and discuss the impact that ability and willingness to take risk have on risk tolerance.

CFA® Program Curriculum, Volume 2, page 166

The Return Objective

Ultimately, the return and risk objective have to be consistent with reasonable capital market expectations as well as the client constraints. If there are inconsistencies, they must be resolved by working with the client.

For the Exam: Major inconsistencies, such as unrealistic return objectives, are not common in exam questions. If there were issues in the question data that were inconsistent, you should clearly point them out in your answer. These would have to be based on data from the question and not your own personal opinions. For example in the typical IPS question, you are not given capital market data, so you would not use your own opinions on capital market expectations to answer the question. Despite this, you are expected to be familiar with the recent exam questions. If a client makes very extreme statements like wanting a 15% per year return with low risk, you would point out that this is not reasonable.

This leads some candidates to demand the exact numeric division point between reasonable and unreasonable. Unless such divisions are provided in the reading assignments, they do not exist. You need to be able to recognize highly unreasonable return objectives even if there is no specific division point provided. It is pointless to demand things that are not covered in the curriculum.

Often the return can be divided into a required and desired component. The division depends on what is important to that client and the facts presented. Required return is what is necessary to meet high-priority or critical goals to that client. They might include living expenses, children's education, health care, et cetera. Desired return goals will likewise depend on the client but might be things like buying a second home, world travel, et cetera.

Some managers distinguish return between income and growth sources. This is considered in the CFA material to be suboptimal to a total return approach. Total return does not distinguish return from dividends, interest, or realized or unrealized price change. As long as a sufficient return is earned over the long run, funds can be available to meet the return needs.

The return objective will also specify whether it is nominal (including inflation) or real and pretax or after-tax.

For the Exam: The treatment of inflation and taxes in the current reading assignments and past exam questions is not consistent and has caused considerable confusion.

To illustrate, consider a client in a 30% tax bracket with $1,000,000, needing a $30,000 distribution at the end of the year with that amount growing at an estimated 2% inflation rate in perpetuity.

- Approach 1: After-tax real return is 30 / 1,000 = 3%. Pretax real return is 3% / (1 – 0.30) = 4.29%. Nominal pretax return is 4.29% + 2.00% = 6.29%.

  This approach has been used in past questions and is consistent with the Peter and Hilda Inger example in the current reading assignments. The Inger example then includes a small note that this is not proper treatment of inflation. Implicit in this calculation is that the 4.29% is taxed but the 2% is not. There is no particular reason this would be true.

- Approach 2: Nominal after-tax return is 3% + 2% = 5%. Nominal pretax return is 5 / (1 – 0.30) = 7.14%.

  This approach has also been used in past exam answers. It is consistent with current readings on full accrual tax accounting and is the most conservative (highest) required return number. It reflects 100% of the return being taxed each year. It is also not inherently logical because most countries include provisions in their tax code that allow the effective tax rate to be reduced through deferral or other means. It also produces a return objective that would have made some past SAA questions unsolvable.

This issue is going to fall under the heading of not allowing yourself to get frustrated. Simply studying old answers is not sufficient.

- The current reading assignments in a later Study Session on tax implications make it clear this is ultimately an issue that must be resolved in discussions between client and manager, and an assumption should be made of what is the most relevant effective tax rate to apply to the analysis. It is likely to be less than the statutory tax rate.
- Expect current questions to provide direction on what effective tax rate to apply to any calculations.
- If you are truly convinced there is no direction in the current questions, you are probably wrong. Reread the story and question. If you are still convinced, then state the assumption you are going to make. We would recommend Approach 2 is the most consistent with current readings. (Two years ago, we would have given different advice, but the readings have evolved.)
- The question can also be worded to make the whole issue irrelevant. For example, all the data and the question could be done as an after-tax required return.

Spreadsheet modeling can be a desirable way to analyze return needs over multiple years if the necessary computer tools are available. (They are not available on exam day, but the output could be used.)

Example: Use of spreadsheet output on the exam

Client #107 has a portfolio valued at $1,100,000 and wants to increase the value to $1,200,000 in 5 years. An analysis of the client's non-portfolio inflows and outflows shows the client will need $15,000 from the portfolio in one year and this amount is estimated to rise by 3% inflation per year. What is the client's calculated return need?

Answer:

Required Distribution in	*Nominal Distribution*
1 year	\$15,000
2 years	\$15,000 × 1.03 = \$15,450
3 years	\$15,000 × 1.032 = \$15,914
4 years	\$15,000 × 1.033 = \$16,391
5 years	\$15,000 × 1.034 = \$16,883 \$16,883 + \$1,200,000 = \$1,216,883 year 5 distribution

With a \$1,100,000 beginning value, the IRR required return is 3.15%.

Note: If you do not remember how to do an IRR calculation given multiple year cash flows, you could review your SchweserNotes from Level I or your calculator instruction manual. Such skill is presumed for the exam.

For the Exam: You should approach answering the return objective in stages:

The first step would be to list the objectives the client wants the portfolio to achieve. These could be primary goals like maintain standard of living at the current level of \$100,000, grow the portfolio to some projected value, et cetera. If there are desired but less critical goals, list those as well. It will be easier not to try and make any calculations yet.

Second, quantify the investable asset base and the numeric need. For example, the question might ask for the return target next year. The investable base will be the current value of the portfolio and the need is the amount that needs to be generated this year. Questions can also be more complicated and test your time value of money skills. If the question asks for the return in the first year of retirement and retirement will start in three years, you will have to project what the portfolio will be worth in three years and what the return need will be three years from now using the information provided in the question. Hint: If you think you need to make up a number as an assumption to make a calculation, reread the information carefully. There will be information to guide you. Anything is possible but there has not been a question where you had to make up your own assumption for a calculation. It would be very hard for such a question to be graded.

Ownership of a personal residence is something that will be noted in the IPS, usually under unique. But it is not part of investable assets and should not be included in that number.

Last, calculate a percentage return by dividing the return need by investable base.

While this may sound simple, you must be careful to include all relevant facts in the calculation and answer the question as it was asked. The question might specify pretax or after-tax, nominal or real. Generally, the exam is asking for the return for the next year, and you should assume this unless directed otherwise. However the exam has asked questions that specified a future year or over a multiyear time period.

The Risk Objective

This objective should address both the client's *ability* and *willingness* to take risk. The client's ability to take risk is determined objectively, while willingness to take risk is a far more subjective, emotional matter.

Ability to take risk. When we talk about ability to take risk, we are talking about the ability of the portfolio to sustain losses without putting the client's goals in jeopardy; we are talking about how much volatility the portfolio can withstand and still meet the client's required expenditures. Ability to take risk is significantly affected by the investor's time horizon and the size of the expenditures relative to the portfolio.

Generally, if expenditures are small relative to the client's portfolio, the client has an increased ability to take risk. The portfolio can experience significant losses and continue to meet the expenditures. Likewise, if the time horizon is considered long, conventional wisdom states that the portfolio has more time to recover from poor short-term performance. All else equal, as the time horizon increases, the client's ability to take risk increases.

If the expenditures are large relative to the size of the portfolio, the loss the portfolio can sustain and still continue to meet required expenditures is significantly reduced. The client has reduced ability to take risk.

Another consideration is the importance of goals. To determine the importance of a goal, consider the consequences of not meeting it. For example, goals related to maintaining the client's current lifestyle, achieving a desired future lifestyle, providing for loved ones, et cetera are usually classified as *critical*. Those related to acquiring luxury items, taking lavish vacations, et cetera might be important but they are usually considered secondary.

The importance of required expenditures and the ability to take risk are inversely related. All else equal, as the importance of an expense increases, the more we have to ensure it is met. We have to protect against portfolio losses that could place it in jeopardy. Our ability to take risk is thus reduced, and we have to structure the portfolio with low expected risk.

If a spending goal or amount can be changed, the client has *flexibility*. For example, assume we have built a lavish retirement lifestyle into the client's planning. If the annual retirement spending can be safely reduced without causing much concern to the client, this flexibility provides the client with an increased ability to take risk. In determining flexibility, look for the ability to eliminate or reduce spending, eliminate or change the amounts of bequests or charitable donations, add to or increase annual income, et cetera.

If the client is still working or has other assets, then this would increase the ability to take risk, as asset value that is lost can potentially be replaced. Liquidity needs could also be a factor that reduces ability if they require large amounts of the portfolio to be distributed and significantly reduce the available assets.

Willingness to take risk. The client's willingness to take risk is subjective and determined through an analysis of her *psychological* profile. There is no hard-and-fast rule for judging willingness to tolerate risk, so you have to look for statements or evidence in the client's actions.

Clients sometimes indicate their *willingness* to take risk in their statements. These statements usually take the form of disallowing risky investments or specific statements about risk itself. Either type of statement could indicate that the client focuses on risk and has a reduced willingness to take risk.

You could see misleading statements about risk, however, especially when the client assesses his own risk tolerance. Rather than accept the client's statement, you should always look for confirming or contradicting evidence. On one past exam, for example, a client stated that he had *average* risk tolerance. Reading further, we found that the client had a very large investment portfolio, considerable annual income, and a long time horizon. He also regularly invested in what we would consider high-risk investments. From his point of view, he had average risk tolerance but he was average only when compared to his peer group of wealthy investors. He actually had above-average ability and willingness to take risk.

For the Exam: Structure your answer by addressing ability, willingness, and conclusion. Label your steps in the analysis.

Ability to bear risk is decreased by:

- Shorter time horizon.
- Large critical goals in relation to the size of the portfolio.
- High liquidity needs.
- Goals that cannot be deferred.
- Situations where the portfolio is the sole source of support or an inability to replace losses in value.

Willingness to bear risk is determined by statements the client makes or by actions or by life experiences.

Your conclusion should generally go with the more conservative of the two. If there is a conflict between the two, it should definitely be pointed out. Occasionally, a past answer has taken an average of the two if there was not a serious conflict in them. Going with the more conservative is generally best and be sure to state that you have done this.

Like the return objective, the risk objective should be as specific, relevant to the client, and as measurable as possible. Past questions have often specified a maximum shortfall risk, usually defined as E(R) – 2 standard deviations. In such cases, you must list this in your answer. It has been listed both under willingness or the overall risk tolerance conclusion so either should be acceptable. Watch for a question that includes a statement like max shortfall of losing 15% defined as E(R) – 3 standard deviations. Go with what is in the question and not what you saw in an old question.

Individual Investor Constraints

LOS 10.k: Discuss each of the major constraint categories included in an individual investor's investment policy statement.

CFA® Program Curriculum, Volume 2, page 170

For the Exam: Constraints are important because they generally have a significant effect on the risk and return objectives. Conceptually you should think through the constraints before doing the objectives. For the most part, the constraints require you to organize and record the information given in the story in a relevant fashion. If you feel the need to make lengthy calculations in the constraints, it is probably more appropriate to wait and do so in the return objective.

A typical question might require you to address all five constraints in ten minutes. You should give a brief factual answer, listing each constraint and support your statement with relevant facts from the story. If there are no issues on a particular constraint, list the constraint and say so. Leaving it blank is wrong.

Alternatively, a question may only ask you to address specific constraints and might assign more minutes. In this case, only address what was requested and be sure to provide more detail in your answer.

There are five constraints: (1) time horizon, (2) tax considerations, (3) liquidity, (4) legal and regulatory factors, and (5) unique circumstances.

Time Horizon

Time horizon is often important because it affects ability to bear risk. In the most basic terms, an individual's time horizon is the expected remaining years of life. It is the total number of years the portfolio will be managed to meet the investor's objectives and constraints. While there are no precise definitions in the reading assignments, 15 years or more is typically considered long term and short term usually three years or less. In addition, many time horizons are *multistage.*

A stage in the time horizon is indicated any time the individual experiences or expects to experience a change in circumstances or objectives significant enough to require evaluating the IPS and reallocating the portfolio. Consider the following time horizon statement for a 50-year-old individual planning to retire at age 60:

> *The individual has a long-term time horizon with two stages: 10 years to retirement and retirement of 20–25 years.*

In this case, as in most, retirement means a significant change in circumstances for the individual. Prior to retirement, the individual likely met most if not all living and other expenses with her salary, maybe even managing to save (add to the portfolio).

At retirement and with the subsequent loss of salary, the individual will have to rely solely on the portfolio to meet any liquidity needs, including living expenses, travel and entertainment expenses, gifts to family or charity, et cetera. Changes in the client's circumstances are significant enough to warrant reallocating the portfolio according to a new set of objectives and constraints.

For the Exam: When completing the time horizon section of the IPS, remember the following:

- State the number of stages in the time horizon, the main objective of each stage, and the number of years in each stage, if identifiable.
- Look for stages defined by people other than the client. For example, a client may be entitled to a large future inheritance or retirement plan payout that will significantly change her circumstances.
- You could see a client with significant wealth whose concern has been refocused from meeting living expenses to maximizing bequests to heirs (i.e., maximizing the value of the portfolio). Because the focus includes a time period after the client's expected life, the time horizon could be stated as multi-generational.
- The time horizon you see on the exam is often long term. Note: there is no reason there could not be a client who is of advanced age or is terminally ill and has a short-term, single-stage horizon.

Tax Considerations

Taxation is a global issue and must be taken into account when formulating an investment policy for an individual. Some general classifications of taxes are as follows:

- *Income tax.* Taxes paid, usually annually, on any form of income (e.g., wage, rental, dividend, interest).
- *Capital gains tax.* Taxes incurred on the appreciation at the sale of an asset that has increased in value.
- *Wealth transfer tax.* Taxes paid on the total value of assets transferred to another individual through inheritance, gifts, et cetera.
- *Personal property tax.* Taxes paid on value of an asset (e.g., automobiles, real estate).

The effects of taxes must be considered when determining the investment strategy for any taxable investor. Capital gains taxes, for example, affect the realized selling price of an asset regardless of when it is sold. Annual taxes reduce the value of the portfolio every year and thus affect the final multi-period value of the portfolio through a reduction in annual compounding.

The following strategies are used to reduce the adverse impact of taxes:

- **Tax deferral.** Minimize the potentially compounding effect of taxes by paying them at the end of the investment holding period. Strategies that fall under this category focus on long-term capital gains, low turnover, and *loss harvesting* (i.e., reduce net taxable gains by recognizing portfolio gains and losses simultaneously).
- **Tax avoidance.** Invest in tax-free securities. Special savings accounts and tax-free municipal bonds are examples of investment securities that generate tax-free returns.

- Tax **reduction.** Invest in securities that require less direct tax payment. Capital gains may be taxed at a lower rate than income, so securities that generate returns mainly as price appreciation offer the investor a lower effective tax rate. Annual taxes should be reduced through loss harvesting, when available.
- **Wealth transfer** taxes. The client can minimize transfer taxes by planning the transfer of wealth to others without utilizing a sale. Often these strategies are quite specific to the jurisdiction in which the investor resides. Considering the timing of the transfers is also important. For example, if wealth is transferred at death, taxes will have been deferred as long as possible. On the other hand, transferring wealth prior to death (i.e., an early transfer) might be optimal if the recipient's tax rate is lower than the tax rate of the donor. This is discussed in detail in Reading Assignments 15 and 16.

For the Exam: A charterholder is not considered to be a tax expert. You will most typically need to just state the relevant tax situation and rates as given in the question data. You are expected to be able to make calculations to convert between pre- and after-tax as needed and other items specifically covered in the curriculum. Generally any detailed calculations related to taxes should be done in the return objective section. Maximizing after-tax return is the typical objective of most taxable investors. If there are complex tax issues, point out the need to seek qualified advice.

Liquidity

Liquidity can be important in affecting ability to bear risk and in details of the return calculation or SAA. Depending on the situation, liquidity can have a number of meanings and interpretations. In a portfolio context, it means the ability to meet anticipated and unanticipated cash needs.

The liquidity of assets and of a resulting portfolio is a function of the transaction costs to liquidate and price volatility of the assets. High costs and a lengthy time to complete the sale make for lower liquidity. Higher price volatility makes for less liquidity as it increases the probability the asset would be sold for a low value.

Clients' needs for liquidity include:

- Ongoing, anticipated needs for distributions such as living expenses.
- Emergency reserves for unanticipated distributions could be appropriate if client specific and agreed to in advance. Otherwise they create a "cash drag" on portfolio return by continually holding assets in lower return cash equivalents. Holding three months to one year of the annual distribution in cash reserves could be reasonable if agreed to in advance.
- One-time or infrequent negative liquidity events requiring irregular distributions should be noted. Be as specific as possible as to when and how much is needed.
- Positive liquidity inflows not due to the portfolio assets should also be noted.
- Illiquid assets, such as those restricted from sale or those on which a large tax bill would be due on sale, should be noted.
- The client's ownership of a home is generally an illiquid asset and could be noted here. Alternatively it is often recorded under unique.

For the Exam:

- The need for ongoing distributions is generally not listed under liquidity. It must be disclosed and analyzed in calculating the return objective, which makes it superfluous to also list it under liquidity. A few past answers have also listed it under liquidity (after thoroughly analyzing it as part of the return objective) so it appears to be harmless if you also mention it here.
- A one-time or a couple of times liquidity distribution event should be listed here, specifying how much and when to the extent possible. If it will occur immediately or soon (say in the next year), it should also be deducted from the investable base of assets before calculating the necessary return. Alternatively, something like a specified annual distribution to meet college for four years would be treated as a time horizon stage with the distribution as part of the return need during that stage.
- Emergency cash reserves should not be listed unless given specific reason in the question data. They create unnecessary cash drag. They should be listed here if specifically requested and then provided for by holding the appropriate cash equivalent asset in the SAA. Occasionally a past exam answer has, for no reason, included a small emergency reserve, such as three months' living expenses, even if not specifically requested. This is probably okay as long as it is small. It is better not to do so unless specifics of the question make it appropriate.
- Holdings of illiquid assets that are restricted from sale should be noted here. Alternatively, they could be noted under unique. Assets with a low cost basis where the sale would trigger a large tax bill could be listed here as less liquid due to the large bill that would be incurred on the sale. The tax constraint is probably the more logical place to record them or under unique.

Legal and Regulatory Factors

The legal and regulatory constraints that apply to individuals typically relate to tax relief and wealth transfer. The specific constraints vary greatly across jurisdictions and typically call for legal advice.

The most common legal constraints facing individual clients on previous Level III exams have related to personal trusts and foundations. Trusts are formed as legal devices for transferring personal wealth to future generations. In forming a trust, the grantor files documents and transfers assets to the trust. When the trust is *revocable*, the grantor retains ownership and control over the trust assets and is responsible for taxes on any income or capital gains. The grantor often remains as trustee and either manages the trust assets personally or hires a manager.

In an *irrevocable* trust, the grantor confers ownership of the assets to the trust, which is managed by a professional trustee. The assets are considered immediately transferred to future generations and thus can be subject to wealth transfer taxes, such as gift taxes. The trust is a taxable entity, much like an individual, so it will file tax returns and pay any taxes related to the trust assets. The individual who originally funded the trust no longer has control of the assets and is not taxed on them.

Family foundations are another vehicle, similar to the irrevocable trust, used to transfer family assets to future generations. Family members frequently remain as managers of the foundation's assets. Several forms of foundations are discussed in Study Session 5, Portfolio Management for Institutional Investors.

For the Exam: Much like taxes, you are not presumed to be a legal or regulatory expert beyond what is specifically taught in the curriculum. When completing the legal and regulatory constraint section of the IPS, remember the following:

- If there are no noticeable legal concerns, state there are none beyond your normal ethical responsibilities under the Code and Standards.
- If the client has or desires a trust, mention that the manager must follow the trust document. Some types of trusts specify paying all income to the income beneficiaries during their lifetimes and then distributing assets to remaindermen at the death of the income beneficiaries. This can require the manager to balance the competing interests (income versus capital appreciation) of the two groups. You should mention this if it comes up.
- Mention any other legal or regulatory issues brought up in the story.
- If any complex legal issues associated with trusts or other matters are brought up, only answer based on what is taught and state that you will seek qualified expert advice.

Unique Circumstances

This is a catch-all category for anything that can affect the management of the client's assets and not covered in the other constraints. Items that have appeared on past exams and should be mentioned in this section of the constraints include the following:

- Special investment concerns (e.g., socially responsible investing).
- Special instructions (e.g., gradually liquidate a holding over a period of time).
- Restrictions on the sale of assets (e.g., a large holding of a single stock).
- Asset classes the client specifically forbids or limits based on past experience (i.e., position limits on asset classes or totally disallowed asset classes).
- Assets held outside the investable portfolio (e.g., a primary or secondary residence).
- Desired bequests (e.g., the client intends to leave his home or a given amount of wealth to children, other individuals, or charity).
- Desired objectives not attainable due to time horizon or current wealth.

For the Exam: When completing the client's unique circumstances constraint, remember the following:

- Don't leave it blank. Say none or list anything important that did not fit in the above constraints.
- On some past exams, the client's portfolio included a large amount of stock in a company founded by the client or relatives. This could be listed under unique circumstances.
- Other common unique circumstances to mention are investor-imposed limits on asset classes or even a total disallowance of some investment classes.
- Home ownership can be covered by listing it under unique. If the client has indicated what happens to the home at the client's death, write it down.

The Investment Policy Statement (IPS)

LOS 10.1: Formulate and justify an investment policy statement for an individual investor.

CFA® Program Curriculum, Volume 2, page 179

Four examples are provided to illustrate these concepts in exam like questions. The nature of constructed response questions makes it impossible to ever define the exact wording of what is acceptable. You will be graded on whether you answer the question asked in a way consistent with what is taught in the curriculum. These examples illustrate a range of how questions can be asked and how they can be answered in acceptable fashion in the time allotted. You should begin to adjust your thinking process to align with them.

Example 1:

William Elam recently inherited $750,000 in cash from his father's estate and has come to Alan Schneider, CFA, for investment advice. Both William and his wife Elizabeth are 30 years old. William is employed as a factory worker and has an annual salary of $50,000. Although he receives total health care coverage for himself and his family, he makes no contributions to his firm's defined benefit pension plan and is not yet vested in any of the company's other retirement benefits. Elizabeth is an early childhood teacher with a salary of $38,000. She has only very recently opened a tax-deferred 403(b) retirement savings account. Their four children are ages six, five, four, and three. They have a small savings account, no investments other than Elizabeth's meager retirement account, and credit card debt of $20,000.

When interviewed, William made the following statements to Schneider:

- With a family of six, our combined salaries just meet our living expenses. It would be safe to assume that both our salaries and expenses will grow only at the rate of inflation.
- We do not intend to use our new wealth to improve our current lifestyle, but we may want to consider setting up a trust fund in the future for our children.
- We would like the portfolio to at least earn enough each year to maintain its current value in real terms and then to help fund our retirement.
- We also want to use our portfolio to send our kids to college and maybe pay for future luxuries, like a new home and travel.
- I would like to trade securities like my friend, Keith, who is an experienced and successful investor. He told me that he holds stocks for no more than a month. After that, if he hasn't made a profit, he sells them.
- Everyone I know is buying technology stocks, so I feel we should also.
- My mother has the same portfolio she had a year ago. I can't imagine how you can make any real money that way. Besides, she hasn't taken advantage of any of the latest hot stocks.

A. **Evaluate** the Elams' situational profile according to the following:

- i. Source of wealth.
- ii. Measure of wealth.
- iii. Stage of life.

6 minutes

Answer:

i. Source of wealth. The Elams have gained wealth passively through inheritance. This is associated with lower risk tolerance as they have no experience with risk taking. 2 points

ii. Measure of wealth. William seems to perceive his wealth as considerable. He compares himself to a friend who he sees as rich, which leads William to see himself taking considerable risk. 2 points

iii. Stage of life. Elam and his wife are both 30 years old and in the foundation phase. This gives them a long time horizon which increases ability to take risk. 2 points

Note: The answers given are specific in making appropriate references to the story and reasonable for the point value. They may even go slightly beyond what was asked by pointing out the implications for the risk objective.

B. **Classify** William as one of the following investor types. **Justify** your classification.

- i. Cautious investor.
- ii. Methodical investor.
- iii. Spontaneous investor.
- iv. Individualistic investor.

2 minutes

Answer:

William is spontaneous. His statements related to holding technology stocks (and not missing a good investment), frequent trading, and his mother's trading inactivity support this.

C. In the following template, **formulate** the objectives and constraints for the Elams. **No calculations are required.**

20 minutes

Investment Objectives and Constraints for the Elams		
Objectives	Return	The objectives are: • Maintain the real value of the portfolio. • Provide for retirement. • Pay for the children's college (ages six, five, four, and three). • If possible, buy a new home and travel. With only $750,000, it may be difficult to do all this. 5 points
	Risk	**Ability:** Higher due to long time horizon at age 30 but lower as their needs look high versus wealth; they have minimal other wealth; they have debts and are unable to save. **Willingness:** William's statements indicate an above-average willingness to tolerate risk though he appears unsophisticated and not very knowledgeable regarding risk taking. **Overall:** Average risk tolerance or lower is most appropriate given their ability factors. 5 points Note: This was an open-ended question to cover the O&C. Nevertheless, a predetermined point value will be applied by section. Label your answer by section and use specific facts to support your answer as possible. The amount of detail in the answer is reasonable for the facts and point value. Often there will be conflicting issues in the question and you will be graded for properly enumerating and recognizing them.
Constraints	Time horizon	Overall long and multistage, as they are both 30. • The first stage is until the children enter college. Their ages are six, five, four, and three. • The second stage is while the children are in college. • The third stage is up until retirement. • The fourth stage is during retirement.
	Taxes	The Elams are taxable investors. We need their tax rate.
	Liquidity	$20,000 is needed to pay off credit card debt. A small emergency cash fund would be appropriate, as they have no savings.
	Legal and regulatory	None beyond normal duties to client. If they wish to pursue a trust for the children, qualified advice will be needed.
	Unique circumstances	Their wealth is sudden and inherited and William at least seems to have simplistic ideas of risk and return.

Professor's Note: The details throughout the answer are reasonable. If you knew what you were doing it could be easily written in 40–50% of the allotted time, which gives you sufficient time to read the story and plan your answer.

Another trained professional reading this O&C would have a good understanding of the client's situation. That makes it a good answer.

Example 2: Single-year required return calculation

Bonnie DuBois, a 60-year-old U.S. citizen, has just retired after a 35-year career in the fashion industry. Through a modest lifestyle, disciplined saving, and the help of a financial adviser, she has accumulated a $2,000,000 diversified portfolio. Over the last several years, the portfolio allocation has been gradually adjusted to only domestic large-cap stocks and bonds. She holds only investments she has thoroughly researched and continually looks for better, more definitive information.

DuBois's house has been paid off for several years and she does not intend to purchase another house. She has always led a modest lifestyle and intends to continue doing so. During her retirement, she will help support her son Barry, his wife Betty, and their three children (ages 14, 12, and 10). Barry's and Betty's combined salaries barely meet their living expenses.

DuBois estimates she will need $60,000 her first year of retirement and likes to keep 6 months of her living expenses on hand. She plans to continue supporting her son and his family by providing them with $30,000 next year. Both figures are before tax and are expected to increase each year at the general rate of inflation of 3%. She has informed Barry that at her death her portfolio will be gifted to a local museum with instructions to pay Barry and Betty a lifetime $20,000 annuity. In addition to meeting spending needs, she wishes to maintain the real value of her portfolio. DuBois is in the 25% marginal tax bracket.

A. **Evaluate** DuBois's *situational profile* according to the following:

   i. Source of wealth.
   ii. Measure of wealth.
   iii. Stage of life.

6 minutes

Answer:

i. Source of wealth. Gradually accumulating wealth over a long career is indicative of a client with a conservative nature and average to below-average willingness to take risk. 2 points

ii. Measure of wealth. DuBois has made no specific indication of her view on her wealth, but the decision to retire and maintain a moderate lifestyle plus patient accumulation of assets, suggests she sees her wealth as adequate but not excessive, indicative of moderate risk tolerance. 2 points

iii. Stage of life. She is in the maintenance (retirement) phase of living off her portfolio and thinking ahead to the distribution in annual gifts to her son's family and then disposition at death. This long-term view suggests moderate risk. 2 points

B. **Classify** DuBois as one of the following investor types. **Justify** your classification.

i. Cautious investor.
ii. Methodical investor.
iii. Spontaneous investor.

2 minutes

Answer:

DuBois is a methodical investor. She has a conservative nature, researches investments carefully, and is constantly on the lookout for new and better information. 2 points

C. In the following template, **formulate** DuBois's:

i. Return objective and calculate the required before-tax return over the coming year.

4 minutes

ii. Risk objective (willingness, ability, and overall).

4 minutes

iii. Constraints.

10 minutes

For the Exam: Before you read the story, you should have looked at the questions and looked ahead at the template to be thinking about the time and space you will use for your answer. These are part of the instructions. While the answer is presented as requested, you could have filled in the constraints, then risk then return. In many ways that better reflects the logic of constructing the answer.

Investment Objectives and Constraints for DuBois		
Objectives	Return	Maintain her real standard of living ($60,000) and support her son and his family ($30,000). Both are pretax real numbers. Beyond her death the estate goes to a local museum with a lifetime annuity for the son and family of $20,000. Need pretax $60,000 + $30,000 = $90,000 Investable base is $2,000,000 Required real pretax is 90 / 2,000 = 4.5% Required nominal pretax is 4.5% + 3% = 7.5% 4 points
	Risk	Overall, her risk objective is average. Ability to tolerate risk is average, as she just retired with assets to support herself. It is her sole source of support. She needs inflation protection. Her time horizon is rather long, as she is only 60 and she is thinking of gifts beyond her lifetime. Willingness is not specifically addressed but is also average, as she has been a long-term investor, gradually accumulating assets. She has been moving toward only domestic large-cap stocks and bonds. Note: It would have been reasonable to suggest somewhat below average but it would not be reasonable, given her time horizon and need for inflation protection, to say very low risk.
Constraints	Time horizon	DuBois has a long-term, single-stage time horizon of 20–25 years or more given her age of 60. Note: You could mention the goals at her death but they are not particularly relevant and she has not asked for advice on those issues.
	Taxes	She is in a 25% marginal tax bracket.
	Liquidity	None beyond a 6-month cash reserve. We should clarify if this is 60,000 / 2 or 90,000 / 2.
	Legal and regulatory	We have our general responsibilities to the client. Expert legal and tax advice regarding her annual gifts to son and plans after death are appropriate.
	Unique circumstances	The annual payment to DuBois's son's family and the desire to leave the portfolio to a museum could be listed here. or None, if these were covered elsewhere. 10 points total, 2 per constraint

Example 3:

It is now five years later. DuBois's son and his wife have both received significant promotions so that they no longer require annual support from DuBois. DuBois is meeting with her financial adviser, Begren Knutsen, to determine if and how her IPS should be altered. Because she no longer needs to provide the annual financial help to her son, DuBois will instead plan bequests.

DuBois's portfolio has remained at $2,000,000. She and Knutsen estimate her time horizon at 20 years, at which time she plans to leave a bequest of $1,200,000 in today's dollars to her son and to the museum ($2,400,000 total). She also plans to withdraw $75,000 per year, before taxes, to cover her living expenses. She has already paid this year's expenses, so the first of the 20 $75,000 withdrawals will be in one year.

A. Has her portfolio met the previous objectives?

2 minutes

B. How have the following items changed?

   i. Risk Objective
   ii. Liquidity
   iii. Time Horizon

9 minutes

C. **Calculate** her new return objective.

4 minutes

In the following template, determine the objectives and constraints for DuBois's IPS. Assume there will be no tax consequences associated with the bequests and inflation remains at 3%.

Answer:

A. The $2,000,000 nominal value has not changed. She has not kept up with inflation, so the original objectives were not met. Presumably the distributions requested have been made.

2 points

B. i. There is no indication of change in willingness but ability has been affected. Her time horizon is shorter, as she is five years older, but ability is higher as she is thinking even more about after-death bequests, a longer horizon. She still needs inflation protection during her life and total annual need is down, as she is no longer supporting her son. Lower need versus wealth raises ability. A conclusion of no net change is appropriate.

Note: This is one of the outlier questions where the amount to say is a bit excessive for the point value. That does happen on occasion. Just go through the items you were taught to look for, and in this case acknowledge they have moved in conflicting directions. Only mentioning she is older would be an incomplete answer.

ii. No significant change. A 6-month reserve is now $75,000 / 2.

iii. Her time horizon is shorter, as five years have passed, and a 20-year planning horizon has been decided.

3 points per item for a total of 9 points

C. Her return target is 20 payments of $75,000 in real terms starting in 1 year and a terminal real value of $2.4 million.

20 n; 75,000 PMT; 2,400,000 FV; –2,000,000 PV; IRR = 4.39%

In nominal terms she must earn 4.39% + 3% estimated inflation for 7.39%

4 points

Strategic Asset Allocation

LOS 10.m: Determine the strategic asset allocation that is most appropriate for an individual investor's specific investment objectives and constraints.

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A strategic asset allocation is the mix of portfolio asset classes that could meet the portfolio objectives of return and risk while being consistent with the constraints. For a taxable investor, the returns should be after-tax and consider all current and future tax implications. These will be further discussed in a subsequent reading assignment.

When given a choice of several portfolios, a process of elimination can be used to discard unacceptable portfolios.

For the Exam: This topic will be covered in multiple Study Sessions and is regularly tested as part of a broader IPS question. It is an example of heuristic rules and could be referred to as process of elimination, rules-of-thumb, or experience-based approach. It is a taught process and not a random collection of ideas. In particular the use of risk/return analysis is used as a last step and only if needed. Often you never get to that step and if used too early, it can lead to the wrong answer.

Summarizing the various points you should commonly consider, you should eliminate portfolios that:

- Violate constraints such as:
  - Excess cash equivalents (cash drag).
  - Insufficient cash equivalents to meet appropriate liquidity needs.
  - Hold or fail to hold assets specified in the constraints. For example, retain at least 10% in tech stocks.
- Violate the specified risk objective, such as max shortfall risk or standard deviation.
- Generate insufficient return. Note if you rely on this one and calculated return incorrectly, you are in trouble. In addition, there have been questions where you were instructed not to consider return. Also be sure to use after-tax return if appropriate.
- Have inappropriate asset classes or weightings even if not an outright constraint violation.
  - The taught rule of thumb is 60/40 for the average investor. This means 60% in equity like assets that offer appreciation over time and 40% in income-producing assets that lack that long-term appreciation (i.e., bonds and cash equivalents). High- (low-) risk investors should scale up (or down) the equity type asset weight.
  - Ignoring home ownership. The home is not per se a portfolio asset but it should not be ignored. If a home of substantial value is owned, it does create real estate exposure and makes additional real estate allocations less appropriate.
- Fail to address a concentration issue, such as stock of a former employer or low basis inherited stock. The SAA should indicate the desired allocation. Whether it would actually be sold is a separate issue to be addressed later when considering cost versus benefit.
- At this point, a return to risk ranking, such as Sharpe ratio, could be appropriate if needed for the final selection.

To answer these types of questions, first review the client's O&C. Next, carefully review any specific directions in the question and quickly eliminate portfolios that have clear violations of the O&C. Then make any necessary calculations if needed, such as after-tax return, shortfall risk, Sharpe ratio, et cetera. Be careful with the calculations; you generally have no reason to get to all of them. You would have already been down to one portfolio and should have already stopped.

Example 4:

Possible portfolio asset allocations for DuBois are shown in Exhibit 1. Based solely on the objectives and constraints from DuBois's IPS in Example 2, **select** the *most appropriate asset* allocation for DuBois and **justify** your selection with *three* reasons in the following template. For each allocation not selected, **state** *one* reason why it was rejected.

Exhibit 1: Alternative Portfolio Allocations

	Asset Class Weights (%)			
Asset Class	*A*	*B*	*C*	*D*
Cash	20	5	5	10
Domestic large-cap equities	35	40	15	10
Domestic small-cap equities	25	10	15	10
Domestic government bonds	5	20	15	10
Domestic corporate bonds	0	20	15	10
Direct real estate	0	0	20	10
Global bond fund	0	5	0	10
Global equity fund	15	0	0	10
Private equity fund	0	0	10	10
Fund of funds hedge fund	0	0	5	10
Total	100	100	100	100
Expected before-tax return (%)	8.0	7.7	8.4	8.1
Expected standard deviation (%)	12.5	10.1	13.0	12.7

Template for Example 4

Most Appropriate	*Three Justifications*
B	1. Meets return requirement. 2. Sufficient cash for emergencies. 3. No non-domestic stock per client interest. **Additional justifications:** 4. Sufficient diversification. 5. Conservative allocation to equities.
Inappropriate	*One Justification*
A	1. Too much cash. **Additional justification:** 2. 75% allocation to equity is high for moderate risk.
C	1. Private equity and fund of hedge funds too risky. **Additional justifications:** 2. 30% illiquid assets (direct real estate; private equity). 3. Already owns a home making more real estate excessive.
D	1. Appears to be naïve diversification; no consideration of appropriate asset weighting. **Additional justifications:** 2. Additional 10% in real estate is excessive. 3. Excess cash holdings.

For the Exam: All the answers provided in the template are correct, but had this been an actual exam question, you should provide no more than the required number of answers. In justifying Allocation B, for example, had you listed all five justifications shown in the template, the grader would have graded only the first three. He would have totally ignored the last two, but you would have wasted valuable time by writing them. Only B was an acceptable choice.

THE MONTE CARLO APPROACH TO RETIREMENT PLANNING

LOS 10.n: Compare Monte Carlo and traditional deterministic approaches to retirement planning and explain the advantages of a Monte Carlo approach.

CFA® Program Curriculum, Volume 2, page 190

The previous Example 3 for DuBois is a good illustration of traditional, deterministic, steady-state, linear return analysis. But that single required return number is not representative of the actual volatile returns of markets and provides no insight into risk. Even when a standard deviation for the selected portfolio is included, it means little to the typical investor.

The development of inexpensive computers and commercially available software provide access to more powerful tools, such as Monte Carlo simulation. Both traditional and Monte Carlo analysis starts with inputs such as:

- Time horizon to retirement and length of retirement.
- Investors' income and savings, assets, and tax status.
- Interest rates, asset returns, inflation, et cetera.

The traditional approach then calculates a single, constant, required return. In Monte Carlo simulation, each of the variables is also given a probability distribution to allow for real world uncertainty. A single timeline path is then generated, showing what could happen over time to the portfolio. This is repeated to generate perhaps 10,000 path outcomes consistent with the assumed probability distributions.

Monte Carlo simulation is very flexible and the advantages include the following:

- It considers path dependency. A simple path dependency was considered at Level II in analyzing a mortgage-backed security (MBS), specifically, that the level of prepayments and cash flow at any future point depend on both the level of rates at that point and the prior history of rates, prepayments, and cash flow up to that point. Simulations of portfolio performance can be more complex. For example, consider an investor requiring a GBP25,000 per year withdrawal for living from a portfolio of GBP500,000. But suppose very poor markets lead to a decline in the portfolio of 50%. The fixed withdrawal need now becomes a much larger portion of the portfolio. Even if the markets recover, the diminished portfolio is smaller if the withdrawal comes at a low point. This could permanently diminish the living standard of the investor due to the random decline in the market. Path dependency could also consider issues, such as the interaction of changing inflation on the portfolio values and on the investor's withdrawal needs.
- It can more clearly display tradeoffs of risk and return. The 10,000 paths can be ranked from best to worst to assess the probability of any given outcome as well as how much better or worse it could it get.
- Properly modeled tax analysis, which considers the actual tax rates of the investor as well as tax location of the assets (held in taxable or tax-deferred locations), can be assessed. How the tax burden changes with market returns and withdrawals could be considered.
- A clearer understanding of short-term and long-term risk can be gained. For example, reducing the holdings of risky stock would reduce the short-term variability of the portfolio but increase the long-term risk of not having sufficient assets.
- It is superior in assessing multi-period effects. Traditional analysis projects portfolio return as a simple weighted average of the asset returns, geometrically compounded. Risk (variance) is the traditional formula taught in the CFA curriculum. Monte Carlo simulation can better model the real stochastic process where return over time depends not only on the starting value of the period but also on the additions or withdrawals to the portfolio at each future period.
- Points along the timeline can be considered to answer questions, such as, "Do savings need to be increased?" "Can I retire earlier?" "Must I retire later?"

Like any complex model, it is only as good as the inputs. Poor or simplistic inputs or modeling can create poor results. Disadvantages include:

- Simplistic use of historical data, such as expected returns, for the inputs. Returns change and have a major effect on projected future values of the portfolio.
- Models that simulate the return of asset classes but not the actual assets held. Simulating the return of the Wilshire 5000 when a fund with fees will be held could significantly overstate the future value or time period over which distributions can be sustained. Real assets have expenses.
- Tax modeling that is simplistic and not tailored to the investor's situation.

Like any complex model, there are pros and cons, but it is superior to the traditional single-return analysis.

For the Exam: There will be several other readings that also discuss Monte Carlo simulation. You do not know how to actually do it, so the likely questions would focus on the pros and cons or a simple overview of how it works. The above material covers those well.

A later reading will show you the output of such models and how to utilize the output—another reasonable question.

KEY CONCEPTS

LOS 10.a

Sources of Wealth

The manner in which an investor acquired wealth is likely to affect the investor's stance on risk. Wealth created through entrepreneurial activity was actively created and probably indicates investor knowledge and experience with risk-taking decisions.

Wealth acquired through inheritance or 1-time windfalls or wealth accumulated over a long period of secure employment may indicate an individual who has less familiarity with risk-taking activity.

Measures of Wealth

In general, a positive correlation exists between the perception of portfolio size and the level of risk tolerance (i.e., willingness to take risk). If the portfolio generates a substantial amount of funds relative to those needed to support lifestyle activities, a higher level of risk may be tolerated.

Stage of Life

In general, an inverse relationship exists between age and risk tolerance. Younger investors (foundation phase) can typically tolerate higher levels of risk, and their portfolios should reflect aggressive growth characteristics. (But remember having few assets could reduce risk ability.)

Investors in mid-career (accumulation phase) still have a long time horizon. They can tolerate risk, but their portfolios may become less aggressive and exhibit somewhat more conservative characteristics.

Investors approaching retirement age (Maintenance or distribution phases) will probably exhibit a lower tolerance to risk.

LOS 10.b

Situational profiling places individuals into categories according to stage of life or economic circumstances. Due to an almost infinite number of individual circumstances, caution should be applied when categorizing individual investors within broad situational profiles. Situational profiling should be considered only a first step in understanding an individual's preferences, economic situation, goals, and desires. The starting points for situational profiling include investigating an investor's sources of wealth, measures of wealth, and stage of life.

Psychological profiling assumes investors exhibit psychological characteristics such as loss aversion, biased expectations, and asset segregation.

LOS 10.c

Traditional finance assumes all investors exhibit three major characteristics:

1. *Risk aversion.* Investors minimize risk for a given level of return.

2. *Rational expectations.* Investors' forecasts properly reflect all relevant information pertaining to security valuation.

3. *Asset integration.* Investors focus not only on an individual asset's risk/return characteristics but also the correlation of the asset with the assets in the portfolio.

In contrast to traditional finance, behavioral finance assumes investors exhibit three psychological characteristics:

1. *Loss aversion.* This means investors prefer larger uncertain losses to smaller certain losses.

2. *Biased expectations.* This means investors have too much confidence in their ability to forecast the future.

3. *Asset segregation.* Instead of evaluating an investment's impact on the overall portfolio position, investors focus on individual assets.

LOS 10.d

Behavioral models indicate that the asset valuation process no longer incorporates only fundamental financial and economic variables. Behavioral finance assumes investors also include individual preferences based upon personal tastes. That is, individuals value investment characteristics that may or may not be validated by traditional finance concepts.

Additionally, individuals construct portfolios one asset at a time rather than using a portfolio/diversification (asset integration) approach. Wealth creation is determined not from an overall portfolio perspective but by making investment decisions that relate to specific goals.

LOS 10.e

A personality typing questionnaire provides the investment manager and the client with some general classifications for the client's propensity to take risk. One such questionnaire may ask the client to respond to non-investment-related questions and attempt to assign the client along two dimensions: (1) risk attitudes and (2) decision-making style.

LOS 10.f

Cautious investors focus on minimizing risk. They have difficulty making investment decisions and exhibit low portfolio turnover.

Methodical investors have a conservative nature combined with a focus on gathering as much data as possible. They are constantly on the lookout for new and better information.

Individualistic investors have confidence in their investment decision making and are willing to do investment research. They are self-assured investors.

Spontaneous investors exhibit high portfolio turnover with associated high trading costs. They fear not reacting to changing market conditions, including the latest investment fads.

LOS 10.g

Benefits to the Client

- Objectives and constraints are considered in formulating investment decisions that benefit the client.
- The process is dynamic and allows changes in circumstances to be incorporated.
- A well-written IPS represents the long-term objectives of the investor.
- Subsequent managers should be able to implement decisions congruent with the individual's goals.

Benefits to the Adviser

- The IPS can be consulted for clarification as to the appropriateness of specific investment decisions.
- Most IPSs contain a stated review process, indicate dispute resolutions, and identify potential problems.

LOS 10.h

- Determine and evaluate the investor's risk and return objectives. Planning return expectations should take place concurrently with risk tolerance discussions.
- Determine portfolio constraints.
- Define the appropriate investment strategy based upon an analysis of objectives, constraints, and market expectations.
- Determine the proper asset allocation to meet the investor's objectives and constraints. An SAA is sometimes included.

LOS 10.i

Required expenditures are mandatory objectives and, along with the value of the investable portfolio, are used to calculate the client's required return. Desired expenditures are non-primary goals, such as buying a vacation home, taking lavish vacations, and the like, that are not considered when calculating the total investable portfolio or required return.

LOS 10.j

All else equal, portfolio size versus needs, time horizon, and ability to take risk are positively related. Goal importance, level of spending needs, and ability to take risk are negatively related. Flexibility can increase the ability to take risk. Willingness to take risk is subjective. Explicit statements, client actions, and situational profiling are used to indicate the client's willingness to take risk.

LOS 10.k

Client constraints include time horizon, taxes, liquidity needs, legal and regulatory considerations, and unique circumstances.

Time horizon: The total time period over which the portfolio will be managed to meet the investor's objectives and constraints. A stage in the time horizon is indicated any time the individual experiences or expects to experience a change in circumstances significant enough to require evaluating the IPS and reallocating the portfolio. This can include retirement and major expenses such as college costs, expected inheritance, et cetera. The most common time horizon is as follows:

> *Long-term time horizon with two stages: "x" years to retirement and retirement of 20–25 years.*

Tax considerations: General classifications of taxes include income tax, capital gains tax, transfer tax, and wealth or personal property tax. Strategies used to reduce the adverse impact of taxes include tax deferral, tax avoidance, tax reduction, and transferring wealth to others without utilizing a sale.

Liquidity: Spending needs that will be met by the investment portfolio (i.e., do not consider spending needs that will be met by salary or other income sources). Assume the client will use current income from the portfolio and/or liquidate assets as necessary to meet spending needs.

Legal and regulatory factors: Typically relate to tax relief and wealth transfer. The specific constraints vary greatly across jurisdictions and usually call for legal advice.

Unique circumstances: Special investment concerns; special instructions; restrictions on the sale of assets; asset classes the client specifically forbids or limits based on past experience; and assets held outside the investable portfolio, such as a primary or secondary residence, bequests, and desired objectives not attainable due to time horizon or current wealth.

LOS 10.l

The investment policy statement (IPS) is a document that is developed as the result of a client interview to determine their risk (ability and willingness) and return objectives and the five constraints, which consist of the time horizon, unique circumstances, taxes, legal and regulatory, and liquidity constraints. An asset allocation for the client's portfolio is then determined and implemented, monitored, and subsequently revised as needed depending on changes in the client's circumstances as reflected in a periodic review of the client's IPS.

LOS 10.m

The key is selecting the allocation that best matches the objectives and constraints of the investor, but that's easier said than done. A process of elimination can help by removing allocations that have a slim chance of satisfying all the objectives and constraints.

The process of elimination begins by selecting those allocations generating returns that meet the return objective of the investor. Next, the manager should choose those allocations that do not violate statements relating to risk or safety-first rules (i.e., worst case returns). This second step may require calculations (e.g., subtracting two standard deviations from the expected return).

LOS 10.n

Deterministic planning techniques use single values for economic and financial variables. For instance, expected rates of return, inflation, and interest rates are assigned single point estimates and then used in a modeling framework to estimate assets available for the retirement period. Although useful in formulating expected investment outcome at the retirement stage of life, the deterministic estimation process generates only a single number. Investors do not have the capability of evaluating probabilities of that expected value occurring.

Monte Carlo techniques take into account distributions and associated probabilities for input variables and generate a probabilistic forecast of retirement period values. Instead of seeing one single outcome, the investor can see a range of possibilities for the future.

- Probabilistic forecasts give both the client and manager a better indication of the risk/return tradeoff in investment decisions.
- Monte Carlo simulations explicitly show the tradeoffs of short-term risks and the risks of not meeting goals.
- Monte Carlo is better able to incorporate tax nuances.
- Monte Carlo can better model the complications associated with future returns by more effectively incorporating the compounding effect of reinvestment.

Concept Checkers

1. Situational profiling is a first step at determining investor attitudes towards risk. **Describe** a situational profile according to:
   i. Source of wealth.

   ii. Measure of wealth.

   iii. Stage of life.

2. **Describe** investor characteristics often associated with the following personality types:
   i. Cautious investor.

   ii. Methodical investor.

   iii. Spontaneous investor.

   iv. Individualistic investor.

3. **Explain** differences between *required returns* and *desired returns*. **Discuss** how each relates to an individual investor's risk tolerance.

4. **Describe** ability and willingness to take risk. **Explain** how an investor might resolve inconsistencies between the two.

5. **Describe** the process of elimination when determining an appropriate asset allocation for an individual investor.

6. According to principles of the behavioral finance investment framework, loss aversion would *most likely* lead an investor to:
   A. fully adjust expectations to new information as it arrives.
   B. prefer to take a small loss rather than take a risk with a potential but not certain larger loss.
   C. prefer to take a risk with a potential but not certain larger loss than take a certain small loss.

7. With respect to benefits of an IPS, which of the following statements is *most accurate*?
   A. An adviser can benefit because the IPS is dynamic and can accommodate changing conditions.
   B. A client can benefit because the IPS can clarify points for decision making and for resolving disputes.
   C. An adviser can benefit because the IPS can clarify points for decision making and for resolving disputes.

Answers – Concept Checkers

1. i. Information related to source of wealth describes how an investor accumulated wealth. At one end of the spectrum is wealth acquired through active means (e.g., entrepreneurial activities). This indicates knowledge and experience with risk-taking activities. The other end of the spectrum is wealth acquired through passive means (e.g., inheritance or long-term employment in a stable corporation). The latter may indicate an investor with less knowledge and experience of risk-taking activities.
   ii. The key to understanding measures of wealth relates to how an investor perceives his level of wealth. The perception of wealth may be in relation to funds required to sustain lifestyle activities. If a portfolio is perceived as small, risk tolerance may be low. If a portfolio is perceived as large, risk tolerance may be high.
   iii. Stage of life descriptions indicate where an investor is in relation to the life cycle. Life expectancy is a large factor in connecting stage of life to risk tolerance. Due to a long time horizon, young investors often have a high tolerance for risk. Older investors, however, may have a diminished risk tolerance.

2. i. Cautious investors are the most risk averse. They tend to take long periods of time to make decisions and often invest in only the safest securities.
   ii. Methodical investors spend long periods of time evaluating security characteristics. They expend a large amount of effort on their analytical capabilities but are confident when making investment decisions. Portfolios tend to be somewhat conservative.
   iii. Spontaneous investors pay little attention to valuation issues. They are more concerned with creating a portfolio that holds the latest "hot" investment idea. Due to their nature, spontaneous investors' portfolios exhibit high turnover and volatility.
   iv. Individualistic investors are very confident in making independent investment decisions. They are less risk averse than methodical investors.

3. Required returns are those returns associated with critical or primary investor goals. Desired returns are associated with secondary goals. Both must be consistent with the risk tolerance exhibited by the investor.

4. Ability to take risk is associated with time horizon, size of investment portfolio, and investor goals. If time horizon is short, size of portfolio is small, and goals are critical, ability to take risk is low. Willingness to take risk is a much more subjective measure. Personal knowledge and experiences affect an investor's willingness to take risk. Often the financial services professional will need to educate the client on the basics of risk and return in order to reconcile any difference between the client's willingness and ability to accept risk.

5. The process of elimination begins by choosing only those allocations that meet or exceed stated return objectives. Then choices are made based on risk, whether that is related to an overall risk measure or some worst case scenario. If there is more than one choice left, additional statements regarding allocation appropriateness need to be taken into account.

6. C Loss aversion means investors prefer uncertain losses to smaller certain losses. Rather than give up and take a small loss, investors would rather take their chances with a larger loss, as long as there is still the possibility of a gain. These investors will tend to hold losing investments too long.

7. **C** Advisers benefit from an IPS because it serves as the document formally stating an understanding and agreement with clients. If questions arise regarding specific investment decisions, the IPS can be consulted for clarification as to the appropriateness of such decisions. Because most IPSs contain a stated review process, the document should indicate, or at least provide, direction for dispute resolution. The document should identify issues that could eventually become problems.

The following is a review of the Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute®. This topic is also covered in:

TAXES AND PRIVATE WEALTH MANAGEMENT IN A GLOBAL CONTEXT[1]

Study Session 4

EXAM FOCUS

Any of the calculations in this topic assignment are reasonable for the exam. Understanding the terminology is also required. For example, what are accrual equivalent after-tax returns, accrual equivalent taxes, TEA, and TDA? In addition, recognize when a given tax regime favors a particular investment strategy. In other words, what maximizes after-tax value under various tax rules? In addition to making calculations, there may be questions where the facts are sufficient to indicate what the best strategy will be even though insufficient details are provided to perform a calculation.

GLOBAL TAXATION REGIMES

LOS 11.a: Compare basic global taxation regimes as they relate to the taxation of dividend income, interest income, realized capital gains, and unrealized capital gains.

CFA® Program Curriculum, Volume 2, page 219

There are three primary categories of taxes:

1. *Taxes on income:*
    - Paid by individuals, corporations, and other legal entities on various types of income including wages, interest, dividends, and capital gains.

2. *Wealth-based taxes:*
    - Paid on the value of assets held and on wealth transfers.

3. *Taxes on consumption:*
    - Sales taxes: Paid by the consumer.
    - Value-added taxes: Paid at each intermediate production step according to the amount of value added at the step; ultimately borne by the consumer (added into the purchase price).

Governments use taxes as a source of funding for operations and to encourage or discourage certain actions. For example, to encourage savings many governments provide favorable tax treatment on retirement accounts. Tax regimes are generally classified as flat or progressive. In a flat system the same tax rate is paid, regardless of the amount of income. In a progressive tax system the tax rate increases as the level of income increases.

1 The terminology used throughout this topic review is industry convention as presented in Reading 11 of the 2013 CFA Level III exam curriculum.

In 2009 in the United States, for example, single individuals pay 10% of income up to \$8,350. On income above \$8,350 up to \$33,950, they pay at a rate of 15%.

The tax rate paid on the very last (highest) dollar of income is referred to as the *marginal tax rate*. A single (unmarried) taxpayer in the United States with a total taxable income of \$20,000, for example, would have a marginal tax rate of 15% because that is the highest rate at which taxes are assessed. Using those rates, the individual's tax bill on \$20,000 of taxable income is (0.10)(\$8,350) + (0.15)(\$20,000 – \$8,350) = \$2,582.50. The individual's *average tax rate* is \$2,582.50 / \$20,000 = 0.1291 ≅ 12.9%. In other words, had the individual paid taxes at a rate of 12.91% on all income earned, he would have paid \$2,582.50.

Example: Total taxes, marginal tax rate, and average tax rate

Assume ordinary income of \$173,000. Tax rates in Table 1 apply:

Table 1: 2009 Tax Rates for a U.S. Individual Filing as a Single

Taxable Income		*Bracket Amount (Col 2 – Col 1)*	*Tax Rate %*	*Plus*
(1) Over	*(2) Up to*			
0	\$8,350	\$8,350	10	
\$8,350	33,950	25,600	15	\$835
33,950	82,250	48,300	25	4,675
82,250	171,550	89,300	28	16,750
171,550	372,950	201,400	33	41,754
372,950			35	108,216

Before we perform any calculations, let's discuss the "Plus" column in the table. That column saves you the trouble of calculating accumulated taxes at rates lower than the marginal rate. For example, according to the first tax bracket the individual pays 10% on income up to \$8,350. If an individual has taxable income of exactly \$8,350, she will pay (0.10)(\$8,350) = \$835. If the individual has income of \$9,000, however, she will pay taxes at 10% on the first \$8,350 and 15% on income between \$8,350 and \$9,000. The tax bill will be (0.10)(\$8,350) + (0.15)(\$650) = \$932.50. Notice that instead of calculating the taxes on the first \$8,350, we could simply have calculated the taxes on the amount over \$8,350 and added \$835. Likewise, an individual with income falling in the highest tax bracket would pay \$108,216 plus 35% on all income over \$372,950.

Now let's return to the example.

A. **Calculate** the individual's *total tax bill*.

   The individual's taxable income (all taxed as ordinary income) is \$173,000, so she falls in the second highest tax bracket. She will pay \$41,754 (shaded in the table) plus 33% of all income above \$171,550 and her tax bill will be:

   \$41,754 + (0.33)(\$173,000 – \$171,550) = \$42,232.50

Let's calculate the tax bill the *long way* (without using the "Plus" column) by multiplying each successive amount of income by its respective tax rate:

$$\begin{aligned}\text{taxes due} &= (0.10)(\$8{,}350) + (0.15)(\$25{,}600) + (0.25)(\$48{,}300) \\ &\quad + (0.28)(\$89{,}300) + (0.33)(\$173{,}000 - \$171{,}550) \\ &= \$835 + \$3{,}840 + \$12{,}075 + \$25{,}004 + \$478.50 = \underline{\underline{\$42{,}232.50}}\end{aligned}$$

Notice that we arrive at exactly the same number.* That's because the Plus column at each bracket sums up the total taxes due on all lower brackets. Because our individual fell in the second highest (fifth) tax bracket, the Plus column contained the taxes due on all income in the first four brackets (up to $171,550).

B. **Determine** the individual's *marginal tax rate.*

The individual's marginal tax rate is simply the highest tax rate applied. In this case, that is 33%.

C. **Calculate** the individual's *average tax rate.*

The individual's average tax rate is calculated as total taxes paid divided by total taxable income and indicates the average rate paid on each dollar of taxable income.

$$\text{average tax rate} = \frac{\text{total taxes paid}}{\text{total taxable income}} = \frac{\$42{,}232.50}{\$173{,}000} = 0.244118 \cong 24.4\%$$

$$\text{Check: } 0.244118(\$173{,}000) = \underline{\underline{\$42{,}232.50}}$$

* The typical tax table does not include column 3, which shows the total taxable income in each bracket. You would have had to calculate those numbers to determine taxes the "long way."

For the Exam: Consider these necessary warm-up calculations needed for later material. Be able to perform them.

In addition to imposing progressive tax rates on *ordinary income*,[2] many countries tax investment returns differently depending on whether they are in the form of interest, dividends, or capital gains. For example, interest and dividends might be taxed at a reduced rate or taxed at ordinary rates after they exceed some amount. Long-term capital gains are often taxed at a lower rate than short-term capital gains, with long-term definitions varying from one to five years or so. In most countries, capital gains taxes are paid only when capital gains are realized (i.e., when the investment is sold).

2 The $173,000 taxable income in our example was assumed to be ordinary income, which consists of salary, wages, commissions, et cetera, and is subject to taxation at standard rates. If a tax regime does not provide special treatment for income from investments, then dividends, interest, and capital gains would be added to income from salary, et cetera and taxed as ordinary income.

Table 2 shows seven global tax regimes delineated by whether the ordinary income tax rate is progressive or flat and by the treatment of investment income (i.e., interest, dividends, and capital gains).

Table 2: Seven Global Tax Regimes

Tax Regime	*Ordinary Income Tax Structure*	*Favorable Treatment for Interest Income?*	*Favorable Treatment for Dividend Income?*	*Favorable Treatment for Capital Gains?*
Common Progressive	Progressive	Yes	Yes	Yes
Heavy Dividend Tax	Progressive	Yes	No	Yes
Heavy Capital Gain Tax	Progressive	Yes	Yes	No
Heavy Interest Tax	Progressive	No	Yes	Yes
Light Capital Gain Tax	Progressive	No	No	Yes
Flat and Light	Flat	Yes	Yes	Yes
Flat and Heavy	Flat	Yes	No	No

The first regime, **Common Progressive**, is the most frequent regime observed globally. There is, however, considerable variation in the special treatment of investment income, with some countries providing exemption for only part of investment income and other countries providing exemption for all investment income. The United States, United Kingdom, China, France, Italy, Japan, and many other countries fall under this category. The **Light Capital Gain Tax** regime is the second most common regime, while only one country, Colombia, fell under the **Heavy Capital Gain Tax** regime.

TAX REGIMES

LOS 11.b: Determine the impact of different types of taxes and tax regimes on future wealth accumulation.

CFA® Program Curriculum, Volume 2, page 221

The effect of taxes on investment returns is substantial. The effect will vary depending on the tax rate, the return on the investment, and the frequency at which taxes are paid. We'll begin our discussion with **accrual taxes**, which are paid periodically…usually annually.

If T_I is the annual tax rate on investment income, R is the before-tax investment return, and N is the number of investment periods, the *future value interest factor* after investment income tax ($FVIF_{IT}$) is:

$$FVIF_{IT} = [1 + R(1 - T_I)]^N$$

$FVIF_{IT}$ is nothing more than a time-value-of-money factor, which shows the future, after-tax value of each unit of currency invested for N periods and earning a return of R. You will note that with accrual taxes the effective return earned each period [R(1–T)] is the nominal return reduced by the tax rate.

Example: Account subject to accrual (annual) taxes only

$1,000 is invested for 20 years and earns a before-tax return of 10%. Assuming the accrual tax rate is 30%, **calculate** the after-tax value of the account in 20 years.

Answer:

$$\begin{aligned} FV_{AT} &= \text{after-tax future value (accrual taxes paid annually)} \\ &= \$1{,}000[1+0.10(1-0.30)]^{20} \\ &= \$3{,}869.68 \end{aligned}$$

Note that if the tax rate were zero, the investment would have been worth:

$$\begin{aligned} FV_{T=0} &= \text{future value assuming no taxes} \\ &= \$1{,}000[1+0.10(1-0)]^{20} \\ &= \$6{,}727.50 \end{aligned}$$

$$\begin{aligned} gain_{AT} &= \text{total gain after accrual taxes} \\ &= \$3{,}869.68 - \$1{,}000 = \$2{,}869.68 \end{aligned}$$

$$\begin{aligned} gain_{T=0} &= \text{total gain with no taxes} \\ &= \$6{,}727.50 - \$1{,}000 = \$5{,}727.50 \end{aligned}$$

$$\text{gain lost to taxes} = \$5{,}727.50 - \$2{,}869.68 = \$2{,}857.82$$

These calculations help illustrate three fundamental relationships:

1. **Compounding** of accrual (annual) taxes makes their effect stated as a percentage of total gain **greater than the tax rate**. The gain lost to taxes, stated as a currency or as a percentage, is referred to as **tax drag**.

$$\text{gain lost to taxes (\$)} = \$5{,}727.50 - \$2{,}869.68 = \$2{,}857.82 = \textbf{tax drag \$}$$

$$\text{gain lost to taxes (\%)} = \frac{\$2{,}857.82}{\$5{,}727.50} = 49.9\% = \textbf{tax drag \%}$$

2. **Increasing investment horizon increases tax drag** in both currency and percentage terms. Tax drag \$ and tax drag % are \$2,857.82 and 49.9% for a 20-year investment. The figures are \$9,837.14 and 59.8%, if the investment is held for 30 years:

$$\begin{aligned} FV_{T=0} &= \text{value in 30 years with no taxes} \\ &= \$1{,}000[1+0.10(1-0)]^{30} \\ &= \$17{,}449.40 \\ \text{gain}_{T=0} &= \$16{,}449.40 \end{aligned}$$

$$\begin{aligned} FV_{AT} &= \text{after-tax value in 30 years} \\ &= \$1{,}000[1+0.10(1-0.30)]^{30} \\ &= \$7{,}612.26 \\ \text{gain}_{AT} &= \$6{,}612.26 \end{aligned}$$

$$\text{tax drag } \$_{30\text{ years}} = \$16{,}449.40 - \$6{,}612.26 = \$9{,}837.14$$

$$\text{tax drag } \%_{30\text{ years}} = \frac{\text{gain lost to taxes}}{\text{total gain with no taxes}} = \frac{\$9{,}837.14}{\$16{,}449.40} = 59.8\%$$

Because the difference in ending values is caused by taxes, *gain lost to taxes* can also be calculated directly from the difference in total ending account values (i.e., with taxes compared to no taxes):

$$\text{tax drag } \$ = \$17{,}449.40 - \$7{,}612.26 = \$9{,}837.14$$

3. **Increasing return on investment increases tax** drag in both currency and percentage terms. Assuming the original 20-year period, increasing the return from 10% to 15% increases tax drag \$ and tax drag % to \$9,000 and 58.6%, respectively.

$$\begin{aligned} FV_{T=0} &= \$1{,}000[1+0.15(1-0)]^{20} \\ &= \$16{,}366.54 \end{aligned}$$

$$\begin{aligned} FV_{AT} &= \text{after-tax future value} \\ &= \$1{,}000[1+0.15(1-0.30)]^{20} \\ &= \$7{,}366.23 \end{aligned}$$

20-year investment; R = 15%:

$$\text{tax drag } \$_{15\%} = \$16{,}366.54 - \$7{,}366.23 = \$9{,}000.31$$

$$\text{tax drag } \%_{15\%} = \frac{\$9{,}000.31}{\$15{,}366.54} = 58.6\%$$

20-year investment; R = 10% (from before):

$$\text{tax drag } \$_{10\%} = \$2{,}857.82$$

$$\text{tax drag } \%_{10\%} = 49.9\%$$

RETURN, INVESTMENT HORIZON, AND TAX IMPACT

LOS 11.d: Explain how investment return and investment horizon affect the tax impact associated with an investment.

CFA® Program Curriculum, Volume 2, page 224

Professor's Note: Material discussed in LOS 11.d is required for LOS 11.c.

As we saw previously, assuming a positive tax rate and the periodic payment of accrual taxes, there are three important relationships:

1. Tax drag % > tax rate.
2. As investment horizon increases ⇒ tax drag \$ and tax drag % increase.
3. As investment return increases ⇒ tax drag \$ and tax drag % increase.

Deferred Capital Gains Taxes

Unlike accrual taxes, which are paid periodically, capital gains taxes can often be deferred until the asset is sold and the gain is realized. In most countries, taxes are not paid on unrealized gains (i.e., the asset has increased in value but is still held).

Using T_{CG} as the tax rate on capital gains, the after-tax future value interest factor for deferred capital gains ($FVIF_{CGT}$) is:

$$FVIF_{CGT} = [(1+R)^N(1-T_{CG})+T_{CG}]$$

The first term in brackets, $(1 + R)^N(1 - T_{CG})$, calculates the after-tax future value of the investment account, including the initial investment. Assuming the initial investment is made from after-tax dollars and is thus not subject to further taxation, we add T_{CG} to add back that tax.

Example: Account subject to deferred capital gains taxes only

\$1,000 is invested for 20 years and earns a pre-tax return of 10%. Assuming a capital gains tax rate of 30%, **calculate** the after-tax value of the account in 20 years.

Answer:

$$\begin{aligned} FV_{CGT} &= \$1{,}000[(1+0.10)^{20}(1-0.30)+0.30] \\ &= \$1{,}000[(6.7275)(0.70)]+\$1{,}000(0.30) \\ &= \$4{,}709.25+\$300 \\ &= \$5{,}009.25 \end{aligned}$$

In our calculation, \$4,709.25 is the final value assuming the total account is subject to taxation. Because the initial investment of \$1,000 is not subject to taxation, however, we add back \$300 (= 0.30 × \$1,000). Note also that the terminal value of \$5,009.25 is greater than the \$3,869.68 terminal value calculated when accrual taxes were applied. This demonstrates the value of *tax deferral*.

The before-tax (T = 0) gain on the investment is \$5,727.50 (= \$6,727.50 – \$1,000). The \$4,009.25 after-tax gain (\$5,009.25 – \$1,000 = \$4,009.25) can be calculated directly by multiplying the before-tax gain of \$5,727.50 by 1 – T. In fact, because capital gains are typically deferred until realized, the after-tax return can always be calculated as the before-tax return multiplied by 1 minus the tax rate.

This demonstrates that the loss to *deferred taxes* (i.e., tax drag %) is a constant rate (here 30%), regardless of the investment horizon or investment return. Note that the tax drag of 30% is less than the 49.9% calculated when accrual taxes were paid because there is no compounding of the tax effect over time.

Recall that with accrual taxes, tax drag, both \$ and %, increases with the investment horizon and investment return. Because tax drag % is constant when taxes are deferred, the value of the tax deferral increases with time and the return on the investment.

LOS 11.d: Explain how investment return and investment horizon affect the tax impact associated with an investment. (Cont.)

CFA® Program Curriculum, Volume 2, page 226

Summarizing the same three relationships we examined for accrual taxes, we see that they are quite different when capital gains taxes are applied on a *deferred basis*:

1. Tax drag % = tax rate.

2. As the investment horizon increases ⇒ tax drag is unchanged.

3. As the investment return increases ⇒ tax drag is unchanged.

In addition, when taxes are deferred:

4. As investment horizon increases ⇒ the value of the tax deferral increases.

5. As investment return increases ⇒ the value of the tax deferral increases.

Cost Basis

Thus far we have assumed that the cost basis for computing taxes is the investment's current value (\$1,000), as if we invested after-tax dollars. However, the cost basis is often different from the investment's current value. For example, the cost basis could be the original purchase price, and the current value of \$1,000 represents the original cost plus *unrealized capital gains*.

Study Session 4

All else equal, a lower cost basis on an asset sold would increase the realized capital gain, increase the amount of capital gains taxes due, and reduce the net selling price. Thus we modify our deferred capital gains tax formula to account for the basis using the term *B*, the ratio of cost basis to the current market value:

$$FVIF_{CGT,MV \neq basis} = [(1+R)^N(1-T_{CG})] + T_{CG}B$$

Note that the only difference between this formula and the previous is the last term. If the basis is the same as the current investment value, then *B* equals 1 and the two formulas are the same. As *B* falls in value (i.e., as the current value of the account contains an increasing amount of unrealized capital gains), the future after-tax value of the account also falls.

Example: The effect of cost basis on capital gains taxes

\$1,000 is invested for 20 years at a return of 10%. Assuming a capital gains tax of 30% and a cost basis of \$750, **calculate** the after-tax value of the account in 20 years.

Answer:

Cost basis, *B*, stated as a percentage of account value: \$750 / \$1,000 = 75%

$$\begin{aligned} FV_{CGT} &= \$1{,}000[(1+0.10)^{20}(1-0.30)+0.30(0.75)] \\ &= \$4{,}934.25 \end{aligned}$$

Note that the terminal value of \$4,934.25 is less than the \$5,009.25 terminal value when the basis was equal to the current investment value. This is due to the tax on the difference between the \$1,000 account value and the \$750 cost basis:

$$\text{pretax value in 20 years} = \$1{,}000(1.10)^{20} = \$6{,}727.50$$

$$\text{tax on gain} = (\$6{,}727.50 - 750.00) \times 0.30 = \$1{,}793.25$$

$$\text{after-tax value in 20 years} = \$6{,}727.50 - 1{,}793.25 = \$4{,}934.25$$

Wealth-Based Taxes

In some countries, wealth-based taxes are assessed annually (similar to accrual income taxes) on the value of assets held. Unlike accrual taxes and capital gains taxes, which are paid on just the investment return, wealth-based taxes are applied to both the principal and return. They are most often applied to real estate, as in the U.K. Fortunately, the wealth-based tax rate is usually lower in percentage terms than accrual and capital gains tax rates.

Continuing the notation from before except that T_W is the wealth-based tax rate, the future value interest factor after the wealth-based tax ($FVIF_{WT}$) is:

$$\text{FVIF}_{WT} = [(1+R)(1-T_W)]^N$$

Notice that the formula differs from the previous formulas because the tax is applied to both the principal and investment return (i.e., total account value).

Example: Account subject to wealth-based taxes

Continuing, assume $1,000 is invested for 20 years and earns a return of 10%. Assuming the account is subject only to a wealth-based tax of 2%, **calculate** the after-tax value of the account in 20 years.

Answer:

$$\begin{aligned}\text{FV}_{T=0} &= \text{future value assuming no taxes}\\ &= \$1{,}000[1+0.10]^{20}\\ &= \$6{,}727.50\\ \text{FV}_{WT} &= \$1{,}000[(1+0.10)(1-0.02)]^{20}\\ &= \$4{,}491.33\end{aligned}$$

Because the wealth tax is applied to the entire account (both principal and returns), this future value is not directly comparable to those when accrual or capital gains taxes are applied. Note, however, that the terminal value of $4,491.33 is considerably less than the $6,727.50 before-tax terminal value. When 2% wealth taxes are paid annually:

$$\text{tax drag \$} = \$6{,}727.50 - \$4{,}491.33 = \$2{,}236.17$$

$$\text{tax drag \%} = \frac{\$2{,}236.17}{(\$6{,}727.50 - \$1{,}000)} = 39.0\%$$

When the account is held for 30 years:

$$\begin{aligned}\text{FV}_{T=0} &= \text{future value assuming no taxes}\\ &= \$1{,}000[1+0.10]^{30}\\ &= \$17{,}449.40\end{aligned}$$

$$\begin{aligned}\text{FV}_{WT} &= \$1{,}000[(1+0.10)(1-0.02)]^{30}\\ &= \$9{,}518.38\end{aligned}$$

$$\text{tax drag \$} = \$17{,}449.40 - \$9{,}518.38 = \$7{,}931.02$$

$$\text{tax drag \%} = \frac{\$7{,}931.02}{\$16{,}449.40} = 48.2\%$$

Wealth-Based Taxes vs. Accrual Taxes

- As with accrual taxes, *tax drag $ and tax drag % increase with investment horizon.*
- Unlike accrual taxes, when *investment return increases, tax drag % decreases.*

Example: Wealth-based taxes and account returns

Assume a $1,000 account and a wealth-based tax of 2%. **Calculate** the expected after-tax value of the account in 20 years with a pre-tax return of 6%, 8%, 12%, and 14%.

Table 3 below shows that *tax drag $ increases* (column 5) *as the return increases,* but *tax drag % decreases* (column 6) *as the return increases* (calculations below):

Table 3: Tax Drag with Increasing Returns and 2% Wealth Taxes Only; $1,000 Invested for 20 Years

(1) Account Return (%)	*(2) Before-Tax Value in 20 Years ($)*	*(3) Total Return ($) (2) – $1,000*	*(4) After-Tax Value in 20 Years ($)*	*(5) Tax Drag ($) (2) – (4)*	*(6) Tax Drag (%) (5) / (3)*
6	3,207.14	2,207.14	2,141.10	1,066.04	48.3
8	4,660.96	3,660.96	3,111.69	1,549.27	42.3
10*	6,727.50	5,727.50	4,491.33	2,236.17	39.0
12	9,646.29	8,646.29	6,439.94	3,206.35	37.1
14	13,743.49	12,743.49	9,175.26	4,568.23	35.8

*Calculated previously.

Answer:

Answer: $R = 6\%$

$$FV_{T=0} = \$1{,}000(1.06)^{20} = \$3{,}207.14$$

$$\begin{aligned} FV_{WT} &= \$1{,}000[(1+0.06)(1-0.02)]^{20} \\ &= \$1{,}000 \times 2.1411 = \$2{,}141.10 \end{aligned}$$

$$\text{tax drag } \% = \frac{\$3{,}207.14 - \$2{,}141.10}{\$3{,}207.14 - \$1{,}000} = \frac{\$1{,}066.04}{\$2{,}207.14} = 48.3\%$$

Answer: R = 8%

$$FV_{T=0} = \$1{,}000(1.08)^{20} = \$4{,}660.96$$

$$\begin{aligned} FV_{WT} &= \$1{,}000[(1+0.08)(1-0.02)]^{20} \\ &= \$1{,}000 \times 3.11169 = \$3{,}111.69 \end{aligned}$$

$$\begin{aligned} \text{tax drag \%} &= \frac{\$4{,}660.96 - \$3{,}111.69}{\$4{,}660.96 - \$1{,}000} \\ &= \frac{\$1{,}549.27}{\$3{,}660.96} = 42.3\% \end{aligned}$$

Answer: R = 12%

$$FV_{T=0} = \$1{,}000(1.12)^{20} = \$9{,}646.29$$

$$\begin{aligned} FV_{WT} &= \$1{,}000[(1+0.12)(1-0.02)]^{20} \\ &= \$1{,}000 \times 6.43994 = \$6{,}439.94 \end{aligned}$$

$$\begin{aligned} \text{tax drag \%} &= \frac{\$9{,}646.29 - \$6{,}439.94}{\$9{,}646.29 - \$1{,}000} \\ &= \frac{\$3{,}206.35}{\$8{,}646.29} = 37.1\% \end{aligned}$$

Answer: R = 14%

$$FV_{T=0} = \$1{,}000(1.14)^{20} = \$13{,}743.49$$

$$\begin{aligned} FV_{WT} &= \$1{,}000[(1+0.14)(1-0.02)]^{20} \\ &= \$1{,}000 \times 9.17526 = \$9{,}175.26 \end{aligned}$$

$$\begin{aligned} \text{tax drag \%} &= \frac{\$13{,}743.49 - \$9{,}175.26}{\$13{,}743.49 - \$1{,}000} \\ &= \frac{\$4{,}568.23}{\$12{,}743.49} = 35.8\% \end{aligned}$$

For **wealth-based taxes**, the three primary relationships can be summarized as:

1. Tax drag % > tax rate.
2. As investment horizon increases ⇒ tax drag % and tax drag $ increase.
3. As investment return increases ⇒ tax drag $ increases; tax drag % decreases.

Study Session 4

The Cumulative Effect of Investment Taxes

LOS 11.d: Explain how investment return and investment horizon affect the tax impact associated with an investment. (Cont.)

CFA® Program Curriculum, Volume 2, page 230

Until now we have applied only one type of tax at a time, when in reality investments can be subject to several types of taxes, resulting in a blended tax environment. To evaluate the various types of taxes in a single analysis, we first determine the percentage of an investment's return that can be attributed to its various components: interest, dividends, and/or capital gains (CGs). We will use the following notation in the analysis:

- P_I = the proportion of the total return from interest income, taxed at T_I.
- P_D = the proportion of the total return from dividends, taxed at T_D.
- P_{CG} = the proportion of the total return from *realized* capital gains, taxed at T_{CG}.

Example 1: The combined effect of multiple taxes

An account is worth $100,000 at the beginning of the year and $110,000 at the end of the year (assume no additional contributions or withdrawals). During the year dividends of $4,000 and interest of $300 were received and reinvested into the portfolio. There was also a $2,200 *realized* capital gain, the proceeds from which were reinvested into the portfolio. **Calculate** the proportion of total return that can be attributed to interest, dividends, realized capital gains, and deferred capital gains.

Answer: Return proportions

The total gain on the portfolio was $110,000 – $100,000 = $10,000. The gain was composed of 3% interest income, 40% dividend income, and 22% realized capital gains:

P_I = \$300 / \$10,000 = 3% (proportion attributed to interest)

P_D = \$4,000 / \$10,000 = 40% (proportion attributed to dividends)

P_{CG} = \$2,200 / \$10,000 = 22% (proportion attributed to realized capital gains)

The proportion of the account return attributed to **deferred (unrealized) capital gain** is the residual: 100% – 3% – 40% – 22% = 35%

Alternatively, we could have determined the **dollar unrealized capital gain** as:

total increase in value = interest + dividends + realized CGs + unrealized CGs

$10,000 = $300 + $4,000 + $2,200 + unrealized CGs

unrealized CGs = $10,000 – $300 – $4,000 – $2,200 = $3,500

(Notice that $3,500 / $10,000 = 35%)

To calculate the after-tax return on the account, we multiply the before-tax return (R) by 1 minus realized tax rate, which considers the proportion of each form of gain with its specific tax rate:

$$\text{realized tax rate} = \left(P_I T_I + P_D T_D + P_{CG} T_{CG}\right)$$

Professor's Note: The realized tax rate is nothing more than the weighted-average tax rate paid by the investor. P *is the weight (proportion) of each type of return, income, dividend, or realized capital gain, and* T *is the tax rate on each type of return. Multiplying each tax rate by the related proportion yields the weighted-average tax rate.*

Using the same subscripts for the tax rates, T, as for the proportions, P, the *annual return after realized taxes* on interest income, dividends, and realized capital gains (R_{ART}) is:

$$R_{ART} = R(1 - \text{realized tax rate}) = R\left[1 - \left(P_I T_I + P_D T_D + P_{CG} T_{CG}\right)\right]$$

Example 2: Multiple taxes and the realized tax rate

Recall that the before-tax return on the account was 10% ($10,000). Assuming tax rates on interest, dividends, and capital gains of 30%, 20%, and 20%, respectively, **calculate** the after realized tax return (R_{ART}) and the account balance after payment of taxes.

Answer: Realized tax rate and return after realized taxes

$$\begin{aligned} T_{\text{realized}} &= \left(P_I T_I + P_D T_D + P_{CG} T_{CG}\right) \\ &= \left[(0.03)(0.30) + (0.40)(0.20) + (0.22)(0.20)\right] = 0.133 \end{aligned}$$

$$\begin{aligned} R_{ART} &= R\left(1 - T_{\text{realized}}\right) \\ &= 0.10(1 - 0.133) = 0.0867 = 8.67\% \end{aligned}$$

Table 4: Taxes on Interest Income, Dividend Income, and Realized Capital Gains

	Amount	*Tax Rate*	*Tax*
Interest income	300	30%	90
Dividends	4,000	20%	800
Realized capital gains	2,200	20%	440
Total taxes paid			**1,330**

Study Session 4

Table 4 shows the component and total taxes that must be paid for the year. The balance in the account after paying these taxes is \$110,000 – \$1,330 = \$108,670, which indicates an after-tax return of 8.67%:

$$R_{ART} = \frac{\$108{,}670 - \$100{,}000}{\$100{,}000} = 0.0867 = 8.67\%$$

Notice that the after-tax account value can also be calculated using the annual after realized tax return and the beginning account value: \$100,000 × 1.0867 = \$108,670.

Incorporating Deferred Taxes

The previous analyses ignore the impact of deferred taxes, which have to be paid at some point in the future. As we will see, deferred taxes will be greater (less) as less (more) accrual tax is paid annually.

To calculate the effective capital gains tax rate (T_{ECG}) that adjusts for the annual taxes already paid on interest, dividends, and realized capital gains, we use the following:

$$T_{ECG} = T_{CG}\left[\frac{1-(P_I + P_D + P_{CG})}{1-(P_I T_I + P_D T_D + P_{CG} T_{CG})}\right]$$

The numerator of the term in the brackets is 1 minus all the individual return proportions (interest, dividends, and realized capital gains). The denominator is 1 minus the realized tax rate as we calculated by multiplying the individual tax rates by their respective proportional returns.

Because $(P_I + P_D + P_{CG})$ must be greater than $(P_I T_I + P_D T_D + P_{CG} T_{CG})$, $1 - (P_I + P_D + P_{CG})$ must be less than $1 - (P_I T_I + P_D T_D + P_{CG} T_{CG})$, and the ratio of the two must be less than 1. This means that, when the portfolio contains components that have already been taxed, the resulting effective capital gains rate is less than the stated rate on capital gains.

Professor's Note: In the example, we assumed all dividends, interest, and realized capital gains were taxed and reinvested. This would have the effect of increasing the value of the account, but the increase is due to after-tax dollars that were reinvested and as such are not subject to future capital gains taxation.

Using return after realized taxes (R_{ART}) and the effective deferred capital gains tax rate (T_{ECG}), the future value interest factor considering all taxes as well as the cost basis of the account ($FVIF_T$) is:

$$FVIF_T = \left[(1 + R_{ART})^N (1 - T_{ECG}) + T_{ECG} - (1 - B)T_{CG}\right]$$

The best way to learn this equation is by applying it in an example.

Example: Return after realized taxes and deferred capital gains

In our previous example with a beginning value of $100,000, the return after realized taxes was 8.67%. Assuming that the return proportions continue for eight years and that the cost basis is equal to $75,000 for a B = .75, calculate the effective capital gains tax rate and the balance of the account in eight years after payment of all taxes.

Answer:

The effective capital gains tax rate is:

$$T_{ECG} = 0.20\left[\frac{1-0.03-0.40-0.22}{1-0.03(0.30)-0.40(0.20)-0.22(0.20)}\right] = 0.0807 = 8.07\%$$

$$\text{percentage cost basis} = \frac{\$75{,}000}{\$100{,}000} = 0.75 = 75\%$$

The balance in the account after payment of all taxes in eight years uses the future value interest factor after all taxes ($FVIF_T$) and is:

$$\begin{aligned}\text{value}_{8\text{ years}} &= \$100{,}000\left[(1+R_{ART})^N(1-T_{ECG})+T_{ECG}-(1-B)T_{CG}\right]\\ &= \$100{,}000\left[(1+0.0867)^8(1-0.0807)+0.0807-(1-0.75)0.20\right]\\ &= \$100{,}000\left[(1.9448)(0.9193)+0.0807-0.05\right] = \$181{,}855\end{aligned}$$

Notice that the first term inside the brackets, $(1 + 0.0867)^8(1 - 0.0807)$, calculates the capital gains tax on the 8.67% return after realized taxes and the principal, as if it were all capital gains (i.e., the cost basis is zero). Remember, however, that we paid capital gains on 20% of the portfolio return each year, so we have to add back the effective capital gains rate, 0.0807, on the principal. Also note that the basis was assumed to be $75,000, so we have to pay full capital gains taxes on the difference between the market value of $100,000 and the $75,000 cost basis, and $FVIF_T$ is reduced accordingly.

Accrual Equivalent After-Tax Returns

LOS 11.c: Calculate accrual equivalent tax rates and after-tax returns.

CFA® Program Curriculum, Volume 2, page 234

Because the net effect of various taxes can be quite confusing, it helps to look at the terminal value of the account and compare it to the beginning value. An **accrual equivalent after-tax return** is the annual return that produces the same terminal value as the taxable portfolio. You can think of it as an *effective annual return* for the account.

Study Session 4

Using the standard present value-future value formula, the accrual equivalent after-tax return is the interest rate, *r*, below:

$$FV = PV(1 + r)^N$$

Recognizing that the future value is the terminal value of the account after all taxes (FV_T) and using more specific notation for the accrual equivalent after-tax return (R_{AE}), we have:

$$FV_T = PV(1 + R_{AE})^N \Rightarrow (1 + R_{AE})^N = \frac{FV_T}{PV} \Rightarrow R_{AE} = \left(\frac{FV_T}{PV}\right)^{\frac{1}{N}} - 1$$

You will note that the solution to the calculation, R_{AE}, is nothing more than the geometric average return for the *N* periods.

Example: Accrual equivalent return

In the previous example, the account balance in eight years, after payment of all taxes, was $181,855. Assuming an initial investment of $100,000, calculate the accrual equivalent after-tax return.

Answer:

The accrual equivalent after-tax return, R_{AE}, is:

$$R_{AE} = \sqrt[8]{\frac{\$181{,}855}{\$100{,}000}} - 1 = 0.0776 = 7.76\%$$

Professor's Note: In your TI BA-II Plus calculator, the inputs are FV = 181,855; PV = –100,000; N = 8; and CPT → I/Y = 7.762%.

Notice that this return of 7.76% is less than the return after realized taxes of 8.67% we calculated previously. This is because the accrual equivalent after-tax return incorporates the effect of realized annual taxes as well as the deferred taxes that were paid at the end of the holding period.

In the previous example, the pre-tax return was 10%. The difference between the pre-tax return and the accrual equivalent after-tax return is a measure of the **tax drag** on the portfolio. The accrual equivalent after-tax return moves closer to the pre-tax return as the time horizon increases because the value of tax deferral increases with time. The accrual equivalent after-tax return also moves closer to the pre-tax return as more of the portfolio return is deferred because the portfolio earns compound interest tax-free.

Professor's Note: This is simple time value of money. The longer the bill can be deferred, the longer the funds can be used.

Accrual Equivalent Tax Rates

LOS 11.c: Calculate accrual equivalent tax rates and after-tax returns. (Cont.)

CFA® Program Curriculum, Volume 2, page 234

Using the accrual equivalent after-tax return, we can calculate an **accrual equivalent tax rate**. The accrual equivalent tax rate (T_{AE}) is the tax rate that makes the pre-tax return (R) equal to the accrual equivalent after-tax return (R_{AE}). Think of it as the overall effective tax rate on the account, considering both accrual and deferred taxes:

$$R_{AE} = R(1 - T_{AE}) \Rightarrow T_{AE} = 1 - \frac{R_{AE}}{R}$$

Example: Accrual Equivalent Tax Rate

In our accrual equivalent return example, the accrual equivalent after-tax return is 7.76% and the pre-tax return is 10%. **Calculate** the accrual equivalent tax rate.

Answer:

The accrual equivalent tax rate is:

$$T_{AE} = 1 - \frac{0.0776}{0.10} = 0.224 = 22.4\%$$

The lower the accrual equivalent tax rate, the more *tax-efficient* the investment. Allocating more of your account to tax-efficient assets (e.g., growth assets) pushes a greater percentage of your total return further out into the future, making the account more tax-efficient and producing a lower accrual equivalent tax rate. Likewise, allocating heavily to *tax-inefficient* assets speeds up tax payments and increases the accrual equivalent tax rate.

Notice in the previous example that the 22.4% accrual equivalent tax rate is lower than the 30% tax rate applied to interest and only slightly higher than the 20% tax rate applied to dividends and capital gains. Had the entire return come in the form of deferred capital gains and the original cost basis remained at $75,000, the accrual equivalent tax rate would have been 19%:

Basis = 75%, horizon = 8 years:

$$FVIF_{CGT} = \left[(1+R)^N(1-T_{CG}) + T_{CG}(B)\right]$$

$$= (1.10)^8(1-0.20) + 0.20(0.75)$$

$$= 1.71487 + 0.15 = 1.86487$$

$$FV_8 = \$100{,}000(1.86487) = \$186{,}487$$

$$R_{AE} = \left(\frac{\$186{,}487}{\$100{,}000}\right)^{1/8} - 1 = 8.10\%$$

$$T_{AE} = 1 - \frac{0.0810}{0.10} = 0.190 = 19\%$$

In this example, all the gain came in the form of deferred capital gains, and the cost basis was 75% of the account value. This means that 75% of the original account value was not subject to tax. We see in the following that changing *B*, the ratio of cost basis to market value, changes the accrual equivalent tax rate.

B = 0%, horizon = 8 years:

$$\begin{aligned}
FVIF_{CGT} &= \left[(1+R)^N(1-T_{CG})+T_{CG}(B)\right] \\
&= (1.10)^8(1-0.20)+0.20(0) \\
&= 1.71487 \\
FV_8 &= \$100{,}000(1.714871)=\$171{,}487 \\
R_{AE} &= \left(\frac{\$171{,}487}{\$100{,}000}\right)^{1/8}-1=0.069742 \\
T_{AE} &= 1-\frac{0.069742}{0.10}=30.25\%
\end{aligned}$$

B = 25%, horizon = 8 years:

$$\begin{aligned}
FVIF_{CGT} &= \left[(1+R)^N(1-T_{CG})+T_{CG}(B)\right] \\
&= (1.10)^8(1-0.20)+0.20(0.25) \\
&= 1.71487+0.05=1.76487 \\
FV_8 &= \$100{,}000(1.764871)=\$176{,}487 \\
R_{AE} &= \left(\frac{\$176{,}487}{\$100{,}000}\right)^{1/8}-1=0.073592 \\
T_{AE} &= 1-\frac{0.073592}{0.10}=26.4\%
\end{aligned}$$

B = 50%, horizon = 8 years:

$$\begin{aligned}
FVIF_{CGT} &= \left[(1+R)^N(1-T_{CG})+T_{CG}(B)\right] \\
&= (1.10)^8(1-0.20)+0.20(0.50) \\
&= 1.714871+0.10 \\
FV_8 &= \$100{,}000(1.814871)=\$181{,}487 \\
R_{AE} &= \left(\frac{\$181{,}487}{\$100{,}000}\right)^{1/8}-1=0.077347 \\
T_{AE} &= 1-\frac{0.077347}{0.10}=22.65\%
\end{aligned}$$

B = 100%, horizon = 8 years:

$$FVIF_{CGT} = \left[(1+R)^N (1-T_{CG}) + T_{CG}(B)\right]$$

$$= (1.10)^8 (1-0.20) + 0.20(1)$$

$$= 1.714871 + 0.20 = 1.914871$$

$$FV_8 = \$100{,}000(1.914871) = \$191{,}487$$

$$R_{AE} = \left(\frac{\$191{,}487}{\$100{,}000}\right)^{1/8} - 1 = 0.084595$$

$$T_{AE} = 1 - \frac{0.084595}{0.10} = 15.41\%$$

Table 5 shows that the accrual equivalent annual tax rate *decreases* as *B increases*:

Table 5: Cost Basis as Percent of Market Value (B) and Accrual Equivalent Tax Rates*

B (%)	0.00	0.25	0.50	0.75	1.00
TAE (%)	30.25	26.40	22.65	19.00	15.41

*Horizon = 8 years

We see clearly that as the cost basis and *B* increase, the accrual equivalent tax rate decreases, but what isn't intuitive is that as the cost basis decreases and approaches zero, the accrual equivalent tax rate actually surpasses the capital gains tax rate. This is due to taxation of the capital gain as well as the *principal*, rather than simply taxing the capital gain. As more of the original investment is taxable (i.e., as *B* decreases), the accrual equivalent tax rate increases beyond the tax rate.

The following calculations demonstrate the relationship between investment horizon and accrual equivalent tax rate (holding *B* constant):

B = 75%, horizon = 4 years:

$$FVIF_{CGT} = \left[(1+R)^4 (1-T_{CG}) + T_{CG}(B)\right]$$

$$= (1.10)^4 (1-0.20) + 0.20(0.75)$$

$$= 1.17128 + 0.15 = 1.32128$$

$$FV_4 = \$100{,}000(1.32128) = \$132{,}128$$

$$R_{AE} = \left(\frac{\$132{,}128}{\$100{,}000}\right)^{1/4} - 1 = 0.07213$$

$$T_{AE} = 1 - \frac{0.07213}{0.10} = 27.87\%$$

B = 75%, horizon = 6 years:

$$FVIF_{CGT} = \left[(1+R)^6(1-T_{CG}) + T_{CG}(B)\right]$$
$$= (1.10)^6(1-0.20) + 0.20(0.75)$$
$$= 1.41725 + 0.15 = 1.56725$$
$$FV_6 = \$100{,}000(1.56725) = \$156{,}725$$
$$R_{AE} = \left(\frac{\$156{,}725}{\$100{,}000}\right)^{1/6} - 1 = 0.07776$$
$$T_{AE} = 1 - \frac{0.07776}{0.10} = 22.24\%$$

B = 75%, horizon = 10 years:

$$FVIF_{CGT} = \left[(1+R)^{10}(1-T_{CG}) + T_{CG}(B)\right]$$
$$= (1.10)^{10}(1-0.20) + 0.20(0.75)$$
$$= 2.07499 + 0.15 = 2.22499$$
$$FV_{10} = \$100{,}000(2.22499) = \$222{,}499$$
$$R_{AE} = \left(\frac{\$222{,}499}{\$100{,}000}\right)^{1/10} - 1 = 0.08328$$
$$T_{AE} = 1 - \frac{0.08328}{0.10} = 16.74\%$$

B = 75%, horizon = 12 years:

$$FVIF_{CGT} = \left[(1+R)^{12}(1-T_{CG}) + T_{CG}(B)\right]$$
$$= (1.10)^{12}(1-0.20) + 0.20(0.75)$$
$$= 2.51074 + 0.15 = 2.66074$$
$$FV_{12} = \$100{,}000(2.66074) = \$266{,}074$$
$$R_{AE} = \left(\frac{\$266{,}074}{\$100{,}000}\right)^{1/12} - 1 = 0.08497$$
$$T_{AE} = 1 - \frac{0.08497}{0.10} = 15.03\%$$

Summing up the results of the calculations, Table 6 shows that when the basis is held constant, the accrual equivalent annual tax rate *decreases* as the investment horizon *increases*:

Table 6: Investment Horizon and Annual Accrual Equivalent Tax Rates*

Horizon (years)	4	6	8	10	12
TAE (%)	27.87	22.24	18.99	16.74	15.03

*Cost basis to market value = 75%

Account Tax Profiles

LOS 11.e: Discuss the tax profiles of different types of investment accounts and explain their impact on after-tax returns and future accumulations.

CFA® Program Curriculum, Volume 2, page 236

Investors in most countries have tax-advantaged accounts available to them. The accounts are usually set up to encourage retirement savings. For example, a regular IRA account in the United States is a **tax-deferred** account (TDA). Contributions to these accounts reduce the taxpayer's current taxes, and returns on the contributions accrue tax free. They are, however, taxed when withdrawn from the account in the future. These accounts are said to have *front-end loaded tax benefits*.

A second type of tax-advantaged account is the **tax-exempt** account. Contributions to these accounts are made with after-tax funds and thus do not reduce the investor's current tax bill. Funds are withdrawn tax-free in the future and thus these accounts are said to have *back-end loaded tax benefits*. Like a tax-deferred account, returns in a tax-exempt account accrue tax free. An example of a tax-exempt account in the United States is a Roth IRA.

Calculating Future Accumulations in Tax-Advantaged Accounts

The formula for the future value interest factor for a TDA ($FVIF_{TDA}$) is similar to the formula for capital gains when the basis is zero. The returns in a TDA accrue tax free and are taxed when withdrawn at the existing tax rate, T_N.

$$\text{FVIF}_{\text{TDA}} = (1+\text{R})^{\text{N}}(1-\text{T}_{\text{N}})$$

where:
R = before-tax return on the account
T_N = tax rate in effect at the time of withdrawal

Withdrawals from tax-exempt accounts are not subject to taxes, and returns accrue tax free. So the future value interest factor for a tax-exempt account ($FVIF_{TEA}$) requires no consideration of taxes:

$$\text{FVIF}_{\text{TEA}} = (1+\text{R})^{\text{N}}$$

Comparing the two formulas, we see that the only difference between the two is the taxation of the TDA. Assuming equivalent contributions, returns, and holding periods, the only difference in future values is that the government has a future tax claim on the TDA.

Example: Accounts subject to different tax treatments

Assume that $100,000 is invested in each of four accounts:

1. An account taxed annually (accrual taxes; $\mathbf{FVIF_{AT}}$).
2. A tax-deferred account ($\mathbf{FVIF_{TDA}}$).
3. An account with deferred capital gains and an initial cost basis of $100,000 ($\mathbf{FVIF_{CGBT}}$).
4. A tax-exempt account ($\mathbf{FVIF_{TEA}}$).

Calculate the after-tax value of each account in 30 years, if each account earns 9% annually and all investment income and returns are taxed at 35%.

Answer:

1. $\text{FVIF}_{AT} = [1 + R(1 - T_I)]^N \Rightarrow \$100{,}000[1 + 0.09(1 - 0.35)]^{30}$
$= \mathbf{\$550{,}460}$

2. $\text{FVIF}_{TDA} = (1 + R)^N (1 - T_N) \Rightarrow \$100{,}000\left[(1 + 0.09)^{30}(1 - 0.35)\right]$
$= \mathbf{\$862{,}399}$

3. $\text{FVIF}_{CGBT} = \left[(1 + R)^N (1 - T_{CG})\right] + T_{CG}B \Rightarrow \$100{,}000\left[(1 + 0.09)^{30}(1 - 0.35) + 0.35(1.0)\right]$
$= \mathbf{\$897{,}399}$

4. $\text{FVIF}_{TEA} = (1 + R)^N \Rightarrow \$100{,}000(1 + 0.09)^{30}$
$= \mathbf{\$1{,}326{,}768}$

As we would expect, the tax-exempt account results in the highest future accumulation and the account taxed annually provides the lowest accumulation. Although the TDA provides the second-lowest accumulation, it provides a tax advantage in the year of the contribution, as we will discuss later.

Tax-Advantaged Accounts and Asset Allocations

It is common to examine an investor's asset allocation on a pre-tax basis. For example, consider an investor with €1,000,000 in assets. If €600,000 is invested in equity in a TDA and €400,000 is invested in bonds in a tax-exempt account, the traditional view of the investor's asset allocation is 60% equity/40% bonds.

However, the equity in the TDA will be taxed upon withdrawal. If the tax rate is 30%, the investor actually has €420,000 [€600,000 × (1 – 0.30)] invested in equity on an after-tax basis. The bonds in the tax-exempt account are not subject to taxation.

Thus, on an after-tax basis, the investor actually has 51.2% in equity [€420,000 / (€420,000 + €400,000)] and the other 48.8% in bonds. However, this allocation will change over time, and the investor's time horizon may be uncertain, in which case it will be difficult to examine the asset allocation on an after-tax basis.

Tax-Deferred Accounts (TDAs) vs. Tax-Exempt Accounts (TEAs)

Both TDAs and TEAs are comparable in that both accounts provide a tax advantage while funds are in the account. No taxes are paid on returns while funds are in either account. However, they differ in an important way: TEA account deposits are done with after-tax funds and withdrawals are tax free while TDA deposits are made with pretax funds but withdrawals are taxed.

Tax-exempt accounts may seem to be the preferred tax-advantaged account because all withdrawals are tax free. However, this simplistic conclusion ignores the fact that contributions to a TDA provide the investor with an immediate savings in taxes whereas a tax-exempt account does not. Put another way, any contributions to a tax-exempt account are made with *after-tax* funds. That is, any funds contributed to a tax-exempt account are first subject to the current income tax, T_0. On the other hand, funds contributed to a tax-deferred account are not taxed. In the United States, for example, individuals are permitted to deduct from taxable income an amount equal to the contribution to a tax-deferred account. That amount, therefore, is effectively exempt from current taxes.

Viewed in this light, we can compare the future accumulations in each account as follows:

$$\text{FVIF}_{\text{TDA}} = (1+\text{R})^{\text{N}}(1-\text{T}_{\text{N}})$$

$$\text{FVIF}_{\text{TEA}} = (1+\text{R})^{\text{N}}(1-\text{T}_0)$$

From these formulas, it is clear that the only potential difference between accumulations in the two accounts depends on whether the current and future tax rates are equal. With a TDA, no taxes are taken out of the contribution but the future value is taxed, while the contribution to the TEA is in after-tax dollars and the future value is untaxed. In other words, either the tax is taken out upfront or at the end of the investment, so whether the two accounts will have different future (spendable) amounts will depend on relative current and future tax rates.

Determining the account type that will produce the higher after-tax value is simple when returns in both accounts are equal. If today's tax rate is lower, pay the taxes now and put after-tax funds into a TEA. If the expected future tax rate is lower, wait to pay taxes by putting pretax funds into a TDA now and pay taxes later. If the two rates are equal, it will not matter which account is used.

Example: Tax-deferred vs. tax-exempt accounts

An investor pays current and future taxes at 25% and is willing to give up \$3,000 in consumption. The investor can contribute *\$3,000 in after-tax dollars* to a tax-exempt account or *\$4,000 to a tax-deferred account*.

Professor's Note: At a tax rate of 25%, the investor will have to earn \$4,000 and pay taxes of \$1,000 to contribute \$3,000 to a tax-exempt account. Alternatively, the investor can deposit the entire \$4,000 into a tax-deferred account.

Assuming an investment return of 8% for 20 years, **calculate** the future values of the following three account structures:

1. An account taxed annually (e.g., savings account).
2. A TDA (e.g., retirement account).
3. A TEA (e.g., tax-exempt bonds).

Answer:

The corresponding formulas and future value calculations, considering after-tax contributions:

$$\begin{aligned}
FVIF_{AT} &= [1+R(1-T_I)]^N &&\Rightarrow \$3{,}000[1+0.08(1-0.25)]^{20} &&= \mathbf{\$9{,}621} \\
FVIF_{TDA} &= (1+R)^N(1-T_N) &&\Rightarrow \$4{,}000\left[(1+0.08)^{20}(1-0.25)\right] &&= \mathbf{\$13{,}983} \\
FVIF_{TEA} &= (1+R)^N &&\Rightarrow \$3{,}000(1+0.08)^{20} &&= \mathbf{\$13{,}983}
\end{aligned}$$

In this example, the future values of the TDA and the TEA are equal only because the current and future tax rates are assumed equal. If instead the current tax rate is greater than the expected future tax rate (e.g., after retiring the investor might have a lower marginal tax rate), the future value of the TDA will be greater than that of the tax-exempt account.

Example: Unequal current and future tax rates

Assume the investor in the previous example pays current taxes at 25% and expects a future tax rate of 20%. **Determine** which account will have the greater future value.

Answer:

In this case, the investor faces a lower future tax rate. The investor's current situation is unchanged. She will still have to earn $4,000 to invest $3,000 in the tax-exempt account and be able to invest the entire $4,000 in the tax-deferred account:

$$FVIF_{TDA} = (1+R)^N(1-T_N) \Rightarrow \$4{,}000\left[(1+0.08)^{20}(1-0.20)\right] = \$14{,}915$$
$$FVIF_{TEA} = (1+R)^N \Rightarrow \$3{,}000(1+0.08)^{20} = \$13{,}983$$

The future after-tax accumulation of the tax-exempt account is still $13,983. Because the future rate is expected to be 20%, the TDA now produces a greater future value.

Equal Limits on Contributions

A different result can arise if regulations limit the amount of deposit and the limit is the same for both TDA and TEA accounts. Even if the current and future tax rates are equal, the TEA can be superior because it effectively lets more pretax funds go into a tax-advantaged account (and out of the investor's fully taxable holdings).

Returning to the previous example of current and future tax rates of 25% for pretax and after-tax returns of 8% and 6%, a $4,000 pretax deposit into a TDA and a $3,000 after-tax deposit into a TEA had the same ending value of $13,983. Remember the $3,000 after-tax contribution costs the investor $4,000 in pretax funds. Now suppose regulations limit the contribution to either account to $3,000 and the investor has the capacity to contribute $3,000 of after-tax or $4,000 of pretax funds. In the TDA, only $3,000 of pretax funds can be contributed, but in the TEA, $3,000 of after-tax (equivalent of $4,000 pretax) can be contributed.

- The future value of the TEA is still $13,983.
- The future value of the TDA and related effects is more complicated. Only $3,000 can be contributed of pretax funds for a future value of $11,186. However, the investor still has another $1,000 pretax, which is $750 after paying the taxes due on it. This can only be invested in the investor's fully taxable portfolio. Contributions into the sheltering vehicles have been maxed out already. The $750 can be invested for the 20 years at 6% after tax return for $2,405 of future value, [$\$750(1.06)^{20}$]. The investor's total wealth is $11,186 + $2,405 = $13,591.

The cost to the investor in funds that are not available for current consumption is the same for both accounts, but the TEA is now superior to the TDA when the contribution limit for either account is the same.

Calculations used in the above analysis:

$$FVIF_{TDA} = (1+R)^N(1-T_N) \Rightarrow \$3{,}000\left[(1+0.08)^{20}(1-0.20)\right] = \$11{,}186$$
$$FVIF_{TEA} = (1+R)^N \Rightarrow \$3{,}000(1+0.08)^{20} = \$13{,}983$$

Hint: Remember the calculations directly above overstate the advantage of the TEA. The real comparison must also consider the additional funds the investor has available if using the TDA when the limit is the same for either account. The TEA still wins but by less.

TAXES AND INVESTMENT RISK

LOS 11.f: Explain how taxes affect investment risk.

CFA® Program Curriculum, Volume 2, page 241

The effect of taxes on investment risk depends on the type of investment account. If an investment is held in an account that is taxed annually, the government (taxing authority) bears part of the investment risk. The government's share of the investment each year is T_I, the tax rate on investment income, multiplied by the annual value of returns. If returns are high, the government receives more in taxes than when returns are low. In other words, part of the total variability of the investment is absorbed by the government. The result is that, if investment returns are taxed solely as income at the rate of T_I and the pre-tax standard deviation of returns is σ, the investor's after-tax risk is $\sigma(1 - T_I)$.

If the investment is held in a tax-exempt account, such that the government has no stake in the investment, the investor bears all the investment risk. This is also true for TDAs prior to withdrawal because annual returns are not subject to taxes.

Example: Risk reduction with accrual taxes only

Suppose an investor has half her portfolio in stocks and half in bonds. The returns on the stock investment are taxed at an annual rate of 20% (dividends receive special treatment) and the bond returns are taxed at a rate of 30% (interest income is taxed as ordinary income). The pre-tax standard deviation of stock returns is 16% and the pre-tax standard deviation of bond returns is 6%.

Calculate the pre-tax and after-tax standard deviations of portfolio returns, assuming the correlation between stocks and bonds is 1.

Answer:

If the correlation between stocks and bonds is 1, the **pre-tax standard deviation** of portfolio returns is a simple weighted average of the individual standard deviations:

$$\sigma_{P,\text{before-tax}} = 0.5(16\%) + 0.5(6\%) = 11.0\%$$

Because taxes are paid annually on dividends and interest, the after-tax standard deviation of returns uses both *after-tax* asset standard deviations:

$$\sigma_{P,\text{after-tax}} = 0.5(16\%)(1-0.2) + 0.5(6\%)(1-0.3) = 8.5\%$$

In this example, the investor's portion of investment risk was reduced from 11.0% to 8.5% because the government absorbed part of the portfolio volatility by taxing all returns. If one (or both) of the investments was held in a TDA or tax-exempt account, the reduction in investment risk would not have been as great because the government would absorb less risk.

Example: Risk reduction with accrual and deferred taxes

Now assume the bonds are held in a *tax-exempt account*. **Calculate** the after-tax standard deviation of portfolio returns and **compare** it to the before-tax portfolio standard deviation and the portfolio standard deviation with accrual taxes only.

Answer:

The after-tax standard deviation of portfolio returns is:

$$\sigma_{P,\text{after-tax}} = 0.5(16\%)(1-0.2)+0.5(6\%)=9.4\%$$

In this case, the standard deviation of portfolio returns increases from 8.5% when the returns are fully taxable, to 9.4%. The increase in variability is because the government does not absorb part of the variability of the bond returns. Because the stock returns are taxed annually, however, there is still an amount of risk reduction.

The Tax Effects of Trading Behavior

LOS 11.g: Discuss the relation between after-tax returns and different types of investor trading behavior.

CFA® Program Curriculum, Volume 2, page 245

As we have seen previously, the accounts in which assets are held (i.e., the *asset location*) is important for tax management. From strictly a tax-management standpoint, an investor should locate heavily taxed assets in tax-advantaged accounts and hold lightly taxed assets in taxable accounts. The value created by the effective tax management of investments is referred to as the **tax alpha**.

In most countries, the strategy would be to place equity in taxable accounts because their current income is lower than that for bonds and capital gains can often be deferred. Bonds, with their higher current income, would be placed in a tax-protected account, such as a TDA. Although strictly speaking, municipal bonds could be held in taxable accounts; their yield already takes into consideration the exemption from taxes and thus is typically much lower than that of taxable bonds. As noted previously, however, the taxation of income, dividends, and capital gains varies by regime.

In addition to examining asset location as a source of tax minimization, we can also examine an investor's *trading behavior*. Specifically, we can delineate four types of **equity investors:**

1. **Traders**—due to frequent trading, traders forgo the tax advantages associated with equity. All gains are short term and are thus taxed on an annual basis.

2. **Active investors**—active investors trade less frequently than traders so that many of their gains are longer term in nature and taxed at lower rates.

3. **Passive investors**—passive investors buy and hold equity so that gains are deferred long term and taxed at preferential rates.

4. **Exempt investors**—exempt investors hold all their stock in tax-exempt accounts, thereby avoiding taxation altogether.

Example: The effects of trading behavior on taxes

Consider the case of four equity traders who invest $1,000 for 30 years and earn 9% annually. They pay a tax of 30% on gains realized in less than a year and a tax of 20% on gains held a year or longer. What are the future accumulations, accrual equivalent returns, and accrual equivalent tax rates for each trader?

Answer:

In this example, we will assume that each trader's tax situation is as follows:

Trader—realizes all gains as short term and pays 30% tax annually:

$$FVIF_{IT} = [1 + R(1 - T_I)]^N$$

Active investor—simplify by assuming realizes all gains as long term and pays 20% tax annually:

$$FVIF_{IT} = [1 + R(1 - T_I)]^N$$

Passive investor—defers all gains until the end of the investment horizon and pays a 20% tax at that time:

$$FVIF_{CGT} = \left[(1 + R)^N (1 - T_{CG}) + T_{CG}\right]$$

Exempt investor—does not pay taxes:

$$FVIF_{TEA} = (1 + R)^N$$

Table 7 contains the results of these calculations.

Table 7: Future Value, Accrual Equivalent Annual Return, and Accrual Equivalent Tax Rate Under Different Trading Style Assumptions

Investor Type	*Future Value*	*Accrual Equivalent Return*[1]	*Accrual Equivalent Tax Rate*[2]
Trader	$\$1{,}000[1 + 0.09(1 - 0.30)]^{30} = \$6{,}252$	6.3%	30.0%
Active investor	$\$1{,}000[1 + 0.09(1 - 0.20)]^{30} = \$8{,}051$	7.2%	20.0%
Passive investor	$\$1{,}000[(1 + 0.09)^{30}(1 - 0.20) + 0.20(1)] = \$10{,}814$	8.3%	7.8%
Exempt investor	$\$1{,}000(1 + 0.09)^{30} = \$13{,}268$	9.0%	0.0%

1 $$\text{AER} = \sqrt[n]{\frac{\text{FV}}{\text{PV}}} - 1$$

2 $$\text{AET} = 1 - \frac{\text{AER}}{\text{R}}$$

As would be expected, due to a higher tax rate and income that is taxed frequently, the trader pays the most taxes and will thus have the lowest future accumulation. Active and passive investors have lower tax burdens than the trader, whereas exempt investors pay no taxes at all. Passive investors have higher returns than active investors because although they are both taxed at a 20% rate, the passive investor's gains are deferred to the end of the investment horizon.

To offset their higher taxation, active investment managers must generate higher pre-tax returns. This is also true for mutual funds, especially those with high turnover, because in many countries, long-term capital gains are taxed at a lower rate and accumulate tax free until the gains are realized.

To illustrate the burden that trader investors face, assume a 40% tax rate for short-term gains and a 20% tax rate for long-term gains. If an active investor is taxed at the 20% rate and can generate a pre-tax return of 12.5%, the after-tax return is 12.5% × (1 – 0.20) = 10%. For the trader to generate the same after-tax return, the before-tax return must be 10% / (1 – 0.40) = 16.7%. The extra 4.2% return (16.7% – 12.5%) is quite difficult to achieve for most investors.

TAX LOSS HARVESTING AND HIFO TAX LOT ACCOUNTING

LOS 11.h: Explain the benefits of tax loss harvesting and highest-in/first-out (HIFO) tax lot accounting.

CFA® Program Curriculum, Volume 2, page 246

Tax Loss Harvesting

Tax loss harvesting is the practice of using investment losses to offset investment gains or income and thus avoid the associated taxes. It is sometimes the case that losses can be applied against past or future gains. Note, however, that governments may place limits on the amount of losses that can be recognized or the type of gains that can be offset.

Example: Tax loss harvesting

An investor has a realized capital gain of \$100,000 and pays a capital gains tax rate of 20%. The investor is considering selling Stock A to reduce his tax bill. Stock A has a cost basis of \$120,000 and has fallen to a current market value of \$80,000.

Calculate the investor's tax payment if Stock A is not sold, if it is sold, and the difference in tax payments.

Answer:

If Stock A is not sold, the investor will have to pay capital gains taxes on the full \$100,000 capital gain: 0.20 × \$100,000 = \$20,000.

If Stock A is sold, there is a capital loss: \$80,000 – \$120,000 = –\$40,000. This \$40,000 loss can be applied against the \$100,000 gain such that the net taxable gain is only \$60,000. The tax bill is 0.20 × \$60,000 = \$12,000, so the tax savings is \$20,000 – \$12,000 = \$8,000.

The tax loss harvesting saves \$8,000 in tax payments this year.

For the Exam: In a simple case like this, the immediate tax savings from the loss harvest can be calculated directly as the capital loss multiplied by the tax rate: \$40,000 × 0.20 = \$8,000. This is the most likely question.

In practice, taxing authorities have many different ways of treating tax loss harvesting. In many cases, there are restrictions on the types of offsetting losses as well as amounts allowed. On the exam, always read the question and information carefully just in case the rules given are different.

Although tax loss harvesting saves current taxes, it generally does not save on cumulative taxes. The current-year effect is an overstatement of any benefit because the harvesting generally raises future tax bills. In general, proceeds for the sale are reinvested and the cost basis of the new security is the selling price of the old security. This new lower cost basis implies higher tax bills on future sales. The more interesting issue is what is done with the initial tax savings.

Example: Loss harvest with purchase of a nearly identical stock

Continuing the previous example with an investor who holds Stock A with a market value, cost basis, and unrealized loss of $80,000, $120,000, and $40,000 respectively. The investor also has $100,000 of already realized gains.

Assume the investor can sell Stock A this year and reinvest in a stock with similar return expectations, Stock B. Assume both stocks then double in price and are liquidated next year. **Calculate** and **show** your calculations of the total tax bills this year and next for the investor if:

1. Stock A is sold next year.

2. Stock A is sold this year and the sale proceeds are reinvested in Stock B.

3. Stock A is sold this year and the sale proceeds plus year 1 tax savings are reinvested in Stock B.

Answer:

Option 1:
Taxes year 1: $100,000 already realized gain @ 20% = $20,000
Taxes year 2: projected sale price is $80,000 × 2 = $160,000
Less cost basis of $120,000 for gain of $40,000
Tax on sale is $40,000 @ 20% = $8,000

Cumulative tax bill of $28,000.

Option 2:
Taxes year 1: $40,000 tax loss harvest from selling A reduces gain to $60,000 @ 20% = $12,000
Taxes year 2: sale of Stock A in year 1 generates $80,000 invested in Stock B; Stock B then doubles in value to $160,000 for a taxable gain when Stock B is sold of $80,000 @ 20% = $16,000

Cumulative tax bill of $28,000; $8,000 less in year 1 but $8,000 more in year 2 than Option 1.

Option 3:
Taxes year 1: $40,000 tax loss harvest from selling Stock A reduces gain to $60,000 @ 20% = $12,000
Taxes year 2: sale of Stock A in year 1 generates $80,000 and $8,000 tax savings for $88,000 invested in Stock B; Stock B then doubles in value to $176,000 for a taxable gain when Stock B is sold of $88,000 @ 20% = $17,600

Cumulative tax bill of $29,600; a higher tax bill than Option 2 because more funds were invested in the appreciating Stock B.
Despite paying more in taxes, the investor maximizes ending wealth with Option 3 because the tax savings were reinvested (in an asset with a positive return).

Highest-In/First-Out (HIFO) Tax Lot Accounting

Over time, investors often accumulate large positions in single securities by purchasing several lots (e.g., 1,000 shares at a time) at different prices. When taxing authorities allow **HIFO** accounting, investors can generate significant tax savings by first liquidating lots with the highest cost bases.

As with tax loss harvesting, the total taxes over time are unchanged with HIFO accounting, assuming a constant tax rate. But also like tax loss harvesting, HIFO allows the tax savings to be reinvested earlier, creating a *tax alpha* that compounds through time.

If tax rates are not expected to be constant, however, the value of tax lot accounting can vary. For example, if rates are high and expected to fall (e.g., a client nearing retirement), it could be beneficial to recognize the tax alpha today. If rates are expected to rise, however, it could be beneficial to wait and recognize a significantly larger tax alpha later. It could be beneficial for the investor to liquidate a lower cost basis stock and recognize the capital gain now. This is referred to as *LIFO* or *lowest-in/first-out* accounting.

Two points worth mentioning are (1) volatile security prices have the most potential for creating tax alpha (when prices are volatile, a large gain can be offset by a large loss) and (2) although we know excessive trading can create tax inefficiencies in a taxable portfolio, a limited amount of trading can be beneficial when capital losses can be harvested and applied against capital gains.

Holding Period Management

Many countries (tax regimes) tax realized gains at different rates depending on the length of the holding period of the asset before sale. Typically, long-term holdings are taxed at a lower rate. This creates an advantage to less frequent trading that can be difficult for a frequent trader to overcome.

Example: Expected returns, tax classifications, and after-tax returns

Investor 1 is an extremely active trader whose returns are always taxed at the ordinary tax rate of 40%. Investor 2 follows a minimum trading strategy, only recognizing long-term capital gains taxes of 20% each year. Both recognize gains and pay taxes annually. Both investors earn a pretax return of 12%. **Determine** the after-tax value of a $1.00 over a 1-year and 10-year holding period for both investors and the value ratio of the two investors.

Answer:

Over 1-year holding period:
Investor 1: after-tax annual return = $\{1 + [0.12(1 - 0.40)]\} \times \$1.00 = \$1.072$
Investor 2: after-tax annual return = $\{1 + [0.12(1 - 0.20)]\} \times \$1.00 = \$1.096$
A ratio favoring the patient trader (Investor 2) of 1.096 / 1.072 = 1.022

Over 10-year holding period:
Investor 1: after-tax annual return = $\{1 + [0.12(1 - 0.40)]\}^{10} \times \$1.00 = \$2.004$
Investor 2: after-tax annual return = $\{1 + [0.12(1 - 0.20)]\}^{10} \times \$1.00 = \$2.501$
A ratio favoring the patient trader (Investor 2) of 2.501 / 2.004 = 1.247

The advantage is growing with longer time periods.

The implications of a higher short-term versus lower long-term gains taxation rate are:

- The ratios of ending after-tax value of the patient and rapid trader (1.022 and 1.247 over 1- and 10-year investment horizons) increase in favor of the patient trader:
  - At higher rates of return (e.g., 2% versus 4%).
  - Over longer investment horizons (e.g., five years versus ten years).
- Rapid trading would require a much higher pretax return to break even on an after-tax basis. In the example, the active trader would have to earn 16% per year pretax to stay even with the more patient investor earning 12% pretax. The 16% is a 33% higher pretax return. Calculations to support this conclusion are shown below:

  Rapid trader, t = 40%; 16% (1 – 0.40) = 9.6% after-tax
  Patient trader, t = 20%; 12% (1 – 0.20) = 9.6% after-tax

Another dimension of holding period management is the timing of sales in relation to tax year end. If a sale is being considered near the tax year end, make the sale:

- Before year end if it is a loss in order to place the loss in the current tax year and offset gains this year. This will lower taxes this year but raise taxes next year.
- After year end if it is a gain. This will defer the gain and tax until next year's tax return.

If tax rates are going to change, the analysis could become more complicated. If, for example, tax rates will rise next year, it may become more advantageous to incur the gain now, at the lower rate, than wait.

TAXES AND MEAN-VARIANCE OPTIMIZATION

LOS 11.i: Demonstrate how taxes and asset location relate to mean–variance optimization.

CFA® Program Curriculum, Volume 2, page 251

In the previous sections, we discussed how taxes affect the after-tax returns and risk of investments. Ideally then, the efficient frontier of portfolios should be viewed on an after-tax basis. Furthermore, because the tax status of an investment depends on the type of account it is in (i.e., its asset location), the same asset could appear on the efficient frontier in both taxable and non-taxable forms.

For example, an investor holds stocks and bonds in taxable, tax-deferred, and tax-exempt accounts. In this case, there are effectively six different assets to consider. Of course, the optimization process would have to be constrained to account for limits on the amount of funds that can be placed in tax-advantaged accounts and the type of assets that can be allocated to them.

The mean-variance optimization should optimally allocate assets and determine the optimal asset location for each asset. Accrual equivalent after-tax returns would be substituted for before-tax returns, and risk on an after-tax basis would be substituted for before-tax risk.

KEY CONCEPTS

LOS 11.a

Regime	*Ordinary Income Tax Structure*	*Favorable Treatment for:* *Interest Income?*	*Dividend Income?*	*Capital Gains?*
Common Progressive (most common)	Progressive	Yes	Yes	Yes
Heavy Dividend Tax	Progressive	Yes	No	Yes
Heavy Capital Gain Tax	Progressive	Yes	Yes	No
Heavy Interest Tax	Progressive	No	Yes	Yes
Light Capital Gain Tax (2nd most common)	Progressive	No	No	Yes
Flat and Light	Flat	Yes	Yes	Yes
Flat and Heavy	Flat	Yes	No	No

Source: 2013 CFA® Level III Curriculum, *Taxes and Private Wealth Management in a Global Context*, Stephen M. Horan and Thomas R. Robinson, Vol. 2, pp. 217–260.

LOS 11.b

investment income tax (accrual taxes): $FVIF_{IT} = [1 + R(1 - T_1)]^N$

deferred capital gains tax (MV = cost basis): $FVIF_{CGT} = [(1 + R)^N(1 - T_{CG}) + T_{CG}]$

deferred capital gains tax (MV ≠ cost basis): $FVIF_{CGBT} = [(1 + R)^N(1 - T_{CG})] + T_{CG}B$

wealth-based tax: $FVIF_{WT} = [(1 + R)(1 - TW)]^N$

return after realized taxes: $R_{ART} = R[1 - (P_1T_1 + P_DT_D + P_{CG}T_{CG})]$

LOS 11.c

An **accrual equivalent after-tax return** (R_{AE}) is the annual return that produces the same terminal value as the taxable portfolio and is calculated as:

$$R_{AE} = \sqrt[N]{\frac{FV_T}{PV}} - 1$$

The accrual equivalent after-tax return moves closer to the pre-tax return as the time horizon increases and as more of the portfolio return is deferred.

The **accrual equivalent tax rate** (T_{AE}) is the tax rate that makes the pre-tax return (R) equal to the accrual equivalent after-tax return (R_{AE}):

$$R_{AE} = R(1 - T_{AE})$$

Backing the accrual equivalent tax rate out of this formula, we have:

$$T_{AE} = 1 - (R_{AE} / R)$$

The lower the accrual equivalent tax rate, the more tax efficient the investment is. Higher portfolio allocations to tax-disadvantaged assets will result in less tax efficiency and higher accrual equivalent tax rates.

LOS 11.d

Considering investment income tax independent of other types of taxation, the following relationships hold when tax drag is measured as a percent of the investment gain lost to taxes:
1. Tax drag > tax rate.
2. As the investment horizon increases ⇒ the tax drag increases.
3. As the investment return increases ⇒ the tax drag increases.

Considering deferred capital gains tax independent of other types of taxation:
1. Tax drag = tax rate.
2. As the investment horizon increases ⇒ the tax drag is unchanged.
3. As the investment return increases ⇒ the tax drag is unchanged.

Considering wealth-based taxes independent of other types of taxation:
1. Tax drag > tax rate.
2. As the investment horizon increases ⇒ the tax drag increases.
3. As the investment return increases ⇒ the tax drag decreases.

LOS 11.e

Tax-deferred account (TDA) contributions reduce the taxpayer's current taxes (front-end tax benefit); returns accrue tax free and are taxed when withdrawn.

$$FVIF_{TDA} = (1+R)^N(1-T_N)$$

Tax-exempt account contributions are made with after-tax funds. Returns accrue and are withdrawn tax free (back-end tax benefit).

$$FVIF_{TEA} = (1+R)^N$$

Assuming equal returns and horizons, to determine which account will have the highest future value (*FV*), compare the current (T_0) and future (T_N) tax rates:
- If today's tax rate is lower, pay the taxes now and put after-tax funds into a TEA.
- If the expected future tax rate is lower, wait to pay taxes by putting pretax funds into a TDA now and pay taxes later.
- If the two rates are equal, it will not matter which account is used. (Unless the contribution amount to both is equal. TEA has an advantage in that special case.)

LOS 11.f

The effect of taxes on investment risk depends on the type of investment account. If an investment is held in an account that is taxed annually, the government bears part of the investment risk. More specifically, if investment returns are taxed solely as income at the rate of T_1 and the pre-tax standard deviation of returns is σ, then the investor's after-tax risk is $\sigma(1 - T_1)$.

If the investment is held in a tax-exempt account, then the investor bears all the investment risk. This is also true for TDAs because even though the government taxes the future accumulation, the variability of returns is not reduced by taxes levied at the time of withdrawal.

LOS 11.g

The accounts that assets are located in is important for tax management. From a tax management standpoint, an investor would locate heavily taxed assets in tax-advantaged accounts and hold lightly taxed assets in taxable accounts. The value created by the effective tax management of investment securities is referred to as the *tax alpha*.

In addition to examining location as a source of tax minimization, we can also examine an investor's trading behavior. Specifically, we can delineate four types of equity investors:

1. **Traders**: The sole source of a trader's gains are short-term gains that are taxed on an annual basis. Because of their frequent trading, traders forgo many of the tax advantages of equity.
2. **Active investors**: Trade less frequently than traders so that many of their gains are taxed at lower rates.
3. **Passive investors**: Buy and hold equity so that gains are deferred for the long term and taxed at preferential rates when they are realized.
4. **Exempt investors**: Hold all of their stock in tax-exempt accounts, thereby avoiding taxation altogether.

LOS 11.h

Tax loss harvesting uses investment losses to offset investment gains or income, resulting in a tax savings. Sometimes, these losses can be applied against past or future gains. Note, however, that governments may place limits on the amount of losses that can be recognized or the type of gain it can offset. Although tax loss harvesting saves on current taxes, the apparent tax savings in a given year are misleading. This is because when the old security is sold, the cost basis for future taxes is reduced, thereby resulting in higher taxes in the future.

It is often the case that an investor has accumulated a security position through a series of trades, each occurring at different points in time and at different prices. When **highest-in, first-out (HIFO) tax lot** accounting is allowed by a government, an investor liquidates the portion of a position with the highest cost basis first, thereby minimizing current taxes. As with tax loss harvesting, the total taxes over time are unchanged with HIFO accounting, assuming a constant tax rate through time. But, like tax loss harvesting, HIFO allows tax savings to be reinvested earlier, creating a tax alpha that compounds through time.

LOS 11.i

Ideally, the efficient frontier of portfolios should be viewed on an after-tax basis. Furthermore, because the tax status of an investment depends on the type of account it is held in, the same asset could appear on the efficient frontier in both taxable and nontaxable forms.

For example, an investor holds both stocks and bonds in both taxable and tax-exempt accounts. In this case, there are four different assets that could appear on the efficient frontier. Of course, the optimization process would have to be constrained to account for limits on the amount of funds that can be placed in tax-advantaged accounts and the type of assets that can be allocated to them.

The mean-variance optimization should optimally allocate assets and determine the optimal asset location for each asset. Accrual equivalent after-tax returns would be substituted for before-tax returns, and after-tax risk would be substituted for before-tax risk.

Concept Checkers

1. Of the seven primary global tax regimes, **determine** which of the following does *not* provide potentially favorable tax treatment of interest income.
   A. The Flat and Heavy regime.
   B. The Common Progressive regime.
   C. The Light Capital Gain Tax regime.

2. An individual pays taxes as a single tax payer. During 2009 her taxable income totaled $412,950. Applying the following rates, her tax bill and average tax rate for 2009 are *closest* to:

Taxable Income		*Bracket Amount (Col 2 – Col 1)*	*Tax Rate %*	*Plus*
(1) Over	*(2) Up to*			
0	$8,350	$8,350	10	
$8,350	33,950	25,600	15	$835
33,950	82,250	48,300	25	4,675
82,250	171,550	89,300	28	16,750
171,550	372,950	201,400	33	41,754
372,950			35	108,216

   A. $122,216; 30%.
   B. $136,274; 33%.
   C. $144,533; 35%.

3. An investor is evaluating various assets and strategies for her portfolio. Based solely on tax effects, **determine** which of the following investments would *most likely* be favored in a Heavy Interest Tax Regime.
   A. Growth stocks with high turnover.
   B. Bonds with periodic payment of interest.
   C. Value stocks held for a long period of time.

4. An investment of $1,000 earns annual interest of 5% (no capital gains). Assuming accrual taxes of 30%, the expected after-tax value of the investment in ten years is *closest* to:
   A. $1,035.
   B. $1,140.
   C. $1,411.

5. In Question 4, the tax drag in percentage terms is *closest* to:
   A. 1.6%.
   B. 34.7%.
   C. 53.2%.

6. Consider the following statements about an account subject to accrual taxes and **select** the best answer:

   Statement 1: As the investment horizon *increases*, the tax drag *increases*.
   Statement 2: As the investment return *increases*, the tax drag *decreases*.

   A. Both of the statements are correct.
   B. Statement 1 is incorrect; the tax drag decreases as the investment horizon increases.
   C. Statement 2 is incorrect; the tax drag increases as the investment return increases.

7. An investment of $1,000 earns an annual return of 9%, all of which is deferred capital gains. At a capital gains tax rate of 20%, **determine** which of the following is *closest* to the after-tax value of the investment in ten years.
   A. $1,894.
   B. $2,094.
   C. $2,367.

8. For Question 7, the tax drag in percentage terms is *closest* to:
   A. 20.0%.
   B. 25.0%.
   C. 34.6%.

9. Consider the following two statements about an account that produces only fully tax-deferred capital gains:

   Statement 1: As the investment horizon increases ⇒ the tax drag is constant.
   Statement 2: As the investment return increases ⇒ the tax drag increases.

   A. Both of the statements are correct.
   B. Only Statement 1 is correct.
   C. Only Statement 2 is correct.

10. An investment of $1,000 is expected to earn an annual return of 12% in fully deferred capital gains. If the capital gains tax rate is 20% and the cost basis is $800, **determine** which of the following is *closest* to the expected value of the investment in ten years.
    A. $2,485.
    B. $2,645.
    C. $3,106.

11. An investment of $1,000 earns an annual return of 14%. If the wealth-based tax is 3% and no other taxes are paid on the account, **determine** which of the following is *closest* to the value of the investment in 15 years.
    A. $4,520.
    B. $6,924.
    C. $7,138.

12. For Question 11, **determine** the approximate tax drag in percentage terms.
A. 3.5%.
B. 42.6%.
C. 74.4%.

13. Consider the following two statements assuming only wealth taxes apply:

Statement 1: As the investment horizon increases ⇒ the tax drag $ increases.
Statement 2: As the investment return increases ⇒ the tax drag % decreases.

A. Both statements are correct.
B. Only Statement 1 is correct.
C. Only Statement 2 is correct.

14. A portfolio generates a total return of 15%. The tax rates on interest, dividends, and capital gains are 35%, 20%, and 20%, respectively. The proportions of the portfolio return from interest, dividends, and realized capital gains are 10%, 25%, and 35%, respectively. Using the data, the net return after all taxes is *closest* to:
A. 11.25%.
B. 11.50%.
C. 12.68%.

15. In Question 14, the effective capital gains tax rate is *closest* to:
A. 5.07%.
B. 7.10%.
C. 35.50%.

16. In Question 14, assume the return proportions continue for seven years and the account's cost basis is €100,000. The expected balance in the account in seven years after payment of all taxes is *closest* to:
A. €184,260.
B. €221,361.
C. €224,013.

17. In Question 14, assume the account's basis is €80,000 instead of €100,000 and the investment's current value is €100,000. The expected balance in the account in seven years after payment of all taxes is *closest* to:
A. €180,361.
B. €217,361.
C. €220,014.

18. In Question 16, the accrual equivalent after-tax return is *closest* to:
A. 10.144%.
B. 12.021%.
C. 12.212%.

19. In Question 16, the accrual equivalent tax rate is *closest* to:
A. 19.86%.
B. 30.01%.
C. 44.01%.

20. Assume €100,000 is invested in a tax-deferred account. The expected after-tax balance that can be withdrawn after 20 years, assuming a tax rate of 30% and a pre-tax return of 10%, is *closest* to:
A. €386,968.
B. €470,925.
C. €672,750.

21. Assume €100,000 is invested in a tax-exempt account. The expected balance in the account after 20 years, assuming a tax rate of 30% and pre-tax return of 10%, is *closest* to:
A. €386,968.
B. €500,925.
C. €672,750.

22. An investor has €800,000 equity in a tax-deferred account and €600,000 in bonds in a tax-exempt account. Assuming a tax rate of 40%, the after-tax asset allocation is *closest* to:
A. 44.4% stocks; 55.6% bonds.
B. 57.1% stocks; 42.9% bonds.
C. 31.0% stocks; 69.0% bonds.

23. An investor pays 20% current taxes but will pay future taxes at 30%. The investor is willing to give up $2,000 in current consumption and expects to earn 12% in a tax-advantaged account for 30 years. Assuming no contribution limits, **determine** which account will have the highest future after-tax accumulation.
A. A tax-deferred account.
B. A tax-exempt account.
C. The accounts provide the same future accumulations.

24. Of the following assets, **determine** which one would be the *most* appropriate for a tax-deferred account rather than a taxable account in a Flat and Heavy Tax regime.
A. Tax-exempt bonds.
B. High-dividend stocks.
C. Corporate bonds.

25. All else equal, which of the following will usually have the lowest risk?
A. A tax-deferred account.
B. A taxable account.
C. A tax-exempt account.

26. All else equal, which of the following investors would have the lowest future accumulation?
A. A trader.
B. An active investor.
C. A passive investor.

27. An investor has a realized capital gain of £80,000 and pays a capital gains tax rate of 30%. The investor can sell another stock with a cost basis of £140,000 and a current market value of £90,000. The tax savings (tax alpha) from harvesting the loss is *closest* to:
A. £9,000.
B. £10,000.
C. £15,000.

28. In the previous question, assume the investor can either:

Strategy 1: Sell the stock now and recognize the loss in the current year.
Strategy 2: Hold the stock and sell it at the end of the second year.

In either case, the old or new stock is sold at the end of the second year after earning a 10% return for that year. Any current tax savings (tax alpha) is immediately reinvested in very similar stock. **Determine** which of the strategies provides the highest future accumulation.
A. Strategy 1.
B. Strategy 2.
C. The strategies provide the same future after-tax accumulation.

29. If performed correctly from a tax perspective, mean-variance optimization would incorporate:
A. accrual equivalent after-tax returns and after-tax standard deviations.
B. accrual equivalent after-tax returns and before-tax standard deviations.
C. annual after-tax returns and after-tax standard deviations.

Study Session 4

Answers – Concept Checkers

1. C The Light Capital Gain Tax regime provides potentially favorable treatment for capital gains but not for interest and dividend income. The Flat and Heavy regime provides potentially favorable treatment for interest income but not capital gains and dividend income. The Common Progressive regime provides potentially favorable treatment for interest income, dividend income, and capital gains.

2. A With total taxable income of $412,950, the individual falls in the highest tax bracket (*marginal tax rate* = 35%). As such, she pays $108,216 plus 35% of any amount above $372,950. Her total tax bill is:

   $\$108,216 + (\$412,950 - \$372,950)(0.35) = \$122,216$

   Her average tax rate is the average rate paid on her entire taxable income, which is determined by dividing taxes paid by taxable income:

   $$\frac{\$122,216}{\$412,950} = 29.6\%$$

3. C Bonds with periodic payment of interest would not be favored due to the high tax on interest in this environment. Low-turnover strategies are favored over high-turnover strategies because long-term capital gains are usually taxed less than short-term gains. Furthermore, in most countries, capital gains are paid only when realized (i.e., when the investment is sold).

4. C Expected future value after paying annual (accrual) taxes:

   $$\begin{aligned} FV_{IT} &= V_P\left[1+R\left(1-T_I\right)\right]^N \\ &= \$1,000\left[1+0.05\left(1-0.30\right)\right]^{10} \\ &= \$1,410.60 \end{aligned}$$

5. B If the tax rate were zero in the previous question, the expected value of the investment would have been:

   $$\begin{aligned} FV_{IT} &= V_P\left[1+R\left(1-T_I\right)\right]^N \\ &= \$1,000\left[1+0.05\left(1-0\right)\right]^{10} \\ &= \$1,628.89 \end{aligned}$$

   The effect of taxes is a reduction of investment value of $218.29 (= $1,628.89 – $1,410.60). On a percentage basis, the tax drag is 34.7% [= $218.29 / ($1,628.89 – $1,000)].

6. C Statement 1 is correct. Statement 2 is incorrect.

   A higher investment return results in a higher tax drag when considering tax on investment income. In the example above, if the return is changed from 5% to 10%, the tax drag increases from 34.7% to 39.3% (= $626.59 / $1,593.74).

7. B Expected future value after paying deferred capital gains taxes only:

$$\begin{aligned}FV_{CGT} &= V_P\left[(1+R)^N(1-T_{CG})+T_{CG}\right]\\&= \$1{,}000\left[(1+0.09)^{10}(1-0.20)+0.20\right]\\&= \$2{,}093.89\end{aligned}$$

8. A When only deferred capital gains taxes are paid, tax drag % is the same as the tax rate, in this case 20%.

9. B Only Statement 1 is correct. Tax drag % is constant when capital gains taxes are fully deferred, regardless of the investment horizon or investment return.

10. B Expected future value when both deferred capital gains taxes and cost basis are considered:

$$\begin{aligned}FV_{CGBT} &= V_P[(1+R)^N(1-T_{CG})]+T_{CG}B\\&= \$1{,}000[(1+0.12)^{10}(1-0.20)+0.20(0.80)]\\&= \$2{,}644.68\end{aligned}$$

11. A Expected future value with wealth taxes only:

$$\begin{aligned}FV_{WT} &= V_P[(1+R)(1-T_W)]^N\\&= \$1{,}000[(1+0.14)(1-0.03)]^{15}\\&= \$4{,}520.11\end{aligned}$$

12. B If the wealth tax rate in the previous question were zero, the expected future value of the investment would have been:

$$\begin{aligned}FV &= \$1{,}000[(1+0.14)(1-0)]^{15}\\&= \$7{,}137.94\end{aligned}$$

The effect of taxes is a reduction of investment value of \$2,617.83 (\$7,137.94 – \$4,520.11). On a percentage basis, the tax drag is 42.65% [\$2,617.83 / (\$7,137.94 – \$1,000)].

13. A Both statements are correct. The tax drag as a proportion of the future investment value increases with the investment horizon. However, as the investment return increases, the tax drag % on the future investment value decreases.

14. C The return after taxes on interest income, dividends, and realized capital gains factors in the proportions of the return sources and the respective taxes on each:

$$\begin{aligned}R_{ART} &= R(1-P_IT_I-P_DT_D-P_{CG}T_{CG})\\&= 0.15[1-0.10(0.35)-0.25(0.20)-0.35(0.20)]\\&= 0.15(0.845)=0.12675\cong 12.68\%\end{aligned}$$

15. B The effective capital gains tax rate that adjusts for the annual taxes already paid is:

$$\begin{aligned}T_{ECG} &= T_{CG}\frac{(1-P_I-P_D-P_{CG})}{(1-P_IT_I-P_DT_D-P_{CG}T_{CG})}\\&= 0.20\left[\frac{1-0.10-0.25-0.35}{1-0.10(0.35)-0.25(0.20)-0.35(0.20)}\right]\\&= 0.20\left(\frac{0.30}{0.845}\right)=0.0710=7.10\%\end{aligned}$$

16. B Expected future value after all taxes ($FVIF_T$) using the effective capital gains tax rate (i.e., some capital gains realized annually and some deferred):

$$FV_T = V_P[(1 + R_{ART})^N(1 - T_{ECG})] + T_{ECG} - (1 - B)T_{CG}$$
$$= €100{,}000[(1 + 0.1268)^7(1 - 0.0710) + 0.0710 - (1 - 1)0.20] = €221{,}361.22$$

17. B The expected balance in the account in seven years after payment of all taxes:

$$FV = €100{,}000[(1 + 0.1268)^7(1 - 0.0710) + 0.0710 - (1 - 0.80)0.20] = €217{,}361.22$$

18. B The accrual equivalent after-tax return:

$$R_{AE} = \sqrt[N]{\frac{FV_T}{PV}} - 1 = \sqrt[7]{\frac{221{,}361.22}{100{,}000}} - 1 = \sqrt[7]{2.213612} - 1 = 0.120212$$

19. A The accrual equivalent tax rate (T_{AE}) is the tax rate that makes the pre-tax return equal to the accrual equivalent after-tax return:

$$T_{AE} = 1 - \frac{R_{AE}}{R}$$
$$= 1 - \frac{0.12021}{0.15} = 19.86\%$$

20. B The expected after-tax balance in the account in 20 years:

$$FV_{TDA} = V_P(1 + R)^N(1 - T_N)$$
$$= €100{,}000[(1.10)^{20}(1 - 0.30)]$$
$$= €470{,}925$$

21. C The expected balance in the account in 20 years (no taxes are paid):

$$FV_{TEA} = V_P(1 + R)^N$$
$$= €100{,}000(1.10)^{20}$$
$$= €672{,}750$$

€386,968 is the expected future value of an account taxed annually (accrual taxes). €500,925 is the expected future value of an account with deferred capital gains taxes and a basis of €100,000.

22. A The investor has €480,000 [(€800,000 × (1 – 0.40)] after-tax invested in equity. The bonds in the tax-exempt account are not subject to taxation and thus are not adjusted. On an after-tax basis, the investor has 44.4% in equity [€480,000 / (€480,000 + €600,000)] and the other 55.6% in bonds [€600,000 / (€480,000 + €600,000)].

23. B Because the current tax rate is less than the future tax rate, the tax-exempt account will have a higher expected future accumulation, even though contributions are made from after-tax dollars. The following calculations are unnecessary to answer the question but illustrate its proof.

If the investor pays current taxes at 20% and is willing to give up $2,000 in consumption, she can contribute $2,500 to a tax-deferred account. Because contributions to TDAs are treated as tax deductions against income, the $2,500 contribution will save her $2,500 × 0.20 = $500 in taxes. Therefore, her net consumption would be reduced by only $2,000.

Alternatively, she could invest $2,000 in after-tax dollars in a tax-exempt account. Future value calculations:

FVIF Formula	*Future Value*
$FVIF_{TDA} = (1+R)^N (1-T_N)$	$\$2{,}500\left[(1+0.12)^{30}(1-0.30)\right] = \$52{,}430$
$FVIF_{TEA} = (1+R)^N$	$\$2{,}000(1+0.12)^{30} = \$59{,}920$

24. **B** In a Flat and Heavy Tax regime, interest is taxed at a favorable rate but dividends are not. A tax-deferred account (TDA) provides the investor a current tax deduction as well as tax-free accumulation. Taxes are paid at withdrawal only. Assets with high annual (taxable) returns that are subject to full taxation are best held in TDAs. Assets that provide no cash flows or are otherwise subject to reduced or no annual taxation should be held in taxable accounts.

    Tax-exempt bonds, which pay lower coupons than otherwise equivalent taxable bonds, should be held in taxable accounts. Because interest received on corporate bonds receives favorable tax treatment, those bonds are best held in a taxable account also. Dividends received on the stocks, on the other hand, would be fully taxed and, hence, best held in the TDA.

25. **B** The taxable account will have the lowest risk because the government (taxing authority) effectively shares the risk of the investment with the investor. Assuming before-tax standard deviation of σ, the after-tax standard deviation of the investment is $\sigma(1 - T_I)$.

26. **A** The trader will have the lowest future accumulation because her capital gains will be short term, taxed at a high rate, and taxed every year. The active investor will have the next lowest future accumulation because, although gains are taxed at a lower rate, the gains are taxed every year. The passive investor will pay a low tax rate on a deferred basis and have the highest accumulations of the three investors.

27. **C** If the stock is sold, there is a capital loss of £90,000 – £140,000 = –£50,000, making net taxable gain £30,000. The tax is 0.30 × £30,000 = £9,000.

    If the stock is not sold, the taxes on the full gain are £80,000 × 0.30 = £24,000. The recognition of the capital loss would result in a tax savings of £24,000 – £9,000 = £15,000. In this case, the tax alpha from harvesting the loss can also be calculated as the capital loss multiplied by the tax rate: £50,000 × 0.30 = £15,000.

28. **A** While this may look like a calculation question, it is really a concept question. The appreciation rate is the same in both cases and assuming future tax rates do not change (which is the only acceptable assumption when nothing is said), there is a benefit to the tax deferral inherent in tax loss harvesting. Tax loss harvesting changes the pattern of tax payments [i.e., the payment(s) is (are) pushed further into the future]. However, if the stock is sold in the current year, the tax savings of $15,000 can be immediately reinvested and earn the 10% return. Thus, Strategy 1 will provide the higher future accumulation.

29. **A** Assets should be examined on an *after*-tax basis, not a before-tax basis. This means substituting accrual equivalent after-tax returns for before-tax returns and after-tax risk for before-tax risk. Note that, because most mean variance optimization is performed using annual expectations, answer choice C could technically be considered a correct answer also.

The following is a review of the Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

ESTATE PLANNING IN A GLOBAL CONTEXT

Study Session 4

EXAM FOCUS

As with the previous reading, the purpose here is not to teach law and regulation of a specific country but concepts and calculations relevant to wealth management. Be prepared to make calculations and understand the implications discussed in this section.

ESTATE PLANNING

LOS 12.a: Discuss the purpose of estate planning and explain the basic concepts of domestic estate planning, including estates, wills, and probate.

CFA® Program Curriculum, Volume 2, page 262

Your **estate** is everything you own: financial assets; real estate (a.k.a. *immovable property*); collections such as art, stamps, or coins; businesses; and non-tangible assets, such as trademarks, copyrights, and patents. **Estate planning** is the planning process associated with transferring your estate to others during your lifetime or at death so that the assets go to the individuals or entities you intend and in the most efficient way.

The most common tool used to transfer assets is a **will** (a.k.a. a *testament*). A will is the legal document that states the rights others will have to your assets at your death. The person transferring assets through a will is known as the *testator*.

Probate is a legal process that takes place at death, during which a court determines the validity of the decedent's will, inventories the decedent's property, resolves any claims against the decedent, and distributes remaining property according to the will. Probate involves considerable paperwork and court appearances, and all costs associated with the probate process, which can be significant, are borne by the decedent's estate. If the decedent leaves no will or if the will is deemed invalid, the decedent is said to have died *intestate* and the distribution of assets is determined by the court.

Assets *solely owned* by the decedent must be transferred by a will through the probate process. Due to the cost, the time it takes, and the public nature of the probate process, however, individuals often take steps to avoid it. This can be accomplished through joint ownership with rights of survivorship, living trusts, retirement plans, life insurance, and other means which transfer assets outside the probate process (i.e., without the need for a will).

Wealth Transfer Taxes

LOS 12.b: Explain the two principal forms of wealth transfer taxes and discuss the impact of important non-tax issues, such as legal system, forced heirship, and marital property regime.

CFA® Program Curriculum, Volume 2, page 265

The two primary means of transferring assets are through **gifts** and **bequests**. Gifts are referred to as *lifetime gratuitous* (without the intent of receiving value in return) *transfers* or *inter vivos* (between living individuals) transfers and may be subject to **gift taxes**. Whether the gift is taxed and who pays the tax is determined by the taxing authorities involved. Assets transferred through bequests are referred to as *testamentary* (after death) *gratuitous transfers* and can be subject to **estate taxes**, paid by the grantor (i.e., transferor), or **inheritance taxes**, paid by the recipient.

Professor's Note: The tax treatment of testamentary transfers varies across tax systems and even in the same system according to the relationship between the transferor and recipient. In many cases, for example, transfers between spouses are not subject to taxes. Even when not between spouses, most transfers are subject to exclusions (statutory allowances), which state a maximum that may be transferred tax free.

Many jurisdictions that impose gift taxes also provide exclusions. As of 2009 in the United States, for example, the first $13,000 given to a single recipient is exempt from taxation, subject to limitations depending upon the location and type of the asset and the tax status of the recipient. For example, the asset might be cash or securities or even real estate located in another country, and the entity could be a relative, friend, or charity in the same or another country. Thus, the first $13,000 is exempt from U.S. gift taxes, but the recipient could have to pay gift taxes under another tax regime.

As discussed in Topic Review 11, tax laws across the globe can vary dramatically. Many of the differences are due to the foundations upon which the tax systems are based. For example, a civil law system is based on old Roman law. In this system, laws are handed down (i.e., a top down system) by a legislative body.

Common law systems, based primarily on old English law, are more "bottom up." Judges play very important roles in common law systems by refining any existing laws to meet particular situations. Once made by a judge, the decisions become *precedent* to be applied in future cases.

Ownership Rights

Although on the surface it might seem rather clear cut, the precise legal meaning of *ownership* can be shaped by the legal regime. Some regimes provide statutory ownership that effectively gives one person the right to the assets of another. If the system has **forced heirship** rules, for example, children have a right to a portion of a parent's estate, regardless of the location of the child vis-à-vis the parent, the relationship that exists between the parent and child, or even the relationship between the parents.

Knowing the situation could arise, wealthy individuals might try to avoid forced heirship rules by gifting assets or moving them "offshore" into a trust where they fall under a different taxing authority with no forced heirship rule. Recognizing this, many regimes apply **claw-back** provisions that add the values back to the decedent's estate before calculating the child's share. If the estate isn't sufficient to meet the child's entitlement, the child may in some cases legally seek the difference from those who received the gifts.

In addition to marital rights provided under forced heirship rules, spouses can also have marital property rights according to the type of marriage they are in. Under a **community property rights** regime, each spouse is entitled to one-half of the estate *earned during* the marriage. Gifts and inheritances received before or during the marriage may be held separate from marital assets. Assets not distributed under community property rights are distributed according to the will.

Professor's Note: Assets that are not considered part of marital assets under a community property rights regime are considered part of the total estate for purposes of forced heirship rules. Also, a marital right to the estate is a form of forced heirship.

Under a **separate property rights** regime, which is common in civil law countries, each spouse owns and controls his or her property, separate from the other. Each spouse may, barring the presence of other forced heirship rules, bequeath assets as they wish.

Example: Property rights and forced heirship

Hope and Larry have been married for 40 years. They have two married children, Emma, age 32, and Toby, age 34. The community property regime under which the family lives provides that at the death of a spouse, the surviving spouse has the right to one-half the marital estate (community property). In addition, a forced heirship rule entitles a surviving spouse to 30% of the estate, and children are entitled to split 30% of the estate. During the marriage, Larry inherited $500,000 from his parents. His inheritance is not considered part of marital assets, which total $1,300,000.

If Larry should die:

A. **Determine** the amount Hope would inherit under both of the forced heirship rules.

B. **Determine** the amount each child would inherit under the forced heirship rule.

Study Session 4

Answer:

A. Under the community property provision, the surviving spouse is entitled to one-half the *marital estate*. The marital estate includes assets totaling $1.3 million. Larry's $500,000 inheritance is considered part of the *total estate*, but not part of community property (marital estate).

   When the country has both community property rights and forced heirship rules, as in this case, the surviving spouse is entitled to the *greater* of the two amounts:

   - Under community property, Hope is entitled to half the marital property or $1,300,000 / 2 = $650,000.
   - Under the forced heirship rule, Hope is entitled to 30% of the *total estate* or (0.30)($1,800,000) = $540,000.
   - Hope is entitled to the greater of the two amounts, so she would receive $650,000 under community property rights. She could inherit more based on the stipulations of Larry's will.

B. Under the forced heirship rules, the two children are entitled to *split* 30% of the total estate for (0.30)($1,800,000) = $540,000 in total for $270,000 to each child.

In total, only $650,000 + $540,000 = $1,190,000 of the total $1.8 million is distributed according to forced heirship rules. (The marital community property rights provision is a type of forced heirship rule.) The remaining $610,000 would be distributed through a probate process according to Larry's will.

Example: Claw-back provision

Assume a country with forced heirship rules entitling children to split 33% of the estate of a deceased parent, subject to claw-back provisions. The estate of the (unmarried) decedent is worth $500,000 after gifting $2,750,000 to two of his children in anticipation of death. An estranged child has now come forth to claim his legal right under the community property described in the question data. *Based solely on this information*, **determine** the amount the estranged child is entitled to under the forced heirship rule.

Answer:

The three children of the deceased are entitled to *split* 33% of the parent's estate or 0.33($3,250,000) = $1,072,500.

Professor's Note: According to the claw-back provision, we use the total value of the estate ($500,000 + $2,750,000 = $3,250,000) before the gifts.

Because there are apparently three children (the two who received gifts and the estranged child), each is entitled to $1,072,500 / 3 = $357,500 under the forced heirship rule.

Because the estate is worth $500,000 after the gifts, the estranged child is able to receive $357,500 without resorting to lawsuits to reclaim part of the gifts from the other two children.

Core Capital

LOS 12.c: Determine a family's core capital and excess capital, based on mortality probabilities and Monte Carlo analysis.

CFA® Program Curriculum, Volume 2, page 268

To understand the concepts of core and excess capital, consider a balance sheet; assets are on the left side and liabilities and equity are on the right; of course, equity equals asset minus liabilities.

On an individual's balance sheet, assets consist of the financial and other assets currently held by the individual plus the *present value* of net employment income expected to be generated over the lifetime, referred to as **human capital** or **net employment capital**. (Human capital is discussed at length in Topic Review 14.) In other words, the individual's *total assets* equal the value of assets currently held plus the individual's ability to accumulate more assets in the future through employment (i.e., generate more future income than is required to meet all future expenses).

The individual's liabilities on the balance sheet are the present values of all current and future costs necessary to sustain a given lifestyle. These consist of any explicit liabilities, such as mortgage or other loan payments plus costs of living and any planned gifts and bequests. Just as with a financial balance sheet, then, the individual's **excess capital** (i.e., equity capital) is the difference between total assets and total liabilities.

The amount of assets necessary to meet all the individual's liabilities plus a reserve for unexpected needs is considered the individual's (or family's) **core capital**. It's the amount that must be maintained to meet all present and future liabilities as described previously. Any amount above core capital is considered excess capital and can be used for other purposes. Hint: In the following examples, no reserve for unexpected needs is given so one is not included. On the exam you should only include such an amount if given clear direction.

Mortality Probabilities

A major problem associated with estimating the individual's human capital and total liabilities, of course, is determining the values of future net employment income and required future outlays. Compounding the problem is determining the individual's lifetime. To estimate an individual's remaining expected life, statisticians developed *mortality tables*. Mortality tables show an individual's expected remaining years based upon attaining a given age. For example, one of these tables might show that a male who has reached the age of 80 has approximately an 87% probability of living one more year and a 16% probability of living to age 93.

For the Exam: The probabilities of survival change every year. They are based on the individual's current age and show the probability for the *average individual* who has attained that age. In our previous discussion, once the 80-year-old male reaches 85, the probability of him living to 93 increases somewhat because at 80, living to 93 means surviving another 13 years, while at 85, it means surviving only another eight years. Of course, the probability of surviving a set *number* of years decreases as the individual ages. If you are required to perform related calculations on the exam, the question will have to include a mortality table.

Consider the following mortality table, which is adapted from the 2013 CFA Level III curriculum.[1] The husband and wife are currently 79 and 68, respectively. From the table we see that the husband has a 93.55% probability (Prob.) of living one more year, to the age of 80, and a 46.74% probability of living eight more years, to the age of 87. The wife has a 98.31% probability of living one more year (age 69) and 82.52% probability of living eight more years (age 76). Additional explanation follows the table.

Figure 1: Individual and Joint Mortality Probabilities and Core Capital

Yrs	*Husband*		*Wife*		*Combined Prob.*	*Real Annual Spending*	*Expected Real Spending*	*Present Value*	*Total*
	Age	*Prob.*	*Age*	*Prob.*					
1	80	0.9355	69	0.9831	0.9989	200,000	199,780	195,863	195,863
2	81	0.8702	70	0.9649	0.9954	204,000	203,062	195,177	391,040
3	82	0.8038	71	0.9457	0.9893	208,080	205,854	193,981	585,021

1. 2013 CFA Level III curriculum, Exhibit 2, Vol. 2, p. 270.

4	83	0.7339	72	0.9249	0.9800	212,242	207,997	192,157	777,178
5	84	0.6686	73	0.9025	0.9677	216,486	209,494	189,745	966,923
6	85	0.6001	74	0.8785	0.9514	220,816	210,084	186,549	1,153,472
7	86	0.5327	75	0.8526	0.9311	225,232	209,714	182,569	1,336,041
8	87	0.4674	76	0.8252	0.9069	229,737	208,348	177,823	1,513,864
9	88	0.4048	77	0.7958	0.8785	234,332	205,861	172,255	1,686,119
10	89	0.3459	78	0.7646	0.8460	239,019	202,210	165,883	1,852,002
11	90	0.2912	79	0.7311	0.8094	243,799	197,331	158,706	2,010,708

- **Combined Prob.** is the (joint) probability that one or both will live to the given age. For example, there is a 98% probability that *at least* one of them will live four years.
- **Real Annual Spending** (i.e., living expenses) for the coming year is expected to be $200,000 and is expected to increase at a rate of 2% per year.
- **Expected Real Spending** is *Real Annual Spending* multiplied by *Combined Prob*. It shows the expected amount required for the year based on the probability of either or both remaining alive.
- **Present Value** is *Expected Real Spending* discounted to year zero at the real, risk-free rate of 2%.
- **Total** is a running total. It's the amount of core *capital required* to meet living expenses through the given year. For example, assuming no further contributions, it will take a portfolio of $1,153,472 (today) to meet estimated expenses for six years.

Professor's Note: The full table includes enough rows for both to reach 100 years of age. At 100 years old, individuals are assumed to have 0% probability of living another year.

Example: Calculating core capital using a mortality table

A. Using the mortality table, **determine** the probability that either the husband, the wife, or both will be alive in ten years.

B. Based on expenditures in the table, **calculate** the core capital required for the next ten years.

C. If the family has a portfolio of $2,500,000, **determine** (based solely on the information provided) the maximum amount they could give to charity.

Answer:

A. From the mortality table, we see the probability of surviving ten years for the husband and wife is 34.59% and 76.46%, respectively. The probability that one or both will survive ten years (Combined Prob.) is calculated as follows:

$$\begin{aligned}\text{prob}(\text{joint survival}) &= \text{prob}(\text{husband survives}) + \text{prob}(\text{wife survives}) \\ &\quad - \text{prob}(\text{husband survives}) \times \text{prob}(\text{wife survives}) \\ &= 0.3459 + 0.7646 - (0.3459)(0.7646) = 84.60\%\end{aligned}$$

B. The amount of core capital required for ten years is:

$$\begin{aligned}\text{core capital}_{10\text{ years}} &= \sum_{t=1}^{10} \frac{P(\text{surv}_t)(\text{spending}_t)}{(1+r)^t};\ r = \text{real risk-free rate} \\ &= \frac{P(\text{surv}_1)(\text{spending}_1)}{(1.02)^1} + \ldots + \frac{P(\text{surv}_{10})(\text{spending}_{10})}{(1.02)^{10}} \\ &= \$1{,}852{,}002\end{aligned}$$

$1,852,002 is calculated by multiplying the real annual spending requirement for each year by the joint probability associated with that year, finding the present value of the result at the risk-free rate, and then summing the present values for all ten years. For example, the core capital requirement (portfolio value required today) for the next *three* years is:

$$\begin{aligned}\text{core capital}_{3\text{ years}} &= \frac{P(\text{surv}_1)(\text{spending}_1)}{(1+r)^1} + \frac{P(\text{surv}_2)(\text{spending}_2)}{(1+r)^2} + \frac{P(\text{surv}_3)(\text{spending}_3)}{(1+r)^3} \\ &= \frac{0.9989(\$200{,}000)}{(1.02)} + \frac{0.9954(\$204{,}000)}{(1.02)^2} + \frac{0.9893(\$208{,}080)}{(1.02)^3} = \$585{,}021\end{aligned}$$

Professor's Note: Because we used real spending requirements in our example, we discounted at the real risk-free rate of return. We used the risk-free rate because we want the risk of the cash flows to be reflected in the discount rate. You could argue that the cash flows required to maintain a given lifestyle are uncertain, due to uncertain inflation and other unexpected events. By assuming certain cash flows and using the risk-free rate to discount them, we implicitly assume the individuals will adjust their expenditures to maintain the total expected annual expenses.

We could also have used nominal spending requirements and discounted at the nominal risk-free rate. This would amount to incorporating inflation into the numerator (spending requirement) and denominator (1 + r) by multiplying each by 1 + i. Multiplying both the numerator and denominator by the same number does not change the answer.

C. Excess capital is any amount above the core capital requirement. Based solely on the information provided and using a 10-year planning horizon, they have excess capital of $2,500,000 – $1,852,002 = $647,998, which they could give to charity.

Safety Reserve

You should have been a bit uncomfortable with the calculations in answer C of the previous example. Remember, a mortality table assumes that when an individual reaches age 100 there is 0% probability of living one more year. Even if both the husband and wife in our example were 90 years old, mortality rates are based on averages, so in reality there is a *non-zero* probability that one or both will live beyond 100.

If they gave all the excess capital to charity ($647,998 in the example), the implication is that they would run out of money at age 100. In other words, even when using mortality tables, or maybe even *because* you are using them, you should incorporate a **safety reserve** into your calculations.

Note also that the core-capital model implicitly assumes an average risk-free rate of return on assets. 2008's negative return should be ample evidence of the possible invalidity of that assumption over specific periods. This is another reason to incorporate a safety reserve when estimating core capital.

Monte Carlo Simulation

As you read in Topic Review 14, Monte Carlo simulation is often utilized in retirement planning to determine the size of the core capital portfolio required to meet a desired retirement lifestyle (i.e., a desired amount of annual spending). In estimating future portfolio values, the analyst inputs *distributions* of variables into a Monte Carlo program. For example, the analyst not only stipulates the expected return for every asset class in the portfolio, she also inputs the standard deviation of the *distribution* of possible returns and even their *correlations* from year to year (to incorporate the likelihood of market trends). In the same fashion, the analyst can input a distribution of possible reinvestment rates, inflation rates, spending rates, et cetera.

The client first determines the desired level of retirement spending as well as any desired bequests or other gifts. Based on those cash flow needs, the analyst determines the size of the portfolio needed on the day the individual retires. The analyst uses distributions of reinvestment rates, inflation rates, asset class returns, tax rates, et cetera, and even a distribution of possible life spans. The output from the simulation is a distribution of portfolio sizes along with their respective probabilities of supporting the client's desired retirement lifestyle.

Next, the analyst uses Monte Carlo simulation to determine the expected value and distribution of portfolio values at retirement (retirement is several years away). Using different portfolio compositions (i.e., asset allocations), distributions of possible macro variable values, and perhaps even a variable retirement date, the Monte Carlo simulation indicates the probability of each portfolio allocation growing to the desired portfolio value at retirement.

Assume, for example, that the expected value at retirement of a 100% equity portfolio is above the minimum value required to meet the client's wishes. The distribution could even indicate a significant probability of a very high portfolio value with an accompanying luxurious lifestyle. The beauty of the Monte Carlo analysis, however, is that it also shows the probability of falling short of the necessary value (i.e., associated shortfall risk). This all-equity portfolio might have an *expected value* above the minimum and a probability of very high values, but it could also have a significant probability of falling short of the minimum. Thus, the distribution of possible portfolio values gives a clear indication of the shortfall risk associated with each asset allocation.

Now assume the client is at retirement and planning for spending over the retirement years. Monte Carlo analysis again can be useful. This time the analyst inputs various spending rates over retirement in addition to the distributions of the other inputs. The importance of this analysis is that, for each spending rate, it shows the probability of running out of assets before death (also referred to as *longevity risk*). We'll refer to the probability of running out of money (or the need to revise downward the level of spending) as the *probability of ruin*.

For all but the largest portfolios, level of spending and probability of ruin are positively correlated. There will be very high ruin probabilities with very high spending rates, and as the spending rate is reduced, the ruin probability falls. The goal for the client, therefore, is selecting the highest spending rate that has an acceptable ruin probability.

Consider the following ruin probability table (adapted from the 2013 Level III curriculum[2]). The table shows that to maintain approximately a 95% confidence interval—meaning a 95% probability of not out-living their capital—and a 5.2% ruin probability—meaning a 5.2% probability they will outlive their capital—a 60-year-old individual needs to adhere to an annual spending rate of 3% of the portfolio value or less.

2. Exhibit 3, 2013 CFA Level III curriculum, Vol. 2, p. 275. Exhibit 3 in CFA Curriculum Book 2 assumes a mean arithmetic return of 5%, a mean geometric return of 4.28%, and a standard deviation of 12%.

Figure 2: Ruin Probabilities and Spending Rates

Retirement Age	*Median Age at Death*	*Hazard Rate*		*Real Spending Rate*		
				2%	3%	4%
55	83.0	2.48	*Probability of Ruin*	1.8	6.3	14.0
60	83.4	2.96		1.5	5.2	11.6

Professor's Note: Such tables are built with an assumed rate of return and standard deviation of return. Those might be shown in a note to the table but are not given in this case. The table is also based on mortality assumption rates. You may notice a column labeled hazard rate. This specifies the mortality assumption. Curiously it is not defined or covered in the CFA text and is irrelevant to your purpose. Some candidates have asked. In this context it is probably related to the percentage of a population that reaches retirement age but dies before median age of death. Again, it is not defined and irrelevant to your purpose, assuming your intent is to prepare for the CFA exam.

Relative After-Tax Values

LOS 12.d: Evaluate the relative after-tax value of lifetime gifts and testamentary bequests.

CFA® Program Curriculum, Volume 2, page 277

Consider the owner of common stock who can give it to a beneficiary now, and it may or may not be subject to taxes, or hold it until death (assume 20 years from now) and transfer it to a beneficiary (i.e., recipient) through a will. If transferred at death, it will be taxed according to estate tax provisions. We know the stock has the same performance expectations over the next 20 years whether it is held by the testator (original owner) or beneficiary. To the beneficiary, then, any differences in the value of the stock must be attributable to taxes.

To determine whether the recipient would be better off receiving the stock as a gift today and paying gift taxes or waiting 20 years and receiving it as part of an estate, we calculate its estimated **relative after-tax value** in 20 years. We'll start by considering it a **tax-free gift**.

For the Exam: Technically the terms donor or testator, recipient or beneficiary depends on whether the asset is transferred as a lifetime gift (donor and recipient) or as part of an estate (testator and beneficiary). In the text and on the exam the terms giver, from the estate, donor, and testator can be used interchangeably. In each case:

r_e and t_{ie} are the pre-tax return earned on an asset and the applicable annual income tax rate for that return on assets if held by the giver or in their estate.

The terms gift receiver, receiver, recipient, and beneficiary can also be used interchangeably. In each case:

- r_g and t_{ig} are the pre-tax return earned on an asset and the applicable annual income tax rate for that return on assets if held by the gift receiver.
- T_e is the estate tax rate and would be paid from the estate.
- T_g is the gift tax rate and could be zero, paid by the receiver, or by the giver as specified by the facts in the question.

Hint: In the following relative value equations, the receiver is the numerator and giver is the denominator.

Example: Relative after-tax value; tax-free gift

An individual is trying to decide whether to give stock to a recipient today or leave it in a will. The donor (i.e., testator) is expected to live another 20 years, over which time the stock is expected to earn 8% per year. Both the donor and recipient pay investment return taxes of 35%. Inheritance taxes take 40% of a testator's estate. The gift amount is below a cut off for gift taxation and so is not subject to the otherwise 25% gift tax rate.

Determine whether the individual should gift the stock immediately or leave it to the beneficiary in a will.

Relative After-Tax Value

To determine the relative future value of a tax-free gift given during one's lifetime, we find the *ratio* of the two values:

$$RV_{\text{tax-free gift}} = \frac{FV_{\text{tax-free gift}}}{FV_{\text{bequest}}}$$

Professor's Note: The formula is simply the future value of a dollar or pound or yen, etc., if the funds are given to the receiver in the numerator over the future value if continued to be held by the giver and then subject to estate taxes in the denominator.

Because in this case the gift is tax-free and the annual returns and tax rates of the giver and receiver are equal, it should be obvious it will be best to give now and avoid the estate taxes. In addition, the solution could be found simply as the receiver of the tax-free gift's FV times 1 – the estate tax rate; 2.756226 × .60 = 1.653735

$$RV_{\text{tax-free gift}} = \frac{\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)} = \frac{2.756226}{1.653735} \cong \mathbf{1.67}$$

On a relative basis, the tax-free gift is worth 1.67 times the value of the bequest, so it would be better to gift the assets immediately than to leave them to the beneficiary in a will.

For the Exam: I expect you to see a question asking you (1) whether it would be better to make a gift today or leave the assets as a bequest and (2) to support your decision. Being vague, the question will probably not directly ask for the relative value as we calculated previously, and it might not even ask you to show your calculations. It will simply ask whether it would be better to transfer the assets today as a gift or later as part of the estate. The unsuspecting Level III candidate might be tempted to answer in words, which would not provide the necessary support of the choice. You will simply have to know what is being asked and how to calculate the **relative value** as we have done here. The calculation plus last sentence of our example, "The tax-free gift is worth 1.67 times the value of the bequest, so it would be better to gift the assets immediately than to leave them to the beneficiary in a will," would be a good answer to the question.

Example: Relative after-tax value; taxable gift with gift tax paid by receiver

If the gift is subject to taxes paid on receipt by the receiver, we reduce the present value of the gift to the recipient by multiplying the numerator by $(1 - T_g)$:

$$RV_{\text{taxable gift}} = \frac{FV_{\text{taxable gift}}}{FV_{\text{bequest}}} = \frac{\left[\left(1-T_g\right)\right]\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}$$

where:

T_g = gift tax rate

$1 - T_g$ = after-tax value of the gift

Let's return to our tax-free gift example, but now we assume the gift is subject to taxes at a rate of 25% to be paid by the recipient. We reduce the value of the gift by 25% in the numerator, indicating that the recipient pays 25% gift taxes, but nothing else changes:

Answer:

$$RV_{\text{taxable gift}} = \frac{\left(1-T_g\right)\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)} = \frac{(1-0.25)2.756226}{1.653735} = \frac{2.067170}{1.653735} = 1.25$$

Considering a 25% gift tax, the value of gifting is 1.25 times the value of a bequest. It is still better to gift the stock than to leave it as part of an estate.

Professor's Note: Again, it should not be surprising it is better to pay the (in this case) lower gift tax rate than wait and be subject to the (in this case) higher estate tax rate when all other factors were the same.

GIFT TAXES

LOS 12.e: Explain the estate planning benefit of making lifetime gifts when gift taxes are paid by the donor, rather than the recipient.

CFA® Program Curriculum, Volume 2, page 281

When the *donor* pays the gift taxes, the future value of the gift to the recipient is increased by an amount equal to the product of the estate and gift tax rates (t_g and t_e) and the value of the gift (i.e., the cross-product term inside the first set of parentheses in the numerator). It represents the added benefit of reducing the estate by the amount of the gift taxes, which reduces future estate taxes.

$$RV_{\text{taxable gift}} = \frac{PV\left(1 - T_g + T_g T_e\right)\left[1 + r_g\left(1 - t_{ig}\right)\right]^n}{PV\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}$$

For the Exam: This formula has given candidates considerable difficulty. By themselves, the numerator and denominator are not particularly useful as it is a derived formula. Looking at the first set of parentheses in the numerator, it appears as if the recipient is paying gift taxes ($-T_g$) and then receiving $T_g T_e$. That is not the case, as the result incorporates the effects on both the numerator and denominator. The expression is not derived in the curriculum, so you will not be expected to understand its derivation. Just remember to add ($+T_g T_e$) to the expression when the *donor pays* the gift taxes. This is one formula you just need to accept and memorize.

In our last example, we assumed gift and estate taxes of 25% and 40%, respectively. Incorporating these into the example and assuming the *donor pays the gift taxes*:

$$RV_{\text{taxable gift}} = \frac{\left(1 - T_g + T_g T_e\right)\left[1 + r_g\left(1 - t_{ig}\right)\right]^n}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}$$

where:

T_g = gift tax rate = 25% (paid by donor)

T_e = estate tax rate = 40%

r_g = expected return in the recipient's portfolio = 8%

r_e = expected return in the donor's portfolio = 8%

t_{ig} = recipient's tax rate on investment income = 35%

t_{ie} = donor's tax rate on investment income = 35%

$$RV_{\text{taxable gift}} = \frac{\left[1 - 0.25 + (0.25)(0.40)\right]\left[1 + 0.08(1 - 0.35)\right]^{20}}{\left[1 + 0.08(1 - 0.35)\right]^{20}(1 - 0.40)}$$

$$= \frac{0.85(2.756226)}{1.653735} = 1.416667 \cong 1.42$$

If instead of the recipient paying them the *donor pays the gift taxes*, the relative value of the gift is increased from 1.25 to 1.42 times the value of an equivalent bequest. The increase in relative value is due to the reduction in the estate and the accompanying estate taxes.

ESTATE PLANNING STRATEGIES

LOS 12.f: Evaluate the after-tax benefits of basic estate planning strategies, including generation skipping, spousal exemptions, valuation discounts, and charitable gifts.

CFA® Program Curriculum, Volume 2, page 284

Generation Skipping

In the absence of generation-skipping transfer taxes, as in the United States, transferring assets directly to a third generation avoids possible double taxation. When the first (i.e., oldest) generation transfers assets to the second generation, the transfer is typically subject to taxes. Then when the second generation transfers the assets to the third generation, the assets are taxed again.

Example: Generation skipping

Assume an expected after-tax return of 5% on assets that will ultimately be transferred to the third generation from the second generation. We'll assume the first generation will transfer the assets to the second generation in 15 years, and the second generation will transfer the assets 30 years after that to the third generation. We'll also assume equal gift and inheritance tax rates of 40%.

Answer:

The value of the assets to the third generation in 45 years, without generation skipping and with generation skipping, is:

$$\begin{aligned} FV_{\text{no skipping}} &= PV\left[(1+0.05)^{15}(1-0.40)\right]\left[(1+0.05)^{30}(1-0.40)\right] \\ &= PV(2.0789)(0.60)\times(4.3219)(0.60) = PV(3.2344) \end{aligned}$$

$$FV_{\text{skipping}} = PV(1+0.05)^{45}(1-0.40) = PV(5.3910)$$

With the ability to skip generations, the value to the third generation is increased by a factor of $1 / (1 - t)$, where t is the gift/inheritance tax rate:

$$\frac{1}{1-t} = \frac{1}{1-0.40} = \frac{5.3910}{3.2344} = 1.6667 = \textbf{relative value} \text{ of generation skipping}$$

The amount to be transferred, PV, is the excess above the core capital requirements for both the first and second generations. The first generation must first determine its core capital to determine the total excess that can be transferred to future generations. After calculating and then deducting the core capital for the second generation, any remaining excess (PV) can be transferred directly to the third generation.

Spousal Exemptions

Many countries allow tax-free transfers of estates between spouses. Whether or not this is optimal from a tax perspective depends upon other possible gift and inheritance exclusions. For example, assume tax laws permit tax-free transfers of estates less than \$500,000. If the decedent leaves a large estate, and assuming the spouse's core capital is satisfied, \$500,000 of the estate could be transferred immediately to his children.

In this fashion, \$500,000 of the estate is transferred immediately to the children tax free, while if the surviving spouse waited until later to transfer the assets, they could be subject to gift and/or inheritance taxes.

Valuation Discounts

Assets such as marketable securities have readily determined fair market values, but valuing ownership claims in partnerships and other privately held interests can be difficult. Because valuation discounts can reduce the value of wealth transfers and the associated transfer taxes, high net worth individuals will utilize them whenever possible by, for example, transferring interest in a family business.

The value of a nonpublicly traded family business is determined using financial models with discount rates and other assumptions from otherwise comparable publicly traded firms. The resulting value, of course, implicitly assumes the family business is also publicly traded, so the valuator must reduce it to reflect the family business's **lack of liquidity**. In addition, the *proportion* of the family business transferred may not give the recipient control of the firm's operations, so the value could also be subject to a **minority interest discount**.

An important consideration is that discounts are not typically additive. For example, a 20% liquidity discount plus a 20% minority discount do not necessarily imply a total discount of 40%. The total discount is subject to court approval and both tend to be inversely related to firm size; as the size of the firm increases, the percentage discount falls.

Charitable Gifts (Charitable Gratuitous Transfers)

Rather than taking valuation discounts, the testator wants to *maximize* the value of assets transferred to non-profit and charitable organizations. This is because most jurisdictions do not tax gifts to these organizations, and the donor is allowed to take a **tax deduction** (in calculating personal income taxes) in the amount of the gift. Then, because the organizations themselves are not subject to income taxes, the future value of a donation can be considerable.

Example: Relative value of a charitable gift

Determine the relative value of leaving assets to a charitable organization as opposed to bequeathing them to beneficiaries.

Answer:

First, the future value of the gift to charity:

$$FV_{\text{charitable gift}} = (1+r_g)^n + T_{oi}\left[1+r_e(1-t_{ie})\right]^n(1-T_e)$$

where:

r_g = expected return on the assets in the charity's portfolio
T_{oi} = tax rate on ordinary income
r_e = expected return on the assets in the donor's portfolio
t_{ie} = donor's tax rate on investment income
T_e = estate tax rate

The value of the donation to the charity is considerable for two primary reasons: (1) there is no deduction in the value of the gift due to gift or estate taxes (first term in the expression) and (2) the investment grows tax free. The second, larger term represents the added value due to the tax-free nature of the organization.

Next, if the donor instead bequeaths the assets to a beneficiary, the future value is:

$$FV_{bequest} = \left[1 + r_e\left(1 - t_{ie}\right)\right]^n \left(1 - T_e\right)$$

where:
r_e = expected return on the assets in the donor's portfolio
t_{ie} = donor's tax rate on investment income
T_e = estate tax rate

The expression shows the after-tax value of the assets in *n* years, which is then subject to estate taxes when transferred to beneficiaries. Putting the two expressions together show us the **relative value** of the charitable donation:

$$RV_{charitable\ donation} = \frac{FV_{charitable\ gift}}{FV_{bequest}} = \frac{\left(1 + r_g\right)^n + T_{oi}\left[1 + r_e\left(1 - t_{ie}\right)\right]^n \left(1 - T_e\right)}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n \left(1 - T_e\right)}$$

Now assume:
$r_g = r_e = 8\%$
$T_{oi} = 40\%$
$t_{ie} = 30\%$
$T_e = 50\%$
$n = 20$ years

$$RV_{charitable\ donation} = \frac{\left(1 + r_g\right)^n + T_{oi}\left[1 + r_e\left(1 - t_{ie}\right)\right]^n \left(1 - T_e\right)}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n \left(1 - T_e\right)}$$

$$= \frac{(1.08)^{20} + 0.40\left[1 + 0.08(0.70)\right]^{20}(0.50)}{\left[1 + 0.08(0.70)\right]^{20}(0.50)}$$

$$= \frac{4.6610 + 0.40(2.9736)0.50}{(2.9736)0.50} = 3.5349$$

The assets are worth 3.5349 times as much as a charitable gift than as a bequest.

Professor's Note: By gifting the assets to charity now, they are worth more (approximately 3.5349 times as much) to the charity than if bequeathed to a beneficiary who then donates them in 20 years.

TRUSTS

LOS 12.g: Explain the basic structure of a trust and discuss the differences between revocable and irrevocable trusts.

CFA® Program Curriculum, Volume 2, page 287

Trusts are a means by which a **grantor** (or **settlor**) can transfer assets to beneficiaries outside of the probate process. The trustee (i.e., manager of the trust) holds the assets and manages them in the best interests of the beneficiaries according to the constraints of the trust documents.

Professor's Note: Asset ownership can be a fuzzy concept with trusts. It might help to think of the assets as being placed into limbo somewhere between the settlor and the beneficiary. A trustee actually has possession of and manages the assets for the benefit of the settlor and/or beneficiaries and may be considered the owner of the assets for tax purposes only. Legal ownership of the assets may be held by the settlor or transferred to the trustee or beneficiaries, while ownership for tax purposes may reside with the settlor or the trustee. Thus, the legal owner and the owner for tax purposes may be two different entities, depending on the structure of the trust.

In a **revocable trust**, the settlor can rescind (i.e., revoke) the trust and resume ownership of the assets. The settlor is considered the legal owner of the assets for tax and reporting purposes, and creditors, divorcing spouses, et cetera can make claims against the trust assets.

In an **irrevocable trust**, the settlor relinquishes ownership and control. The trustee is considered the owner of the assets for tax purposes and is responsible for reporting and paying taxes on income generated by the trust. The irrevocable trust protects the trust assets from claims against the settlor.

Professor's Note: A trust will not protect assets if it is deemed to have been created in anticipation of a claim.

The trustee may be responsible for distributing assets to the beneficiaries. In a **fixed trust**, the pattern of distributions to the beneficiaries is predetermined by the settlor and incorporated into the trust documents. When setting up a trust for a minor, for example, the settlor may wish the trustee to distribute a fixed portion of the assets when the minor reaches 21 years of age and then distribute a given percentage each year until they are depleted.

With a **discretionary trust**, the trustee determines how the assets are to be distributed. The primary concern is that the assets are distributed to produce the greatest benefit to the beneficiary or beneficiaries. The settlor can convey her general wishes through the trust documentation or separately through a *letter of wishes*. Beneficiaries have no legal right to either the income or the assets of the discretionary trust. Thus, the trust assets are protected from claims *against the beneficiaries*.

A **spendthrift trust** is used to transfer assets to a beneficiary who is too young or is otherwise unable to manage the assets. It provides a means for the settlor to transfer assets outside the probate process while maintaining some control over the distribution of the assets.

In some countries, trusts are recognized as legally transferring the ownership of assets but not for tax purposes. If that is the case, the settlor remains responsible for taxes on income generated by the trust.

Trusts are recognized by, and are thus most prevalent in, common law countries but can be found in (i.e., are recognized by) some civil law countries. Foundations, on the other hand, are most prevalent in civil law countries but can also be found in common law countries.

LIFE INSURANCE

LOS 12.h: Explain how life insurance can be a tax-efficient means of wealth transfer.

CFA® Program Curriculum, Volume 2, page 290

As the only assets transferred by the grantor (policy owner) are the premiums paid,[3] life insurance policies represent a very efficient means for transferring assets or even helping beneficiaries pay inheritance taxes. In most jurisdictions, life insurance proceeds pass to beneficiaries without tax consequences, and, depending on jurisdiction, the policy might provide tax-free accumulation of wealth and/or loans to the policy holder on beneficial terms.

Life insurance can be used in combination with a trust. By establishing a trust on behalf of the beneficiaries and making that trust the direct beneficiary of the life policy, the policy holder can transfer assets to young, disabled, et cetera, beneficiaries outside the probate process.

3. The premiums are not usually considered part of the grantor's estate for tax purposes, but in some jurisdictions the premiums are considered gifts to the beneficiary and may be subject to taxation.

TAX JURISDICTION

LOS 12.i: Discuss the two principal systems (source jurisdiction and residence jurisdiction) for establishing a country's tax jurisdiction.

CFA® Program Curriculum, Volume 2, page 293

LOS 12.j: Discuss the possible income and estate tax consequences of foreign situated assets and foreign-sourced income.

CFA® Program Curriculum, Volume 2, page 294

Income Taxes

- Under **source jurisdiction** (a.k.a. **territorial tax system**) a country levies taxes on all income generated within its borders, whether by citizens or foreigners.
- Under **residence jurisdiction**, the most prevalent type of jurisdiction, a country taxes the income of its residents, whether generated inside or outside the country. Citizens of residence jurisdiction countries pay taxes on their worldwide income, regardless of their current place of residence (i.e., whether currently living in the country or not).

  Countries use many different tests to determine residency. They may utilize subjective standards such as personal ties (e.g., family, house) or economic ties (e.g., own a local business) to the country. They may also use objective measures such as the number of days residing within the country's borders.

Wealth Transfer Taxes

- Under **source jurisdiction**, transfer taxes are levied on assets located within (e.g., real estate) or transferred within a country, whether by citizens or foreigners.
- Under **residence jurisdiction**, citizens and residents pay transfer taxes, regardless of the worldwide location of the assets.

Exit Taxes

In an effort to avoid residence taxation, individuals may renounce their citizenship and move to a less strict jurisdiction. In response, some residence jurisdictions impose an **exit tax**. The amount is usually based on the gains on assets leaving, as if the individual sold the assets and realized the gains. (This is referred to as a **deemed disposition**.) The exit tax could include a tax on income earned for a period (called a **shadow period**) following the expatriation.

Relief From Double Taxation

LOS 12.k: Evaluate a client's tax liability under each of three basic methods (credit, exemption, and deduction) that a country may use to provide relief from double taxation.

CFA® Program Curriculum, Volume 2, page 295

Due to overlapping tax systems, countries often lay claim to the same income and/or assets for tax purposes. In a **residence-residence conflict**, for example, two countries claim residence for the same individual and hence claim taxing authority over the individual's world-wide assets and income. Alternatively, two countries could claim authority over the same income in a **source-source conflict** (think of a multinational company with operations that generate income in several countries).

In another possible double taxation scenario, an individual might be subject to residence jurisdiction and receive income on assets in a foreign country with source jurisdiction. This is a **residence-source conflict**, because the individual's world-wide assets and income are taxed by the residence jurisdiction, and income generated by the foreign assets is taxed again under the source jurisdiction. In response, some countries have adopted policies that help relieve the double taxation.

Professor's Note: The following discussions relate to resolution of the residence-source conflict only. Under Double Taxation Treaties (DTTs) the Organization for Economic Cooperation and Development (OECD) recognizes "tie breakers" (e.g., permanent home, citizenship, center of vital interest) for residence-residence conflicts. Also, most DTTs do not offer resolutions for the source-source conflict.

The **credit method** provides complete resolution of the *residence-source conflict*. Under the credit method, the residence country allows the individual to take a *tax credit* for taxes paid to a source country. The tax rate paid by the resident on the foreign source income is the *greater* of the domestic and source tax rates.

For example, consider an individual who lives in a residence jurisdiction that charges 40% taxes on world-wide income. The individual has income from a foreign country that enforces source jurisdiction and charges 50% income tax. The individual will end up paying 50% income tax to the foreign country on income generated within its borders. If the tax rates were reversed (i.e., 50% domestic, 40% foreign), the individual would still pay tax on the foreign source income at 50%, but the taxes will be split between the resident and source countries: 10% to the residence country and 40% to the source country.

The **exemption method** also provides complete resolution of the *residence-source conflict*. Under the exemption method, the country of residence charges no income tax on income generated in a foreign country that enforces source jurisdiction (i.e., that income is *exempt* from domestic taxation). This effectively eliminates the residence-source conflict because foreign-generated income is taxed by the source country, only.

The **deduction method** provides only *partial* resolution of the residence-source conflict. Under the deduction method, the individual pays the full tax to the source country and is only allowed to *deduct* the amount of taxes paid to the source country in calculating total world-wide income.

For the Exam: To avoid the complications associated with different currencies, the source material uses only *tax rates*. Be sure you know how to calculate the resulting tax rates on foreign source income under the three methods. In the following example, we use amounts without accompanying currency symbols.

Example: Residence-source conflict

An individual living in a country that bases income tax on residency has total worldwide income of 1,500,000. 600,000 of that amount is generated in a source jurisdiction country. The domestic country charges 40% income taxes on worldwide income, and the source country charges 35% taxes on income generated within its borders.

Determine the income taxes paid on the foreign source income and the amount received by each country under the:

A. Credit method.

B. Exemption method.

C. Deduction method.

Answer:

A. Under the **credit method,** the individual receives a *credit* against domestic taxes equal to the amount of taxes paid to the source country. The tax rate paid on the foreign source income is the greater of the domestic and foreign tax rates:

$$T_{credit} = \text{Max}(T_{residence}, T_{source}) = \text{Max}(40\%, 35\%) = 40\%$$

The individual will pay a total of 600,000 × 0.40 = 240,000 taxes on the foreign source income, 5% (30,000) in domestic taxes, and 35% (210,000) in foreign taxes.

The individual owes *domestic* taxes of 600,000 × 0.40 = 240,000 on the foreign source income. She is allowed a credit, however, for foreign taxes paid on that income, which is applied directly to domestic taxes due. Because she owes 210,000 to the source country, her domestic tax bill on the foreign source income is 240,000 – 210,000 = 30,000.

For the Exam: If you are asked for *total taxes paid* as well as the amounts received by each country on the foreign source income, don't forget the domestic income. This person will have to pay 900,000 × 0.40 = 360,000 on the domestic income in addition to taxes paid on the foreign source income. Note that she pays *total taxes* of 1,500,000 × 0.40 = 600,000: 360,000 + 30,000 = 390,000 to the domestic country and 210,000 to the foreign country.

B. Under the **exemption method**, income generated in a source country is totally exempt from domestic taxation. In this case, the individual will pay 40% domestic taxes on only the income generated domestically (900,000). She will pay 35% taxes to the source country on the foreign-generated income (600,000):

domestic taxes on the foreign income = 0
domestic taxes on the domestic income = 900,000 × 0.40 = 360,000
foreign taxes on foreign-generated income = 600,000 × 0.35 = 210,000

The individual's *total taxes* are 360,000 + 210,000 = 570,000 rather than 600,000 as under the credit method.

C. Under the **deduction method**, the individual is allowed to deduct the taxes paid to the foreign source country from taxable income. The resulting tax rate on the foreign income is less than the sum of the two rates but greater than under the other two methods:

$$T_{deduction} = T_{residence} + T_{source}(1 - T_{residence}) = 0.40 + 0.35(1 - 0.40) = 0.61 = 61\%$$

The individual will pay 61% taxes on the foreign source income. Let's see how that breaks down.

- Total foreign source income = 600,000.
- Taxes paid to the source country = 600,000 × 0.35 = 210,000.
- Foreign source income taxed by domestic country = 600,000 – 210,000 = 390,000.
- Domestic taxes on foreign source income = 390,000 × 0.40 = 156,000.
- Tax rate on foreign income = (210,000 + 156,000) / 600,000 = 61%.

The individual pays taxes on the domestic income of 900,000 × 0.40 = 360,000 for total world-wide taxes of 360,000 + 210,000 + 156,000 = 726,000.

Alternatively, we could have calculated total domestic taxes directly by deducting foreign income tax paid from total world-wide income and multiplying by the domestic income tax rate:

(1,500,000 – 210,000) × 0.40 = 516,000

This is equivalent to the sum of the domestic tax on domestic income (360,000) plus the domestic tax on foreign source income (156,000).

Of the three methods, the deduction method produces the highest total tax bill as shown in Figure 3. You probably noticed that in each case the source country receives full taxes on income generated within its borders. Differences in domestic country taxes arise from different handling of the foreign taxes:

Figure 3: Credit, exemption, and deduction method results (1,500,000 total income; 900,000 domestic income; 600,000 foreign-source income)

Method	*Domestic Income*	*Foreign Income*		*Total Worldwide Taxes*
	Domestic Taxes (40%)	*Domestic Taxes (40%)*	*Foreign Taxes (35%)*	
Credit	360,000	30,000	210,000	600,000
Exemption	360,000	0	210,000	570,000
Deduction	360,000	156,000	210,000	726,000

International Transparency

LOS 12.l: Discuss the impact of increasing international transparency and information exchange among tax authorities on international estate planning.

CFA® Program Curriculum, Volume 2, page 298

In the estate planning process, financial advisers should attempt to structure estates to hold and transfer assets in the most tax-efficient ways. This could include holding foreign assets and even holding funds in a foreign country to more efficiently provide living and/or business expenses. At times, as we saw in LOS 16.k, holding assets in foreign countries can avoid domestic taxes.

Tax avoidance is legal. Any tax-paying entity or individual would be expected to minimize the amount of taxes paid through various legal tax-reduction strategies. **Tax evasion**, on the other hand, is hiding, misrepresenting, or otherwise not recognizing income so as to *illegally* avoid taxation. To avoid complications related to tax evasion strategies that are ultimately uncovered through global tax treaties, it is important to structure estates as efficiently and legally as possible.

Most countries attempt to maximize the amount of taxes to which they are legally entitled and to do so enter into global treaties which provide for the sharing of information. In an effort to maximize world-wide taxation on its residents and citizens, for example, the United States demands that global banks disclose the names of U.S. securities owners, whether U.S. citizens or not. In response, many global banks became Qualified Intermediaries (QIs). To avoid disclosing the names of all their customers, the QIs collect all the required information but provide the information on their U.S. customers only. A similar agreement exists in the European Union, by which EU member banks exchange customer information with each other.

KEY CONCEPTS

LOS 12.a

The most common tool used to transfer assets is a **will** (also known as a *testament*). **Probate** is a legal process that takes place at death, during which a court determines the validity of the decedent's will, inventories the decedent's property, resolves any claims against the decedent, and distributes remaining property according to the will. Due to the cost, the time it takes, and the public nature of the probate process, individuals take steps to avoid it. This can be accomplished through joint ownership with rights of survivorship, living trusts, retirement plans, life insurance, and other means which transfer assets outside the probate process.

LOS 12.b

Gifts are *lifetime gratuitous transfers* or *inter vivos transfers* and may be subject to **gift taxes**. Bequests are *testamentary gratuitous transfers* and can be subject to **estate taxes**, paid by the grantor, or **inheritance taxes**, paid by the recipient.

Forced heirship rules provide statutory ownership. Many regimes apply **claw-back** provisions. Under a **community property rights** regime, each spouse is entitled to one-half of the estate earned *during* the marriage. Under a **separate property rights** regime, each spouse owns and controls his or her property, separate from the other.

LOS 12.c

Core capital is the amount necessary to meet all of an individual's liabilities plus a reserve for unexpected needs. It is the sum of the products of expected spending for each year and the probability of living that long. An individual has 50% probability of outliving mortality table expected life, so incorporate a **safety reserve** into core capital.

Monte Carlo simulation gives the expected portfolio value and distribution of possible values at retirement. The probability of running out of money is known as the *probability of ruin*. Level of spending and probability of ruin are usually positively correlated.

LOS 12.d

Relative after-tax value is used to determine whether the recipient would be better off receiving a gift today when there is no gift tax, or the receiver pays the gift tax, versus waiting and receiving it as part of an estate:

$$RV_{\text{tax-free gift}} = \frac{FV_{\text{tax-free gift}}}{FV_{\text{bequest}}} = \frac{\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}$$

$$RV_{\text{taxable gift}} = \frac{FV_{\text{taxable gift}}}{FV_{\text{bequest}}} = \frac{\left[\left(1-T_g\right)\right]\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}$$

r_g = pre-tax return on the stock if gifted and held by the recipient
t_{ig} = tax rate on investment returns if gifted
r_e = pre-tax return on the stock if held in the estate
$t_{i,e}$ = tax rate on investment returns in testator's portfolio
T_e = estate tax rate

LOS 12.e

When the *donor pays the gift taxes*, the future value of the gift to the recipient is increased by an amount equal to the product of the estate and gift tax rates (t_g and t_e) and the value of the gift:

$$RV_{\text{taxable gift}} = \frac{\left(1-T_g+T_gT_e\right)\left[1+r_g\left(1-t_{ig}\right)\right]^n}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}$$

LOS 12.f

Skipping a generation can avoid the double taxation of assets that are transferred by two generations:

$$FV_{\text{no skipping}} = PV[(1+r)^{n1}(1-t)][(1+r)^{n2}(1-t)]$$

$$FV_{\text{skipping}} = PV[(1+r)^N(1-T_e)] \qquad [N = n1 + n2]$$

Skipping a generation increases the future value of the gift by a factor of 1 / (1 – t). Many countries allow **spousal exemptions**. **Valuation discounts** can be employed to reduce the taxable value of gifts or the estate. A donor is allowed to take a **tax deduction** in the amount of the **charitable gift**. Value of a gift to charity relative to leaving it in a bequest:

$$RV_{\text{charitable donation}} = \frac{FV_{\text{charitable gift}}}{FV_{\text{bequest}}} = \frac{\left(1+r_g\right)^n + T_{oi}\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}{\left[1+r_e\left(1-t_{ie}\right)\right]^n\left(1-T_e\right)}$$

LOS 12.g

In a **revocable trust**, the settlor can rescind the trust and is considered the legal owner of the assets for tax purposes. In an **irrevocable trust**, the settlor relinquishes ownership. The trustee is considered the owner of the assets for tax purposes. An irrevocable trust protects the trust assets from claims against the settlor.

In a **fixed trust**, the pattern of distributions to the beneficiaries is predetermined by the settlor and incorporated into the trust documents. In a **discretionary trust**, the trustee determines how the assets are distributed. A **spendthrift trust** is used to transfer assets to a beneficiary who is too young or is otherwise unable to manage the assets.

LOS 12.h

Premiums paid on life insurance are not usually considered part of the grantor's estate for tax purposes but are sometimes considered gifts to the beneficiary. In most jurisdictions, life insurance proceeds pass to beneficiaries without tax consequences, and, depending on jurisdiction, the policy might provide tax-free accumulation of wealth and/or loans to the policy holder on beneficial terms. By establishing a trust on behalf of the beneficiaries and making that trust the direct beneficiary of a life policy, the policy holder transfers assets to young, disabled, et cetera, beneficiaries outside the probate process.

LOS 12.i

Under **source jurisdiction** (a.k.a. **territorial** tax system) a country levies taxes on all income generated within its borders. Wealth transfer taxes are levied on assets located within or transferred within a country. Under **residence jurisdiction**, a country taxes the global income of its residents, whereby citizens and residents pay wealth transfer taxes, regardless of the world-wide location of the assets.

LOS 12.j

In response to citizens who renounce their citizenship to avoid taxes, some residence jurisdictions impose an exit tax, usually based on the gains on assets leaving, as if they were sold (deemed disposition). This could include a tax on income earned for a shadow period.

LOS 12.k

In a **residence-residence conflict**, two countries claim residence for the same individual. In a **source-source conflict**, two countries claim authority over the same income. In a **residence-source conflict**, an individual is subject to residence jurisdiction and receives income on assets in a foreign country with source jurisdiction.

Under the **credit method**, the residence country allows a *tax credit* for taxes paid to a source country. Under the **exemption method**, the country of residence charges no income tax on income generated in a foreign country. Under the **deduction method**, the individual is only allowed to *deduct* the amount of taxes paid to the source country.

$$T_{credit} = \text{Max}(T_{residence}, T_{source}); \; T_{deduction} = T_{residence} + T_{source}(1 - T_{residence})$$

LOS 12.1

In the estate planning process, financial advisers should attempt to structure estates to hold and transfer assets in the most tax-efficient ways. This could include holding foreign assets and even holding funds in a foreign country to more efficiently provide living and/or business expenses. **Tax avoidance** is legal. **Tax evasion** is hiding, misrepresenting, or otherwise not recognizing income so as to illegally avoid taxation.

Many countries enter into global treaties which provide for the sharing of information. QIs collect all the information required by the United States but provide the information on their U.S. customers only. A similar agreement exists in the European Union, by which EU member banks exchange customer information with each other.

CONCEPT CHECKERS

1. Which of the following are the main objectives of estate planning and the results of the techniques used to facilitate those objectives? The main objectives of estate planning are to minimize taxes and:
   A. achieve effective diversification. The results of the techniques used can include tax efficiency, access to assets to be transferred, and control over those assets.
   B. transfer assets to heirs or recipients of charitable bequests in an efficient manner. The results of the techniques used can include asset protection from creditors, creating liquidity, and transferring assets for a specific purpose.
   C. transfer assets to heirs or recipients of charitable bequests in an efficient manner. The results of the techniques used can include tax efficiency, access to assets to be transferred, control over the management of those assets, and the ability to maximize excess returns.

2. Individuals must generally be concerned with tax planning on:
   A. two levels.
   B. three levels.
   C. four levels.

3. What are the main targets for taxation, the fundamental methodologies for improving after-tax returns, and a key feature in the tax code to assist married couples in pursuing one or both of these methodologies? The main targets for taxation are:
   A. income, assets held, assets transferred, and expenditures. The two main methodologies for improving after-tax returns are to realize income and capital gains in the most advantageous way so that taxes are minimized and to defer the realization of gains for as long as possible. The provision in the tax code that permits the tax-free transfer of assets between spouses upon the death of one can assist married couples in pursuing one or both of these tax-reducing methodologies.
   B. income and assets transferred. The two main methodologies for improving after-tax returns are to realize income and capital gains in the most advantageous way so that taxes are minimized and to defer the realization of gains for as long as possible. The provision in the tax code that permits the tax-free transfer of assets between spouses upon the death of one can assist married couples in pursuing one or both of these tax-reducing methodologies.
   C. income, assets held, assets transferred, and expenditures. The two main methodologies for improving after-tax returns are to realize income and capital gains in the most advantageous way so that taxes are minimized and to defer the realization of gains for as long as possible. The provision in the tax code that resets the cost basis of assets after transfer of assets to the surviving spouse and payment of related estate taxes can assist married couples in pursuing one or both of these tax-reducing methodologies.

4. Which of the following is *most correct*? When investors make charitable gifts of appreciated securities, they are usually able to:
   A. avoid capital gains taxes but are not able to take a deduction for the gift.
   B. take a deduction in an amount designed to exactly offset the capital gains tax.
   C. avoid gift transfer taxes and can take an income tax deduction equal to the current fair market value of the gift.

5. Under a community property regime, which of the following is *most correct*? When one spouse dies, estate taxes on:
   A. all marriage assets (community property) are avoided.
   B. at least one-half of the marriage assets are avoided.
   C. at least one-half of the marriage assets are deferred.

6. For estate planning purposes, investments in privately held companies are usually tax:
   A. efficient because gains realized are usually taxed at long-term rates.
   B. inefficient because it is difficult to determine fair market value, thus the correct amount to be taxed cannot be determined.
   C. efficient because they can be transferred from an estate using a valuation discount, which reduces the basis on which the transfer tax is calculated.

7. What is usually the *most important* concern with determining the level of feasible retirement income, and what is the *best* method used to address this concern? The main concern with determining the level of feasible retirement income is:
   A. outliving one's assets and income, and this can be addressed by estimating core capital with Monte Carlo analysis and incorporating a safety reserve.
   B. outliving one's assets and income, and this can be addressed by multiplying expected future cash flows by the probability that each cash flow will be needed, which is called a survival probability.
   C. maintaining purchasing power, and this can be addressed by calculating the present value of anticipated spending over one's remaining life expectancy and incorporating a safety reserve.

8. Joe Angelone, age 65, recently retired after a long career in the aerospace industry, first as a fighter pilot in the Vietnam war, then as a fighter test pilot, and finally as a project manager overseeing the testing and production of fighter planes. He and his wife Charlene, age 63, recently retired in Texas. Even though they are retired, they prefer to maintain their current lifestyle with spending needs of $80,000 per year in real terms. Inflation is expected to be 3% with the nominal risk-free rate equal to 5%. The Angelones' survival probabilities for the next three years are shown in the table below.

	Joe		*Charlene*	
Year	*Age*	*P(Survival)*	*Age*	*P(Survival)*
1	66	0.992	64	0.997
2	67	0.982	65	0.987
3	68	0.972	66	0.967

A. **Determine** the probability that either Joe or Charlene will survive for three years.

B. **Calculate** the capitalized value of the Angelones' core spending needs over the next three years.

ANSWERS – CONCEPT CHECKERS

1. B The primary objectives of estate planning are to minimize taxes and to facilitate the tax-efficient transfer of assets to heirs or recipients of charitable bequests. Diversification and the ability to maximize excess returns are usually not the objectives of estate planning and are part of the grantor's/settlor's investment policy statement while accumulating assets throughout working years and throughout retirement.

   Estate planning tools include trusts that allow for the control of those assets, asset protection from creditors, and reduced taxes for either the settlor or beneficiary depending upon how the trust is structured. Foundations are used to transfer assets for specific purpose, such as helping to fund hospitals, libraries, or colleges. Life insurance is a liquidity planning technique that can be used to pay estate and gift taxes. Investing in partnerships or having a controlling interest in a foreign company may also be effective tax-reducing strategies.

2. C Individual taxation generally occurs on four levels—tax on income, tax on spending, tax on wealth, and tax on assets when they are transferred to others.

3. A The main targets for taxation are income, assets held, assets transferred, and expenditures. The two main methodologies for improving after-tax returns are to realize income and capital gains in the most advantageous way so that taxes are minimized and to defer the realization of gains for as long as possible. The provision in the tax code that permits the tax-free transfer of assets between spouses upon the death of one of them can assist married couples in pursuing one or both of these tax-reducing methodologies. In virtually all cases, this feature of the tax code allows couples to defer the payment of estate taxes, often for a considerable period of time, until the death of the surviving spouse. To the extent that future tax rates are lower than those present at the time the assets are transferred between spouses, there will also be some reduction in the effective tax rate.

4. C When an investor makes a charitable gift of appreciated securities, the investor is usually able to avoid gift transfer taxes and can take an income tax deduction equal to the current fair market value of the gift. The appreciated securities continue to avoid capital gains taxes once transferred to the tax-exempt organization.

5. C Under a community property regime, the surviving spouse is entitled to one half of marriage assets, which are considered community property. This means that estate taxes that would have been paid immediately on at least half of the marriage assets are deferred until the surviving spouse's death. The remaining property is divided according to the testator's will and other asset transfer mechanisms.

6. C Investments in privately held companies are usually tax-efficient from an estate planning perspective, because they can be transferred after taking a valuation discount. The discount relates to uncertainty of true value as well as lack of liquidity and sometimes control. It is true that they are also tax-efficient from the standpoint that any gains realized are usually taxed at favorable long-term rates, but this pertains to liquidating the assets that would normally not be done before transferring them in an estate.

7. A The main concern with determining the level of feasible retirement income is outliving one's assets and income. This potential problem can be addressed by all three methods mentioned. Calculating the present value of anticipated spending over one's remaining life expectancy has the weakness of being based on average life expectancies, thus half of all individuals will live longer than expected. A better method, but one that still uses a mortality table, is to multiply expected future cash flows by the probability that each cash flow will be needed, which is called a survival probability. These two methods do not consider market risk, however. The best method is by estimating core capital with Monte Carlo analysis, which uses thousands of simulations, meaning it considers market risk and is the most accurate (realistic) method. All three methods should incorporate a safety reserve to account for the risk of capital markets or a change in spending needs.

8. A. Joe and Charlene's joint probability of surviving for a given number of years is equal to the sum of their individual probabilities minus the product of their individual probabilities:

$$p(\text{Joint}) = p(\text{Joe survives}) + p(\text{Charlene survives}) - p(\text{Joe survives})p(\text{Charlene survives})$$

There is effectively 100% probability (0.99998) at least one of them will survive for one year:

$$\text{Year } 1 = 0.992 + 0.997 - (0.992)(0.997) = 1.0000$$

There is 99.98% probability at least one of them will survive for two years:

$$\text{Year } 2 = 0.982 + 0.987 - (0.982)(0.987) = 0.9998$$

There is 99.91% probability at least one of them will survive for three years:

$$\text{Year } 3 = 0.972 + 0.967 - (0.972)(0.967) = 0.9991$$

B. The capitalized value of the core spending needs is the sum of the product of the joint probability of survival and the real spending need discounted by the real risk-free rate.

The real risk-free rate is calculated as:
(1 + nominal risk-free rate) / (1 + inflation rate) – 1 = (1.05 / 1.03) – 1 = 1.94%

Year	*Spending*	*Joint p(Survival)*	*Expected Spending*	*Discount Factor*	*Discounted Value*
1	80,000	1.0000	80,000	1.0194	$78,478
2	80,000	0.9998	79,984	$(1.0194)^2$	$76,969
3	80,000	0.9991	79,928	$(1.0194)^3$	$75,451

Total capitalized value of core spending needs = <u>$230,898</u>

The following is a review of the Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute. This topic is also covered in:

Low-Basis Stock

Study Session 4

Exam Focus

Successful investors often hold equity positions that have a low cost basis. Because of psychological and/or tax reasons, they often find these positions difficult to sell. In many cases, failure to sell results in inadequate diversification and increased portfolio risk. Investment advisers must recognize the impediments to effective diversification and understand the techniques that can be used to reduce portfolio concentration. Also remember that when proposing a strategic asset allocation (SAA), recommend bringing the position down to that of a diversified holding. Now we will look at some of the pros and cons of actually selling to implement the SAA or alternate ways to reduce the risk of the concentrated position.

LOS 13.a: Explain the psychological considerations, investment risk, and tax issues related to concentrated holdings of low-basis stock.

CFA® Program Curriculum, Volume 2, page 308

LOS 13.b: Discuss how exposure to stock-specific risk is expected to change over the entrepreneurial, executive, and investor stages of an individual's "equity holding life."

CFA® Program Curriculum, Volume 2, page 309

LOS 13.c: Explain individual investors' attitudes toward holding their own company stock during the entrepreneurial, executive, and investor stages.

CFA® Program Curriculum, Volume 2, page 311

Basis, or more correctly, cost basis, refers to the reference point for calculating capital gains or losses for a given asset. This is ordinarily either the gross purchase price or the value of the asset when transferred to the holder. When the current market value is greater than the cost basis, the investor realizes a taxable capital gain if the asset is sold.

In some cases, the cost basis may be extremely small (i.e., close to zero). In these very low-basis situations, the capital gains taxes that accrue upon sale are large. The problem relating to such so-called "low-basis stock" is that the tax ramifications (and other factors) can serve to inhibit the investor from taking an action that would otherwise be desirable. Specifically, when the investor is unwilling to reduce a large position in a low-basis security—at the cost of holding a concentrated portfolio—the level of portfolio risk can be excessive.

By looking at an individual's position and history, it is fairly easy to determine exactly how he ended up with a large position in a single, low-basis stock. The individual will usually fall into one of three categories: *entrepreneur*, *executive*, or *investor*. The three categories are differentiated by the manner in which the wealth was accumulated and the individual's psychological attachment to the stock (i.e., the firm). All categories present the financial adviser with the same challenge: reduce the position to achieve the *desired* level of diversification but do so in a way that minimizes the tax bill. In the following, we discuss each category according to its source of wealth, psychological issues, and risk considerations.

Entrepreneurs

Source of wealth. An entrepreneur is an individual (or family) who has developed a company, usually from inception. From both a financial and personal standpoint, the entrepreneur has put everything into the company. The result is that the entrepreneur's wealth is dominated by that one, privately held stock. The cost basis for the stock is the original investment required to get the company started plus any additional infusions of capital and is typically far below the stock's current value. Thus, if any shares are sold, most of the selling price is a taxable capital gain.

Entrepreneurs can also have concentrated positions even after selling a portion of the firm through an IPO or other sale. If shares are sold for cash, the entrepreneur pays capital gains taxes and ends up with cash, making it fairly easy for the financial adviser to construct a strategy to suit the investor's goals and objectives (e.g., diversification). Alternatively, if through an IPO or other equity-based sale, the entrepreneur ends up with new publicly or privately traded shares that retain the original cost basis. In that case, only the *form* of the concentrated position has changed. The investor still has a concentrated position in a low-cost basis stock.

Psychological issues. A factor that contributes to entrepreneurs maintaining concentrated portfolios is their *psychological attachment* to their firms. They are highly loyal to their firm and don't mind having most or all of their wealth tied to it. In fact, while an entrepreneur is running a firm, she even feels no need for diversification. She has confidence in her abilities to run the firm and is not averse to having her entire fortune tied to the future of the firm as long as she is in *control*. As she transfers control to others, however, the entrepreneur becomes increasingly uncomfortable with a concentrated portfolio and begins to desire a more diversified position. The result for the financial adviser is a need to achieve the desired diversification while respecting the entrepreneur's devotion to the firm (to the extent it exists) and reluctance to sell shares.

Professor's Note: This discussion about psychological issues relates to entire families (i.e., current and future generations) as well as individual entrepreneurs. Out of loyalty, for example, heirs often feel obligated to hold onto shares of a (once) family firm, especially if the firm retains the family name.

Risk considerations. *Specific risk* refers to the risk of the individual security, the risk that can be reduced or eliminated by holding the security in a diversified portfolio. If held in a well-diversified portfolio, the holder is left with only the security's market risk and residual risk. **Residual risk**, which deals with successfully implementing the desired strategy, can be broken down into counterparty risk and regulatory risk.

Counterparty risk is the probability that a counterparty will not correctly complete the transaction as expected. For example, once you have decided on a specific strategy (e.g., selling a portion of a position to achieve the desired diversification), you depend upon the broker to invest the proceeds as instructed. **Regulatory risk** is the possibility that tax authorities will not accept the tax treatment applied to a transaction (e.g., the value placed on private shares donated to a charity and the amount of the resulting tax deduction).

Professor's Note: You will notice that specific risk *is equivalent to* unsystematic risk *that you studied in portfolio theory. Residual risk, however, is related more to the actual trading strategies employed, how they are carried out, and how they are interpreted by taxing authorities.*

It should be fairly obvious that the entrepreneur faces both the specific risk of the individual stock as well as residual risk associated with the trading strategies employed to avoid tax issues. In fact, any investor should be concerned with residual risk, but the amount of specific risk faced by the investor depends on the amount of the individual stock held as a proportion of the total portfolio. As long as the concentrated position exists, the investor faces considerable *specific risk*. Remember, however, that the entrepreneur is not usually concerned with the specific risk of the firm, as long as he is in control.

Professor's Note: As you read through the following discussion on executives, notice how they compare to entrepreneurs. The higher up in the ranks, the more the executive acts like an entrepreneur.

Executives

Source of wealth. Executive compensation packages typically contain significant equity components (e.g., stock, stock options), and the higher in the ranks, the greater the proportion of total compensation received in equity. As with an entrepreneur, the result is a heavily concentrated portfolio. The cost basis for the accumulated stock is usually quite low, so an executive also faces the same diversification problem (i.e., selling low-basis stock) faced by entrepreneurs.

Psychological issues. Just like an entrepreneur, a top executive's fortunes are tied directly to the firm. Also like an entrepreneur, the more *control* the executive exerts over the fortunes of the firm, the less he is concerned with diversification and the more *psychologically attached* he becomes to the firm.

Risk considerations. As long as they maintain the concentrated holding, executives face considerable **specific risk**. Remember, however, that the executive does not "feel" the specific risk, if he has sufficient control over the firm's operations.

Investors

Source of wealth. An investor can accumulate a considerable position in a single stock as the result of a particularly good investment. For example, an investor in a venture capital fund can end up with a considerable position in a single, successful firm when the fund liquidates. Notice that the investor is faced with the same concentration in one security and the same resulting level of specific risk as both the entrepreneur and the executive.

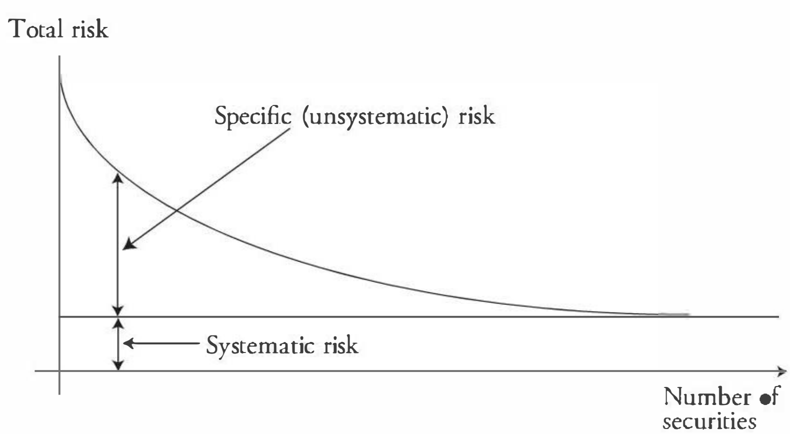
Psychological issues. Although the investor may feel gratitude toward the firm that produced his wealth, he does not usually feel the same attachment as the entrepreneur or top executive. Also, note that the investor does not exert significant *control* over the firm's operations, so he is less willing to accept exposure to the specific risk.

Risk considerations. As long as the investor maintains the concentrated position in the single stock, she faces considerable specific risk. The difference between the investor and the entrepreneur or executive is the lack of attachment and the willingness to take the steps necessary to diversify.

For the Exam: If you are asked to discuss the *risk* faced by a given investor, remember to include the interaction of the investor's psychological attachment to the firm as well as the types and amounts of risk in the portfolio. As to the *types of risk* faced and their relative proportions in the portfolio, think of that graph you saw at Level I (Figure 1); the graph shows how total risk falls through diversification as you increase the number of different securities in the portfolio.

Equity Portfolio Risk

Figure 1: The Effect on Risk of Increasing the Number of Shares in the Portfolio



The graph in Figure 1 shows that as you add securities to the portfolio, total risk decreases because unsystematic risk (i.e., *specific risk*) is diversified away. As you continue to add securities, you are left with nothing but systematic risk (i.e., all specific risk has been eliminated). Remember that at that point the investor can still face residual risk in the form of *counterparty risk* and *regulatory risk*.

The types of risks faced by the investor can include market (systematic risk), specific risk (unsystematic risk), and residual risk. The relative proportions of market and specific risk depend upon the value of the security in the portfolio relative to the overall size of the portfolio (i.e., dollar value and number of other investments in the portfolio). For the entrepreneur, the single holding can represent total wealth, so the entrepreneur will fall at the far left of the curve. For the top executive, the single holding might also be significant and represent a major portion of the executive's wealth. The top executive will also fall near the left, but the firm is probably more established and, hence, presents the executive with less overall risk. Investors fall the farthest out to the right on the curve, as they have the least psychological attachment to any single investment and are more willing to diversify.

Psychological issues. Although portfolio theory tells us that diversification produces optimal portfolios, entrepreneurs and top executives frequently feel psychologically attached to the single stock (i.e., the firm) and are therefore reluctant to sell it to achieve diversification. In fact, the entrepreneur and top executive might not even feel diversification is necessary, as long as they retain sufficient control of the firm's operations. It's only when they start relinquishing control that they start thinking about the need to diversify. Even then, however, their psychological ties might make it difficult for the financial adviser, and other strategies must be considered. These are discussed in the next LOS.

EQUITY HOLDING LIFE

Figure 1 can be utilized in discussing equity holding life, which consists of three stages: (1) the *entrepreneurial stage*, (2) the *executive stage*, and (3) the *investor stage*. The investor stage is further divided into the *diversified investor stage* and the *indexing stage*. In many regards, these stages can be related directly to the three categories of wealth accumulation we have discussed. It is probably easiest to discuss them by starting with a wealthy entrepreneur and following the progression through to indexing.

The entrepreneur falls at the extreme left-hand margin of Figure 1. During this **entrepreneurial stage**, all of the individual's wealth is tied to one security (i.e., one firm), so the investor faces the firm's *total risk*.

> **For the** Exam: Recall our discussion that describes total risk as consisting of market risk and *specific risk*. Although they are technically the same thing, on the exam, use the phrase *specific risk* rather than *unsystematic risk*.

When the entrepreneur takes the firm public, he ends up with a large position in a now publicly traded security, and the entrepreneur has entered the **executive stage**. Whether the investor holds a top-level position in the firm or not, he still has most or all wealth tied to the one firm and thus is faced with considerable specific risk. Remember that the executive's attitude toward risk (i.e., psychological attachment to the firm) varies directly with the amount of control the executive exerts over the firm's operations.

Professor's Note: Once the firm has gone public, we can assume that it is more mature and thus has less specific risk than when it was younger. Therefore, even though the executive faces the firm's total risk, the amount of specific risk *faced is somewhat less than when the executive was at the entrepreneur stage.*

Once the executive advances to the **investor stage**, his primary focus changes from accumulating/generating wealth to protecting and growing the wealth he has. At the investor stage, the individual's focus is no longer on owning the firm, per se. Stock in any firm is now just considered a stock investment (i.e., part of an investment portfolio rather than ownership in a firm). Once the individual has entered the investor stage, he no longer has an emotional tie to the firm.

The investor stage itself has a progression of stages. At the earliest stage, the investor still faces considerable specific risk but has begun to focus on managing it. (Remember, at the entrepreneur and executive stages, the individual is not overly concerned with specific risk, so now the focus is starting to change.) The stock may still represent a concentrated position, but the investor is open to suggestions on mitigating its effects. The investor then progresses through stages until he reaches the indexing stage. At this stage, the investor faces no specific risk whatsoever. Replacing it is the risk associated with the index of choice.

Diversification Techniques

LOS 13.d: Critique the effectiveness of outright sales, exchange funds, completion portfolios, and hedging strategies as techniques for reducing concentrated equity risk.

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Four principle options for improving the diversification (i.e., reducing the risk) of a concentrated, low-basis position include (1) sell all or part of the position, (2) place the position in an exchange fund, (3) pursue a completion portfolio, and (4) hedge the position.

1. **Sale**—Preferred by those wishing maximum investment flexibility. Any unrealized capital gains are recognized immediately for tax purposes. The primary disadvantage is that taxes must be paid on the gain, which reduces the size of the portfolio and funds invested. The subsequent strategies, if done properly, avoid triggering the tax due, but the unrealized gain and potential tax liability remain.

2. **Exchange funds**—Several individuals combine their large, low-basis holdings in a single portfolio. In exchange for a commitment to remain in the pool for a given period of time, the investor's low-basis position becomes part of a well-diversified portfolio. Exchange funds can be public or private.

a. **Public exchange funds**. Under U.S. partnership law, each contributing investor must commit for a minimum of seven years. In addition to the contributed shares, the public exchange fund must also hold a minimum of 20% illiquid assets. The fund manager determines the weight of each stock held as well as the nature of the illiquid assets.

   Primary *advantages*, in addition to the diversification benefit, include the ability to borrow (i.e., *monetize* the position). Because partners now hold a portion of a well-diversified portfolio, they can borrow against their wealth more easily than when it was tied up in the concentrated position. Also, at the end of the partnership, each investor receives his proportional share of the entire fund, including the illiquid investments, rather than the original contributed shares. The original cost basis of each investor in the fund carries over as their cost basis for their new diversified position. Thus, each partner shares the gains on other partners' shares.

   Disadvantages of public exchange funds include the lock-up period (illiquidity), inflexibility, and management fees. The fund manager determines the initial mix of stocks, and individual investors can accept or reject inclusion in the fund; they have no control over the fund's composition or the amount of shares they can contribute. Public exchange funds are passively managed, so the composition of the fund remains the same and is subject to market movements. This means the manager cannot eliminate holdings that are under-performing, so all partners are subject to the performance of each asset. In addition, there are fees associated with setting up the fund.

b. **Private exchange funds**. This is a new type of fund, and it is not yet completely clear how it will be treated by taxing authorities, a significant risk. The intent of these funds is to avoid some of the disadvantages of the public exchange fund. These funds usually consist of several investors who may contribute the same security, thus there is no initial diversification created. There must be at least one unrelated investor who then goes out and purchases the same security at current market value for some business purpose other than hedging to qualify the fund as a private exchange fund. The partnership can then partially hedge (but not fully hedge) the holding as well as borrow and invest the borrowing proceeds to seek diversification.

   Advantages of the structure include: avoid the out-right sale and taxes due, potentially better borrowing terms, and a psychological benefit to the contributors if they do not see it as selling the asset they contribute. In addition, and unlike the public fund, there is no requirement to hold a portion of assets in illiquid assets, the assets can be managed and changed over time. The minimum partnership life is seven years like a public fund.

   The primary risk is the not yet finalized regulatory and tax treatment (in the United States).

3. **Completion portfolios**—Completion portfolios are utilized by investors with other, liquid assets in addition to the large low-basis position. In other words, the investor has a large liquid or illiquid position that dominates a very large portfolio. The investor identifies a target portfolio (e.g., an index) that exhibits the desired degree of diversification, and the manager purchases diversifying shares using existing funds, by borrowing funds, or by using portfolio cash flows (i.e., dividends). Along the way, the manager sells shares and uses the proceeds to purchase others, continually moving toward the desired diversified position. By harvesting losses on shares that have fallen in value, the manager can offset gains on others that have increased. This provides necessary cash while minimizing taxes.

   A primary *disadvantage* of completion portfolios is the need for a large portfolio containing other assets. Without these other assets, the manager is limited to selling the low-basis shares or borrowing to raise cash. Borrowing, of course, only serves to increase (i.e., lever up) the systematic risk of the position. Also, with only the single, large low-basis position, reaching the desired level of diversification can take a significant amount of time, which could leave the investor subject to significant risk for a significant period of time.

4. **Hedging**—Hedging can take a variety of forms including equity collars and variable pre-paid forwards. Although hedging is a common technique to achieve desired diversification of a low-basis position, investors must be aware of *constructive sale* provisions in the U.S. tax code. Accordingly, transactions that effectively take an offsetting position in the currently owned position are deemed constructive sales. The constructive sale rule was designed to prevent investors from locking in investment gains without paying capital gains and to limit their ability to transfer gains from one tax period to another. The following would be considered constructive sales transactions: short sales of substantially identical securities, the investor assumes a position in a swap with a notional principal equivalent to the position held, or the investor assumes a position in a forward contract to deliver the low-basis asset or substantially identical assets.

   a. **Equity collars.** Just as banks sell interest rate calls and purchase interest rate puts to protect against falling rates on floating-rate assets, individuals can create an equity collar to hedge the value of their low-basis position. The individual sells a call on the asset while simultaneously purchasing a put. The collar can be zero cost or the investor can incur a net cost, if the proceeds from the call do not cover the put. If the proceeds from the call are greater than the cost of the put, the position actually generates income. Note that the collar must be set (i.e., must be wide enough) such that the investor can lose money, or it will be deemed a constructive sale.

      The equity collar can effectively monetize the position by setting a minimum value. Because the collar places a minimum value on the position, lenders are more apt to use it as collateral for a loan to the investor.

   b. **Variable pre-paid forwards.** A pre-paid forward contract stipulates the asset to be delivered, the delivery date, and the delivery price. Because it is pre-paid, the delivery price is paid at the inception of the agreement. Using a pre-paid forward, an investor with a low-basis position can agree to deliver all or part of

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the stock for a payment received today. To avoid the constructive sale provision, the investor must remain exposed to a loss of approximately 15% on the position.

The diversification options are summarized and presented in Figure 2.

Figure 2: Effectiveness of Diversification Techniques

Technique	*Advantages*	*Disadvantages*
Sale	• Simple. • Non-systematic risk of the position is completely eliminated for shares sold. • Proceeds can be reinvested or distributed as desired.	• Most costly from a tax standpoint. • Usually requires that shares are publicly traded. • Taxes due on sale reduce the size of the invested portfolio.
Public Exchange Funds	• Can facilitate monetization (borrowing) through risk reduction. • Investor holds diversified portfolio, without recognizing capital gains.	• Management fees. • Must remain in the fund for a minimum period. • Cannot determine or adjust holdings. • Must hold $\geq$ 20% in illiquid assets. • Unrealized tax liability remains in place.
Private Exchange Funds	• Can facilitate monetization (borrowing) through risk reduction. • Provides the ability to utilize hedging techniques. • Not required to hold illiquid assets. • Can adjust holding and diversification strategies.	• Management fees. • Must remain in the fund for a minimum period. • Must find outside, unrelated party willing to purchase the security and join the partnership. • Unrealized tax liability remains in place.
Completion Portfolios	• Investor builds a diversified portfolio over time. • Can provide cash and avoid capital gains to the extent of loss harvesting.	• Investor must have other assets. • May take substantial time to effect proper diversification. • Unrealized tax liability remains in place.
Hedging	• Fast. • Can facilitate monetization through risk reduction.	• Upside potential typically limited after hedge is in place. • Potential regulatory risk (constructive sale provision). • Unrealized tax liability remains in place.

KEY CONCEPTS

LOS 13.a

Basis, or more accurately, cost basis, refers to the reference point for calculating capital gains or losses for a given asset. This is ordinarily either the gross purchase price or the value of the asset when transferred to the holder. When the current market value is greater than the cost basis, the investor realizes a taxable capital gain if the asset is sold.

In some cases, the cost basis may be extremely small (i.e., close to zero). In these very low-basis situations, the capital gains taxes that accrue upon the sale are large. The problem relating to such so-called "low-basis stock" is that the tax ramifications (and other factors) can serve to inhibit the investor from reducing a large position in a low-basis security at the cost of holding a concentrated portfolio which may significantly increase the level of portfolio risk.

The individual will usually fall into one of three categories: *entrepreneur*, *executive*, or *investor*. Entrepreneurs and top executives frequently feel psychologically attached to the single stock (i.e., the firm) and are therefore reluctant to sell in order to achieve diversification. The investor is no longer emotionally tied to the firm.

LOS 13.b

The types of risks faced by the investor can include market (systematic risk), specific risk (unsystematic risk), and residual risk.

Specific risk refers to the risk of the individual security or the risk that can be reduced or eliminated by holding the security in a diversified portfolio. If held in a well-diversified portfolio, the holder is left with only the security's market risk and residual risk. **Residual risk**, which deals with successfully implementing the desired strategy, can be broken down into counterparty risk and regulatory risk.

Counterparty risk is the probability that a counterparty will not correctly complete the transaction as expected. For example, once you have decided on a specific strategy (e.g., selling a portion of a position to achieve the desired diversification), you depend upon the broker to invest the proceeds as instructed. **Regulatory risk** is the possibility that tax authorities will not accept the tax treatment applied to a transaction (e.g., the value placed on private shares donated to a charity and the amount of the resulting tax deduction).

For the entrepreneur, the single holding of his firm's stock can represent total wealth, so the entrepreneur's stock holding will contain a significant amount of specific and, therefore, total risk. For the top executive, the single holding of his firm's stock might also be significant and represent a major portion of the executive's wealth; thus, his stock holdings will also contain a significant amount of specific risk, although less than the entrepreneur. Because the top executive's firm is probably more established, his stock holdings will contain less overall risk than the entrepreneur. Investors have the least psychological attachment to any single investment and are more willing to diversify, so their stock holdings will contain the least amount of specific risk and total risk.

LOS 13.c

A factor that contributes to entrepreneurs maintaining concentrated portfolios is their psychological attachment to their firms. An entrepreneur has confidence in her abilities to run the firm and is not averse to having her entire fortune tied to the future of the firm as long as she is in control. As she transfers control to others, however, the entrepreneur becomes increasingly uncomfortable with a concentrated portfolio and begins to desire a more diversified position.

Just like an entrepreneur, a top executive's fortunes are tied directly to the firm. The more control the executive exerts over the fortunes of the firm, the less he is concerned with diversification and the more psychologically attached he becomes to the firm.

Once the executive advances to the investor stage, his primary focus changes from accumulating/generating wealth to protecting and growing the wealth he has. At the investor stage, the individual's focus is no longer on owning the firm, per se. Stock in any firm is now just considered a stock investment (i.e., part of an investment portfolio rather than ownership in a firm). Once the individual has entered the investor stage, therefore, he no longer has an emotional tie to the firm.

LOS 13.d

1. Sale—Preferred by those wishing maximum investment flexibility. Any unrealized capital gains are recognized immediately for tax purposes.

2. Exchange funds—Several individuals combine their large, low-basis holdings in a single portfolio. In exchange for a commitment to remain in the pool for a given period of time, the investor's low-basis position becomes part of a well-diversified portfolio. Exchange funds can be public or private.

3. Completion portfolios—Are utilized by investors with other, liquid assets in addition to the large low-basis position. The investor identifies a target portfolio (e.g., an index) that exhibits the desired degree of diversification, and the manager purchases diversifying shares using existing funds, by borrowing funds, or by using portfolio cash flows.

4. Hedging—Although hedging is an action of first choice in achieving the desired diversification of a low-basis position, investors must be aware of constructive sale provisions in the U.S. tax code. Accordingly, transactions that effectively take an offsetting position in the currently owned position are deemed constructive sales. The constructive sale rule was designed to prevent investors from locking in investment gains without paying capital gains and to limit their ability to transfer gains from one tax period to another.

   An equity collar is created by buying puts and selling calls on the asset to hedge the value of their low-basis position.

   A pre-paid forward contract stipulates the asset to be delivered, the delivery date, and the delivery price. Using a pre-paid forward, an investor with a low-basis position can agree to deliver all or part of the stock for a payment received today.

CONCEPT CHECKERS

1. According to capital market theory, there are two fundamental types of risk for an investor holding equity securities. These are:
   A. concentrated, non-concentrated.
   B. systematic, non-concentrated.
   C. systematic, non-systematic.

2. **Discuss** the stylized characterization of how an investor's portfolio risk changes as she moves from an entrepreneurial stage to a fully diversified stage in the equity holding cycle.

3. Entrepreneurs and executives often find it difficult to hold a well-diversified portfolio for all of the following reasons except:
   A. they hold non-marketable securities.
   B. suppliers of capital may require that they hold a significant share of their wealth in the firm's equity.
   C. the market value of the securities is less than fundamental value.

4. **Describe** why non-executive investors (i.e., former executives) may find it difficult to sell a concentrated portfolio holding.

5. Techniques that can be used to diversify a concentrated position include all of the following except:
   A. exchange funds.
   B. replicating portfolios.
   C. hedging.

6. Of the techniques that can be used to diversify a concentrated position, **identify** which is likely to take the longest to achieve complete diversification and **explain** why.

ANSWERS – CONCEPT CHECKERS

1. **C** According to capital market theory, there are two fundamental types of risk for an investor holding equity securities: systematic or market-based risk, and non-systematic or firm-specific risk.

2. During the entrepreneurial stage, they are holding a concentrated portfolio with one nonpublicly traded security. At this point, they retain all investment risk, systematic and non-systematic, as well as liquidity risk due to the non-marketability of the securities.

   When the firm goes public, or is purchased by a publicly traded firm with stock, the individual often moves to the executive stage. At this stage, the individual is holding a concentrated portfolio with one publicly traded security. Because the security is publicly traded, the liquidity risk is eliminated, but the individual retains all investment risk.

   As time goes by, and the individual is no longer an executive of the firm, he moves to the investor stage. When he reaches this point, he begins diversifying his portfolio, but the portfolio remains concentrated in the firm's publicly traded stock. Therefore, he continues to hold some non-systematic risk.

   During a period of years in the investor stage, the individual continues to diversify, eventually reaching the stage wherein he holds a well-diversified portfolio that eliminates non-systematic risk. At this point, he has reached the final stage from a portfolio diversification perspective.

3. **C** Entrepreneurs often find it difficult to hold a well-diversified portfolio because they hold non-marketable securities, and the suppliers of capital may require that they hold a significant share of their wealth in the firm's equity. Executives may find it difficult to diversify because they have to wait to become vested. The security's market value is not a direct impediment to diversification, as are the other factors.

4. Non-executive investors may feel a sense of loyalty to a firm that has rewarded them with significant wealth. They may also have other emotional attachments to the firm, such as the family name still being associated with the firm's operations, or receive special perquisites as a result of their former executive position. These factors can make it difficult for the investors to sell, even when this course of action would be desirable.

5. **B** Techniques that can be used to diversify a concentrated position include exchange funds, hedging, completion portfolios, and outright sale. Replicating portfolios are used in option pricing theory.

6. A completion portfolio is likely to take longer than the other methods. This is because any sale of the concentrated holding requires the ability to harvest offsetting losses on the holdings in the completion portfolio, so it may take years to achieve significant diversification.

The following is a review of the Private Wealth Management principles designed to address the learning outcome statements set forth by CFA Institute®. This topic is also covered in:

LIFETIME FINANCIAL ADVICE: HUMAN CAPITAL, ASSET ALLOCATION, AND INSURANCE

Study Session 4

EXAM FOCUS

This reading assignment introduces the concept of human capital and its relationship to financial capital and total wealth. It then examines the implications for asset allocation and the use of life insurance and annuities in wealth management. The Learning Outcome Statements for this section are very broad and many of them apply throughout the reading. Essentially, you should understand the material that follows and not try to narrowly apply an outcome to a narrow section of text. Some of the Learning Outcome Statements will be repeated through the text in particularly relevant sections but you are essentially responsible for all of the text that follows.

You should focus your attention on the basic concepts and implications. The CFA curriculum includes a specific note directing that you "should focus on the framework, concepts, and conclusions of this reading, rather than the specific formulas used to optimize investor utility." We will show the formulas but will not cover any mathematical solutions, which is consistent with the CFA curriculum.

The reading assignment opens with a long section of optional material; however, the opening segment includes helpful terminology. The key points you should review and know for the exam are covered below. If some of the items seem cryptic, you should proceed through the rest of this assignment because they will be covered in more detail as you continue.

IMPORTANT SUMMARY OF INTRODUCTORY MATERIAL

LOS 14.a: Explain the concept and discuss the characteristics of "human capital" as a component of an investor's total wealth.

LOS 14.b: Discuss the earnings risk, mortality risk, and longevity risk associated with human capital and explain how these risks can be reduced by appropriate portfolio diversification, life insurance, and annuity products.

CFA® Program Curriculum, Volume 2, pages 328, 333

- Human capital (HC) is the discounted present value of the individual's projected future earnings.
- Financial capital (FC) is the current market value of the individual's portfolio assets.
- Total wealth is the sum of HC and FC.

- Most investors earn and save from HC to build FC over time to fund retirement and other objectives that continue past death. Generally, HC will be zero at retirement as paid earnings will cease.
- HC is subject to earnings risk as employment could cease due to health, economic, or other changes in conditions. The earnings risk can be reduced by saving more now to build FC more quickly and allow it to start compounding in value more. The risk can also be reduced by selecting FC assets with low correlation to HC, in other words, FC assets that would appreciate when HC is diminished.
- Life insurance can be purchased to provide a payout at death to cover the risk of premature death occurring before sufficient FC has been accumulated to cover those objectives that continue beyond death. (Note: you should not view life insurance as a lottery ticket to create a windfall. The proper use is to fund what would have been accumulated if premature death had not occurred.)
- At retirement, the individual faces longevity risk of outliving his FC. This risk can be hedged with annuities, which provide a payment as long as the individual lives.
- The traditional asset allocation of stocks and bonds can be improved with the inclusion of life insurance and annuities.
- Traditionally (in the United States), retirees would draw in roughly equal portions from Social Security (i.e., government), private pensions, and personal savings. The first two were defined benefit in nature and paid for the life of the retiree—effectively no longevity risk. In recent years, the first two have declined in proportion to private savings leaving individuals more exposed to longevity risk.
- An integrated investment model should:
  - Consider the size, volatility, and correlation to other asset of HC.
  - Jointly analyze life insurance, portfolio asset allocation, and HC.
  - Consider annuities at retirement.

Human Capital and Asset Allocation

LOS 14.a: Explain the concept and discuss the characteristics of "human capital" as a component of an investor's total wealth. (Cont.)

CFA® Program Curriculum, Volume 2, page 333

Human capital is a measure of the individual's lifetime earning capacity. It is the present value of the individual's expected future labor income from salary, wages, bonuses, et cetera. It should be treated as another portfolio asset. Over time most individuals will save from HC to build FC to meet future obligations at retirement. HC can be calculated as:

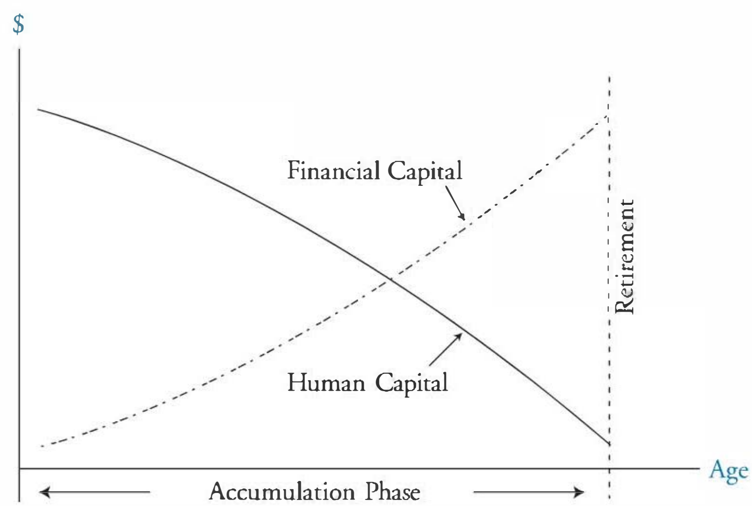
$$HC_j = \sum_{t=j+1}^{n} \left(\frac{\hat{I}_t}{(1+r)^{t-j}} \right)$$

where:

j = individual's current age
HC_j = individual's human capital at age *j*
= present value of expected annual income starting in year $j+1$
$\hat{I}_t$ = expected income in year *t*
n = expected remaining years of life (at age *j*)
r = discount rate reflecting the inherent risk of the investor's income
= risk-free rate + risk premium

Professor's Note: Passive income generated by investments is considered financial income and, to the extent saved, part of financial capital.

Figure 1: The Expected Relationship Between Human and Financial Capital



At any point total wealth is the sum of HC and FC. Over time the portion of total wealth from HC would typically decline and FC would rise, though unexpected events could disrupt the progression.

Utility Maximization

An asset allocation model should consider not only the risk aversion and objectives of the individual but also the correlation of HC and FC in order to maximize the individual's utility. The optimal mix of human and financial capital maximizes the individual's *utility* according to the following utility functions:[1]

Professor's Note: Remember the CFA curriculum directs you to focus on concept and implications and not the formula.

$$U_{i,t} = \frac{\text{Exp}\left(W_{t+1} + HC_{t+1}\right)^{1-\partial}}{1-\partial}$$

where:
$U_{i,t}$ = the individual's utility at time *t*
$\text{Exp}\left(W_{t+1} + HC_{t+1}\right)$ = expected total of human and financial capital
∂ = the individual's risk aversion score $(\partial < 1)$
and
$U_{i,t} = \ln\left(W_{t+1} + HC_{t+1}\right)$ for $\partial = 1$

LOS 14.c: Explain how asset allocation policy is influenced by the risk characteristics of human capital and the relative relationships of human capital, financial capital, and total wealth.

LOS 14.g: Recommend basic strategies for asset allocation and risk reduction when given an investor profile of key inputs, including human capital, financial capital, stage of life cycle, bequest preferences, risk tolerance, and financial wealth.

CFA® Program Curriculum, Volume 2, pages 333, 338

Capital market theory (i.e., the CML) determines the individual's optimal portfolio solely by identifying the combination of the risk-free asset and the market portfolio that maximizes the individual's utility. When human capital is considered, however, the optimal mix of financial assets must consider the *nature* of human capital as well as the *amount* of financial capital.

As we will discuss throughout this reading assignment, the nature of the individual's human capital, whether equity-like or debt-like, determines the optimal composition of the financial portfolio. The investor's human capital (HC) should be treated as equity like if it is highly correlated with the equity market and volatile or as a fixed income

1. 2013 CFA Level III curriculum, Vol. 2, page 336.

asset if uncorrelated and less volatile. The following scenarios illustrate the concept and implications:

Scenario 1: A young investor with highly certain future income and HC. Financial capital (FC) is minimal. The HC should be treated as low risk or risk free and the financial capital allocated to equity. As the investor ages, FC would follow the normal shift toward lower risk fixed income and away from equity.

Scenario 2: A young investor with uncertain future income. Also the income is highly correlated with the economy and stock market making for risky, equity-like HC. Financial capital (FC) is minimal. The HC should be treated as equity and the financial capital allocated to fixed income investments. As the investor ages and FC becomes larger in relation to HC, the FC could first shift to equity as the portion of equity like HC declines over time and later start to shift back to fixed income following the normal progression as the individual ages.

Scenario 3: A young investor with uncertain future income but the income is uncorrelated with the economy and stock market making for risky but non-equity-like HC. Financial capital (FC) is minimal. This investor will follow a path similar to Scenario 1.

Scenario 4: A more established investor with significant FC and HC whose HC is less risky than stocks. With less risky and significant HC, the investor can allocate the FC to more risky equity investments. Then as the investor ages and HC declines as FC rises, the investor will need to reduce the equity in the FC to begin the normal process of reducing the risk of his total wealth.

HUMAN CAPITAL AND LIFE INSURANCE

LOS 14.d: Discuss how asset allocation and the appropriate level of life insurance are influenced by the joint consideration of human capital, financial capital, bequest preferences, risk tolerance, and financial wealth.

LOS 14.e: Discuss the financial market risk, longevity risk, and savings risk faced by investors in retirement and explain how these risks can be reduced by appropriate portfolio diversification, insurance products, and savings discipline.

CFA® Program Curriculum, Volume 2, pages 344, 354

Individuals face a mortality risk that they may die prematurely (at which point their HC is zero) and at a point prior to accumulating sufficient FC to fund any objectives that continue beyond their death. This could include things like educating children, providing for spouse, or making death bequests. Obviously it does not include things like their own retirement as they are now dead. Life insurance is the perfect vehicle to hedge this mortality risk, as it pays out if the individual dies. The optimal amount of insurance would be the amount needed to fund the FC shortfall at premature death. In the following analysis, the insurance is simple, annual term life insurance. In simple form, the individual would pay one premium at the start of the year and his estate would receive a stated insurance amount if death occurs during the year. If insurance is needed the following year, insurance can be bought next year.

The interaction of HC, asset allocation, and life insurance to optimize the individual's utility can be modeled as:

Professor's Note: Again, remember the CFA curriculum directs you to focus on concept and implications and not the formula.

$$\text{Max } E\left[\left(1-P_{\text{death},t}\right)(1-D)\left(U_{\text{alive}}\right)\left(FC_{t+1}+HC_{t+1}\right)\right]+\left(P_{\text{death},t}\right)(D)\left(U_{\text{dead}}\right)\overbrace{\left(FC_{t+1}+LIPO\right)}^{\text{expected estate}}$$

where:

$P_{\text{death},t}$ = subjective probability (at time t) of dying before time $t+1$

D = 0 to 1 = strength of the investor's desire to leave a bequest; D = 0 if the investor does not wish to leave an estate

FC_t = value of the investor's financial capital at time t (or t+1); FC is allocated according to the nature and amount of human capital to meet the investor's objectives and constraints and to maximize the investor's utility

HC_t = value of the investor's human capital at time t (or $t+1$)

U_{alive} = utility derived from the expected value (at $t+1$) of human capital and accumulated financial capital

U_{dead} = utility derived from the degree to which the accumulated financial capital coupled with life insurance proceeds will meet the desired bequest

LIPO = life insurance payout; face value of the 1-year renewable term life policy

While the model would allow for precise calculations, it also allows for important general conclusions that include the following:

- As with traditional asset allocation modeling, the individual's risk aversion will affect the riskiness of the portfolio with risk-averse individuals holding lower risk portfolios and risk-tolerant individuals holding more aggressive portfolios.
- Asset allocation and life insurance holdings both affect investor utility and should be solved for jointly.
- A strong correlation between HC and risky assets reduces the allocation to risky assets in the FC. However, it also reduces the need for life insurance. The reduction in life insurance need is caused by high correlation raising risk (i.e., less risk reduction from low correlation), which increases the discount rate used to calculate the PV of future labor earnings. It lowers the computed HC. With lower HC, there is less to insure against mortality risk and less need for life insurance.
- An asset allocation is expected to meet both pre- and post-death objectives. The larger and more important the post-death objectives are to a given individual, the greater the need for life insurance to fund those objectives that continue beyond premature death. Consider the other extreme of an individual whose only objective is to fund her own retirement. There will be no need for funds once she dies, so no insurance against premature death is needed.

- An individual's subjective assessment of his mortality would affect demand for insurance. If he thinks he will live forever, there is no need for life insurance, as it would never pay off. On the other hand if he expects or has a family medical history of early death, life insurance may be a bigger priority. Essentially the key issue is what probability of death during the insurance period the insurance company priced into the cost of the insurance and does the individual have reason to believe the death probability rate is higher or lower than what is priced into the policy.
- Those with relatively more FC (meaning less HC) have less HC to insure and less need for life insurance.
- As FC increases over time, the risk taken with the FC should be positively related to the riskiness of the HC. In other words, if the remaining HC is risky, invest more FC in equity but if the remaining HC is lower risk, take less risk with the FC.

Professor's Note: This last bullet point appears to contradict earlier discussions that higher risk HC leads to lower risk FC to meet the overall risk objective. The earlier discussion of an inverse relationship was extensive in the material and is illustrated with examples.

This new point of why there could be a positive correlation is premised on there being greater FC is not explained, and it is not illustrated with an example. Do not let it distract you from the earlier issue. Perhaps it could be rationalized as with considerable FC and little HC, a portion of the FC can mirror the riskiness of the small amount of HC. The CFA curriculum provides no explanation.

LOS 14.g: Recommend basic strategies for asset allocation and risk reduction when given an investor profile of key inputs, including human capital, financial capital, stage of life cycle, bequest preferences, risk tolerance, and financial wealth. (Cont.)

CFA® Program Curriculum, Volume 2, page 333

The following cases illustrate some of the implications of the model:

Case 1: Consider this as a base case of a young individual with little FC accumulated. The HC is initially large and declines towards zero at retirement while, hopefully, the FC rises to fund retirement. Initial allocation of FC is weighted towards risky assets but begins a shift to more moderate risk as retirement comes closer. Life insurance is highest initially to hedge mortality risk with the larger the portion of wealth coming from HC. The insurance need declines as HC declines and FC rises.

Case 2A: A mid-life investor with considerable FC and HC will have higher needs for life insurance, the larger the bequest (post-death) objectives.

Case 2B: The same mid-life investor's assets will shift to lower risk FC assets if their aversion to risk is high and increase the holding of life insurance. More aggressive investors would shift to higher risk assets and less life insurance.

Case 2C: For the mid-life investor:

- Life insurance demand is inversely related to FC, as FC rises, there is less need for life insurance to meet obligations.
- Allocation to low-risk investment is positively related to FC, as FC rises, there is less need to invest in higher risk assets to meet objectives.

Case 2D: Again, consider the mid-life investor. If there is a strong positive correlation of FC and HC, this leads to a more conservative asset allocation and less need for life insurance. A classic example of this issue is the investor who concentrates his portfolio holdings in the stock of his employer. He has linked both his future income and portfolio return to the same company. Ideally he would reduce the holding of employer stock to lower the correlation of FC and HC, but if this is not possible, any other FC assets should shift to lower risk. In this case of positively correlated HC and FC, the HC calculation should reflect a higher, riskier discount rate, which lowers the HC and therefore lowers the life insurance need.

THE PORTFOLIO AT INVESTOR'S RETIREMENT

LOS 14.e: Discuss the financial market risk, longevity risk, and savings risk faced by investors in retirement and explain how these risks can be reduced by appropriate portfolio diversification, insurance products, and savings discipline. (Cont.)

LOS 14.f: Discuss the relative advantages of fixed and variable annuities as hedges against longevity risk.

LOS 14.g: Recommend basic strategies for asset allocation and risk reduction when given an investor profile of key inputs, including human capital, financial capital, stage of life cycle, bequest preferences, risk tolerance, and financial wealth. (Cont.)

CFA® Program Curriculum, Volume 2, page 333, 354, 359

The typical investor goal at retirement is to maintain his lifestyle and perhaps make gifts or bequests at death. Three significant risks he now faces are as follows:

1. Financial risk is due to changes in financial market prices or conditions. The retired individual must continue to consider both short-run and long-run risk. In the short run, holding assets with lower volatility lowers portfolio volatility, but in the long run may produce lower return and increase the risk of an inadequate return. Monte Carlo simulation can better model these path-dependent issues, such as a need for a fixed amount withdrawal that is not adjusted for changing portfolio value.

Professor's Note: Recall that these issues were discussed earlier in the curriculum and you are responsible for them even though the current section does not elaborate on them.

2. Longevity risk is the risk of outliving the FC assets, and it rises now that HC is zero. This risk has also been rising as life expectancies have been increasing while public and private defined-benefit pension plans have been becoming less significant. This makes the retired individual more dependent on personal savings and makes her face greater longevity risk.

3. Spending uncertainty risk is the simple inability to precisely predict how much will be needed during retirement or how long it will be needed.

These retirement risks are interrelated. While traditional mean-variance optimization is a good starting point for determining the asset allocation, it should be supplemented. Monte Carlo simulation provides additional insight into path dependency and the probabilities of meeting or not meeting objectives. This can be used to point out to individuals the need to save more to build FC. In addition behavioral finance offers insights into how to counsel individuals on the need to save more now (and consume less now).

In addition, the longevity risk can be hedged by combining lifetime annuities with the more traditional stock and bond portfolio. A combination of both fixed and variable annuities is generally best. Both are contracts purchased and paid for in advance, often from an insurance company. Each pays out to the beneficiary for the life of the beneficiary. In effect with the individual paying the insurance company up front, longevity risk is now transferred to the insurance company as the company must make payments for the remaining life of the beneficiary of the annuity.

- A fixed annuity makes a constant nominal payment for life and leaves the beneficiary exposed to declining real value over time, in other words, inflation risk. For example, an individual would pay GBP100,000 and receive GBP7,000 per year for life.
- A variable annuity is also for life but the size of payments is linked to some underlying portfolio, markets, or assets. This may provide some inflation protection over time. This would also make its return more correlated with the stocks and bonds in the portfolio. It would provide some inflation protection but less overall portfolio volatility reduction, as it will be more correlated with stocks and bonds. In a simple concept, suppose the previous GBP100,000 cost annuity pays out 6% of the future market value of the initial 100,000 for the life of the beneficiary, creating a lifetime receipt but of changing size.

Generally a combination of stocks, bonds, fixed, and variable annuities likely offers the best combination at retirement.

Professor's Note: While the annuities are often purchased for a lump sum, payment over a specified schedule is another option. The payouts can also be structured in a variety of ways. Payouts could be limited to a predetermined time period, but that would provide no protection from longevity risk. Payouts may also be for life or a specified time period, whichever is longer. Payouts could be for the longer of the lifetime of two or more recipients—a useful feature if a spouse must be provided for as well.

KEY CONCEPTS

LOS 14.a

Human capital is the present value of earned income (i.e., income generated by the individual's labor). Passive income generated by investments is considered financial income. Social security and employer-related pension payments are considered human capital. Thus, an individual's human capital may maintain a positive value at retirement. In addition to an amount of human capital at time *t*, each individual has an amount of financial capital, defined as the total value of financial assets owned.

LOS 14.b

Earnings risk relates to the potential for a disruption in the expected income flow. Possible remedies for earnings risk include increasing the savings rate, minimizing the correlation of human and financial capital, and offsetting the risk of the human capital with financial capital.

Mortality risk is the sudden, unexpected loss of human capital caused by premature death. The most commonly employed hedge against mortality risk is life insurance, which has perfect negative correlation with human capital.

Longevity risk relates to the inability of your financial assets to meet your living expenses because you live longer than expected or your financial capital has experienced an unexpected, severe drop in value. The most often cited remedy for longevity risk is the lifetime-payout annuity.

LOS 14.c

Total wealth is the combination of financial and human capital. To consider human capital as part of the investor's asset allocation, we must treat it like an asset class. An individual's human capital could be considered equity-like because of its high expected return and accompanying high variability or because it has a high correlation with equity markets. The investor's human capital could be more fixed income-like if it has lower volatility and low correlation with equity markets. For an individual with equity-like human capital, a higher allocation to fixed-income securities is warranted. For an individual with bond-like human capital, an increased allocation to equities is warranted. Just as with any other asset class, we should consider the human capital's inherent risk, its correlation with other assets, and its size relative to the rest of the portfolio.

LOS 14.d

Life insurance acts as a substitute for human capital, based on present values. Fixed-income characteristics in human capital dictate a lower discount rate with accompanying higher present value and higher demand for life insurance. Equity-like characteristics of human capital dictate a higher discount rate with an accompanying lower present value and lower demand for life insurance.

Risk aversion and the demand for life insurance are positively related. The more risk averse the individual, the less aggressive the financial portfolio, and the higher the demand for life insurance. An aggressively allocated portfolio typically indicates a low aversion to risk (high risk tolerance) and a decreased demand for life insurance.

The probability of death is positively related to the demand for life insurance. As the probability of dying increases, the individual turns to life insurance to increase the value of the estate.

Generally, the greater the accumulated wealth, the lower the need for life insurance will be. As the bequest desire increases, the demand for life insurance increases.

LOS 14.e

There are three primary risks that could jeopardize the desired lifestyle and/or the bequest: (1) financial market risk, (2) longevity risk, and (3) savings risk.

Financial market risk refers to the effects of volatility in the financial markets that could result in significant drops in portfolio values. Diversification is the primary means of mitigating financial market risk.

Longevity risk is the risk of outliving one's financial assets. Actuarial life expectancies are based on population averages. Half will reach the actuarially determined age, but many will live longer. Lifetime-payout annuities are the primary tool for mitigating longevity risk. Employer- and government-based pension plans (e.g., social security) also represent possible solutions to longevity risk.

Savings risk, also known as spending uncertainty, relates to spending more than you should so that you save less than you should during the accumulation stage. Some employers have resorted to SMarT ("Save More Tomorrow") programs. In these programs, individuals pledge to save a portion of future raises.

LOS 14.f

Fixed annuities pay a set nominal amount each period for the life of the investor. In contrast, variable annuities are indexed to some underlying investment. Both provide a lifetime cash flow.

For fixed annuities—because the cash flows are stated in constant nominal terms, the real values of the cash flows fall over time.

For variable annuities—in some periods, the funds perform well and provide high returns. In other periods, however, the payments might fail to meet the investor's needs.

LOS 14.g

Always offset the risk of the **human capital** with the risk of the financial capital and minimize the correlation of the human and financial capital. If the human capital is equity-like, then allocate more of the financial portfolio to fixed income with less demand to life insurance. If the human capital is bond-like, then allocate more of the financial portfolio to equities with increased demand for life insurance.

Financial capital is based on an expected savings rate and an expected return on capital. Attaining the expected retirement portfolio is subject to savings risk, earnings risk, and financial market risk.

When the investor first enters the accumulation phase of their **life cycle**, human capital is typically at its highest and financial capital at its lowest. At that time, the allocation to risky assets depends on the nature of the investor's human capital.

For most individuals entering the accumulation phase, their human capital is more equity-like; thus, their financial assets should be allocated more heavily toward low-risk investments. For some, the nature of human capital is bond-like, permitting investment in riskier financial assets. As the investor ages, financial capital increases while human capital decreases. If the investor is sufficiently successful, accumulated **financial wealth** grows to the point that life insurance is no longer needed as a hedge against mortality risk.

The strength of the **bequest** desire affects the demand for life insurance and the utility the investor receives from leaving a bequest. Generally, the greater the bequest desire, the more likely the individual is to save adequately during the accumulation phase.

The proportion of risky assets in the individual's financial portfolio is inversely related to the individual's **risk aversion**; the greater the aversion to risk, the smaller the allocation to risky assets. The individual's demand for life insurance, however, is positively related to risk aversion. The more risk averse the individual, the greater the demand for life insurance.

CONCEPT CHECKERS

1. When measuring human capital, the individual's expected inflows should include all of the following EXCEPT:
   A. expected bonuses.
   B. dividends that are consumed rather than reinvested.
   C. the post-retirement pension.

2. **Explain** two factors that contribute to shifting the financial capital curve up when an individual's savings rate is increased.

3. Which of the following is the *most appropriate* strategy for mitigating earnings risk? The investor should:
   A. minimize the correlation between financial and human capital.
   B. establish a more conservative savings rate.
   C. increase the allocation to risky assets in the financial portfolio.

4. **Explain** how life insurance is used to hedge mortality risk.

Use the following information to answer Questions 5 through 7.

A 69-year-old tenured full professor has just retired. Through each working year, she was required to deposit a portion of her state salary into the state university professors' pension plan, and the amount she invested was matched by the university. Based on her contributions and those of the university, she is now eligible to receive a sizeable state pension. Because she was and is concerned about having enough for retirement and has a strong desire to leave a bequest, the professor has also invested for many years in a 403(b) account through a broker. As a result, she has also accumulated a fairly large financial portfolio.

Over the years, she has continually allocated her 403(b) contributions 20% to large-cap equity mutual funds, 50% to bond mutual funds, and 30% to money market mutual funds. She is now withdrawing those funds and investing them with a financial adviser.

5. Based only on the facts presented above, the professor's risk tolerance would be *best* described as:
   A. average.
   B. above average.
   C. below average.

6. **Describe** and **explain** the optimal allocation to risky assets in the professor's new financial portfolio.

7. **Determine** the professor's most probable demand for life insurance and **explain** your decision.

8. Rudi Bell is a 55-year-old salesman working in the paper industry. Bell has an expected annual income of $60,000, a financial portfolio of $250,000, and he is expected to receive a pension of $10,000 for the duration of his retirement. He is planning on retiring soon and would like to travel to Europe several times. Although Bell has a son in college, he does not plan to leave the son a bequest. Given these facts, the face value of Bell's term life insurance policy is *most likely*:
   A. low, given his low bequest preference.
   B. moderate, because he is nearing retirement and will soon receive his pension.
   C. high, given that the son would benefit from his father's policy.

9. Alan Roberts, a 30-year-old computer database analyst, has a moderate-size financial portfolio made up almost entirely of fixed-income securities. Roberts has changed his career path five times since graduating from college. His income has varied widely from job to job, but he is currently earning a sizable salary. Roberts is looking forward to his bonus this year, which is rumored to be quite good. Given the structure and size of his financial portfolio and his unstable career path, Roberts's demand for life insurance is *most likely*:
   A. low.
   B. high.
   C. indeterminate.

10. Mort Rasmussen has retired and has based his retirement spending on his actuarial life expectancy. His closest friend, Sue Bernard, has warned him that by doing that he exposes himself to longevity risk. **Define** longevity risk. **Explain** why basing retirement spending on actuarial life expectancy can lead to longevity risk.

11. Fixed annuities provide relatively stable cash flows. However, there are several drawbacks to using fixed annuities. Which of the following statements is not a drawback of a fixed annuity?
    A. The annuity is typically illiquid.
    B. The real values of the cash flows fall over time given that the cash flows are stated in nominal terms.
    C. Because current interest rates are used to determine the present value of the annuity, if interest rates are historically high when the annuity is purchased, the investor is locked into a low lifetime return.

Answers – Concept Checkers

1. B The cash flows included in measuring the individual's human capital should include all cash flows generated through employment, including employment-related pensions. Earnings (dividends and interest) on investments are considered financial capital, whether consumed or reinvested. Consuming them, however, decreases the growth in the individual's financial capital.

2. One advantage to increasing the rate of savings is that financial capital grows more quickly when contributions are increased. Another advantage is that financial capital is put to work sooner and starts earning investment returns more quickly than originally planned.

3. A To offset the inherent riskiness of the individual's earnings, always minimize the correlation between the individual's financial and human capital. Although establishing a more conservative (i.e., lower) savings rate might make regular saving easier, an increased savings rate and low-risk financial assets are advised when the investor has above-average earnings risk.

4. The primary use of life insurance is to replace lost human capital. When human capital falls to zero upon death, the payoff on the life insurance replaces the lost income (human capital).

5. C We have several facts that suggest the professor has below-average tolerance for (above-average aversion to) risk:
   - The simple fact that she chose to be a professor *could* indicate that she actively sought out a career with minimal earnings risk.
   - She started the 403(b) account.
     - She is still concerned about having a sufficient portfolio to meet retirement living expenses.
     - She is still concerned with leaving a bequest.
   - She continually allocated her 403(b) account 80% to low-risk investments and 20% to large-cap equities.

6. The professor's account should probably be allocated more heavily toward fixed-income and other lower-risk investments. Assuming her aversion to risk has not changed (we see nothing to suggest it has changed), she remains highly risk averse. A substantial guaranteed pension would ordinarily indicate the ability to allocate heavily to equities and other risky assets. However, we must honor the professor's risk tolerance and stay with lower-risk investments.

7. Even as she retires, the professor probably has a strong demand for life insurance. The demand for life insurance is driven by the investor's risk aversion, the investor's wealth, and the strength of the investor's bequest desire.

   Risk aversion: The professor has high aversion to risk, which would indicate a strong demand for life insurance.

   Wealth: The professor has a substantial financial portfolio, which could indicate that she has her retirement and bequest covered. However, we are told that she still has concerns about meeting both her expenses and the bequest, so this would indicate that she retains the strong desire for insurance.

   Bequest desire: The professor retains a strong desire to leave an estate, and this would also translate into high demand for life insurance.

8. A Despite approaching retirement and having a son, Bell has no desire to leave a bequest. The fact that he has any insurance at all is surprising, because he has no desire to leave an estate. Life insurance has perfect negative correlation with human capital; it only has value at the policyholder's death. Therefore, with no bequest desire, Bell should be investing the insurance premium in financial assets.

9. C Roberts's moderately sized financial portfolio is made up solely of fixed-income securities. This is a good indication of his risk tolerance; he would appear to have a low tolerance for risk. Low risk tolerance typically indicates a high demand for life insurance. However, Roberts's human capital volatility indicates that his human capital is equity-like. Because equity-like human capital has a lower present value than bond-like human capital and life insurance acts as a substitute for human capital, this should imply a reduced demand for life insurance. Because the two facts contradict each other, we cannot determine conclusively whether Roberts's demand for life insurance is high or low.

10. Longevity risk is the risk of living longer than expected or experiencing significant drops in financial asset values so that you run out of capital too soon. Actuarial life expectancies are based on population averages. Half the individuals reaching a certain age have the actuarially determined life expectancy, and many will live longer. As a result, there could be a fairly high probability of outliving one's assets if you plan to spend them over your actuarial life.

11. C Fixed cash flows are based on a current interest rate. If interest rates are historically low when the annuity is purchased, the investor is locked into a low lifetime return. A high interest rate would indicate a high lifetime return.

SELF-TEST: PRIVATE WEALTH MANAGEMENT AND BEHAVIORAL FINANCE

Use the following information for Questions 1 through 6.

Chen Wang and his wife, Tao, have been married for nearly 30 years, during which time they have enjoyed enormous business success. The Chens started their marriage as small shopkeepers and grew their business rapidly. They turned their first shop into a successful chain of retail stores. From that base, they expanded into global trading. Eventually, they began to manufacture a variety of items for sale in both their own stores and for export.

After diversifying their business geographically and integrating vertically, the Chens broadened their business interests into real estate. Their holdings expanded beyond their initial investment in residential apartments into large commercial spaces and office buildings. Ultimately, they parlayed their first small business into a large conglomerate, incorporating several industries on both sides of the Pacific. Even though Chen Wang is 61 and his wife is 58, they remain very active in running their businesses.

In addition to their varied business interests, the Chens have a substantial portfolio of marketable securities. Although they have historically managed their securities portfolio themselves, they decided to bring in a professional adviser once the portfolio exceeded 100 million Hong Kong dollars (HKD). They consulted Park Jung Hee, CFA, about the asset allocation and security selection in their investment portfolio.

The Chens told Park, "We have two grandchildren, and we would like to be able to leave each one 100 million HKD (in today's dollars) of marketable securities in our estate." Park reminded the Chens that they could expect to enjoy long lives, but Chen Wang responded, "Kindly plan our investments so the portfolio reaches the target by the time I am 75." Park points out that the current value of the portfolio is already 102 million HKD, so that goal should be reachable, especially because the Chens are not subject to income taxes on portfolio income or capital gains.

The Chens would also like to fund some charitable activities. "If the portfolio can afford it, we would also like to give 1 million HKD per year to various organizations," Chen Tao tells Park. "And we would like to increase that figure every year for inflation," adds Chen Wang. Park and the Chens agree to plan for an inflation rate of 1% per year.

Park reviews the current holdings in the portfolio with the Chens. He notes that the portfolio contains nearly 20 million HKD of equity in the Golden Flower Trading Company (GFTC). The Chens have had GFTC in their portfolio for several years because they consider it a good company. Park advises them, however, to sell some of the position in order to diversify their portfolio. Chen Wang points out to Park that GFTC has fallen 15% from its high, reached several months ago. "We don't want to lose money, so please wait to sell until it comes back."

Chen Tao elaborates, "We prefer to own companies that we know. We don't like to rely on investment research because a company's financial statements do not tell us what the company is really like. We want to know personally the people who run the companies we invest in and know that they are careful and prudent. Once we make an investment, we hold on to it."

1. The process for creating an investment policy statement (IPS) for the Chens would *least likely* include which of the following?
   A. Define appropriate investment strategy based on analysis of market conditions and other variables.
   B. Eliminate portfolio constraints.
   C. Determine asset allocation to meet the Chens' objectives and constraints.

2. Which of the following is *least likely* to be included in the five main classes of investment constraints?
   A. Regulatory and legal constraints.
   B. Risk tolerance.
   C. Time horizon.

3. The return objective on the portfolio necessary for the Chens to reach their investment goals is *closest* to:
   A. 5%.
   B. 6%.
   C. 7%.

4. The Chens' decision to invest in the equity of GFTC because they consider it a good company is *best* described as:
   A. familiarity.
   B. overconfidence.
   C. representativeness.

5. Chen Wang's reluctance to sell GFTC until it returns to its earlier high is *best* described as:
   A. regret.
   B. anchoring.
   C. myopic loss aversion.

6. Chen Tao's description of how she and her husband choose the companies they invest in *most closely* describes which type of investor?
   A. Cautious.
   B. Methodical.
   C. Individualistic.

Self-Test Answers: Private Wealth Management and Behavioral Finance

1. B An IPS would appropriately determine, not eliminate, portfolio constraints. It is highly unlikely that constraints could be eliminated. All other choices are appropriate steps in the construction of an IPS.

2. B Although risk tolerance is a critical aspect of an IPS, it is not considered an investment constraint. The five main categories of investment constraints are liquidity, time horizon, legal and regulatory concerns, tax considerations, and unique circumstances.

3. C Because Chen Wang is currently 61 years old and wants the portfolio to reach 200 million HKD by the time he is 75, the time horizon for the portfolio is 14 years. In order for the portfolio to reach 200 million in that time, ignoring the annual distribution, it would need to return [$200 / 102 = (1 + x)^{14} =$] 5% per year. Because the portfolio will be distributing approximately (1 million / 102 million =) 1% per year in gifts in addition to taking into account a 1% inflation rate, it would need to earn approximately (5 + 1 + 1 =) 7% per year to reach the target and fund the annual distribution. Using the TVM keys: –102 million = PV, 200 million = FV, 1 million = PMT, 14 = N, CPT → I/Y = 5.66% + 1% inflation = 6.66% or about 7%.

4. C Viewing a "good company" as a "good stock" is an example of representativeness. Overconfidence is when people place too much confidence in their ability to predict. Familiarity is when people invest in securities with which they are familiar. Frame dependence is judging information within the framework in which it is received rather than on its own merits.

5. A The Chens are attempting to avoid the feeling of regret associated with not selling GFTC at its historical high. This is a stereotypical case of trying to avoid a feeling of *if only*. If they sold the stock now, they would say, "*If only* we had sold GFTC when it was at $X, we would have realized much more on the investment." In other words, they would have to admit that they were unable to recognize and take advantage of the historical high. Anchoring refers to locking onto the first information received and is more common in a forecasting setting. The Chens are showing loss aversion but myopic loss aversion is something else. It refers to loss aversion that leads to distortions in the market equity risk premium for equity and is not relevant here.

6. A Cautious investors are the most risk averse and tend to exhibit low turnover in their portfolios. Chen Tao's description of choosing prudent and careful businessowners with whom they have emotional relationships, not relying heavily on financial data and investment research, and holding on to their holdings once a decision is made is most closely aligned with the cautious personality type. Methodical investors research investments thoroughly and rarely form emotional attachments. Individualistic investors make careful investment analyses, and spontaneous investors follow trends.

FORMULAS

investment income tax (accrual taxes): $FVIF_{IT} = [1 + R(1 - T_1)]^N$

deferred capital gains tax (MV = cost basis): $FVIF_{CGT} = [(1 + R)^N(1 - T_{CG}) + T_{CG}]$

deferred capital gains tax (MV ≠ cost basis): $FVIF_{CGBT} = [(1 + R)^N(1 - T_{CG})] + T_{CG}B$

wealth-based tax: $FVIF_{WT} = [(1 + R)(1 - TW)]^N$

return after realized taxes: $R_{ART} = R[1 - (P_1T_1 + P_DT_D + P_{CG}T_{CG})]$

effective capital gains tax rate:

$$T_{ECG} = T_{CG}(1 - P_1 - P_D - P_{CG}) / (1 - P_1T_1 - P_DT_D - P_{CG}T_{CG})$$

future value interest factor after all taxes:

$$FVIF_T = [(1 + R_{ART})^N(1 - T_{ECG})] + T_{ECG} - (1 - B)T_{CG}$$

accrual equivalent after-tax return: $R_{AE} = \sqrt[N]{\frac{FV_T}{PV}} - 1$

accrual equivalent tax rate: $T_{AE} = 1 - \frac{R_{AE}}{R}$

future value interest factor for a tax-deferred account (TDA):

$$FVIF_{TDA} = (1 + R)^N(1 - T_N)$$

future value interest factor for a tax-exempt account: $FVIF_{TEA} = (1 + R)^N$

human capital at time *t*, $HC_j = \sum_{t=j+1}^{n}\left(\frac{\hat{I}_t}{(1+r)^{t-j}}\right)$

objective function for allocation of risky assets:

$$\text{Max } E\left[\left(1 - P_{death,t}\right)(1 - D)\left(U_{alive}\right)\left(FC_{t+1} + HC_{t+1}\right)\right] + \left(P_{death,t}\right)(D)\left(U_{dead}\right)\overbrace{\left(FC_{t+1} + LIPO\right)}^{\text{expected estate}}$$

relative after-tax value:

$$RV_{\text{tax-free gift}} = \frac{FV_{\text{tax-free gift}}}{FV_{\text{bequest}}} = \frac{\left[1 + r_g\left(1 - t_{ig}\right)\right]^n}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}$$

$$RV_{\text{taxable gift}} = \frac{FV_{\text{taxable gift}}}{FV_{\text{bequest}}} = \frac{\left[\left(1 - T_g\right)\right]\left[1 + r_g\left(1 - t_{ig}\right)\right]^n}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}$$

$$RV_{\text{taxable gift}} = \frac{\left(1 - T_g + T_g T_e\right)\left[1 + r_g\left(1 - t_{ig}\right)\right]^n}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)} \quad \text{(donor pays gift taxes)}$$

$$RV_{\text{charitable donation}} = \frac{FV_{\text{charitable gift}}}{FV_{\text{bequest}}} = \frac{\left(1 + r_g\right)^n + T_{oi}\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}{\left[1 + r_e\left(1 - t_{ie}\right)\right]^n\left(1 - T_e\right)}$$

generation skipping:

$$FV_{\text{no skipping}} = PV[(1 + r)^{n1}\ (1 - t)][(1 + r)^{n2}\ (1 - t)]$$

$$FV_{\text{skipping}} = PV[(1 + r)^N(1 - T_e)] \qquad [N = n1 + n2]$$

double taxation: effective tax rates:

$$T_{\text{credit}} = \text{Max}(T_{\text{residence}}, T_{\text{source}});\ T_{\text{deduction}} = T_{\text{residence}} + T_{\text{source}}(1 - T_{\text{residence}})$$

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