2017 Level III Mock Exam AM

The 2017 Level III Chartered Financial Analyst (CFA®) Mock Examination has 60 questions. To best simulate the exam day experience, candidates are advised to allocate an average of 18 minutes per item set (vignette and 6 multiple choice questions) for a total of 180 minutes (3 hours) for this session of the exam.

Please be advised this mock exam contains 10 item sets for the morning session and 10 items sets for the afternoon session.

The live exam morning session will consist of a variable number of essay questions for the morning session and the afternoon session will consist of 10 item sets.

The 10 additional item sets provided in the morning session of the mock exam are for supplementary preparation purposes only and does not represent the format candidates will experience on exam day.

Questions	Topic
1–6	Ethical and Professional Standards
7–12	Behavioral Finance
13–18	Private Wealth Management
19–24	Portfolio Management for Institutional Investors
25–30	Economics
31–36	Fixed Income Portfolio Management
37–42	Equity Portfolio Management
43–48	Alternative Investments
49–54	Risk Management Applications of Derivatives
55–60	Global Investment Performance Standards
Total:	**180**

2017 LEVEL III MOCK EXAM AM

Rayne Brokers Case Scenario

Erin Mutini, CFA, a South African resident, is an employee of Oakwood Asset Management (OAM), an asset management company based in South Africa. OAM manages and sells its branded mutual funds and unit trusts through agents across Africa. Mutini was recently sent to Uganda to oversee OAM's new agency agreement with Rayne Brokers (Rayne), a licensed Ugandan stock brokerage company with a strong retail customer base.

Part of Mutini's oversight role is to establish policies and procedures to ensure the Ugandan sales force represents OAM in a professional manner. As a condition of its agency agreement, OAM requires all of Rayne's sales agents to adhere to South African financial regulations, generally considered to be stricter than those in Uganda. OAM also requires all of its sales agents to abide by the CFA Code of Ethics and Standards of Professional Conduct. OAM's lawyer has indicated South African laws are stricter than the CFA Code and Standards.

To inform Rayne sales agents of their responsibilities under the OAM agency agreement, Mutini holds a meeting with the agents to discuss the financial regulations of South Africa and the CFA Code and Standards. To conclude the meeting, Mutini describes OAM's annual competition amongst its sales agents where the winner is determined by the value of products sold (assets under management), fees generated, and the number of new clients brought in. The competition prize is an all-expense paid two-week holiday for two to Mauritius. Mutini advises the staff they should concentrate their sales efforts on OAM's front-end load funds since they earn the highest fees. She adds staff should not disclose this competition to clients.

Mutini next meets with Rayne supervisors to specifically discuss their roles in upholding the CFA Standards. She informs them they are responsible for the prevention of any violations of laws, rules, regulations or the Code and Standards by the staff directly under their supervision. To make their job easier, instead of focusing equally on all of the requirements Mutini suggests the supervisors should concentrate on:

- Communicating compliance policies and procedures to all covered staff;
- Undertaking periodic reviews to ensure procedures are followed; and
- Enforcing investment related policies.

Later that day, Mutini scrutinizes Rayne's marketing material with Rayne's most successful sales agent, Tom Okello, another CFA charterholder. They are preparing for a sales meeting to introduce OAM products to a potential client. Mutini notices Rayne's responsibility to uphold the CFA Code and Standards is not mentioned anywhere in the marketing material. Neither does the material mention that some of Rayne's employees are CFA charterholders. Mutini notices Okello does not use the CFA designation on his business card. When Mutini asks him why, he responds, "If I use it, people will think I have a duty to Rayne's clients. I don't have a duty to clients, as stockbrokers in Uganda are not required to uphold a fiduciary duty. I don't want to mislead our clients by using the CFA designation."

During the sales meeting with the potential client, Okello makes the following statements:

Statement 1 "Before making an investment for any of our mutual funds or unit trusts, Rayne follows an extensive due diligence process and research analysis. We will only invest in the company if that investment meets the investment criteria that I have outlined to you."

Statement 2 "Every six months you will be mailed an itemized investment statement with cash flows so that you can see if your portfolio is meeting your investment objectives. In addition, you can obtain other information about our firm and investment process from our website, which is updated on a regular basis to ensure the integrity of the site as well as offer confidentiality and security to our clients. For your security, we do not post client statements on the website."

1 According to the CFA Code and Standards, if there is a conflict, Mutini should *most likely* adhere to:

A Uganda's laws and regulations.

B South Africa's laws and regulations.

C the CFA Code of Ethics and Standards of Professional Conduct.

KEY = B

Guidance for Standards I-VII by CFA Institute Standard I (A) Knowledge of the Law

Study Session 1-2-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.

B is correct because Standard I (A) - Knowledge of the Law requires CFA Members to understand and comply with all applicable laws, rules and regulations including the CFA Institute Code of Ethics and Standards of Professional Conduct. In the event of conflict, Members must comply with the stricter law, rule or regulation, including those of the Code and Standards. As the South African laws are considered to be stricter than the CFA Code and Standards or Ugandan law, Mutini must adhere to the South African laws and regulations.

2 By participating in OAM's annual competition, Rayne employees *least likely* violate which of the following CFA Standards?

A Misrepresentation.

B Independence and Objectivity.

C Additional Compensation Arrangements.

KEY = C

Guidance for Standards I-VII by CFA Institute

Standards I (B) Independence and Objectivity, I (C) Misrepresentation, IV (B) Additional Compensation Arrangements

Study Session 1-2-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.

C is correct because Standard IV (B) Additional Compensation Arrangements states 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. In this case, holding a competition to encourage sales is unlikely to cause a conflict of interest with the employer's interests. However, by not disclosing the competition details the sales agent is likely to misrepresent why he is making the recommendation to his client to buy high fee, front-end load financial products so the sales agent would be in violation of Standard I (C) Misrepresentation. In addition, by selling only high front end load fee products in the hopes of winning a competition without consideration of the client's needs compromises the agent's independence and objectivity would be in question, thus violating Standard I (B) Independence and Objectivity.

3 In her meeting with Rayne supervisors, Mutini is *least likely* correct with regard to:

A communicating with staff.

B undertaking periodic reviews.

C enforcing investment related policies.

KEY = C

Guidance for Standards I-VII, by CFA Institute Standard IV (C) Responsibilities of Supervisors

Study Session 1-2-b

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

C is correct because a Member or Candidate with supervisory responsibility should enforce policies related to investment and non-investment related activities equally: i.e., not concentrate on investment related over non-investment related policies.

4 Given Okello's comment regarding his reason for not using the CFA designation, he will *most likely* violate which of the following CFA Standards of Professional Conduct?

A Duties to Clients.

B Misrepresentation.

C Reference to CFA Designation.

KEY = A

Guidance for Standards I-VII, by CFA Institute

Standard I (A) Knowledge of the Law, Standard III (A) Loyalty, Prudence and Care, Standard VII

Reference to CFA Institute, the CFA Designation, and the CFA Program

Study Session 1-2-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.

A is correct because as a charterholder, Okello has a duty to clients under Standard III (A) - Loyalty, Prudence and Care which requires him to act for the benefit of his clients and place the clients' interest before his employer's or his own. Standard III (A) establishes a minimum benchmark for the duties of loyalty, prudence and care that are required of all Members and Candidates regardless of whether a legal fiduciary duty applies.

5 What CFA Standard did Okello *most likely* violate in his Statement 1?

A Suitability.

B Misrepresentation.

C Diligence and Reasonable Basis.

KEY = B

Guidance for Standards I-VII by CFA Institute

Standard I (C) Misrepresentation, Standard III (C) Suitability, Standard V (A) Diligence and Reasonable Basis

Study Session 1-2-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.

B is correct because the sales agent implies that Rayne is the asset manager when in fact OAM is the asset manager. By omitting the fact that Rayne is only a sales agent and implying Rayne manages the portfolio, the sales agent is misrepresenting their professional activities and thus is in violation of Standard I (C) Misrepresentation.

6 Does Okello's Statement 2 *most likely* meet the recommended procedures for compliance with the CFA Standards of Professional Conduct?

A Yes.

B No, with regard to investment statements.

C No, with regard to the company's website.

KEY = B

Guidance for Standards I-VII by CFA Institute

Standard I (C) Misrepresentation, Standard III (A) Loyalty, Prudence and Care

Session 1-2-b

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

B is correct because recommended procedures for compliance of Standard III (A) are that regular account information should be submitted to the client at least quarterly not semi-annually.

Green Case Scenario

Doug Green is a Professor of Finance at a major university. Elizabeth Weaver is a Managing Director at Gates Investment Management. Gates focuses exclusively on high net worth clients with assets over $10 million dollars. Green and Weaver are panelists at an investment conference contrasting traditional finance with behavioral finance.

In Green's opening remarks, he discusses how traditional finance drives investment decision making. He explains that traditional finance is grounded in neoclassical economics and is normative, indicating how people and markets should behave. Green comments that individuals are assumed to be risk-averse, rational investors, who are self-interested utility maximizers. He concludes with the following three statements regarding traditional finance:

Statement 1 Market prices reflect all available and relevant information;

Statement 2 Investors have access to perfect information; and

Statement 3 Investors process all available information based on their own experiences.

Weaver's opening remarks focus on the impact of behavioral finance on our understanding of investment decision-making. She explains behavioral finance is largely grounded in psychology and attempts to understand and explain observed investor and market behaviors. Weaver states she sees the impact of behavioral finance every day and notes individuals are neither perfectly rational nor irrational. She challenges the validity of the rational economic man (REM) on the basis that it disregards the inner conflicts that people face and the limitations of individuals in making decisions.

Green moves on to discuss Utility Theory by stating people maximize the present value of utility subject to the present value of their budget constraints. He explains utility can be thought of as the level of relative satisfaction received from the consumption of goods and services. Green adds that decision makers choose between prospects by comparing their expected utility values. He stresses it is important to remember that the determination of value is based on price. Green remarks there are four axioms of utility theory and if a decision maker satisfies the four axioms, they are said to be rational.

Weaver responds to Green's statement by remarking that behavioral finance challenges the assumptions of traditional finance. It also attempts to understand and explain actual investor and market behaviors. She explains that instead of basing its assumptions on idealized behavior, it bases them on observed behavior. She recounts an instance when an elderly client asked her to realize losses in her portfolio to offset taxable realized gains. However, the very next day the same client called her in a panic to ask why her cash balance was so high.

Weaver discusses how decisions are shaped by the decision-making process itself. She provides the following example:

> "A new client is interested in becoming an antique car investor and requested I make available $200,000 from his portfolio so he could start his collection. Shortly after the money was made available, the client visited an antique car auction not far from his home. Unfortunately, the auction had a limited number of cars meeting his requirements. He was drawn to one antique car in particular, even though it was missing several of the features he wanted. After some consideration he decided to purchase it anyway. Within an hour, his purchase was placed in storage for safekeeping."

The final topic of the day was the impact of behavioral finance on capital markets. After a rigorous debate for and against the Efficient Market Hypothesis, Green and Weaver reached the following conclusions:

Conclusion 1 Support exists for both efficient markets and anomalous markets.

Conclusion 2 By understanding investor behavior, the investment solutions that are constructed will be closer to the rational solution provided by traditional finance.

Conclusion 3 If a market is strong form efficient, sophisticated investors may be better positioned to outperform less savvy participants.

7 Which of Green's opening statements is *least* likely correct regarding traditional finance assumptions?

A Statement 3

B Statement 2

C Statement 1

KEY = A

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-a
Contrast traditional and behavioral finance perspectives on investor decision making.
A is correct. Statement 3 is incorrect, traditional finance assumes investors have access to perfect information and process all available information in an unbiased way. Green has commented they process all available information based on their own experiences. Statement 1 regarding prices and Statement 2 regarding information are both correct.

8 Are Weaver's criticisms concerning the rational economic man (REM) *most likely* correct?

A Yes.

B No, with regards to the inner conflicts people face.

C No, with regards to limitations in decision-making.

KEY = A

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-a
Contrast traditional and behavioral finance perspectives on investor decision making.
A is correct. Weaver's criticisms concerning the rational economic man (REM) are correct. A common shortcoming of the theory concerns the inner conflicts that real people face and even Keynes acknowledged the limitations of people in making decisions.

9 Are Green's statements regarding Utility Theory *most likely* correct?

A No, with regard to the four axioms.

B No, with regard to determination of value.

C Yes.

KEY = B

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-a
Contrast expected utility and prospect theories of investment decision making.
B is correct. Green's comment regarding value is incorrect. The determination of the value of an item is not based on its price but rather on the utility it yields.

10 What behavior has Weaver's elderly client *most likely* exhibited?

A Emotional bias

B Bounded Rationality

C Cognitive error

KEY = C

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-c
Discuss the effect that cognitive limitations and bounded rationality may have on investment decision making.

C is correct. Behavioral biases can be categorized as either cognitive errors or emotional biases. Cognitive errors stem from basic statistical, information-processing, or memory errors and are considered to result from faulty thinking. Weaver's elderly client has exhibited a cognitive error: an information-processing or memory error regarding the losses that were taken to eliminate taxable realized gains which resulted in a higher than normal cash balance.

11 What behavior did Weaver's new client *most likely* demonstrate when he purchased the antique car?

A Satisficing

B Utility maximization

C Using heuristics

KEY = A

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-c
Discuss the effect that cognitive limitations and bounded rationality may have on investment decision making

A is correct. Weaver's client most likely demonstrated satisficing when he purchased the antique vehicle. Satisficing combines satisfy and suffice and describes decision, actions, and outcomes that may not be optimal, but are adequate.

12 Which of Green and Weaver's conclusions regarding market behavior is *least likely* correct?

A Conclusion 1

B Conclusion 3

C Conclusion 2

KEY = B

The Behavioral Finance Perspective, Michael M. Pompian
Modular Level III, Vol. 2, Reading 5
Study Session 3-5-d
Compare traditional and behavioral finance perspectives on portfolio construction and the behavior of capital markets

B is correct. Conclusion 3 is least likely correct. Green and Weaver's conclusion regarding sophisticated investors being better positioned to outperform less savvy participants in efficient markets is incorrect. Only in inefficient markets may sophisticated investors have an advantage. In theory if markets are strong form efficient neither investor would

have an advantage. Both Conclusion 1 regarding support for both efficient markets and anomalous markets and Conclusion 2 regarding the construction of investment are both correct.

Boylan Case Scenario

The human resources department of The Tredway Medical Group hired Joe Boylan, a private wealth consultant, to provide a series of presentations to its employees covering the fundamentals of financial planning.

Boylan's current presentation deals with two aspects of personal risk management related to age: premature death and outliving one's resources. He begins his presentation by stating that people often harbor misleading views about life insurance. As an example, he provides them with the following three comments which he claims to have heard many times in the past:

Comment 1	Since everyone is going to die, everyone needs life insurance.
Comment 2	Life insurance is an efficient method of risk reduction.
Comment 3	Premiums on a newly issued life insurance policy are higher when interest rates are lower.

Boylan states that when considering life insurance needs and investment strategies, it is important to understand the notion of human capital. He provides the following four examples of individuals connected to the health care industry in Exhibit 1 and **asks** the audience which of them has the highest human capital risk.

Exhibit 1 Four Individuals Connected to the Health Care Industry

Henry	■ A 33-year-old orthopedic surgeon. ■ A leading financial publication ranks orthopedic surgery as the highest paying medical specialty. ■ Has been practicing for three years but still has over $80,000 of student loans outstanding. ■ Married with a one-year-old son.
Marie	■ A 62-year-old cardiac surgeon who is celebrating her birthday today. ■ Plans on retiring in two years, on the day before she turns 64. ■ The previously-mentioned financial publication ranks cardiac surgery as the second highest paying specialty. ■ A member of Mensa (the largest and oldest high IQ society in the world) with the highest Mensa IQ of any other Mensa member in her profession. ■ A widow with three financially independent adult children. ■ Has no debt and her total assets calculated using a traditional balance sheet amount to $4 million, which includes $3 million in stocks and bonds and $250,000 in real estate.

(continued)

Exhibit 1 (Continued)

Jason
- A 50-year-old medical technician.
- Also a member of Mensa, with a perfect score on the Mensa IQ test.
- A single parent with a 20-year-old daughter.
- Has no outstanding debt and an investment portfolio currently valued at $125,000.
- His employer provides him with a defined benefit pension whose pension payments will adjust with inflation.

Janice
- Jason's twin sister.
- Works as a stock broker specializing in medical technology.
- Has no outstanding debts and an investment portfolio currently valued at $375,000.
- Her employer provides her with a defined contribution pension.
- Unmarried with no dependents.
- Has about the same level of risk tolerance as Jason.

Note: All of these individuals are non-smokers and are in excellent health given their respective ages.

Boylan provides selected information from standard mortality tables along with some market data and characteristics of Marie's medical specialty in Exhibit 2. In addition, he also includes several assumptions which he uses to determine Marie's total assets under a holistic balance sheet.

Exhibit 2 Inputs used in determining Marie's Assets under a Holistic Balance Sheet

Mortality Statistics for Non-smoking Females

Age	62	63	64
Probability of Dying	0.0059	0.0069	0.0079

Characteristics of Income for Cardiac Surgeons	
Annual wage growth rate	5%
Occupational income volatility	1%
Nominal risk free rate	**3%**
Marie's current employment income	$430,000
Marie's current pension value	$1.75 million

Assumptions:
- All income is received at the end of the year
- All probability-based calculations are carried out to 4 decimal places.

One of the attendees at the presentation told Boylan that she had accessed several life insurance carrier websites but found that it was very hard to compare the costs of their whole life policy offerings, as the companies often used different assumptions

about the amount of the death benefit, premiums, cash value growth rates and dividend reinvestment rates. Using the information in Exhibit 3 for a hypothetical whole life policy, Boylan illustrates a convenient method for comparing the cost of different policies when these variables change.

Exhibit 3 Hypothetical Whole Life Insurance Policy

Death benefit	$300,000
Expected holding period	25 years
Annual premium, paid at start of year	$2,750
Estimated cash value at the end of 25 years	$60,000
Discount rate	6%
Dividend reinvestment rate	6%
Estimated annual dividend, paid at year end	$850

Boylan turns his attention to investments. He tells his audience that if the twins, Janice and Jason, wish to invest optimally, they should consider the nature of their human capital when making asset allocation decisions. He asks how this would affect their relative allocation to high grade government bonds.

Boylan tells the audience that life annuities are a convenient investment to deal with longevity risk. He again uses the twins, Jason and Janice, as an example, in discussing some of the characteristics of these annuities. Assuming that they were both to invest the same amount into this product, he makes the following statements:

Statement 1 If both of them were to purchase the annuity immediately, they would both receive the same annual income yield.

Statement 2 If Jason were to purchase the annuity in 10 years rather than immediately, his annual income yield would be higher at that time than now.

Statement 3 If Janice were to add a 10-year period certain option to her annuity, her income yield would be reduced when compared to not having the option, but it would be reduced by greater amounts the longer she waits to purchase the annuity.

13 Which of Boylan's initial comments about life insurance is *most* accurate?

A Comment 2

B Comment 1

C Comment 3

KEY = C

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Section 4.1.4.2, Example 10

Study Session: 5-12-g

Describe the basic elements of a life insurance policy and how insurers price a life insurance policy.

C is correct: Comment 3 is correct. The most relevant considerations in pricing life insurance are mortality expectations, the discount rate and loading. The discount rate represents an assumption about the insurer's return on its investment portfolio and it

is used to discount future expected outflows, i.e., death benefits: as the discount rate decreases, the present value of those expected future cash flows increase making insurance costlier, i.e., higher premiums.

14 From Exhibit 1, the individual who has the *greatest* amount of human capital at risk is:

A Marie.

B Henry.

C Jason.

KEY = B

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Section 2.1,

Study Session: 5-12-e, a, b

Discuss risks (earnings, premature death, longevity, property, liability, and health risks) in relation to human and financial capital.

Compare the characteristics of human capital and financial capital as components on an individual's total wealth.

Discuss the relationships among human capital, financial capital, and net worth.

B is correct: Human capital is the net present value of the individual's future expected labor income weighted by the probability of surviving to each future age. According to the financial publication, Henry is in the highest paying medical profession, and being the youngest has the longest expected stream of future income. Therefore, he is most likely to have the highest human capital available, and the most to lose if the stream is not realized.

15 Using Exhibits 1 and 2, Marie's total assets under a holistic balance sheet are *closest* to:

A $6,558,000.

B $6,563,000.

C $4,808,000.

KEY = A

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Sections 3.3.2, 2.1

Study Session: 5-12-d, a

Describe an economic (holistic) balance sheet.

Compare the characteristics of human capital and financial capital as components of an individual's total wealth.

A is correct. In addition to the assets determined under a traditional balance sheet provided in Exhibit 1, a holistic (economic) balance sheet includes the present value of human capital and the value of any pensions.

Current wage:	$430,000
Discount rate:	9% as follows:
risk free rate:	3%
wage growth rate:	5%

occupational income volatility	1%
Total discount rate	9%

Determination of probability weighted present value of Marie's future wages

	Age	Probability of dying	Probability of surviving (1 – Prob. of dying)	End of year wage	PV of wages @ 9%	Probability weighted PV of wages
Current	62	0.0059	0.9941	451,500	414,220	411,776
	63	0.0069	0.9931	474,075	399,019	396,266
Retires	64	0.0079				
					Total	**808,042**

Sample calculation: at age 62:

end of year wage:
430,000 × 1.05 = 451,500

PV of end of year wage:
451,500 ÷ 1.09 = 414,220

Total Assets under Holistic Balance Sheet

Traditional assets (Exhibit 1)	$4,000,000
Total human capital (from previous table)	808,042
Current pension value (Exhibit 2)	1,750,000
Total assets	**$6,558,042**

16 Using the information in Exhibit 3, the surrender cost index per $-thousand per year for the hypothetical whole life policy is *closest* to:

A $3.05.

B $2.69.

C $6.49

KEY = A

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Section 4.1.4.4

Study Session: 5-12-g

Describe the basic elements of a life insurance policy and how insurers price a life insurance policy.

A is correct.

Step	Item	Calculation	Value
1	FV of premiums: annuity in advance	\$2,750 × FVA^{ADV}(25y, 6%)	\$159,930
2	FV of dividends: annuity in arrears	\$850 × FVA(25y, 6%)	46,635
	Time Value adjusted net payment		113,295
3	Estimated cash value (at end of 25 years)		60,000
4	25 year Cost of insurance		\$53,295
5	Annual payment to equal cost of insurance	\$53,295 ÷ FVA^{ADV}(25y, 6%)	\$916
6	Cost per \$1,000 coverage per year	\$916 ÷ (\$300,000 ÷ \$1,000)	**\$3.05**

17 The *most* appropriate response to Boylan's question about the twins' relative allocation to high grade bonds is that, when compared to Jason, the proportion in Janice's investment portfolio should be:

A the same.

B lower.

C higher.

KEY = C

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Section 5.4

Study Session: 5-12-k

Discuss how asset allocation policy may be influenced by the risk characteristics of human capital.

C is correct: Janice is a stock broker specializing in medical technology and her human capital is therefore highly correlated with stock market returns. She should balance this risk by having greater exposure to financial assets that are less risky, i.e., high grade government bonds. Jason's human capital is less correlated to stock market returns; in addition, his future pension income arising from a defined benefit plan is quite stable. His optimal portfolio should have a greater allocation to the stock market than Janice.

18 Which of Boylan's statements about life annuities is *least* accurate?

A Statement 2

B Statement 1

C Statement 3

KEY = B

Risk Management for Individuals, David M. Blanchett, David M. Cordell, Michael S. Finke, and Thomas Idzorek

Vol. 2, Reading 12, Section 4.7.2.4

Study Session: 5-12-h

Discuss the use of annuities in personal financial planning.

B is correct: Statement 1 is incorrect: since they are both the same age, Jason will receive a higher income yield than his sister as females have a longer average life expectancy than males and therefore a longer expected payout period.

Andrei Zubov Case Scenario

Andrei Zubov is a portfolio manager for Greenhill Trust based in Connecticut. Greenhill provides a range of wealth advisory and institutional client services. Zubov is preparing to meet with three new clients.

CHM Corporation is a US based company that manufactures sports equipment. The company's employees participate in a defined contribution plan in which investments in the plan is participant directed. Greenhill has been asked to develop an Investment Policy Statement for the plan and help select a menu of investment options for plan participants.

Jennifer Zola is a member of the investment committee for the defined benefit pension plan for GIC Products, a company that manufactures beauty, healthcare and homecare products. The company's pension assets are currently managed in-house and Zola would like Greenhill to assume management of their pension assets. Selected information regarding the company and its pension plan is provided in Exhibit 1.

Exhibit 1 GIC Products Selected Pension Plan Information

Funded status [excess or (deficit)]	$25 million
Liability discount rate	5.0%
Annual liquidity need as percentage of plan assets	1.0%

Zola asks Zubov, "Based on the information provided could you give us some preliminary guidance on an appropriate return objective?" Zubov responds, "In this instance, a return objective of up to 100 basis points higher than the liability discount rate would be appropriate. This return objective would not only help the plan fund pension obligations but potentially minimize future pension obligations and maintain or increase future pension income."

Zola also provides the following additional information:

- the company has enjoyed steadily rising earnings for the past 10 years and expects this trend to continue in the future
- the company has debt to total assets of approximately 10 percent
- the company would like to discuss the possibility of modifying the current pension plan by offering an early retirement provision allowing for lump-sum distributions

Zola asks Zubov to explain his overall approach to pension asset risk management. Zubov explains that there are two important considerations, "The first consideration is portfolio allocations to different sectors. Specifically, the plan's risk tolerance will be higher if we overweight the pension portfolio with equity investments in companies in the beauty, healthcare, and homecare industry. The second consideration is to view risk from an asset liability management approach. That is, the focus should be on managing the volatility of the pension surplus."

The Hoven University (HU) has asked Greenhill to manage the university's endowment. The endowment's spending rule dictates that it makes an annual contribution of 4% of its year-end portfolio market value to support HU's operating budget. The annual endowment contribution represents 25% of HU's annual operating budget. The university's operating expenses are expected to grow at a rate of 2.5% annually, while the rate of inflation in the economy is expected to be 1% per year. Investment management expenses are estimated to be 0.65% of the market value of the endowment. The investment committee has asked Zubov to provide his views on the risk and return objectives and liquidity constraints for the endowment. Zubov responds with the following statements:

- "Based on the information provided, an annual total return objective in the range 7% to 7.5% would be appropriate for the fund.
- In order to meet the endowment's spending needs for this year, the liquidity need is in the range 4.5% to 5% of the year-end portfolio value.
- Given the return objective and liquidity needs, the endowment's risk tolerance is high."

19 For the pension plan offered by CHM Corporation, it is *most likely* true that:

A plan participants bear the risk of early termination.

B the risk of investing is borne by the plan sponsor.

C once vested, retirement assets are readily portable.

KEY = C

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 2

Study Session 6-13-a

Contrast a defined-benefit plan to a defined-contribution plan and discuss the advantages and disadvantages of each from the perspectives of the employee and the employer.

C is correct. The pension plan offered by CHM Corporation is a defined contribution plan where vested pension assets are readily portable by the plan participant.

20 An appropriate element of the Investment Policy Statement for CHM Corporation pension plan is *most likely* a specification of:

A investment alternatives.

B strategic asset allocation.

C return objectives.

KEY = A

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 2.2

Study Session 6-13-d, f

Prepare an investment policy statement for a defined-benefit plan. Prepare an investment policy statement for a defined-contribution plan.

A is correct. For participant directed defined contribution pension plans, such as the one offered by CHM Corporation, the investment policy statement describes investment alternatives offered. It does not describe risk and return objectives, constraints and strategic asset allocation these decisions are made by the plan participants.

21 Is Zubov's response to Zola regarding the return objective *most likely* correct?

A No, he is incorrect with regard to future pension contributions.

B Yes

C No, he is incorrect with regard to future pension income.

KEY = B

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 2.1.2

Study Session 6-13-b

Discuss investment objectives and constraints for defined-benefit plans.

B is correct The plan is fully funded with a surplus of $25 million and has minimal liquidity needs. Thus risk tolerance may be characterized as being above average. This justifies a more aggressive return objective in excess of the liability discount rate of 5% by up to 100 basis points. Furthermore, this desired return objective will likely help meet other objectives such as minimizing future pension obligations and maintaining or increasing future pension income.

22 Based on information provided by Zola, a higher risk tolerance for GIC Products Pension Plan is ***least*** *likely* supported by:

A Zola's proposed modification to the current pension plan.

B earnings expectations for the company.

C the debt to total asset ratio.

KEY = A

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 2.1.1 and 2.1.3

Study Session 6-13-c

Evaluate pension fund risk tolerance when risk is considered from the perspective of the 1) plan surplus, 2) sponsor financial status and profitability, 3) sponsor and pension fund common risk exposures, 4) plan features, and 5) workforce characteristics.

A is correct. Zola would like GIC to introduce an early retirement provision that allows for lump-sum distributions. This increases immediate liquidity requirements and reduces the level of risk tolerance. In contrast, the company's expected growth in earnings and the low debt to total asset ratio imply a higher risk tolerance.

23 Is Zubov's response to Zola's question *most likely* correct?

A No, the second consideration is incorrect.

B Yes.

C No, the first consideration is incorrect.

KEY = C

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 2.1.8

Study Session 6-13-e

Evaluate the risk management considerations in investing pension plan assets.

C is correct. Zubov is incorrect with respect to the first consideration. GIC products is in the beauty, healthcare and homecare industry. By overweighting the pension portfolio's exposure to the beauty, healthcare and homecare industry, Zubov risks increasing the correlation between the company's operating results and pension asset returns. The increased correlation will result in a lower risk tolerance, all else held equal.

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24 With respect to Zubov's statements to the investment committee of the Hoven University endowment, he is *least likely* correct with respect to:

A risk tolerance.

B total return objective.

C liquidity need.

KEY = A

Managing Institutional Investor Portfolios, R. Charles Tschampion, CFA, Laurence B. Seigal, Dean J. Takahashi, and John L. Maginn, CFA

Modular Level III, Vol. 2, Section 3.1.2, 3.2.1, 3.2.2 and 3.2.3

Study Session 6-13-k

Prepare an investment policy statement for a foundation, an endowment, an insurance company, and a bank.

A is correct. Zubov is incorrect about the endowment's risk tolerance. Risk tolerance of the Hoven University is low to moderate, not high, because the endowment contribution represents 25% of the university's operating budget. Thus a modest drop in the endowment value may have a significant impact on university operations. Another factor supporting a lower risk tolerance is the use of a simple spending. The absence of a smoothing rule means the endowment has less tolerance for short-term portfolio risk. While a return objective of7% to 7.5% may ostensibly be used to support a higher risk tolerance the risk of a short term drawdown poses a much larger risk and thus on balance a low to moderate risk tolerance is more appropriate for the endowment.

Exeter Asset Management Case Scenario

Martin Standish is an economic analyst with Exeter Asset Management, a British firm that specializes in global funds for institutional investors, most of whom are based in the United Kingdom. Standish is identifying potential countries and asset classes to include in a developed markets fund that Exeter intends to introduce later this year. He begins his work by collecting macroeconomic data with which he can assess the outlook and expectations for a set of investment opportunities he is considering. Standish observes the following data:

Exhibit 1 Inventory Cycle Data: Inventory to Sales Ratios for Selected Countries

Year	Sweden	Czech Republic	Switzerland
2014	1.30	1.43	1.35
2015	1.35	1.37	1.36
2016	1.51	1.24	1.34

Deeba Kumar, Standish's supervisor, stops by to see how his work is progressing. She asks him to research at least five additional countries for the new fund, and suggests Chile, Singapore, Great Britain, the United States and Denmark as potential candidates. She cautions Standish that he needs to be aware of interest rate linkages between these economies, and mentions three points that he should consider:

1 Since the Chilean peso appears to be undervalued relative to the British pound and is likely to rise, Chilean bond yields may be lower than they should be relative to British bonds.

2 The peg linking Denmark's currency to the euro is considered to be at risk and likely to break. Therefore, Danish bond yields are expected to drop if the Danish krone weakens relative to the euro.

3 After removing expected inflation, the real bond yield is likely to be similar in Singapore and Sweden.

Next, Standish begins to identify specific assets to include in the developed markets portfolio. He considers equally weighted positions in Chilean Real Estate, Swiss bonds, and US equities, among others. He reviews the forecasts of inflation for these three countries and notes that inflation is predicted to be above expected levels in Chile, but below expectations in both Switzerland and the United States. With this new information, he ponders how he should adjust the portfolio weights to reflect the economic forecast.

Exeter also manages an emerging markets fund. Standish has been asked to help Mary Jones, a new trainee, review the country risk associated with assets in that fund. Standish tells Jones that the evaluation process is similar to the evaluation of assets in developed countries, but with more emphasis on several key factors. Jones responds that her country risk analysis will focus on the balance of payments, debt level, and the political situation in each country.

Jones tells Standish that she is particularly concerned about currency risk in the emerging markets fund. She is worried that the fund's positions in Thailand may be at risk if there is a change in the value of the Thai baht (THB) relative to the British pound (GBP). Jones has gathered some projections (Exhibit 2) to assist her in analyzing the risk; she believes that Purchasing Power Parity (PPP) should provide a good model for esr1marmg any currency change.

Exhibit 2 Basis of Currency Risk Assessment for Thai Baht vs. British Pound

	Thailand	Great Britain
Predicted annual inflation rate for next 5 years	3.4%	1.9%
Current exchange rate: THB/GBP, i.e., THB per GBP	51.4801	

Jones and Standish discuss her estimate. Standish mentions that PPP can be combined with a relative economic strength forecast for a more complete analysis, and suggests to her that there are at least three strengths to the combined approach:

1 PPP provides a useful guide to the short-term direction of exchange rates;

2 Relative economic strength focuses on trade flows, so it is independent of short-term interest rates;

3 Relative economic strength captures the impact of news on the economy.

25 Based on the data provided in Exhibit 1, which country is *most likely* to show economic growth in the next several quarters?

A Switzerland.

B Sweden.

C Czech Republic.

KEY = C

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Section 4.1.1

Study Session: 7-15-e

Discuss the inventory and business cycles, the impact of consumer and business spending, and monetary and fiscal policy on the business cycle.

C is correct: The Czech Republic shows a marked decline in the inventory/sales ratio. When the inventory/sales ratio decreases over time, the economy is likely to be strong in the next few quarters as businesses try to rebuild inventory.

26 Of Kumar's three points regarding interest rate linkages between countries proposed for the new fund, she is *least likely* correct with respect to bond yields in:

A Chile.

B Denmark.

C Singapore and Sweden.

KEY = B

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Section 4.4.2

Study Session: 7-15-l

Identify and interpret macroeconomic, interest rate, and exchange rate linkages between economies.

B is correct: Kumar's second point regarding Danish bonds is incorrect. When two currencies are pegged or linked, the bond yields of the country with the weaker currency are nearly always higher unless the market is confident that the government will maintain the peg. Kumar stated that because Denmark's currency may not remain pegged to the euro, if the Danish krone weakens relative to the euro, then Danish bond yields can be expected to drop. They should be expected to rise.

27 When considering the proposed weights for the developed markets portfolio, the *most* appropriate adjustment for Standish to make is to reduce the asset weighting in:

A the United States.

B Switzerland.

C Chile.

KEY = B

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Section 4.1.3

Study Session: 7-15-r

Recommend and justify changes in the component weights of a global investment portfolio based on trends and expected changes in macroeconomic factors.

B is correct: With above-average inflation, Chilean real estate is expected to outperform. Below-average inflation would likely cause US equities to outperform and have a neutral effect on Swiss bonds. Therefore, Standish should reduce the weight in Swiss bonds relative to the other two assets.

28 The *most* important factor that Jones fails to consider in her country risk analysis for the emerging markets fund is:

A liquidity.

B privatization trends.

C currency competitiveness.

KEY = A

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Section 4.4.3.2

Study Session: 7-15-m

Discuss the risks faced by investors in emerging-market securities and the country risk analysis techniques used to evaluate emerging market economies.

A is correct: Liquidity, in the form of foreign exchange reserves in relation to trade flows and short-term debt, is an important measure of risk in emerging economies.

29 Based on Exhibit 2 and her proposed forecasting model, the *most* accurate prediction that Jones can make about the THB/GBP exchange rate in five years is:

A THB 55.7674 per GBP.

B THB 47.1928 per GBP.

C THB 52.2523 per GBP.

KEY = A

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Section 4.6.9.1

Study Session: 7-15-o

Demonstrate the use of economic information in forecasting asset class returns.

A is correct. According to purchasing power parity (PPP), the movement in the exchange rate should offset any difference in the inflation rates between the two countries. Accordingly, the THB/GBP exchange rate in five years is predicted to be:

$$\text{Exchange rate}_n = \left\langle 1 + \left\{ \left[(1 + I_{\text{Thailand}})^n - 1 \right] - \left[(1 + I_{\text{Great Britain}})^n - 1 \right] \right\} \right\rangle \times \text{Exchange rate}_1$$

$$= \left\langle 1 + \left\{ \left[(1 + 0.034)^5 - 1 \right] - \left[(1 + 0.019)^5 - 1 \right] \right\} \right\rangle \times 51.4801$$

$$= \text{THB } 55.7674$$

Where *I* = inflation rate and *n* = number of years.

30 The *most* accurate of Standish's statements regarding the strengths of a combined approach to exchange rate forecasting is his statement:

A 2.

B 1.

C 3.

KEY = C

Capital Market Expectations, John P. Calverley, Alan M. Meder, Brian D. Singer and Renato Staub

Vol. 3, Reading 15, Example 36, Section 4.6.9.2

Study Session: 7-15-q

Discuss the relative advantages and limitations of the major approaches to forecasting exchange rates.

C is correct: Standish's third statement is the most accurate. The relative economic strength approach captures the impact of news on the economy, particularly as it influences short-term interest rates and their effect on investment flows.

Franconia Notch Case Scenario

Mark Whitney, CFA, is the Chief Investment Officer of Granite State Partners, a fixed income investment boutique serving institutional pension funds. Paula Norris, a partner at consulting firm Franconia Notch Associates, is conducting due diligence of Granite's capabilities. At a meeting they go over a presentation Whitney has prepared.

The first page of the presentation addresses Granite's investment style for managing portfolios. It states:

> "Granite adjusts the portfolio's duration slightly from the benchmark, and attempts to increase relative return by tilting the portfolios in terms of sector weights, varying the quality of issues, and anticipating changes in term structure. The mismatches are expected to provide additional returns to cover administrative and management costs."

Norris asks Whitney about Granite's ability to successfully reflect, in its portfolios, its views on the market and the direction of interest rates. Whitney makes the following statements:

Statement 1 "Granite uses effective duration to measure the sensitivity of the portfolio's price to a relatively small parallel shift in interest rates. For large parallel changes in interest rates, we make a convexity

adjustment to improve the accuracy of the estimated price change. We believe that parallel shifts in the yield curve are relatively rare; therefore, duration by itself is inadequate to capture the full effect of changes in interest rates."

Statement 2 "We address yield curve risk by using key rate durations. When using this method, we stress the spot rates for all points along the yield curve simultaneously. By changing the spot rates across maturities, we are able to measure a portfolio's sensitivity to those changes."

Statement 3 "We also measure spread duration contribution. This analysis is not related to interest rate risk. This measure describes how securities such as corporate bonds or mortgages will change in price as a result of the widening or narrowing of the spread to Treasuries."

Norris provides information on three clients she might refer to Whitney for portfolio management services, and asks him to design a dedication strategy for each. Whitney makes the following recommendations:

Client 1: "This bank has sold a five-year guaranteed investment contract that guaranties an interest rate of 5.00% per year. I would purchase a bond with a target yield of 5.00% maturing in 5 years. Regardless of the direction of rates, the guaranteed value is achieved."

Client 2: The defined benefit pension plan for this client has an economic surplus of zero. In order to meet the liabilities for this plan, I will construct the portfolio duration to be equal that of the liabilities. In addition, I will have the portfolio payments be less dispersed in time than the liabilities.

Client 3: This client's long-term medical benefits plan has known outflows over 10 years. Because perfect matching is not possible, I propose a minimum immunization risk approach, which is superior to the sophisticated linear program model used in the current cash flow matching strategy.

Norris asks Whitney what steps he takes to reestablish the dollar duration of a portfolio to the desired level in an asset-liability matching (ALM) application. Whitney responds: "First, I calculate a new dollar duration for the portfolio after moving forward in time and shifting the yield curve. Second, I calculate the rebalancing ratio by dividing the original dollar duration by the new dollar duration and subtracting one to get a percentage change. Third, I multiply the new market value of the portfolio by the desired percentage change from step two."

Norris then asks Whitney, "What sectors are you currently recommending for client portfolios?" Whitney responds: "I recommend investing 25% of the portfolio in mortgage-backed securities because they are trading at attractive valuations. I will not however buy floating rate securities because these do not hedge liabilities appropriately."

Norris asks how changing market conditions lead to secondary market trading in Granite's client portfolios. Whitney responds: "Our research teams run models to assess relative value across fixed-income sectors which, combined with our economic outlook, leads to trade ideas. For example, currently our macroeconomic team is concerned about the situations in several sovereign nations and the spillover effect to capital markets. These issues range from geopolitical risks that will likely increase the price of oil to outright sovereign defaults or restructuring."

31 The style of investing described in Whitney's presentation is *most likely:*

A a full replication approach.

B enhanced indexing by small risk factor mismatches.

C active management by larger risk factor mismatches.

KEY = C

Fixed-Income Portfolio Management-Part I, H. Gifford Fong and Larry D. Guin,
Modular Level 3, Vol. 4, Reading 20, Section 3.1
Study Session 10-20-b
Compare pure bond indexing, enhanced indexing, and active investing with respect to the objectives, advantages, disadvantages, and management of each.
C is correct because Granite is not only tilting the portfolios with regard to certain sectors, quality, or term structure as an enhanced indexer would, but it is also making duration adjustments. An indexer (full replication approach) or enhanced indexer would keep the duration matched to the index.

32 Which of Whitney's Statements with regard to implementing its market and interest rate views is *least likely* correct?

A Statement 1.

B Statement 2.

C Statement 3.

KEY = B

Fixed-Income Portfolio Management-Part I, H. Gifford Fong and Larry D. Guin,
Modular Level III, Vol. 4, Reading: 20, Section 3.2.2; 4.1.1.6
Study Session 10-20-e, i
Describe and evaluate techniques, such as duration matching and the use of key rate durations, by which an enhanced indexer may seek to align the risk exposures of the portfolio with those of the benchmark bond index;
Explain the importance of spread duration.
B is correct because the statement regarding key rate durations is incorrect. Key rate duration is one established method for measuring the effect of shifts in key points along the yield curve. In this method, we hold the spot rates constant for all points along the yield curve but one. By changing the spot rate for that key maturity, we are able to measure a portfolio's sensitivity to a change in that maturity. We repeat the process for other key points (e.g., 3, 7, 10, 15 years) and measure their sensitivities as well. Simulations of twists in the yield curve can then be conducted to see how the portfolio would react to these changes.

33 Which of the following statements regarding Whitney's recommendations for Norris' three clients is *most likely* correct?

A Client 1 will only achieve the guaranteed value if the term structure of interest rates is downward sloping.

B Client 2 will meet the necessary conditions for a multiple-liability immunization in the case of a non-parallel rate shift.

C Client 3 will require less money to fund liabilities with the proposed strategy relative to cash flow matching.

KEY = C

Fixed-Income Portfolio Management – Part I, H. Gifford Fong and Larry D. Guin, CFA
Modular Level III, Vol. 4, Reading 20, Section 4.2, 4.2.1

Study Session 10-20-g; l

Formulate a bond immunization strategy to ensure funding of a predetermined liability and evaluate the strategy under various interest rate scenarios.

Compare immunization strategies for a single liability, multiple liabilities, and general cash flows.

C is correct because perfect matching of assets and liabilities is unlikely given the difficulty in finding all the bonds in the market that exactly match the liabilities. As a result, cash flow matching requires a relatively conservative rate of return assumption for short-term cash and cash balances may be occasionally substantial.

34 Is Whitney's approach to rebalancing a portfolio using dollar duration *most likely* correct?

A Yes.

B No, there is no need to move forward in time.

C No, the steps do not provide the amount of cash needed for rebalancing.

KEY = A

Fixed-Income Portfolio Management -Part I, H. Gifford Fong and Larry D. Guin

Modular Level III, Vol. 4, Reading 20, Section 4.1.1.5

Study Session 10-20-h

Demonstrate the process of rebalancing a portfolio to reestablish a desired dollar duration.

A is correct because Whitney has correctly outlined the three steps necessary to rebalance a portfolio to reestablish a desired dollar duration.

35 The two risks that Whitney's is *most likely* exposed to given his recommendations on sectors are?

A interest rate risk and cap risk.

B contingent claim risk and cap risk.

C interest rate risk and contingent claim risk.

KEY = C

Fixed-Income Portfolio Management-Part I, H. Gifford Fong and Larry D. Guin

Modular Level III, Vol. 4, Reading 20, Section 4.1.2.2

Study Session 10-20-k

Explain the risks associated with managing a portfolio against a liability structure, including interest rate risk, contingent claim risk, and cap risk.

C is correct because when assets such as mortgage-backed securities have a contingent claim provision, explicit or implicit, there is an associated risk. As rates, fall the security might have coupons halted and principal repaid. This results in reinvestment risk and also limits any potential upside as would be generated by a non-callable security. In addition, all fixed-income securities that have fixed rather than floating interest rates are exposed to interest rate risk, because prices move in the opposite direction of rates.

36 Whitney's secondary trading rationale is *best* described as:

A structure trades.

B credit-defense trades.

C sector-rotation trades.

KEY = B

Relative-Value Methodologies for Global Credit Bond Portfolio Management, Jack Malvey, CFA

Modular Level III, Vol. 4, Reading 21, Section 6

Study Session 10-21-d

Discuss common rationales for secondary market trading.

B is correct because credit-defense trades become more popular as geopolitical and economic uncertainty increase. Secular sector changes often generate uncertainties and induce defensive positioning by investors.

Goldsboro Partners Case Scenario

Goldsboro Partners, an investment management firm, intends to offer more products invested in equities traded on the Singapore Exchange (SGX).

Goldsboro is developing the Goldsboro Singapore Index (GSI); a proprietary index of Singapore equities comprised of five stocks traded on the SGX with the largest market capitalization.

Goldsboro must decide how to structure the GSI. Information about the prices and market caps of these firms is found in Exhibit 1.

Exhibit 1 Five Largest Singapore Firms: Selected Information in USD

Firm	Price @ 1/1/2009	Price @ 1/1/2010	Change in Price	Market Cap @ 1/1/2009 (billions)	Market Cap @ 1/1/2010 (billions)	Change in Market Cap
SingTel	2.35	2.53	+7.7%	48.5	52.5	+8.2%
Wilmar	5.77	6.80	+17.9%	32.7	41.2	+26.0%
DBS Group	11.62	13.28	+14.3%	26.6	30.1	+13.2%
Jardine Matheson	23.94	26.71	+11.6%	25.3	27.6	+9.1%
UOB	12.73	14.07	+10.5%	23.9	26.8	+12.1%
Total	**56.41**	**63.39**		**157.0**	**178.2**	

Goldsboro has four large, institutional clients who indicated that they might invest a total of USD 240 million in a fund indexed to the GSI. These clients are very cost sensitive.

Goldsboro already offers two mutual funds that consist of stocks that are part of the Straits Times Index (STI), a value-weighted index of the 30 largest firms traded on the SGX. Exhibit 2 provides information about these two funds (GBl and GB2), the STI index, and all stocks traded on the SGX.

Exhibit 2 Comparison of Goldsboro's 2 Funds, the STI, and the SGX

	Fund GB1	Fund GB2	STI	SGX
Number of stocks	12	12	30	612
Average market cap	USD 12.4 billion	USD 13.2 billion	USD 13.7 billion	USD 2.7 billion

Exhibit 2 (Continued)

	Fund GB1	Fund GB2	STI	SGX
Dividend yield	1.5%	2.1%	1.6%	0.8%
P/E	21.7	16.8	21.4	24.7
P/B	2.6	2.1	2.7	2.9
Projected EPS growth rate	11.0%	8.4%	11.2%	13.7%

Goldsboro also offers three independently managed funds, GB-STI-1, GB-STI-2, and GB-STI-3. The three funds are benchmarked against the STI index. For the year 2009, Jason Briggs, a client whose Singapore benchmark is the MSCI Singapore Free Index, pursued a core-satellite approach by investing in these three funds, earning a return of 12.4%. Information about these three funds, their returns, and Briggs' investments is found in Exhibit 3.

Exhibit 3 Briggs' Investments in Goldsboro's STI-benchmarked Funds

	GB-STI-1	GB-STI-2	GB-STI-3
Fund expected alpha	5%	2%	0%
Fund expected tracking risk	9%	5%	0%
Briggs' investment	USD 20 million	USD 20 million	USD 10 million
Return during 2009	15%	10%	12%

In 2009, the return on the MSCI Singapore Free Index was 11.7% and the return on the STI Index was 12.0%

37 Based on Exhibit 1, for the year 2009, assuming no stock splits or stock dividends for the stock components and no rebalancing, which of these index structures would have *most likely* resulted in the largest return for the GSI?

A A price-weighted index.

B A value-weighted index.

C An equal-weighted index.

KEY = B

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 4.1

Study Session 12-23-d

Distinguish among the predominant weighting schemes used in the construction of major equity share indices and evaluate the biases of each.

B is correct because this weighting methodology produced the largest return of 13.5% for the GSI. The return on a value-weighted index is the percentage change in the total market capitalization of the firms in the index or;

$$13.5\% = \frac{178.2}{157.0} - 1$$

38 Goldsboro's *best* choice for the GSI index portfolio structure is:

A a mutual fund.

B a pooled account.

C an exchange-traded fund.

KEY = B

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 4.2

Study Session 12-23-e

Compare alternative methods for establishing passive exposure to an equity market, including indexed separate or pooled accounts, index mutual funds, exchange-traded funds, equity index futures, and equity total return swaps.

B is correct because the clients are identified as being cost sensitive and, of the three choices offered, pooled accounts generally have the lowest fees.

39 According to the information provided in Exhibit 2, Fund GB1 is *best* characterized as having what equity style?

A Value

B Growth

C Market oriented

KEY = C

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 5.1.4

Study Session 12-23-i

Compare techniques for identifying investment styles and characterize the style of an investor when given a description of the investor's security selection method, details on the investor's security holdings, or the results of a returns-based style analysis.

C is correct because a market oriented equity style is one that is neither value nor growth. Fund GB1 has characteristics that are almost identical to the broader STI index. While two (dividend yield and P/E) of the four reported characteristics lean slightly toward a growth style, the other two (P/B, projected EPS growth) lean slightly toward a value style.

40 Goldsboro's Fund GB2 would appeal to an investor who is *most* closely focused on:

A relative strength.

B earnings momentum.

C price relative to intrinsic value.

KEY = C

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 5.1

Study Session 12-23-h, i

Explain the rationales and primary concerns of value investors and growth investors and discuss the key risks of each investment style.

Compare and contrast techniques for identifying investment styles and characterize the style of an investor when given a description of the investor's security selection method, details on the investor's security holdings, or the results of a returns-based style analysis.

C is correct because Fund GB2 follows a value style (higher dividend yield, lower P/E, P/B, and earnings growth). Value investors are focused on price relative too intrinsic value.

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41 The characterization of Briggs' investment as following a core-satellite approach is *most likely*:

A correct.

B incorrect, because too little of the portfolio was passively invested.

C incorrect, because the funds invested in are benchmarked against the wrong index.

KEY = A

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 7.1

Study Session 12-23-r

Explain the core-satellite approach to portfolio construction and discuss the advantages and disadvantages of adding a completeness fund to control overall risk exposures.

A is correct. Fund GB-STI3 has an expected alpha and expected tracking error of 0% and can therefore be characterized as an index fund. 20% of the investment was placed in this fund, creating a core, with the remainder invested in non-index funds creating a satellite. A small core allocation might be indicative of a high risk tolerance.

---

42 During 2009, the "misfit" active return earned by Brigg's investments was *closest to*:

A 0.3%.

B 0.4%.

C 0.7%.

KEY = A

Equity Portfolio Management, Gary L. Gastineau, Andrew R. Olma, CFA, and Robert G. Zielinski, CFA

Modular Level III, Vol. 4, Reading 23, Section 7.1

Study Session 12-23-s

Distinguish among the components of total active return ("true" active return and "misfit" active return) and their associated risk measures and explain their relevance for evaluating a portfolio of managers.

A is correct because "misfit" active return is equal to the return of the manager's normal benchmark minus the return of the investor's benchmark. 0.3% = 12% – 11.7%, where 12% is the return on the STI index fund and 11.7% is the return on the MSCI Singapore Free Index.

Tannenbach Case Scenario

The CFA Society Springfield is hosting a member luncheon event which will include a panel discussion on alternative investments. Jerry Tannenbach, President of the CFA Society Springfield, will lead the panel discussion. Chris Timdore, CIO of the Lance Fund and Dave Shaphold, CEO of Shinny Advisors are the two panelists. Lance Fund is a hedge fund which was established in 2006 and Shinny Advisors is a hedge fund consultant advising investors.

Tannenbach opens the panel discussion by describing some of the features of alternative investments. He suggests that more successful alternative investment managers add value by applying rigorous due diligence checkpoints. In addition, he suggests that alternative investments should earn a return premium since they are relatively illiquid in comparison to traditional investments.

Attendees are encouraged to ask questions of the panelists. The first question is from a society member who manages a private wealth firm. He is considering adding real estate to several client portfolios. From his initial research, he has formulated observations about direct equity investments in real estate and asks Timdore to comment on those observations:

Observation 1 A disadvantage is greater use of financial leverage.

Observation 2 Another disadvantage is higher transaction costs.

Observation 3 An advantage is lower volatility of returns.

Timdore explains why not all of these observations are correct.

The next question is from a society member who asks Timdore to discuss the Lance Fund in the context of style classification. Timdore discloses that the Lance Fund combines long and short positions in equity securities in order to capture changes in the price spread between a target company and an acquiring company following a deal announcement.

Tannenbach asks Timdore to demonstrate how the Lance Fund adds alpha when combined with a portfolio of traditional investments. Timdore replies that the Lance Fund is an absolute return investment vehicle whose performance can be measured in comparison to tracking portfolios which share similar risk and return characteristics. He indicates that the Lance Fund also utilizes the Sharpe ratio for risk adjusted performance measurement since the Sharpe ratio has no limitations with respect to measuring hedge fund performance.

Shaphold indicates that the Lance Fund is amongst a universe of 30 hedge funds which are used by Shinny Advisors for client portfolios. He offers the following due diligence guidelines for investors who are considering adding hedge funds to their portfolio.

Guideline 1: Incentive fees should apply only to new appreciation of a hedge fund's net asset value.

Guideline 2: Management fees are typically 1%, but for some hedge funds may reach as high as 2%.

Guideline 3: AUM fees are typically paid to both the hedge fund manager and the fund of hedge funds manager.

The final question is from a society member who asks Shaphold to discuss the investment risks of distressed securities. Shaphold states that legal judgements have the potential to impact investor outcomes with respect to selecting whether to invest in debt or equity. Understanding the court dynamics

43 Are Tannenbach's suggestions about alternative investments *most likely* correct?

A Yes

B No, because of due diligence.

C No, because of return premium.

KEY = A

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss

Modular Level III, Volume 5, Reading 24, Section 2

Study Session 13-24-a, b

Describe common features of alternative investments and their markets and how alternative investments may be grouped by the role they typically play in a portfolio.

Explain and justify the major due diligence checkpoints involved in selecting active managers of alternative investments.

A is correct. Tannenbach's suggestions about alternative investments are correct. Common features of alternative investments include relative illiquidity which is associated with a return premium, diversifying potential relative to a portfolio of stocks and bonds, high due diligence costs and difficulty in terms of performance appraisal. Successful alternative investment managers follow a rigorous due diligence process.

44 Which of the observations about direct equity real estate investing is *least likely* correct?

A Observation 2

B Observation 1

C Observation 3

KEY = B

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss

Modular Level III, Volume 5, Reading 24, Section 3.3.1

Study Session 13-24-g

Describe advantages and disadvantages of direct equity investments in real estate.

B is correct. Observation 1 is not correct because the use of financial leverage is an advantage, not a disadvantage, of direct equity real estate investing.

45 The *most* appropriate style classification for the Lance Fund is *likely:*

A Merger Arbitrage.

B Equity Market Neutral.

C Hedged Equity.

KEY=A

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss

Modular Level III, Volume 5, Reading 24, Section 6.1.1
Study Session 13-24-p
Identify and explain the style classification of a hedge fund, given a description of its investment strategy.

A is correct. The style classification of the Lance Fund is Merger Arbitrage, which attempts to capture the price spread between current market prices of corporate securities and their value upon successful completion of a takeover, merger, spin-off, or similar transaction involving more than one company.

46 Are Timdore's comments about alpha and the performance measurement of the Lance Fund most *likely* correct?

A Yes.

B No, he is incorrect about the tracking portfolios.

C No, he is incorrect about the Sharpe ratio.

KEY = C

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss
Modular Level III, Volume 5, Reading 24, Section 6.2.1, 6.4
Study Session 13-24-s
Discuss concerns involved in hedge fund performance evaluation.

C is correct because the comments about the Sharpe ratio are incorrect. There are a number of limitations with respect to using the Sharpe ratio for hedge fund performance evaluation. Among these are: (1) Sharpe ratio is time dependent (2) illiquid holdings bias the Sharpe ratio upward (3) not an appropriate measure of risk adjusted performance when the investment has an asymmetrical return distribution with either negative or positive skewness (4) does not take into consideration the correlations with other assets in the portfolio For these reasons, there are limitations to determining hedge fund alpha by comparing its performance to a benchmark portfolio because of concerns related to hedge fund performance evaluation. These concerns relate specifically to returns (leverage, compounding), volatility and downside volatility (normal distribution) and performance appraisal measures (Sharpe ratio).

47 Which of Shaphold's due diligence guidelines *most likely* relates to a high water mark?

A Guideline 3

B Guideline 2

C Guideline 1

KEY = C

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss
Modular Level III, Volume 5, Reading 24, Section 6.1
Study Session 13-24-q
Discuss the typical structure of a hedge fund, including the fee structure, and explain the rationale for high-water mark provisions.

C is correct. For most hedge funds, incentive fees are paid only when the hedge funds NAV exceeds its high water mark. A hedge fund's high water mark is a specified net asset value that a fund must exceed before performance fees are paid to the hedge

fund manager. Once the first incentive fee has been paid, the highest month end NAV establishes a high water mark. The purpose of the high water mark provision is to ensure that the hedge fund manager earns an incentive fee only once for the same gain.

48 The investment risks being explained by Shaphold *most likely* relate to:

A J factor risk.

B event risk.

C market liquidity risk.

KEY = A

Alternative Investments Portfolio Management, Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, Lisa R. Weiss

Modular Level III, Volume 5, Reading 24, Section 8.3

Study Session 13-24-v

Explain event risk, market liquidity risk, market risk, and "J-factor risk" in relation to investing in distressed securities.

A is correct. Shaphold is explaining J factor risk, one of the investment risks of distressed securities. Legal judgements may be characterized as distressed securities "J factor risk," which is risk related to the impact of judges and bankruptcy court decisions.

Matthew Wintermantle Case Scenario

Matthew Wintermantle is Managing Director and Head of Risk Management for Green Leaf Capital Advisors (GLCA). GLCA is a financial advisory and asset management firm based in Philadelphia, Pennsylvania, that offers services to institutional and private clients. Wintermantle is meeting with two senior associates, Martin Deiss and Sarah Wittke, to discuss select client portfolios.

GLCA manages a portfolio for Jinghan Cai, a private banking client. Cai's portfolio includes an investment in US large cap stocks with a current market value of USD 25,000,000.

Wintermantle has concluded that US large caps are likely to underperform over the next three months and has advised Cai to reduce exposure to US large caps. Cai agrees. Wintermantle indicates that he plans to reduce the portfolio's beta from 1.2 to 0.8 using a three month futures contract on the S&P 500 that is currently valued at USD 484,750 and has a beta of 0.9

Cai has USD 5,000,000 of cash in the portfolio, and he would like to utilize these funds to invest JPY 600,000,000 in the Japanese equity market. To preserve the portfolio's liquidity, Wintermantle proposes that Cai achieve the JPY 600,000,000 exposure by equitizing the portfolio's cash. He suggests using a three month futures contract on the Nikkei stock index which is currently valued at JPY 8,935,000. Japanese risk free bonds currently yield 1.5% per year. Cai agrees, but expresses concern about unfavorable moves in the value of the Japanese yen. He asks whether it would be possible to completely hedge foreign currency risk.

Wintermantle responds that, in order to fully hedge Japanese yen currency risk, he would need to hedge foreign equity market exposure as well as the currency exposure.

One of GLCA's largest institutional clients is Pathways Container Corporation (PWCC) an Orlando, Florida based manufacturing company. The PWCC pension fund has USD 800,000,000 invested in large cap US stocks with a beta of 1.35. Deiss

expects US mid cap stocks to outperform large cap US stocks over the next few months and recommends GLCA use S&P 500 and S&P 400 mid cap futures to shift the USD 800,000,000 from large cap to mid-cap US stocks for a three-month period. The three month futures contract on the S&P 400 mid cap index is currently priced at $138,600 and has a beta of 0.95. Information for the S&P 500 futures contract has already been provided above. Given the favorable outlook for mid-cap stocks, Deiss suggests the mid cap stock allocation have a beta of 1.25.

The PWCC pension fund receives periodic cash flows from the plan sponsor. Wintermantle and his team discuss the use of futures to obtain exposure to specific asset classes in advance of the cash receipt. Diess states, "Because the cash has yet to be received, it is not possible to use futures to gain exposure to an asset class." Wintermantle disagrees and states, "In this case, it is possible to gain exposure to an asset class by taking long positions in risk free bonds and futures on the asset class." Wittke responds, "A long position in futures on the asset class is sufficient to gain exposure to the underlying asset. Specifically, it is equivalent to borrowing against cash to be received in the future and investing in the underlying asset."

GLCA also manages corporate cash for PWCC and the company has indicated it needs to make a EUR 3,500,000-dollar payment to a supplier based in Germany. Payment is due in 45 days but PWCC is concerned about the euro rising against the U.S dollar over this period. PWCC's Treasurer asks Wintermantle for advice on managing this exchange rate risk. Wintermantle discusses this with Wittke, and she indicates that this type of exchange rate risk is referred to as economic exposure and can be managed by entering into a long forward contract on the euro.

49 To reduce the beta of Cai's US large cap portfolio investment as desired, the number of S&P 500 futures contracts Wintermantle would need to sell is *closest* to:

A 46.

B 19.

C 23.

KEY = C

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 3.1 and 3.2
Study Session 15-26-a
Demonstrate the use of equity futures contracts to achieve a target beta for a stock portfolio and calculate and interpret the number of futures contracts required.

C is correct. The number of futures, N_f, is calculated as follows:

$$N_f = \left(\frac{\beta_T - \beta_S}{\beta_f}\right)\left(\frac{S}{f}\right)$$

$$= \left(\frac{0.8 - 1.2}{0.9}\right)\left(\frac{\text{USD}25{,}000{,}000}{\text{USD}484{,}750}\right)$$

$$= -22.92$$

That is, sell 23 S&P 500 futures contracts.

50 In order for Cai to equitize the portfolio's cash into the Japanese equity market exposure he is seeking, the amount of Japanese risk free bonds Wintermantle must purchase is *closest to*:

A JPY 596,000,000.

B JPY 600,000,000.

C JPY 609,000,000.

KEY = A

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 3.3
Study Session 15-26-b
Construct a synthetic stock index fund using cash and stock index futures (equitizing cash).

A is correct. In order to create a synthetic equity position (equitize cash) using the $15 million cash inflow, Wintermantle should purchase futures and invest in risk-free bonds. The number of contracts is:

$$N_f = \frac{V(1+r)^T}{qf}$$

$$67.40 = \frac{600{,}000{,}000(1+0.015)^{0.25}}{8{,}935{,}000}$$

That is, 67 contracts long.

The amount to be invested in risk-free bonds is:

$$V^* = \frac{N_t^* qf}{(1+r)^T}$$

$$596{,}420{,}893 = \frac{67(8{,}935{,}000)}{(1+0.015)^{0.25}}$$

51 Is Wintermantle's response to Cai's question about fully hedging Japanese yen currency risk most *likely* correct?

A Yes

B No, he is incorrect with regard to hedging foreign equity market exposure.

C No, he is incorrect with regard to hedging currency risk.

KEY = A

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 5.3
Study Session 15-26-g
Explain the limitations to hedging the exchange rate risk of a foreign market portfolio and discuss feasible strategies for managing such risk.

A is correct. In order to fully hedge currency risk, both the foreign equity market exposure and the currency risk must be hedged. Cai is long the Nikkei and the JPY. In order to completely hedge currency exposure Cai would need to know how many JPY to deliver in the future but this unknown and is dependent on the future value of the Nikkei.

The only way that this amount is known now would be to hedge the exposure to the Nikkei by using Nikkei futures to lock in the amount of JPY to be delivered in the future.

52 In order to reallocate the equity exposure in the PWCC pension fund Deiss would *most likely* have to sell:

A 2,476 S&P 500 futures and buy 7,595 S&P 400 mid cap futures.

B 1,100 S&P 500 futures and buy 4,387 S&P 400 mid cap futures.

C 743 S&P 500 futures and buy 1,732 S&P 400 mid cap futures.

KEY = A

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 4.1
Study Session 15-26-e
Demonstrate the use of futures to adjust the allocation of a portfolio across equity sectors and to gain exposure to an asset class in advance of actually committing funds to the asset class.

A is correct. The number of S&P 500 futures, N_f, is calculated as follows:

$$N_f = \left(\frac{\beta_T - \beta_S}{\beta_f}\right)\left(\frac{S}{f}\right)$$

$$= \left(\frac{0 - 1.35}{0.9}\right)\left(\frac{\text{USD}800{,}000{,}000}{\text{USD}484{,}750}\right) = -2475.50$$

Or 2,476 contracts.

The number of S&P 400 futures, N_f, is calculated as follows:

$$N_f = \left(\frac{\beta_T - \beta_S}{\beta_f}\right)\left(\frac{S}{f}\right)$$

$$= \left(\frac{1.25 - 0}{0.95}\right)\left(\frac{\text{USD}800{,}000{,}000}{\text{USD}138{,}600}\right)$$

$$= 7594.75$$

Or 7,595 contracts.

53 Whose comments are *most likely* correct with respect to PWCC's pension plan using futures to gain exposure to an asset class in advance of the cash receipt from the plan sponsor?

A Deiss

B Wittke

C Wintermantle

KEY = B

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 4.2
Study Session 15-26-e
Demonstrate the use of futures to adjust the allocation of a portfolio across equity sectors and to gain exposure to an asset class in advance of actually committing funds to the asset class.

B is correct. Wittke is correct. Futures contracts can be used to gain exposure to an asset class in advance of a cash receipt. This is called pre-investing in an asset class. A long position in a futures contract is equivalent to being long the underlying plus a loan. That is, it is a fully leveraged position on the underlying asset.

54 Is Wittke's response to Wintermantle regarding exchange rate risk for the payment to the German supplier *most likely* correct?

A Yes.

B No, she is incorrect about the type of exchange rate risk.

C No, she is incorrect about the type of forward contract.

KEY = B

Risk Management Applications of Forward and Futures Strategies, Don M. Chance
Modular Level III, Vol. 5, Section 5 and 5.2
Study Session 15-26-f
Explain exchange rate risk and demonstrate the use of forward contracts to reduce the risk associated with a future receipt or payment in a foreign currency.

B is correct. Wittke is incorrect about the type of exchange rate risk. PWCC faces transaction exposure in this case the risk that the euro will strengthen against the US dollar and cause PWCC to pay more in US dollar terms. Wittke is correct that the exchange rate risk can be hedged using a long forward contract on euros.

Anton Case Scenario

Beatriz Anton is the chief compliance officer at Long Pond Advisors, an asset management firm catering to institutional investors. Long Pond is not currently GIPS compliant, but Anton would like to market the firm as being compliant as soon as possible. To assist Anton in achieving compliance, she hires Ana Basco from Nantucket Advisors to provide guidance on achieving compliance.

At their initial meeting to discuss a framework for the implementation of GIPS standards, Anton asks Basco what she believes the fundamentals of GIPS compliance encompass. Basco responds, "A good starting point is input data because the Standards rely on the integrity of input data to accurately calculate results. Portfolios must be valued in accordance with the definition of fair value, not cost or book values. In fact, fair value supersedes market value. Transactions are reflected in the portfolio at settlement when the exchange of cash, securities, and paperwork involved in a transaction is completed. Accrual accounting is used for fixed income securities and all other assets that accrue interest income; dividend-paying equities accrue dividends on the ex-dividend date."

Basco then asks Anton about Long Pond's policies for return calculation methodologies. Anton responds that she has recently implemented the following polices:

Policy 1 Total return is calculated for portfolios using time-weighted rates of return computed by geometrically linking the periodic returns. Both realized and unrealized gains and losses are used in the calculation.

Policy 2 Large- and mid-cap equity portfolios are revalued on the date when capital equal to 10 percent or more of current market value is contributed or withdrawn. Small-cap and fixed income portfolios use a 5 percent threshold.

Policy 3 Cash and cash equivalents are excluded in total return calculations. Custody fees are not considered direct transaction costs. Returns are calculated after deduction of trading expenses.

Their conversation turns to the construction of composites and composite return calculations. Anton tells Basco,

> Long Pond calculates composite returns by asset-weighting the individual portfolio returns using beginning-of-period values. For periods beginning 1 January 2010, we calculate composite returns by asset weighting the

individual portfolio returns quarterly. All actual, fee-paying, discretionary portfolios are included in at least one composite. Non-fee-paying discretionary portfolios are also included in a composite, and appropriate disclosures are provided. Client portfolios that restrict the purchase of certain securities are excluded if this restriction hinders the portfolio manager's ability to execute the investment strategy. We consider a hierarchical structure of criteria for composite definition that promotes primary and secondary strategy characteristics, such as asset classes, style, benchmarks, and risk/return characteristics. The composites are not always defined according to each level of the hierarchy.

Anton then provides Basco a recent presentation to a prospective client for Long Pond's mid-capitalization composite. Details of this presentation are found in Exhibit 1.

Exhibit 1 Mid-Capitalization Equity Composite Benchmark: Russell Midcap Index

Column >	1	2	3	4	5	6	7
Year	Gross-of-Fees Return (%)	Net-of-Fees Return (%)	Benchmark Return (%)	Number of Portfolios	Internal Dispersion (%)	Total Assets ($m)	
						Composite	Firm
2009	4.4	3.4	3.6	5	3.1	125	1,000
2010	2.7	1.7	6.2	8	4.0	220	1,150
2011	–1.5	–2.5	–4.3	7	1.9	345	910
2012	8.3	7.3	11.1	11	2.6	430	1,020
1Q13	6.6	5.6	–2.9	13	4.1	600	1,100

Notes:

1 Long Pond is an independent investment firm founded in May 1998 and has a single office in Seattle, WA. The firm manages portfolios in various equity, fixed income, and real estate strategies.

2 The composite has an inception date of 31 December 2001. A complete list and description of firm composites is available upon request.

3 The composite includes all fee-paying discretionary, nontaxable portfolios that follow a mid-cap strategy. The composite does not include any non-fee-paying portfolios.

4 First Quarter 2013 (1Q13) data are not annualized.

5 Valuations are computed and performance reported in US$.

6 Internal dispersion is calculated using the equal-weighted standard deviation of all portfolios that were included in the composite for the entire year.

7 Gross-of-fees performance returns are presented before management and custodial fees but after all trading expenses. The management fee schedule is as follows: 1.00% on first US$25M; 0.60% thereafter. Net-of-fees performance returns are calculated by deducting the management fee of 0.25% from the monthly gross composite return.

Anton concludes by describing Long Pond's real estate composite valuation practices to Basco:

Since 1 January 2011, Long Pond uses fair value for real estate holdings calculated annually and have an external expert value the properties every 36 months. For periods before 1 January 2011 however, we used market values. We calculate income returns and capital returns separately using geometrically linked time-weighted rates of return and composite returns by asset-weighting the individual portfolio returns at least quarterly.

55 In her statement regarding input data, Basco is least likely correct with respect to:

A fair value.

B accrual accounting.

C settlement date accounting.

KEY = C

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.2
Study Session 18-32-c
Explain the requirements and recommendations of the GIPS standards with respect to input data, including accounting policies related to valuation and performance measurement.

C is correct because the GIPS standards require that firms use trade-date accounting for the purpose of performance measurement for periods beginning 1 January 2005 (I.1.A.5). The principle behind requiring trade-date accounting is to ensure that no significant lag occurs between a trade's execution and its reflection in the portfolio's performance.

56 Which policy regarding return calculation methodology is least likely compliant with GIPS standards?

A Policy 1

B Policy 2

C Policy 3

KEY = C

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.5
Study Session 18-32-d
Discuss the requirements of the GIPS standards with respect to return calculation methodologies, including the treatment of external cash flows, cash and cash equivalents, and expenses and fees.

C is correct because a GIPS requirement is that returns from cash and cash equivalents held in portfolios must be included in total return calculations (I.2.A.3). A primary purpose of performance measurement is to enable prospective clients and, by extension, their consultants to appraise an investment management firm's results. Within the constraints established by a client's investment policy statement (IPS), active managers often have discretion to decide what portion of a portfolio's assets to hold in cash or cash equivalents.

57 With regard to Long Pond's procedures for composites, which of the following should most likely be modified in order to be compliant with GIPS standards? Composite:

A definition.

B construction.

C return calculations.

KEY = C

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.6,
Study Session 18-32-e, f, g

Explain the requirements and recommendations of the GIPS standards with respect to composite return calculations, including methods for asset-weighting portfolio returns.

Explain the meaning of "discretionary" in the context of composite construction and, given a description of the relevant facts, determine whether a portfolio is likely to be considered discretionary.

Explain the role of investment mandates, objectives, or strategies in the construction of composites.

C is correct. The GIPS standards specify the required frequency of asset weighting. Provision I.2.A.7 states that for periods beginning on or after 1 January 2010, composite returns must be calculated by asset weighting the individual portfolio returns at least monthly. Provision I.2.B.2 recommends that the same be done for earlier periods.

58 Based on Exhibit 1 and the notes following the table, Long Pond is least likely in compliance with GIPS standards with regard to the:

A length of performance record.

B measure of internal dispersion.

C presentation of 1Q13 performance.

KEY = A

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.11, 3.12,
Study Session 18-32-k, u

Explain the requirements and recommendations of the GIPS standards with respect to presentation and reporting, including the required timeframe of compliant performance periods, annual returns, composite assets, and benchmarks.

Identify and explain errors and omissions in given performance presentations, and recommend changes that would bring them into compliance with GIPS standards.

A is correct because Long Pond is required by GIPS standards to present five years of performance because the composite has been in existence for that period. The mid-cap composite was started on 31 December 2001; therefore, performance for 2008 must be presented. After presenting five years of performance, the firm should present additional annual performance up to 10 years.

59 Regarding the disclosures contained in Exhibit 1, GIPS standards would most likely:

A require Columns 3 and 7 and recommend Column 6.

B require Columns 2 and 5 and recommend Column 1.

C require Column 6 and recommend Columns 4 and 7.

KEY = B

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.11, 3.12 and 3.13,
Study Session 18-32-j

Explain the requirements and recommendations of the GIPS standards with respect to disclosure, including fees, the use of leverage and derivatives, conformity with laws and regulations that conflict with the GIPS standards, and noncompliant performance periods.

B is correct because the presentation of firm assets (or percentage of firm assets represented by the composite) is required. Firms are required to present either net-of-fees performance or gross-of-fees performance. If one or the other is presented, then

it is recommended that the remaining also be presented. For example, if net-of-fees performance is disclosed, then it is recommended that gross-of-fees performance also be disclosed.

60 In order for the real estate composite to be GIPS compliant, at a minimum, which of Long Pond's practices would most likely need to be modified?

A Frequency of valuations

B Rate-of-return calculations

C The use of fair and market values

KEY = A

Overview of the Global Investment Performance Standards, Phillip Lawton
Modular Level III, Vol. 6, Section 3.15,
Study Session 18-32-o
Explain the provisions of the GIPS standards for real estate and private equity.

A is correct because Provision I.6.A.4 states that for periods prior to 1 January 2012, real estate investments must have an external valuation at least once every 36 months. For periods beginning on or after 1 January 2012, real estate investments must have an external valuation at least once every 12 months unless client agreements stipulate otherwise; in that case, they must have an external valuation at least every 36 months (or more frequently if required by the client agreement).