2020 年 CFA 三级百题预测（上）

1. SS1 Ethical and Professional Standards

Case 1: Anne Zawadi

A group of fund management professionals recently formed a self-regulating professional association, the Fund Managers' Association (FMA), whose main objective is to increase the level of integrity of fund management in the country. Membership in the FMA is restricted to fund management firms.

The FMA wants to create a Code of Conduct to be used by all the firm members of the FMA. To help in the creation of the Code, the FMA has hired Anne Zawadi, a CFA charterholder.

In the first meeting between the Board of the FMA and Zawadi, the Chairman of the FMA Board states, "Our initial thoughts are to require all of our members to adopt the CFA Code of Ethics and Standards of Professional Conduct rather than create our own code. If they fail to abide by the CFA Code, their membership will be revoked." Zawadi responds, "Perhaps it would be better to adopt the CFA Institute Asset Manager Code of Professional Conduct, as it is specific to asset management firms, not individuals. The Code lays out principles of conduct, including acting in a professional and ethical manner, acting for the benefit of clients at all times and with independence and objectivity, in addition to acting with skill, competence and diligence. It also covers communication with clients. It is so comprehensive there is no need to allow any flexibility amongst your members. However, it only covers some aspects of our capital markets regulations but it should be adopted without any further provisions."

After Zawadi's comments, the FMA Board agreed to adopt the CFA Asset Manager Code without any changes or additions, requiring all its members to strictly abide by it. It also required its members to state in their marketing material that their clients could submit complaints regarding any member to the FMA's Compliance Committee.

One year later, the Compliance Committee of the FMA asks to meet with Zawadi to discuss a complaint against one of its members, Amani Asset Management. The complaint comes from a client who gave Amani full discretion and believes Amani violated the Asset Managers Code. His opinion is based on the fact that he lost one third of his portfolio value over the last year. The client claims he was told by one of Amani's managers that recently all of their clients' asset allocations were heavily weighted to more speculative equity investments in order to enhance returns. The manager is also alleged to have told the client his performance is really quite good as the market lost 50 percent.

Along with his complaint, the client submitted his investment policy statement, prepared by Amani. Zawadi noted that the client's risk tolerance in the statement was described as "moderate" due to his conservative nature and poor investment experiences in the past.

Amani's client also indicates he heard that Amani had been fined a substantial amount of money by regulators for not complying with regulations regarding the handling of client funds. The client

also indicates that as a result of the disciplinary action, several top management personnel left the company. The client enclosed Amani's last bi-weekly newsletter in which Amani disclosed recent staff additions, new management fee structures, and changes in handling client account procedures.

As part of the FMA's objective of improving standards in their industry, the FMA Board asks Zawadi to review the procedures they require of their members in regards to Compliance and Support, Trading and Disclosure. Zawadi finds the following existing procedures in place:

Compliance and Support:

Members are required to ensure all their employees sign a statement acknowledging the firm's mandatory compliance with the CFA Asset Managers Code; appoint a Compliance Officer reporting to the CEO and Board of Directors; maintain records regarding investment decisions for a minimum of six years; and portfolio information must be checked by another department within the Member firm.

Trading:

Members are required to enforce procedures to ensure: clients' interests are first and foremost; trade allocations are distributed equally amongst all clients and best trade execution.

Disclosure:

Members are required to ensure all Members disclose: basis for valuationmethodology; potential conflicts of interest; and use of derivatives.

After the review of the procedures she makes two recommendations as to how the FMA can further enhance integrity amongst its members:

Recommendation: Each member firm should require all of its employees to declare on a quarterly basis, any investment actions taken by themselves or anyone else living in their household to ensure the firms' clients' interests are being put before the employees of the firm.

Recommendation: Member firms should restrict the use of performance fees but solely charge clients on the basis of a percentage of assets under management so to ensure managers do not take excessive risk.

1. Are Zawadi's comments regarding the implementation and the ethical responsibilities of the CFA Asset Manager Code of Professional Conduct most likely accurate?
A. No.
B. Yes, because she covers all aspects of the ethical responsibilities.
C. Yes, because she covers all aspects of the ethical responsibilities and mentions that the Code must be adopted without any changes.

2. Did Amani's client have a basis for making a complaint with regard to the Asset Manager

Code against Amani?

A.   Yes.

B.   No, Amani treated all the clients equally and did not favor one client over another.

C.   No, the client gave Amani full discretion and his portfolio outperformed the market.

3.   Which of the FMA's existing procedures regarding Compliance and Support least likely meets the minimum Standards of the Asset Managers Code?

A.   Maintaining records.

B.   Department confirmation.

C.   Independent Compliance Officer.

4.   Which of the following disclosures would the FMA least likely require of their members to meet the minimum Standards of the Asset Managers Code?

A.   Use of leverage.

B.   Fund audit results.

C.   Remuneration of Professional Staff.

5.   Could Zawadi's first recommendation be improved further to better meet the Standards of the Asset Manager Code and the CFA Standards of Professional Conduct?

A.   No, it already meets the requirements of both Codes.

B.   Yes, disallow all employees to trade in investment securities.

C.   Yes, require all employees to obtain permission prior to making a trade.

6.   Does Zawadi's recommendation conform to the Asset Manager Code of Standards?

A.   Yes.

B.   No, Code does not forbid performance fees as long as the fee calculation is clearly disclosed.

C.   No, Code does not forbid performance fees as long as each client's performance fee is calculated identically.

Case 2: Weiying Shao

Weiying Shao, CFA, is an investment officer employed by Zhang Financial Services. Zhang provides wealth management services solely to high net worth individuals and has adopted the CFA Institute Standards and Asset Manager Code of Conduct.

Shao receives a request from a client asking for an itemized accounting of the actual fees and other costs charged to them for the year. Shao sends the client a document itemizing management fees paid by the client along with an explanation as to how the fees were derived.

Zhang has expanded its services recently to include proprietary mutual funds. Two experienced and respected research analysts were promoted to manage the new mutual funds.

Shao meets with Guohua Xu, a client who holds a diversified portfolio of funds. Traditionally, Shao has invested client assets in long-established funds with strong performance and management continuity. Because he has great respect for Zhang's new products and their portfolio managers, Shao suggests investing a portion of Xu's portfolio in one of the new Zhang funds. He recommends a fund with investment objectives similar to those of Xu. Shao provides performance data based on a simulated application of the fund's approach over the past 18 months. He adds, "The new fund's simulated performance is comparable to the performance of your current holdings over that period."

Several clients ask Shao about hedge funds. After carefully screening for risk and return characteristics, Shao recommends selected hedge funds he finds appropriate for even conservative clients. The funds have had excellent performance so Shao believes they are appropriate despite their three year lock out prevision. He discusses his research and recommendations with a colleague who responds "I don't believe hedge funds are appropriate for any of our conservative clients, especially those with short-term liquidity needs."

Periodically Shao reviews Zhang's confidential proxy voting policy that is disclosed to clients only upon request. The policy directs investment officers to be selective when reviewing proxies, and to avoid spending time reviewing and voting routine proxies. In such cases, Zhang considers the cost involved for the client to be greater than the benefit that the client would receive.

Zhang has strict trade allocation procedures developed in accordance with the CFA Institute Standards and Asset Manager Code of Conduct. The firm distributes copies of the procedures to clients annually. Occasionally, Shao receives notice from the trading desk at the close of the day informing him that his block trades were only partially filled. Recently, when the trading desk could not execute the full $750,000 in stock that he had requested for two accounts, he allocated $100,000 of the stock to the $5 million dollar private account and the remaining $500,000 of stock to a $25 million dollar institutional account.

During the next month, Zhang's founder is accused by regulatory authorities of a number of violations including misappropriation of client funds. The same day, a team of senior portfolio

managers leave Zhang to start their own firm. Zhang instructs its personnel not to discuss either of these developments with current or prospective clients.

1. Are the fee disclosures made by Shao to his client consistent with the CFA Institute Asset Manager Code of Professional Conduct?

A. No.

B. Yes, because Shao disclosed how fees are derived.

C. Yes, because Shao itemized the management fees paid on the client's behalf.

2. By recommending that Xu switch a portion of his portfolio to a new Zhang fund, does Shao violate any CFA Institute Standards of Professional Conduct?

A. No.

B. Yes, because he has a conflict of interest as the new funds are proprietary.

C. Yes, because the fund data used in the performance comparison was simulated.

3. By recommending hedge funds, does Shao violate any CFA Institute Standards?

A. No.

B. Yes, because hedge funds have risk characteristics that are not suitable for conservative investors.

C. Yes, because the hedge funds recommended are not suitable for conservative investors with short-term liquidity requirements.

4. Is Zhang's proxy voting policy consistent with the requirements and recommendations of CFA Institute Standards and the Asset Manager Code of Conduct?

A. Yes.

B. No, because the proxy voting policy should be disclosed to all clients.

C. No, because voting of all proxies is a part of the management of client investments.

5. When allocating the shares on the partially filled block order does Shao violate any CFA Institute Standards?

A. No.

B. Yes, because he fails to disclose the firm's trade allocation policies.

C. Yes, because he should allocate shares to client accounts only after the order is completely filled.

6. According to the CFA Institute Asset Manager Code of Conduct, Zhang must disclose the information regarding its:

A. founder only.

B. team of senior portfolio managers only.

C. both the founder and the team of senior portfolio managers.

7-214

Case 3: Frank Litman

Frank Litman, CFA, has recently been hired as a portfolio manager for Twain Investments, a small regional asset management firm. For the past ten years, Litman has managed a limited number of accounts belonging to family and friends. He started managing these accounts when he was enrolled in graduate school. All the accounts are too small to meet Twain's minimum balance requirement of $5 million, and generate only modest fees for Litman. Litman disclosed the arrangement to the Human Resource (HR) manager when he interviewed for the position of portfolio manager. The HR manager agreed that the accounts were too small and would probably never be large enough to meet Twain's minimum requirement. Upon accepting the position with Twain, Litman met with each of his non-Twain clients and recommended that they find another financial advisor. Each of them asked Litman to continue managing their money as a personal favor, arguing that a different advisor would undoubtedly charge higher fees. Following the meetings, Litman sent separate letters to both the Twain HR manager and his non-Twain clients explaining his employment relationship to each.

The following month, Litman updated the promotional material he shares with all of his clients and prospects. The material summarizes Litman's portfolio trading strategy, which he developed by analyzing twenty years of historical data. In his analysis, Litman determined that his strategy, which invests in large-capitalization U.S. stocks, would have outperformed the S&P 500 Index over the last 20 years—with an average annual return of 10.91 percent versus 10.42 percent for the S&P 500. The concluding paragraph of the brochure states, "We believe using this trading strategy over the long term will lead to superior performance compared with the S&P 500." The brochure includes a footnote in small print stating, "Results are gross before tax so may be higher than what actual results would have been over the given period. Past performance cannot guarantee future results. "

At Twain, Litman has discretionary authority over the portfolios of individual stocks and bonds for about 30 clients. His ten largest clients vary widely in age, occupation, and wealth. For a variety of reasons, each of these accounts requires significant attention. The remaining two-thirds of Litman's clients are stable, long-term investors, all of whom are saving for retirement. Litman performs comprehensive quarterly reviews with the owners of the ten largest accounts and similar annual reviews with the remaining clients. Recently, he made an exception to this rule when he learned that one of his smaller, less active clients had unexpectedly inherited $600,000 from an aunt's estate. Litman met with the client and performed a comprehensive review of the client's financial situation even though only three months had passed since their last meeting.

With a new CEO, Twain, which adheres to the Asset Manager Code of Professional Conduct, experiences significant change during the year when management hires a compliance officer. The compliance officer immediately begins to update the firm's policies and procedures. After a

thorough analysis, the firm decides to outsource its back-office operations and hires an independent consultant to review client portfolio information. At the same time, they add several research and investment staff and upgrade the information management system. They eliminate paper records in favor of electronic copies and develop a business-continuity plan based on current staffing.

Eighteen months later, the compliance officer resigns. Rather than hire an external replacement, management designates one of Twain's senior portfolio managers as the new compliance officer. The compliance officer reviews both firm and employee transactions and reports to the chief executive officer.

1. Which of the following is the most correct action for Litman to follow in order to comply with the Standards in regards to Twain and non-Twain clients?
A. Do nothing.
B. Inform his immediate supervisor.
C. Obtain written consent from both Twain and non-Twain clients.

2. According to CFA Institute Standards and Recommended Procedures for Compliance, which of the following information in regards to Litman managing funds for his family and friends is least likely required for him to comply with the Duty to Employer?
A. The names of his non-Twain clients.
B. The amount and type of compensation received.
C. The duration of the investment management agreements.

3. In the footnote of his promotional material about the performance of portfolio trading strategy, Litman is most likely not in compliance with the CFA Institute Standards of Professional Conduct with respect to:
A. tax.
B. fees.
C. results.

4. Did Litman violate any CFA Institute Standards in regards to his performance reviews?
A. No.
B. Yes, with respect to the frequency of reviews for his ten largest clients.
C. Yes, with respect to his recent review for the client with the inheritance.

5. Are Twain's actions and procedures during the first year of the new CEO's tenure in compliance with the Asset Manager Code of Professional Conduct?

A. Yes.

B. No, with respect to back-office operations.

C. No, with respect to independent consultant.

6. With respect to its most recent compliance officer, are Twain's actions and procedures in compliance with the recommendations and requirements of the Asset Manager Code of Professional Conduct?

A. Yes.

B. No, with regard to independence.

C. No, with regard to reporting lines.

Case 4: Jorge Peña

Jorge Peña is a broker at Northwest Securities and CFA Institute member who passed Levels I and II of the CFA® examination in 2008 and 2009. Because of a demanding work schedule, he did not enroll for the 2010 Level III exam. He hopes to enroll for the 2011 Level III exam.

In January 2010, Peña decides to apply for a broker position with Harvest Financial and updates his résumé (curriculum vitae). He prominently displays "CFA® candidate" on his resume and states that he "completed both Level I and Level II of the Chartered Financial Analyst Program."

During an interview with Peter Williams, a junior partner of Harvest Financial, Peña explains he currently has more than 100 brokerage clients. Based on relationships with those clients over the years, he feels confident that at least half of them will transfer their accounts to Harvest if he is employed there.

Under the "Personal" section of his résumé, Peña lists "referee for regional football league" and "member of investment committee at the Mueller School." Peña has been refereeing football matches for five years. It is a significant time commitment, but he explains that he enjoys the activity and that the fees of $50 per game more than pay for his travel expenses. Peña and Williams agree that $50 per game is not material. They then discuss Peña's role on the investment committee of the Mueller School. The committee monitors and evaluates the performance of the school's asset managers and brokers, including Harvest. It is a volunteer position, but the school allows all volunteers free use of the school's athletic facilities. The School recently started charging non-students and faculty a membership fee of $500 per year to help recover their investment in the new athletic equipment. Peña and Williams agree that neither his refereeing nor his investment committee activities will interfere with his duties at Harvest.

After lunch, Williams introduces Peña to a former colleague, Gabriella Martinez who happens to be a client of Peña's current employer and who also attended the same university as Peña. The colleague asks, "In what area is your degree?" Peña replies, "I mostly studied finance. I found the coursework to be very helpful preparation for the Chartered Financial Analyst program." He then adds, "You should move your account from Northwest Securities, there are rumors they are in trouble, which is why I want to leave".

One month later, Peña accepts an offer of employment from Harvest Financial and formally discloses to the Human Resources department his refereeing of football matches and that he sits on the Mueller School investment committee. On the first day in his new job, he hangs a framed copy of the CFA Institute Code of Ethics on his wall and places a copy of the Standards of Practice Handbook on his bookshelf for easy reference. Later that day, Peña uses public records to contact his clients. He informs them of his new position and asks them to transfer their accounts to Harvest so he can continue acting as their broker. One month after starting his new job, only 25 of Peña's clients have transferred their accounts to Harvest.

At Harvest, Peña attends an educational seminar about a new tax-advantaged investment program available for clients saving for college and university expenses. The program offers families the opportunity to obtain growth and distribution of earnings that are free from federal taxes. More than 80 individual plans are available and more than one-quarter provide additional local tax benefits. In the interest of time and for the sake of simplicity, the Harvest supervisor provides information on only one plan, which offers only federal tax benefits.

During the seminar, the supervisor shows the federal tax savings available under the plan given a number of different scenarios. He informs the brokers that the plan is subject to the same compliance and suitability requirements that apply to the sale of non-tax advantaged products. The supervisor then distributes the paperwork associated with the plan along with the firm's compliance and suitability requirements.

1. When listing himself as a CFA® candidate on his résumé (curriculum vitae), did Peña violate any CFA Institute Standards of Professional Conduct?

A. No.

B. Yes, with regard to enrollment.

C. Yes, with regard to completion level.

2. With respect to the fees he receives as a football referee, has Peña violated any CFA Institute Standards?

A. No.

B. Yes, because he failed to receive written consent from his employer.

C. Yes, because he failed to receive written consent from all parties involved.

3. According to CFA Institute Standards, after commencing employment with Harvest, Peña is least likely to have violated which Standard with regard to his relationship with Mueller School?

A. Misrepresentation.

B. Conflicts of Interest.

C. Additional Compensation.

4. During Peña's conversation with Martinez, which Standard below is least likely to have been violated?

A. Loyalty.

B. Misrepresentation.

C. Reference to the CFA Program.

5. Based only on the information describing his first month of employment at Harvest, did Peña violate any CFA Institute Standards during that time?

A. No.

B. Yes, because he solicited clients from his previous employer.

C. Yes, because he failed to inform his supervisor in writing of his obligation to comply with the Code and Standards.

6. Based on the information provided regarding the tax-advantaged savings plan, the Harvest supervisor is least likely to have violated the Standard relating to:

A. Suitability.

B. Independence and Objectivity.

C. Responsibilities of Supervisors.

Case 5: Vision 2020

Vision 2020 Capital Partners (V2020) has operated for the last ten years originating and brokering corporate finance deals through private placements in emerging and frontier markets. Due to the global financial crisis, investment banking deals have declined and V2020 has struggled to generate enough fees to sustain its business. The board of directors of V2020, ("the board") made up of corporate finance experts, has identified opportunities to generate a new revenue stream.

One such opportunity is the creation of a division to manage an Emerging and Frontier Market Balanced Fund ("the Fund"). The board has had several inquiries from clients asking for such a product. The board feels the Fund is an ideal business line to meet client demand, and create monthly asset management fees. The board thinks the Fund should also be required to act as a buyer of last resort for all its corporate finance client's private placements. It believes this arrangement would act as a major incentive for private businesses to use their corporate finance services, thereby increasing revenues from their primary business activity.

Since none of the V2020 board members or senior managers are experienced in asset management, the board hires Lauren Akinyi, CFA, an independent consultant who works with various clients in the asset management industry. She is asked to undertake a study on an appropriate structure for the Fund to meet both corporate finance and Fund client needs. She is also asked to help V2020 set up policies and procedures for the new Fund to make certain that all capital market regulations have been followed. The board informs her that the policies and procedures should also ensure compliance with the CFA® Asset Manager Code of Professional Conduct.

Akinyi subsequently makes the following recommendations in a report to the Board concerning compliance with the CFA Asset Manager Code:

Recommendation 1: V2020 should abide by the following principles of conduct:

>   Principle 1: act with skill, competence and diligence;

>   Principle 2: act with independence and objectivity; and

>   Principle 3: respond to all client inquiries.

Recommendation 2: To take advantage of their vast business experience, the board of directors should implement new policies. Specifically, the board should:

>   Policy 1: Take an active daily role in managing the Fund's assets;

>   Policy 2: Designate an existing employee as a compliance officer; and

>   Policy 3: Disclose any conflicts of interest arising from their business interests.

Recommendation 3: To avoid any conflicts of interest between the investment banking business and the new fund management business, a separate wholly owned subsidiary should be created to undertake the fund management business. The Fund would then provide a 100% guarantee to

14-214

buy the private placements of the corporate finance clients without having to disclose to all clients the relationship between the two entities.

Recommendation 4: To ensure timely and efficient trades in each of the markets the Fund invests in, only one stockbroker in each market should be utilized. The board should also consider buying an equity stake in each of the appointed brokers as an added profit opportunity.

After the Fund completes its first year of operations, V2020 receives a letter from its regulator. The notification imposes fines for poor disclosures to its Fund clients and mandates the replacement of the senior fund manager as a condition for the renewal of V2020's asset management license. The board challenges the ruling stating the Fund made the necessary full disclosures. Not wanting to incur expensive legal fees or waste precious time, the board, without admitting or denying fault, settles out of court paying a fine. Subsequently, the senior fund manager is terminated but receives a multi-million dollar bonus upon leaving. After the replacement of the senior fund manager, the license is renewed for a further year. The regulatory body however gives a warning that if the Fund has any future violations their license will be permanently revoked. Subsequently, the Fund discloses to its clients that the regulator has renewed its license for one year after the termination of the senior fund manager, a condition of the renewal. They also disclose the settlement out of court and the fine paid.

1. Given the board's intended purpose for starting the Fund, which of the following principles of conduct under the Asset Manager Code of Professional Conduct is *least likely* violated?
A. Act for the benefit of clients.
B. Uphold the rules governing capital markets.
C. Act in a professional and ethical manner at all times.

2. Which of the principles in Akinyi's Recommendation 1 is *least likely* sufficient to meet the principles of the Asset Manager Code?
A. Principle 1.
B. Principle 2.
C. Principle 3.

3. Which of Akinyi's policies in Recommendation 2 would *least likely* comply with the Asset Manager's Code if implemented?
A. Policy 1.
B. Policy 2.
C. Policy 3.

4. Which of the following would be *most* effective to prevent any violation of the Asset Manager Code as reflected in Akinyi's Recommendation 3?

A. "The Fund" only retains a minority shareholding in V2020.

B. "The Fund" not participate in any of V2020's private placements.

C. Disclose to all clients the relationship between V2020 and "the Fund".

5. If Recommendation 4 were to be implemented, which aspect of the Asset Manager Code would *most likely* be violated?

A. Fair dealing.

B. Best execution.

C. Priority of Transactions.

6. Does the Fund's disclosure to its clients regarding the renewal of the license *most likely* comply with the Asset Manager Code?

A. No.

B. Yes, the disclosure included the termination of the fund manager.

C. Yes, the disclosure included the out of court settlement and payment of fine.

Case 6: Rayne Brothers

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 the Rayne sales agents of their responsibilities under the OAM agency agreement, Mutini holds a meeting with them 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.

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.

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.

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?
A. Duties to Clients.
B. Misrepresentation.
C. Reference to CFA Designation.

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

B. Misrepresentation.

C. Diligence and Reasonable Basis.

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

A. Yes.

B. No, with regard to investment statements.

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

Case 7: Ashraf Omar

Ashraf Omar, CFA, recently joined the Sahara Manufacturing Company (Sahara) as its CFO. The company is planning an initial public offering (IPO). The proceeds of the IPO will be used to finance the purchase of plant and machinery. Omar was recruited on the basis of his extensive investment banking background, having successfully supervised ten IPOs over the last five years at Falcon Investment Bank (Falcon).

Sahara, a family-owned company, had a very good reputation until recently when an ongoing tax dispute became public. The dispute may lead the tax authority to impound plant assets. Furthermore, outdated plant equipment is causing production disruption and declining profit margins. The CEO is looking to retire because he is not able to manage the current challenges.

Omar creates a detailed plan to help manage the IPO process. He plans on using an extensive checklist and numerous templates he developed while at Falcon. Omar decides to employ the same external service providers he used at Falcon to handle the legal, accounting, and marketing aspects required for a successful IPO. He considers these external providers the best in the industry, and their fees are competitive. He will also work with his previous contacts at the regulatory authority during the approval process.

As part of the due diligence process, Omar discovers a letter from a credit rating agency indicating an imminent downgrade of Sahara to below investment grade. However, Omar recalls that a private placement document being used to pitch the debt issue to investors shows a pending investment-grade rating. He notes that the outstanding debt is being paid according to schedule. Omar also finds details regarding the successful defense of a wrongful dismissal suit by a former employee fired for theft. In addition, Omar learns Sahara had been penalized previously for harmful plant emissions and warned about any reoccurrence.

In the "Investment Risk" section of the draft prospectus, Omar includes Exhibit 1, shown below:

Exhibit 1		
Investment Risks		
Risk	**Risk Details**	**Possible Business Impact**
Management	Possibility Sahara will not find a suitable candidate to replace the retiring CEO in a timely fashion.	Any delay in finding a replacement could negatively impact Sahara's ability to implement its strategy for improving investor returns.
Corporate Tax	Sahara is disputing underpayment of tax.	Sahara may be subject to additional tax payments, penalties, and fines.
Profitability	Sahara faces declining profit margins.	New equipment may not help improve profit margins.

Knowing a third-party research firm can add value to the IPO marketing process by giving an

independent opinion, Omar hires Miriam Halawi, CFA. She is a former colleague who started her own research firm two years ago. Halawi allows Omar to utilize her research report in all Sahara marketing material with proper acknowledgement. After extensive research, Halawi makes a "long-term buy" recommendation of Sahara. However, she qualifies the recommendation with a "high-risk" rating, knowing the IPO targets retail investors along with institutional investors. Omar invites Halawi to travel across the region with him to promote the IPO. Halawi agrees but only if she is paid a flat fee.

Omar works with the marketing specialists to create an advertisement, targeting retail investors, to be published in newspapers across the nation. Institutional investors will be invited to an investor briefing to kick off the offer period. The final copy reads, in part:

> Invest in the Sahara Manufacturing Company to be assured of a good return. The Company offers the potential for long-term growth with reasonable levels of risk. Miriam Halawi, CFA, a third-party research analyst, affirms that Sahara Manufacturing Company is a "long-term buy"!

One week prior to the IPO, Sahara's Board of Directors approves and implements an Employee Share Option Plan (ESOP). Existing staff members are allocated 10% of the upcoming IPO at a 25% discount to the IPO price. Omar acquires his allocation with the intention of selling his shares at a profit after trading commences. The details of the ESOP are highlighted in the IPO prospectus.

1. How will Omar's plan for the IPO most likely violate the CFA Institute Standards of Professional Conduct? Through his intended use of:
A. Regulatory contacts.
B. Checklists and templates.
C. External service providers.

2. To avoid violating any of the Standards of Professional Conduct, Omar should least likely undertake further analysis of which issues uncovered during the IPO due diligence process?
A. Plant emissions
B. Employee lawsuit
C. Letter from credit rating agency

3. With regard to Exhibit 1, Omar most likely violates the Standards of Professional Conduct concerning the section on:
A. profitability.
B. management.
C. corporate tax.

4. In order to avoid violating the Standards of Professional Conduct, Halawi's most appropriate action with regard to the regional marketing trip is to:

A. Act for the benefit of Sahara.

B. Not attend any marketing trip.

C. Disclose her total compensation.

5. With regard to the IPO advertisement, Omar is least likely in violation of which of the Standards of Professional Conduct?

A. Plagiarism

B. Misconduct

C. Misrepresentation

6. Does Omar's participation in the ESOP most likely violate any of the Standards of Professional Conduct?

A. No.

B. Yes, with regard to "Priority of Transactions".

C. Yes, with regard to "Conflicts of Stock Ownership".

Case 8: Kim Tang

Kim Tang, CFA, is a consultant reviewing a hedge fund, CleanTech Research Fund. CleanTech invests in "clean technology" companies. CleanTech has adopted the CFA Institute Code of Ethics and Standards of Professional Conduct.

Tang examines the various forms of advertising used by CleanTech to attract new clients. In one of its advertising messages, CleanTech states, "We have a very experienced research team and are proud they all are CFA's. Several of our managers serve as volunteers for CFA Institute. CFA Institute recognizes their expertise, and as a result, you can rely on our team for superior performance results."

In reviewing CleanTech's marketing brochure, Tang reads the following statements:

Statement 1: "The share prices of companies in the clean technology sector have increased recently due to the growing awareness of climate change issues and the rising cost of energy. It is our opinion that returns in this area will continue to be above average for several years. In fact, our proprietary investment analysis software has determined that investments in green transportation companies are likely to double in value in the next six months based on a multiple factor regression analysis. We will earn a 200% return over the next year on one of our solar power company investments based upon sales projections we prepared assuming last year's generous tax incentives stay in place."

Statement 2: "The CleanTech fund invests in publicly traded and highly liquid companies and is recommended only for investors who are able to assume a high level of risk. Last month we invested in EnergyAlgae, a "green energy" company that partnered with a global energy firm early last year to create oil from algae. EnergyAlgae's market capitalization quadrupled shortly after the partnership was formed. Recently, EnergyAlgae also patented a waste plastic-to-oil process that produces oil at less than $30 per barrel. One of the founders of CleanTech is on the board of EnergyAlgae, and his information on the company's patent process led us to purchase additional stock in EnergyAlgae before the patent became widely publicized with the release of the company's semi-annual financial report."*

*Information supporting the statements made in this communication is available upon request.

When Tang asks CleanTech's founders for supporting documents related to their investment in EnergyAlgae, she is told this information is based upon third-party research from Slar Brokerage (Slar), who maintains all necessary records. Tang completes a due diligence exercise on Slar and learns that Slar used, at a minimum, the following attributes to form the basis of the recommendation: the company's past 3 years of operational and financial history; current stage of the industry's business cycle; an annual research update; and a one-year earnings forecast.

Tang also learns that the founders of CleanTech are majority shareholders of Slar, who underwrote the public offering of EnergyAlgae. Additionally, CleanTech's analysts inform Tang

they did not need to look at the quality of Slar's research because one of their former colleagues recently left CleanTech and established the research department at the brokerage firm.

In researching EnergyAlgae, Tang finds that potential customers and suppliers of EnergyAlgae are highly skeptical of the claims made regarding the companies' respective products. She also contacts several energy companies and is unable to locate anyone who has even heard of EnergyAlgae. When Tang reviews CleanTech's trading activity in EnergyAlgae shares, she finds that CleanTech liquidated its position in EnergyAlgae soon after CleanTech's portfolio managers presented positive views on EnergyAlgae in a number of media interviews. In addition, many of CleanTech's employees also sold their shares in EnergyAlgae immediately after CleanTech sold its shares of the company. The share price of EnergyAlgae dropped dramatically after the stock sales made by CleanTech and its employees.

1. CleanTech's advertising is least likely in violation of the CFA Institute Standards of Professional Conduct with respect to:
A. use of the CFA designation.
B. expected performance results.
C. managers' volunteer activities.

2. In Statement 1, CleanTech management is most likely to have violated the CFA Institute Standards of Professional Conduct with regard to their comments on:
A. investment analysis software.
B. clean technology sector returns.
C. solar power company investment.

3. In Statement 2, CleanTech least likely violated which of the following Standards of Professional Conduct?
A. Suitability
B. Misrepresentation
C. Material Nonpublic Information

4. To be in compliance with the CFA Institute Standards of Professional Conduct, CleanTech should most likely question the validity of Slar's research on EnergyAlgae for which of the following reasons?
A. Earnings projections
B. Annual research update
C. Operational and financial analysis

5. Tang's most appropriate course of action concerning the relationship between CleanTech and Slar is to recommend that CleanTech:

A. sever the relationship immediately.

B. explain the ownership structure to all clients.

C. communicate relevant information to all clients.

6. The EnergyAlgae trades are least likely to have violated the CFA Institute Standards of Professional Conduct with regard to:

A. the order in which the shares were traded.

B. share price distortion due to positive media presentations.

C. the adverse and skeptical opinions of EnergyAlgae products.

Case 9: Sue Kim

Sue Kim, CFA, is a hedge fund manager who specializes in biotechnology stocks. Kim has spent many years investing in biotech companies and in the past, worked as an equity portfolio manager for a large bank with substantial research capabilities. Two years ago, Kim started a hedge fund, Green Note Investments. She manages accounts for several wealthy individuals. Now that she no longer has the resources of the bank to support her research, Kim relies on a network of experts to help her search for profitable investment opportunities in the biotechnology area. These experts include legal, business, and political contacts.

Kim purchases information from several biotechnology company employees, none of whom are officers of their respective companies, who perform work outside their regular positions as biotechnology consultants or experts. These consultants work with Kim without the knowledge of their employers, none of which has a prohibition on outside employment, and provide her with information about quarterly earnings and other confidential data related to their companies' performance. Kim bases her final investment decision on this information and encourages the consultants and experts she works with to publicly disclose the information that has been passed on to her.

In order to spread the news about the positive returns Green Note has achieved, Kim hires a public relations consultant, Takehiko Akagi, CFA. Akagi tells Kim that for a marketing campaign to be effective, she needs a five-year return history. Kim tries to retrieve her performance history from the bank but is denied this request. Searching her home laptop computer, Kim finds her historical bank performance data. Kim uses this bank data to recreate the first two years of the requested five-year performance history. For the third year she simulates her investment performance by applying Green Note's current investment strategy to historical data, which she discloses in a footnote along with information about whether the performance is gross or net of fees. For the final two years, Kim uses the actual performance history of Green Note.

Because the marketing campaign takes longer than expected to accomplish its goal of bringing new clients to the fund, Kim asks Akagi to accept a revised fee arrangement. Instead of paying Akagi a monthly fee of $10,000 for his services marketing the fund, Kim proposes an investment management fee sharing arrangement. For each client Akagi brings to Kim and whom she signs on as an investor in Green Note, Kim will pay Akagi a fee of 10% of the investment management fee she charges that client for his first 24 months in the fund. Akagi agrees to this arrangement, and Kim makes sure to disclose this to prospective clients by verbally telling them that Green Note compensates Akagi for his efforts to find investors for the fund, which is the first time clients are made aware of this arrangement. Akagi also discloses to each client the fee he expects to earn from this arrangement once an investment management agreement is signed.

Kim's former university roommate, Donna Miriam, is now a legal expert in mergers and

acquisitions. Miriam has a number of connections to senior associates who specialize in this area of law at large, well-known law firms. Miriam updates Kim when she hears a deal is about to be completed. Kim uses this information as part of a mosaic of information she gathers from her own research and information from other experts in her network. Once Kim has determined Miriam's information is likely to be correct, Kim trades derivative securities of the acquisition target. In the past 18 months, her merger and acquisition investments have resulted in profits of $10 million for the hedge fund. Kim also manages a separate account for Miriam, who has authorized Kim to replicate the trades in the acquisition targets for her account. Because Miriam provides this valuable information, Kim makes sure she trades Miriam's account before any other client trades.

Julian Huang, a government lobbyist, is another key member of Kim's expert network. Huang keeps in constant contact with the many lobbyists involved in biotechnology issues and has close relations with many legislators. Recently, legislators proposed restricting biotechnology research. If the legislation had passed, it would have reduced valuations across the board for biotech stocks. Kim led the hedge fund industry's efforts to fight this change. She personally donated a large sum of money to support these efforts and was also very successful in raising funds from the hedge fund community to fight the passing of this proposed legislation.

Kim's efforts to grow her fund result in new clients and rapid growth of assets under management. Faced with a significant increase in her workload, Kim realizes she needs to change her investment process to meet these new demands. In order to bring specialized experience to her investment decision-making process, Kim hires several competent outside advisers to sit on her investment committee, using her standardized criteria for adviser selection. Kim also subscribes to several well-known third-party research vendors not considered previously because of their high expense. With increased fees earned from additional assets under management, Kim can now afford to request information from these vendors that is tailored to her specific needs. Because this research is so specialized and detailed, and because Kim is confident that the outside advisers use diligence and a reasonable basis in their research, she is able to use the reports, with a few minor changes, as her own. Other than showing off her new reports, Kim does not tell clients of the changes made to her investment process and reports.

1. By Kim executing trades based on the information she receives from the biotechnology consultants employees, she least likely violates the CFA Institute Standards of Professional Conduct concerning:

A. Market Manipulation.

B. Diligence and Reasonable Basis.

C. Material Nonpublic Information.

2. With regard to Green Notes's five-year investment performance history, Kim is inconsistent with the CFA Institute Standards of Professional Conduct concerning which of the following?

A. Performance as a hedge fund manager

B. Simulated performance of current strategy

C. Performance when she was an equity portfolio manager

3. With regard to Kim's fee arrangements with Akagi, whose actions are inconsistent with the CFA Institute Standards of Professional Conduct?

A. Kim's

B. Akagi's

C. Both Kim and Akagi's

4. Kim's relationship with Miriam is inconsistent with the CFA Institute Standards of Professional Conduct concerning:

A. Fair Dealing.

B. Priority of Transaction.

C. Material Nonpublic Information.

5. With regard to biotech legislation lobbying, is Kim consistent with the CFA Institute Standards of Professional Conduct?

A. Yes.

B. No, because of her efforts to influence legislation.

C. No, because she mixed personal and hedge fund donations.

6. Which of Kim's changes made as a result of having more assets under management is consistent with the CFA Institute Standards of Professional Conduct?

A. Use of outside advisors

B. Client communications

C. Use of third-party research

Case 10: Athena

Caitlyn Wilson, CFA, recently started her own asset management company, Athena Investment Services (Athena). The board of directors of Athena has adopted both the CFA Code of Ethics and Standards of Practice and the CFA Institute Asset Manager Code to institutionalize ethical behavior within the firm. The board also implemented half-yearly staff performance reviews, including an assessment of each manager's ability to ensure his department's compliance with the Code.

Six months into the first financial year, Wilson meets with all of her managers to assess each department's compliance. Wilson asks her compliance officer, Mark Zefferman, CFA, to make an opening statement to set the right tone for the meeting. Zefferman states, "At a minimum, we are responsible for implementing procedures addressing the general principles embedded in the six components of the Code: As stated below, we must:

Statement 1: Act with skill, competence and diligence while exhibiting independence and objectivity when giving investment advice;

Statement 2: Put our clients' interests above the firm's when appropriate and act in a professional and ethical manner at all times; and

Statement 3: Communicate with our clients in a timely and non-misleading manner and obey all rules governing capital markets."

Zefferman adds, "With regard to the last statement, please be aware we must implement the new Anti-Money Laundering Regulations being introduced by our local regulator with effect from the first quarter of next year. I've done an analysis of the new regulations and have found that all of the local requirements are part of new regulations recently introduced in Europe, where only a few of our clients reside. When we start taking on new clients based in Singapore in the second half of next year, we will also need to follow that country's anti-money laundering regulations. The local anti-money laundering legislation appears to be embedded in the Singapore regulations as well."

Wilson states, "I would like each of you to explain how the implementation of the Asset Manager Code within your department is being supervised. Let's start with Shenal Mehta, our client service manager."

Mehta states, "With respect to the Asset Manager Code relating to client services, we have ensured we enforce the following policies: All disclosures are accurate and complete, and our calculations are shown, no matter how complicated. We also ensure the client sees some sort of communication from us when they request it and that the marketing material sent to clients is checked by the compliance department for accuracy and completeness."

Anders Peterson, CFA, chief investment officer, states, "In addition to what Mehta has said, I have the following comments:

Comment 1: Any communication with clients is kept confidential and is only accessible by authorized personnel;

Comment 2: On occasion, we are able to acquire securities we expect will be particularly strong performers, such as oversubscribed initial public offerings. In order to assure that all clients are treated fairly, each client portfolio is given the same number of shares; and

Comment 3: A gift and entertainment policy is in place to help ensure that our managers and analysts keep their independence and objectivity."

Richard Gilchrist, head of portfolio administration, then adds, "Our portfolio policies call for all assets to be valued at fair market prices using third-party pricing services. When a security price is not available from the service, a committee whose members have experience in valuing illiquid assets uses the hierarchy dictated by GIPS to determine values."

Wilson concludes the meeting by mentioning that Athena must do even more to ensure its clients continue to have faith in Athena's ability to protect and grow their assets. She recommends they disclose their risk management practices, which identify, measure, and manage the various risk aspects of the business to clients and the regulator. She adds, "In addition, we need to create a business continuity plan covering data backup and recovery, alternate trading systems if the primary system fails, and methods to communicate to employees, critical vendors, and suppliers in case of an emergency that could disrupt normal business functions."

1. Which of Zefferman's opening statements is inconsistent with the Asset Manager Code of Professional Conduct?

A. Statement 1

B. Statement 2

C. Statement 3

2. Which of the following anti-money-laundering laws must Athena currently comply with to be consistent with the CFA Institute Standards of Professional Conduct?

A. Local

B. European

C. Singaporean

3. Which of Mehta's client service policies is consistent with the Asset Manager Code?

A. Types of disclosures

B. Communication timing

C. Marketing material reviews

4. Which of Peterson's comments is inconsistent with the Asset Manager Code?

A. Comment 1

B. Comment 2

C. Comment 3

5. Are Gilchrist's comments regarding portfolio valuation consistent with the Asset Manager Code?

A. Yes

B. No, with regard to third-party pricing services

C. No, with regard to the process used to price illiquid securities

6. Are Wilson's closing remarks consistent with recommended practices and procedures designed to prevent violations of the Asset Manager Code?

A. Yes.

B. No, with regard to the business continuity plan.

C. No, with regard to disclosure of the firm's risk management process.

Case 11: Jacaranda

Most financial services regulatory bodies in East Africa are moving toward risk-based supervision models. Miriam Bukenya, CFA, is the head of compliance at Jacaranda Asset Management, a manager of both retail and institutional portfolios. She is currently revising the company's compliance policies to address risk in all areas of Jacaranda's business and is checking different aspects of the firm to ensure that it will be able to meet new risk-based supervision regulations when they become effective in six months. The firm recently adopted the CFA Institute Code of Ethics and Standards of Professional Conduct as its own code and standards.

While reviewing Jacaranda's compliance manual, Bukenya realizes it needs a few changes to comply with the new risk-based regulations. To ensure that she follows best practice, she consults with Luc Remmy, CFA, the head of compliance at her former employer, Mercury Advisory Services. Remmy, who now runs an independent consulting firm, e-mails Bukenya the compliance manual he uses for his own firm. While reviewing the compliance manual, Bukenya notices that many sections look familiar. She finds a statement in the document indicating it is for the "sole use of Mercury Advisory Services." When questioned, Remmy states that he only used the table of contents of Mercury's document but none of the other content in the document to develop his compliance manual.

Bukenya looks at the marketing materials Jacaranda uses to communicate with existing and prospective clients to ensure that everything mentioned in the material is factual and complies with the CFA Standards of Professional Conduct. The following marketing statements are examined:

Statement 1 Jacaranda looks for investments offering intrinsic value through a top-down approach, including a review of forecasts of economic and industry performance. We evaluate historical and projected company financials, perform extensive financial ratio analysis, conduct management interviews, and determine target prices using a variety of valuation models.

Statement 2 Jacaranda may, at times, hire outside advisers to manage real estate holdings on behalf of clients. These advisers have the necessary expertise to manage property assets.

Statement 3 Jacaranda has four CFA charterholders among its senior management. Their participation in the CFA Program has enhanced their investment management skills. All of these managers passed the three exams in the shortest time possible.

The new risk-based regulations also require accurate and complete performance presentations, with all discretionary accounts included in at least one composite. Bukenya believes Jacaranda's performance presentation policy meets these new requirements as well as the CFA Institute Standards of Professional Conduct because Jacaranda's single composite includes all current and terminated client accounts and presentations include the following statement: "Detailed information regarding the performance presentation is available on request." Although Jacaranda

does not currently comply with GIPS standards, Bukenya encourages the firm to do so within the next few years.

Bukenya then reviews Jacaranda's record-keeping policy. Currently, the policy requires retention of hard copies of all supporting documentation for investment recommendations and decisions made during the last five years. This policy meets the new risk-based regulations. Client meeting minutes and communication logs are kept electronically and backed up on a remote server. Fund managers and research analysts are responsible for maintaining their own personal notes and research models. This policy also applies to Jacaranda's independent research contractor, Mathew Ochieng, who (for security reasons) does not have access to the company's server. Ochieng, who only undertakes research for Jacaranda, sends his research reports to the head of research, who then archives these electronic copies.

While reviewing Jacaranda's counterparty risk policy, Bukenya discovers that trader Jackson Gatera recently convinced the back office to override controls designed to prevent overexposure to specific stockbrokers. This request was in violation of company rules. The rules state that if the trading allocation to a specific broker is breached, trading through that broker must be suspended until the exposure drops to within the exposure limits. The Counterparty Risk Committee predetermines these limits.

The new risk-based regulations also require companies to gather client information as part of know-your-client and anti-money-laundering processes. Bukenya creates a confidentiality policy restricting access to existing and prospective client information. The information is only available to personnel who are authorized by the existing or prospective client. The one exception is if the client or prospective client is thought to be conducting illegal activities. In this circumstance, the information can be released without authorization if the information is demanded through a court order or other legal requirement.

1. Which of the following CFA Institute Standards of Professional Conduct did Remmy least likely violate?

A. Loyalty

B. Responsibilities of Supervisors

C. Misrepresentation

2. Which marketing statement should Bukenya most likely revise to conform to the CFA Institute Standards of Professional Conduct?

A. Statement 2

B. Statement 1

C. Statement 3

3. Does Jacaranda's performance presentation policy most likely meet recommended procedures for complying with CFA Institute Standards of Professional Conduct?

A. No, because of the structure of the composite.

B. Yes.

C. No, because it is not in compliance with GIPS standards.

4. Jacaranda's record-keeping policy is most likely in violation of Standard V(C): Record Retention with regard to the:

A. Keeping of hard and electronic copies.

B. Retention of personal notes and research models.

C. Retention time frame.

5. In response to Gatera's actions, Bukenya should least likely recommend which of the following actions to prevent violations of the CFA Institute Standards of Professional Conduct?

A. Investigate further

B. Increase supervision of Gatera

C. Report Gatera to CFA Institute

6. Does Bukenya's confidentiality policy most likely violate Standard III(E): Preservation of Confidentiality?

A. Yes, with regard to client status

B. Yes, with regard to type of information

C. No

Case 12: Ravinder

After working as an equity research analyst for five years at Staple Asset Advisers, Davika Ravinder, CFA, receives a promotion to a junior asset manager position. She is given 20 relatively small portfolios, all involving middle-income clients who, are saving for their children's university educations and their own retirements. With her new position, Ravinder is given a higher base salary. Previously, her bonus was based on annual performance. She is now eligible for a percentage of the quarterly performance fee earned by the firm for returns higher than the client-negotiated performance hurdles. For competitive reasons, Staple does not allow any employee to disclose their compensation packages, including how bonuses are derived.

Once she has reviewed the investment objectives and constraints of each of her new clients, Ravinder arranges introduction meetings with each client. During a one-hour meeting with a self-employed client, 60-year-old James Canon, Ravinder discovers that he is newly divorced and has been ordered by the court to make a large one-time settlement to his ex-wife. In addition, his son and only child has dropped out of university and wants the money his father allocated for the son's university education as seed capital to start his own business. The funds needed to make both of these payments are currently in the investment portfolio Ravinder manages for Canon. This portfolio is also to be used for Canon's retirement at age 65. Based on what she learned during her meeting with Canon, Ravinder suggests he take a more aggressive investment strategy to compensate for the anticipated large withdrawals from his investment portfolio.

Ravinder receives permission from her supervisor to draft marketing materials to send out to potential clients with her name and contact information. She asks her assistant, Jon Obi, to edit the marketing content and design a simple brochure, ensuring that it complies with all the local regulations and company policies regarding marketing material. Obi does as requested and upon completion takes the initiative to send the brochure to potential clients. A week after the marketing brochure was sent to potential clients, Ravinder notices one of the clauses in the brochure is in violation of company policies.

While revising the marketing brochure, Ravinder determines it might be worthwhile to add some performance statistics to prove that her firm's investment performance is attractive. She works with the portfolio administration team to create five-year weighted composites using similar type portfolios and removing client accounts when terminated. The portfolio administration team works with the compliance officer to ensure they include all the necessary disclosures but agree that they do not need to comply with Global Investment Performance Standards (GIPS). Included in the brochure is a disclosure the company has adopted the CFA Institute Standards of Professional Conduct.

A colleague in the research department, Koffe Mensah, CFA, approaches Ravinder seeking advice about a research report he is writing on a listed company. The majority of Staple's clients hold

this company's shares in their portfolios. Mensah explains that his supervisor is pressuring him to make a buy recommendation to substantiate some positive rumors that the lead dealer heard about the company. Mensah states that his thorough research leads him to believe the company is overvalued. Ravinder reminds Mensah that if the share price moves up, Mensah will likely receive a higher bonus.

Shortly after becoming an asset manager, Ravinder is approached by one of the directors of Naivasha Cement, a company she used to cover as an equity analyst. The Naivasha director asks her if she would be interested in joining the board of directors. He adds, "The Naivasha Cement directors always appreciated your understanding of the industry and of our company in particular, so we think you would add value to the company." After getting approval from her employer, Ravinder accepts the invitation to become a director.

1. With regard to Ravinder's new compensation package, which of the following actions would be most appropriate to ensure she complies with the CFA Institute Standards of Professional Conduct? She should:

A. renegotiate her compensation package.

B. ask her clients to renegotiate their contracts with the firm.

C. disclose her new compensation package to her clients.

2. Under what circumstances would Ravinder's suggested investment strategy for Canon most likely meet the requirements of Standard III(C)–Suitability? If Canon:

A. has numerous other investment portfolios.

B. had a different employment status.

C. delays funding his son for at least five years.

3. Did Ravinder most likely violate the CFA Standards of Professional Conduct regarding the error in the marketing brochures sent to prospective clients?

A. Yes.

B. No, Ravinder gave proper instructions.

C. No, Obi made the error.

4. Does Staple's approach to their performance statistics most likely reflect recommendations for complying with Standard III(D)–Performance Presentation?

A. No, concerning the need for GIPS compliance.

B. Yes.

C. No, with regard to terminated accounts.

5. If Mensah gives in to his supervisor's pressure, what CFA Standard will he most likely violate?

A. Conflicts of Interests

B. Material Nonpublic Information

C. Diligence and Reasonable Basis

6. After accepting Naivasha's invitation, which of the following actions is the most appropriate for Ravinder to implement to avoid violating CFA Standards of Professional Conduct? She should:

A. exclude purchases of Naivasha shares for client portfolios.

B. refuse to attend Staple strategy meetings related to Naivasha.

C. only share Naivasha's nonmaterial information.

2. SS2 Ethical and Professional Standards

Case 1: Redlands

Redlands Asset Management (RAM) is an active equity manager specializing in the Asian Pacific region. The firm was founded by Carol Schroeder, CFA at the beginning of 2006, with several members of her family serving as the firm's first clients providing the initial managed assets for the firm.

Schroeder has compiled the information in Exhibit 1 and plans to use it to market RAM to institutional investors.

Exhibit 1			
Redlands Asset Management GIPS Compliant Performance			
Asia-Pacific Composite. (1/Jan/2006 thru 31/Dec/2008)			
Year	**2006**	**2007**	**2008**
Return Gross of Fees	44.8%	66.9%	80.7%
Benchmark Return	43.1%	60.2%	85.6%
# of Portfolios	5	15	33
Composite Dispersion		6.7%	5.1%
Period Ending Total Assets ($ millions)	350	760	1,630
% of Firm Assets	14%	25%	52%

Notes:

1. Performance results are presented gross-of fee so that they represent the return on assets reduced by any trading expenses incurred during the period.

2. The Asia-Pacific composite includes two non-fee-paying accounts of the Schroeder family.

3. A complete list and description of composites and their strategies, including any that have been discontinued within the last five years, is available upon request.

4. Portfolio valuations are computed monthly and are denominated in US dollars.

5. RAM uses cash-basis accounting for the recognition of interest income on its holdings of preferred stock.

6. The pricing source was changed prior to the end of the reporting period because, in management's opinion, performance was not fairly represented. The new source has significantly improved the firm's results.

7. RAM trades securities in illiquid markets with substantial political and economic risks so trades are recorded on a settlement date basis to ensure that these trades have been completed before they are included in performance calculations.

8. The composite presented above has been GIPS verified.

1. Which of the following performance presentation notes contains an error or omission that is most likely to prevent RAM from being in compliance with the GIPS standards?
A.   Composite list availability.
B.   Non-fee paying accounts disclosure.
C.   Disclosure concerning discontinued composites.

2. Which of the following performance presentation notes most likely comply with the recommendations and requirements of the GIPS standards?
A.   Pricing source.
B.   Cash-basis accounting.
C.   Returns calculated gross of fees.

3. Which of the following performance presentation notes would least likely prevent RAM from being in compliance with the GIPS standards?
A.   Monthly valuations.
B.   Non-fee paying accounts.
C.   Settlement-date accounting.

4. Which of the following concerning fees in RAM's performance presentation most likely meets GIPS standards?
A.   Gross of fee labeling.
B.   The firm's fee schedule.
C.   The deduction of any other fees.

5. Does RAM's performance presentation most likely meet GIPS standards concerning dispersion?
A.   Yes.
B.   No, the method chosen must be disclosed.
C.   No, the standard deviation must be presented.

6. RAM's verification most likely does not meet GIPS standards concerning verification because:
A.   Composite verification is not allowed.
B.   The minimum time period has not been met.
C.   The calculation methodology must be disclosed.

Case 2: Arcadia

Arcadia LLP is one of several independently operated investment management subsidiaries of Swiss Corp, a global bank. Arcadia is headquartered in Philadelphia and specializes in the management of equity, fixed income and real estate portfolios. Arcadia's Chief Executive Officer recently hired Joan Westley, CFA as Chief Compliance Officer to achieve compliance with the Global Investment Performance Standards (GIPS). Arcadia just opened a division in Phoenix, incorporated as Arcadia West, LLP to accommodate one of its portfolio managers and his staff who manage a hedge fund. The staff in Phoenix works exclusively on the hedge fund's strategy using an investment process distinct from the one used in the Philadelphia office.

Westley makes the following statement at a meeting with the CEO, "I am establishing and implementing policies and procedures to ensure Arcadia is in compliance with GIPS. Although the hedge fund won't be in compliance, it won't impact our ability to be firm-wide compliant, because it is in an autonomous unit. We will be the first Swiss Corp subsidiary to be compliant. Keep in mind that even after implementation, we will not be able to claim compliance until our performance measurement policies, processes, and procedures are verified by an independent firm."

Westley begins her review of Arcadia's current policies. She first reviews three policies regarding input data:

Policy 1: The accounting systems record the cost and book values of all assets. Portfolio valuations are based on market values, provided by a third party pricing service.

Policy 2: Transactions are reflected in the portfolio when the exchange of cash, securities, and paperwork involved in a transaction is completed.

Policy 3: 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.

Next, Westley reviews Arcadia's policies for return calculation methodologies:

Policy 4: Arcadia uses the Modified Dietz method to compute portfolio time-weighted rates of return on a monthly basis. Returns for longer measurement periods are computed by geometrically linking the monthly returns.

Policy 5: Arcadia revalues portfolios when capital equal to 10 percent or more of current market value is contributed or withdrawn. Returns are calculated after deduction of trading expenses.

Policy 6: Cash and cash equivalents are excluded in total return calculations. Custody fees are not considered direct transaction costs.

Westley also looks at the investment policy statements (IPS) for the three sample portfolios that are included in Arcadia's large capitalization equity composite:

Portfolio A:

A portfolio managed for a local church in which all fees are waived. The IPS prohibits holdings of

companies involved in firearms, alcohol or tobacco. These securities represent 5% of the benchmark, but the portfolio manager feels he can nonetheless implement his strategy with these restrictions.

Portfolio B:

The equity carve-out portfolio of a balanced account. The client provides Arcadia discretion in the tactical asset allocation decision. Asset allocation amongst sub-portfolios is performed quarterly and each sub-portfolio holds tactical or frictional cash.

Portfolio C:

A large cap equity mutual fund managed for a corporate retirement plan. Employees can make contributions and withdrawals daily. The client requires the portfolio manager to maintain at least 15% of assets in cash balances to meet potential withdrawals.

Finally, Westley examines a recent presentation to a prospective client regarding Arcadia's small cap composite. Details of this presentation are found in Exhibit 1 and its notes.

Exhibit 1						
Small Capitalization Equity Composite; Benchmark: Russell 2000						
Year	Gross of Fees Return (%)	Net of Fees Return (%)	Benchmark Return (%)	Number of Portfolios	Internal Dispersion (%)	Total Assets ($m)
						Composite	Firm
2005	4.2	3.2	3.7	4	3.3	100	1,000
2006	3.7	2.7	7.0	9	4.6	225	1,250
2007	-1.0	-2.0	-4.5	7	1.7	350	900
2008	9.3	8.3	12.0	12	2.8	425	1,050
1Q09	5.2	4.2	-7.0	14	3.6	620	1,125

Notes:

1. Arcadia is an investment firm affiliated with a major global bank and founded in April 2001. The firm manages portfolios in various equity, fixed income and real estate strategies.

2. Arcadia has a number of affiliates owned by the parent company; a schedule is provided separately.

3. The composite has an inception date of 12/31/2003. A complete list and description of firm composites is available upon request.

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

5. 1Q09 data is not annualized.

6. Valuations are computed and performance reported in US$.

7. Internal dispersion is calculated using the equal weighted standard deviation of all portfolios

that were included in the composite for the entire year.

8. 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 quarterly gross composite return.

1. In her statement to the CEO, Westley is most likely not correct with respect to:

A. Verification.

B. Exclusion of the Phoenix division.

C. The status of Swiss Corp's other subsidiaries.

2. Which policy regarding input data is most likely incorrect?

A. Policy 1.

B. Policy 2.

C. Policy 3.

3. Which policy regarding return calculation methodologies most likely requires revision?

A. Policy 4.

B. Policy 5.

C. Policy 6.

4. Inclusion of which portfolio reviewed by Westley in the large capitalization equity composite would most likely not be GIPS compliant?

A. Portfolio A.

B. Portfolio B.

C. Portfolio C.

5. Based on Exhibit 1 and the notes following the exhibit, Arcadia is most likely not in compliance with GIPs with regard to the:

A. Performance record.

B. Performance presentation.

C. Measure of internal dispersion.

6. Regarding the notes to Exhibit 1, GIPS would most likely imply that:

A. Notes 1 and 2 are required and Note 7 is recommended.

B. Notes 1 and 7 are required and Note 2 is recommended.

C. Notes 3 and 8 are required and Note 6 is recommended.

42-214

Case 3: Sing-Siew Lee

Sing-Siew Lee is a senior consultant with Stowe Partners, a firm that provides GIPS compliance and verification services. Lee is preparing to meet with two clients, Orion Advisory Research and Gardere Associates.

Orion Advisory Research

Orion Advisory Research is an investment firm that manages retail and institutional accounts. Orion also manages a private equity fund. Orion has provided information on its measurement and reporting practices in order to help Lee evaluate the firm's compliance with the Global Investment Performance Standards (the GIPS® standards).

Trading Expenses

Commissions are negotiated and deducted when calculating rates of return. For separately managed retail accounts that have bundled fees, the gross return is reduced by the entire amount of the bundled fee. Custody fees for certain off-shore securities are charged on a per-transaction basis and are included in trading expenses.

Asset Valuation

Orion values its investments at the lower of cost or book value. Trade date accounting is used consistently for all transactions. In some cases, transactions may be recorded up to three days after the trade date.

Private Equity

Orion values the private equity fund on an annual basis and presents the following multiples: 1) total value to since-inception paid-in capital, 2) since inception distributions to since-inception paid-in capital, 3) since-inception paid-in capital to cumulative committed capital, and 4) residual value to since-inception paid-in capital. Orion aggregates its various strategies in its composites. The composites are separated by vintage year.

Lee advises Orion's pricing and valuation committee to use the hierarchy of valuation methodologies presented in Exhibit 1 to establish fair values for its investments in private equity.

Exhibit 1		
Hierarchy of Private Equity Valuation Methodologies		
Methodology	**Order**	**Description**
1	Best	Present value of risk adjusted cash flows
2	Next-Best	Market transactions
3	Least Preferred	Market-based multiples

Gardere Associates

Gardere Associates is an investment fund that directly invests in commercial real estate. Gardere has asked Lee for advice on GIPS compliance. Lee indicates that an important disclosure requirement is presentation of total return, income return and capital return. Lee uses the

information presented in Exhibit 2 to illustrate return calculations.

Exhibit 2		
Selected Financial Information for Gardere Associates		
Item	**Date**	**Amount**
Beginning Capital	March 31, 2010	$12,500,000
Capital Contribution (weight=0.51)	May 15, 2010	$1,500,000
Portfolio Fair Value	March 31, 2010	$11,700,000
Portfolio Fair Value	June 30, 2010	$13,000,000
Capital Expenditures		$2,700,000
Property Sales Proceeds		$3,500,000
Earned Investment Income		$120,000
Non-recoverable Expenses		$312,000
Interest Expense on Debt		$220,000
Property Taxes Paid		$31,000

Prior to issuing his final reports to Orion and Gardere, Lee provides a statement with the following comments regarding the verification reports:

Comment 1: "It is recommended that the verification report cover all periods for which the firm claims GIPS compliance."

Comment 2: "The verification report confirms that the firm's processes and procedures are designed to calculate and present performance results in compliance with the GIPS standards."

Comment 3: "The verification report confirms that Stowe Partners has sole responsibility for maintaining the data and information necessary to perform the required calculations for the client."

1. With regard to trading expenses, Orion is not in compliance with GIPS® standards in its treatment of:
A. Custody fees.
B. Bundled fees.
C. Commissions.

2. Do Orion's policies on asset valuation most likely comply with GIPS standards?
A. Yes.
B. No, because valuations should be based on fair value.
C. No, because settlement date accounting should be used for all transactions.

3. Orion's private equity disclosure least likely meets GIPS standards with respect to the:

A. Use of multiples.

B. Timing of valuations.

C. Construction of composites.

4. Does Lee's proposed hierarchy of private equity valuation methodologies in Exhibit 1 most likely meet GIPS standards?

A. Yes.

B. No, the correct order of methodologies is 2, 3, 1.

C. No, the correct order of methodologies is 3, 2, 1.

5. Based on the information in Exhibit 2, Gardere's total return for the second quarter is closest to:

A. 7.77%.

B. 12.53%.

C. 14.15%.

6. Which of the comments made by Lee is not consistent with GIPS verification standards?

A. Comment 1.

B. Comment 2.

C. Comment 3.

Case 4: Anton

Beatriz Anton, CFA, 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, CFA, 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

46-214

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
2007	4.4	3.4	3.6	5	3.1	125	1,000
2008	2.7	1.7	6.2	8	4.0	220	1,150
2009	−1.5	−2.5	−4.3	7	1.9	345	910
2010	8.3	7.3	11.1	11	2.6	430	1,020
1Q11	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 1999. 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 2011 (1Q11) 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 valuation practices to Basco:

Long Pond uses fair value to calculate returns on real estate assets, although for periods before 1 January 2011, we used market values. With effect from January 2011, we value real estate holdings annually and have an external expert value our real estate every 36 months. 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.

1. In her statement regarding input data, Basco is least likely correct with respect to:
A. Fair value.
B. Accrual accounting.
C. Settlement date accounting.

2. Which policy regarding return calculation methodology is least likely compliant with GIPS standards?
A. Policy 1
B. Policy 2
C. Policy 3

3. 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.

4. 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 1Q11 performance.

5. 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.

6. 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

Case 5: Bud Walter

Bud Walter is the chief investment officer of Wryte Capital Management (WCM). He is meeting with T.M. McGourn, a prospective client, to discuss Wryte's investment performance as presented in Exhibit 1 and subsequent disclosure notes:

Exhibit 1						
Wryte Capital Management U.S. Large-Cap Equity Composite						
Year	**Gross Return %**	**Benchmark Return %**	**Internal Dispersion %**	**Number of Portfolios**	**Composite Assets ($m)**	**Firm Assets ($m)**
2007	15	15	5.2	20	100	175
2008	22	20	6.1	40	200	275
2009	−20	−25	5.7	30	150	200
2010	11	10	5.2	45	225	300
2011	20	20	4.7	50	250	350

Wryte Capital Management (WCM) has prepared this report in compliance with Global Investment Performance Standards (GIPS). The U.S. Large-Cap Equity Composite has been independently verified by a qualified third party to be GIPS compliant. The verification report was issued only for the composite and not for WCM. It states that during 2009, 2010, and 2011, WCM complied with all composite construction requirements for the composite and that WCM policies are designed to calculate and present performance in compliance with GIPS standards.

Notes:

1. The firm is defined as an independent investment manager that invests exclusively in U.S. large-cap, U.S. midcap, and U.S. small-cap equity securities for U.S. resident clients. WCM's policy for valuing portfolios and calculating performance is available upon request. WCM's calculation methodology is to use time-weighted rates of return. Subperiod rates of return are geometrically linked. Cash equivalent instruments are included in rate-of-return calculations. Returns are calculated quarterly or when large external cash flows (as defined by WCM) take place.

2. The U.S. Large-Cap Equity Composite includes all actual fee-paying portfolios. Each portfolio contains positions in large-cap stocks, which are selected by WCM following an extensive independent analysis. Nondiscretionary portfolios are not included in any composite. WCM does not include in any composite its large-cap model portfolio, which is utilized during the investment selection process.

3. The composite benchmark is the S&P 500 Index, which represents the size-weighted returns of the 500 largest (as measured by market capitalization) U.S.-based publicly traded companies.

4. Gross-of-fees returns are presented before investment management fees and custodial fees but after trading expenses. All clients pay an investment management flat fee of 75 basis points on the month-end account value plus a 10-basis-point performance fee whenever the composite return exceeds the benchmark return by 100 basis points.

5. Internal dispersion is the equal-weighted standard deviation of the annual gross returns of the five portfolios included in WMC's Large-Cap Equity Composite.

McGourn asks Walter why he uses standard deviation as the measure of internal dispersion and whether there are better dispersion measures. Walter responds, "Standard deviation has the advantage of comparability across investment firms. Other measures, such as the high/low range and the interquartile range, are skewed by outliers."

Finally, McGourn asks Walter about WCM's policies regarding the valuation of its investments. Walter states that WCM uses a valuation hierarchy based on items 1 through 4 as follows:

Item 1. Observable quoted market prices for similar investments in active markets.

Item 2. Quoted prices for similar investments in markets that are not active.

Item 3. Market-based inputs other than quoted prices that are not observable for the investment.

Item 4. When no quotes or other market inputs are available, we use WCM estimates based on quantitative models and assumptions.

1. Is WCM most likely correct in claiming compliance based on the verification report?

A. Yes

B. No, because of the level at which verification is claimed

C. No, because of the timeframe for which verification is claimed

2. WCM's methodology for calculating performance, as disclosed in Note 1, is least likely consistent with GIPS standards for:

A. External cash flows.

B. Geometrically linked returns.

C. Frequency of return calculations.

3. Is WCM most likely compliant with GIPS required standards for composite construction as disclosed in Note 2?

A. Yes

B. No, because of how the large-cap model portfolio is treated

C. No, because of how nondiscretionary portfolios are treated

4. With respect to gross-of-fees returns, Note 4 is least likely compliant with GIPS required standards in its treatment of:

A. Custodial fees.

B. Performance fees.

C. Trading expenses.

5. With respect to relative merits of internal dispersion measures, Walter is least likely correct about:

A. High/low range.

B. Interquartile range.

C. Standard deviation.

6. Is Walter's response to McGourn's inquiry regarding WCM's valuation hierarchy most likely correct?

A. Yes.

B. No, item 4 from the valuation hierarchy should be excluded.

C. No, the valuation hierarchy should be reordered as item 2, item 1, item 3, and item 4.

Case 6: Ng

Katherine Ng, a Global Investment Performance Standards (GIPS) specialist, has been hired as a consultant to assist Rune Managers in becoming a GIPS-compliant firm. Rune is a global asset manager with several divisions around the world that invest in both stock and bond strategies. James Arnott, a performance specialist at Rune, is responsible for the project. In their first meeting, Ng and Arnott discuss the GIPS standards and the steps Rune will need to take to become compliant.

Ng recommends starting with the definition of the firm. She tells Arnott that how the firm is defined will affect the compliance process and that the standards recommend the firm be defined as broadly as possible. Arnott replies that Rune management has been discussing the firm definition, and they want the definition to include all Rune divisions except the European division, Rune Europe. Rune Europe has its own strategies and management team that are distinct from the rest of Rune. Ng replies that the Rune Europe division should be included in the definition of the firm because the division markets itself as part of Rune Managers.

Ng then asks about Rune's policies for the inclusion of portfolios in composites. Arnott responds that Rune has the following policies for all composites:

Policy 1: All new accounts funded with cash or securities on or before the 10th day of the month are added to the composite at the beginning of the following month. Those funded after the 10th day of the month are added at the beginning of the 2nd month after funding, or at the beginning of the calendar month after the proceeds are substantially invested in the appropriate strategy.

Policy 2: All portfolios are deemed "non-discretionary" on the date the notice of termination of the management relationship is received and removed from the composite at the end of the month of notification.

The discussion then moves on to a new composite that Rune is constructing. Arnott tells Ng that the marketing department has decided to target domestic Swiss investors and would like to carve out the Swiss portion of international and global accounts for the period of 1 January 2006 through 1 January 2011 and allocate cash to each carved-out segment to create a Swiss franc (CHF) composite. Ng responds that this new composite will comply with the standards, but Rune must disclose the percentage of composite assets that are carve-outs for each annual period end, as well as the policy used to allocate cash to the carved-out segments.

Arnott interjects that the marketing department is looking forward to claiming GIPs compliance in advertisements. He is meeting with the marketing department and asks Ng what they need to be aware of regarding the Standards in advertising. Ng responds that there are several requirements in the GIPS Advertising Guidelines; specifically, the following must be disclosed in the advertisements: the firm description, composite and benchmark descriptions, and the number of accounts in the composite.

Arnott and Ng then move on to discuss one of Rune's GIPS-compliant performance presentations, provided in Exhibit 1.

Exhibit 1							
Rune Mid-Capitalization Value Equity Composite; Benchmark: Russell Midcap Value Index							
Year	Composite Gross Return (%)	Composite Net Return (%)	Benchmark Return (%)	Composite 3-Year Std. Dev. (%)	Number of Portfolios	Internal Dispersion (%)	Composite % of Firm Assets
2006	11.2	10.69	12.65		15	0.09	7.1
2007	18.92	18.68	20.22		19	0.06	7.2
2008	0.07	−0.17	−1.42		22	0.46	6.8
2009	−33.75	−33.95	−38.44		23	0.25	5.5
2010	31.44	31	34.21		26	0.95	5.9
2011	22.09	21.73	24.75	22.83	25	0.21	6.9

Rune Managers claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Rune Managers has not been independently verified.

Notes:

1. Rune Managers is an investment manager registered with the US SEC. Rune Managers has divisions in Europe, Asia, and the United States that invest in various equity and bond strategies.

2. The Rune Mid-Capitalization Equity Composite includes all institutional portfolios that invest in mid-capitalization US equities, with the goal of providing long-term capital growth and steady income from dividends by investing in low price-to-earnings, undervalued securities.

3. A complete list and description of Rune Managers' composites, as well as policies for valuing portfolios and preparing compliant presentations, are available upon request.

4. The composite was created on 30 November 2005.

5. Leverage, derivatives, and short positions are not used by this strategy.

6. Performance is expressed in US dollars. The returns include the reinvestment of all income. Gross-of-fees returns are presented before management and custodial fees but after all trading expenses. Net-of-fees returns are calculated by deducting the actual fees of the accounts from the gross composite return.

7. The management fee schedule is as follows: 0.80% on the first $10 million, 0.55% on the next $40 million, 0.40% on assets greater than $50 million.

8. This presentation is not required to conform to any laws or regulations that conflict with the GIPS standards.

9. Internal dispersion is calculated using the asset-weighted standard deviation of annual gross

53-214

returns of those portfolios that were included in the composite for the entire year.

10. The three-year annualized standard deviation measures the variability of the composite and the benchmark returns during the preceding 36-month period. The standard deviation is not presented for 2006 through 2010 because monthly composite and benchmark returns were not available, and it is not required for periods prior to 2011.

1. In their discussion of the Rune Europe division, which of the following is most likely correct?

A. Ng's analysis, because of how the division markets itself

B. Arnott's analysis, because of how the division is managed

C. Arnott's analysis, because of how the strategies are run

2. Which policy on the inclusion of portfolios in composites is most likely compliant with the GIPS standards?

A. Policy 1 and Policy 2

B. Policy 1

C. Policy 2

3. In the discussion of carve-outs, Ng is least likely correct in her statement regarding the:

A. Compliance of the composite.

B. Disclosure of the percentage of composite assets.

C. Disclosure of the cash allocation policy.

4. In the discussion of the GIPS Advertising Guidelines, Ng is most likely correct in her statement regarding the disclosure of:

A. Number of accounts in the composite.

B. Composite description.

C. Firm description.

5. Regarding the disclosures contained in the notes to Exhibit 1, the notes most likely required are:

A. 1, 5 and 6.

B. 6, 7 and 9.

C. 2, 7 and 8.

6. Regarding Exhibit 1, which item is least likely an error in the presentation?

A. Note 3

B. Composite percentage of firm assets

C.   Three-year standard deviation

R4 Professionalism in the Investment Industry

1. High ethical standards are distinguishing features of which of the following bodies?

A. Craft guilds

B. Trade bodies

C. Professional bodies

2. Fiduciary duty is a standard most likely to be upheld by members of a(n):

A. employer.

B. profession.

C. not-for-profit body.

3. To maintain trust, the investment management profession must be interdependent with:

A. regulators.

B. employers.

C. investment firms.

4. When an ethical dilemma occurs, an investment professional should most likely first raise the issue with a:

A. mentor outside the firm.

B. professional body's hotline.

C. senior individual in the firm.

3. SS4 CME

Case 1: Brian O'Reilly

Brian O'Reilly is a capital markets consultant for the Tennessee Teachers' Retirement System (TTRS). O'Reilly is meeting with the TTRS board to present his capital market expectations for the next year. Board member Kay Durden asks O'Reilly about the possibility that data measurement biases exist in historical data. O'Reilly responds:

"Some benchmark indexes suffer from survivorship bias. For example the returns of failed or merged companies are dropped from the data series resulting in an upward bias to reported returns. This may result in an overly-optimistic expectation with respect to future index returns. Another bias results from the use of appraisal data in the absence of market transaction data. Appraisal values tend to be less volatile than market determined values for identical assets. The result is that calculated correlations with other assets tend to be biased upward in absolute value compared to the true correlations and the true variance of the asset is biased downward."

Board member Arnold Brown asks O'Reilly about the use of high-frequency (daily) data in developing capital market expectations. O'Reilly answers:

"Sometimes it is necessary to use daily data to obtain a data series of the desired length. High-frequency data are more sensitive to asynchronism across variables and, as a result, tend to produce higher correlation estimates."

Board member Harold Melson noted he recently read an article on psychological traps related to making accurate and unbiased forecasts. He asks O'Reilly to inform the board about the anchoring trap and the confirming evidence trap. O'Reilly offers the following explanation:

"The anchoring trap is the tendency for forecasts to be overly influenced by the memory of catastrophic or dramatic past events that are anchored in a person's memory. The confirming evidence trap is the bias that leads individuals to give greater weight to information that supports a preferred viewpoint than to evidence that contradicts it."

The board asks O'Reilly about using a multifactor model to estimate asset returns and covariances among asset returns. O'Reilly presented the factor covariance matrix for global equity and global bonds shown in Exhibit 1 and market factor sensitivities and residual risk shown in Exhibit 2.

Exhibit 1		
Factor Covariance Matrix		
	Global Equity	**Global Bonds**
Global Equity	0.0225	0.0022
Global Bonds	0.0022	0.0025

Exhibit 2

Market Factor Sensitivities and Residual Risk			
	Sensitivities		Residual Risk
	Global Equity	Global Bonds	
Market 1	1.20	0	12.0%
Market 2	0.90	0	7.0%
Market 3	0	0.95	1.8%

Finally, the board asks about forecasting expected returns for major markets given that price earnings ratios are not constant over time and that many companies are repurchasing shares instead of increasing cash dividends. O'Reilly responds that the Grinold-Kroner model accounts for those factors and then makes the following forecasts for the European equity market:

➢ Dividend yield will be 1.95%

➢ Shares outstanding will decline 1.00%

➢ Long-term inflation rate will be 1.75% per year

➢ An expansion rate for P/E multiples of 0.15% per year

➢ Long-term corporate real earnings growth at 3.5% per year

1. With respect to his explanation of survivorship bias, O'Reilly most likely is:

A. Correct.

B. Incorrect, because survivorship bias results in a downward bias to reported returns.

C. Incorrect, because survivorship bias results in an overly pessimistic view of expected returns.

2. With respect to his explanation of appraisal data bias, O'Reilly most likely is:

A. Correct.

B. Incorrect, because the true variance of the asset is biased upward.

C. Incorrect, because calculated correlations with other assets tend to be biased downward in absolute value.

3. With respect to his answer to Brown's question, O'Reilly most likely is:

A. Correct.

B. Incorrect, because high-frequency data are less sensitive to asynchronism.

C. Incorrect, because high-frequency data tend to produce lower correlation estimates.

4. Is O'Reilly's explanation of the anchoring trap most likely correct?

A. Yes.

B. No, because the anchoring trap is the tendency to temper forecasts so that they do not appear extreme.

C. No, because the anchoring trap is the tendency for the mind to give a disproportionate weight to the first information it receives on a topic.

5. Given the data in Exhibits 1 and 2, the covariance between Market 1 and Market 2 is closest to:
A. 0.0017.
B. 0.0225.
C. 0.0243.

6. Given O'Reilly's forecasts for the European market, the expected long-term equity return using the Grinold-Kroner model is closest to:
A. 6.35%.
B. 7.35%.
C. 8.35%.

Case 2: Rogers

Ted Rogers is the director of a research team that analyzes traditional and nontraditional sources of energy for investment purposes. For traditional energy sources, a number of high-frequency historical data series are available. For nontraditional energy sources, the data are generally quarterly and tend to hide a great deal of the volatility that Rogers knows to exist because appraised values are used instead of market values. To supplement the quarterly data, Rogers' team uses an index of the top 30 firms in new and experimental technologies called the NEXT Index. While not all of the firms in the NEXT are energy firms, the index is available as a weekly series. However, the NEXT does change its composite mix of firms frequently as firms in the index fail or are sold to larger firms that are not in the index.

To determine the correlation matrix within the different energy sectors, Rogers' team relies on a weighted average of correlations derived from multifactor models and historical correlations. Although the combined experience within the team favors emphasizing the correlations derived from the multifactor models, historical correlations are given a greater weight within the weighted average calculations to lower the future expected performance estimates of different investment models being considered. This practice of purposefully understating the expected future performance of these investment models is viewed as a safety measure by the team and as a way to manage client expectations.

In a recent meeting, the team discussed how using the last two years of historical data for oil-related industries generated relationships between factors that had not existed in the past. One member of the team, Steve Phillips, stated:

The relationships reflect the fact that hurricane activity in the last two years has impacted oil concerns worldwide. There is no reason to believe that such relationships will continue in the future.

Most of the team agreed with Phillips but conceded that a number of clients specifically requested analysis of the previous two years of data with an expectation that new trends were emerging within the industry. The team decided to add more variables to the analysis in order to show that the relationships the team believed to be significant actually outweighed the importance of these recently found relationships. After adding several additional variables, the team found the model did not improve in predictive ability, but the recently found relationships were indeed no longer significant.

1. The data available for non-traditional energy sources are best described as data with:

A. Smoothing.

B. A time-period bias.

C. A survivorship bias.

2. The NEXT Index data most likely reflect:

A. Survivorship bias.

B. Transcription errors.

C. Volatility clustering.

3. The approach taken by Rogers' team to calculate the correlation matrix is best described as which type of estimator?

A. Historical

B. Shrinkage

C. Time-series

4. Which of the following psychological traps best describes the Rogers team's decision to give historical correlation more weight in the correlation matrix?

A. Prudence trap

B. Anchoring trap

C. Overconfidence trap

5. Which of the following types of biases best describes Steve Phillips' statement about oil-related industry data?

A. Data mining

B. Time-period

C. Survivorship

Case 3: Minglu Li

REDD Partners specializes in forecasting and consulting in particular sectors of the equity market. Minglu Li is an analyst for REDD Partners who specializes in the consumer credit industry.

A new consumer credit mechanism was being tested on a small scale using a "smart phone" application to pay for items instead of the traditional credit card. The application had proved successful in the use of microloans in developing countries and was now being applied to a much broader consumer base. The new challenge for Li's team is to develop a model for the expected return for these new consumer credit companies, called "smart credit" companies, that combine the consumer credit industry and what traditionally was considered the telecommunications industry.

Although smart credit company returns data are sparse, a five-year monthly equally weighted index called the Smart Credit Index (SCI) was created from the existing companies' returns data. The number of companies in the index at a given time varies as a result of firms failing and also combining through time.

Li's team also examined survey data within the consumer credit and telecommunications industries during the same time period for which the actual data was collected. They found that projections in the surveys of the CCI and TELI tended to be more volatile than the actual data. Li's team has decided not to make any adjustments, however, because a definitive procedure could not be determined.

Given the effect of short-term interest rates on consumer credit, Li's team then decides to determine where the short-term interest rate is expected to be in the future. The Central Bank recently issued a statement that 2.5% appeared to be the appropriate rate assuming no other factors. Li's team then considers potential factors that may make the Central Bank behave differently from the 2.5% rate in the statement (see Exhibit 3)

Exhibit 3	
Central Bank Factors	
GDP growth forecast	2.0%
GDP growth trend	1.0%
Inflation forecast	1.5%
Inflation target	3.5%
Earnings growth forecast	4.0%
Earnings growth trend	2.0%

Based on Taylor's rule with an assumption of equal weights applied to forecast versus trend measures, the short-term rate is expected to increase from the current 1.23% and the yield curve is expected to flatten.

For further insight, Li decides to consult an in-house expert on central banking, Randy Tolliver.

Tolliver states that a flat yield curve is consistent with tight monetary and tight fiscal policies.

1. The SCI data most likely exhibits which type of bias?
A. Time period
B. Data mining
C. Survivorship

2. A comparison between the survey data containing projections of the CCI and TELI and the actual CCI and TELI most likely exhibits:
A. A status quo trap.
B. A recallability trap.
C. Ex post risk being a biased measure of ex ante risk.

3. Based on how the Taylor rule is applied by Li's team, the Central Bank's optimal short-term rate is closest to:
A. 1.5%.
B. 2.0%.
C. 2.8%.

4. Tolliver's statement regarding the yield curve is most likely:
A. Correct.
B. Incorrect with regard to fiscal policy.
C. Incorrect with regard to monetary policy.

Case 4: Ptolemy

The Ptolemy Foundation was established to provide financial assistance for education in the field of astronomy. Tom Fiske, the foundation's chief investment officer, and his staff of three analysts use a top-down process that begins with an economic forecast, assignment of asset class weights, and selection of appropriate index funds. The team meets once a week to discuss a variety of topics ranging from economic modeling, economic outlook, portfolio performance, and investment opportunities, including those in emerging markets.

At the start of the meeting, Fiske asks the analysts, Len Tuoc, Kim Spenser, and Pier Poulsen, to describe and justify their different approaches to economic forecasting. They reply as follows.

Tuoc: I prefer econometric modeling. Robust models built with detailed regression analysis can help predict recessions well because the established relationships among the variables seldom change.

Spenser: I like the economic indicators approach. For example, the composite of leading economic indicators is based on an analysis of its forecasting usefulness in past cycles. They are intuitive, simple to construct, require only a limited number of variables, and third-party versions are also available.

Poulsen: The checklist approach is my choice. This straightforward approach considers the widest range of data. Using simple statistical method, such as time-series analysis, an analyst can quickly assess which measures are extreme. This approach relies less on subjectivity and is less time-consuming."

The team then discusses what the long-term growth path for US GDP should be in the aftermath of exogenous shocks because of the financial crisis that began in 2008. They examine several reports from outside sources and develop a forecast for aggregate trend growth using the simple labor-based approach and appropriate data chosen from the items in Exhibit 1.

Exhibit 1			
10-Year Forecast of US Macroeconomic Data			
Growth in real consumer spending	3.10%	Yield on 10-year Treasury bonds	2.70%
Growth in potential labor force	1.90%	Growth in total factor productivity	0.50%
Growth in labor force participation	−0.3%	Change in trade deficit	−0.5%
Growth in labor productivity	1.40%		

Upon a review of the portfolio and his discussion with the investment team, Fiske determines a need to increase US large-cap equities. He prefers to forecast the average annual return for US large-cap equities over the next 10 years using the Grinold–Kroner model and the data in Exhibit 2.

Exhibit 2
Current and Expected Market Statistics, US Large-Cap Equities

Expected dividend yield	2.10%	Expected inflation rate	2.30%
Expected repurchase yield	1.00%	Current P/E	15.6
Expected real earnings growth	2.60%	Expected P/E 10 years prior	15

The analysts think that adding to US Treasuries would fit portfolio objectives, but they are concerned that the US Federal Reserve Board is likely to raise the fed funds rate soon. They assemble the data in Exhibit 3 in order to use the Taylor rule (giving equal weights to inflation and output gaps) to help predict the Fed's next move with respect to interest rates.

Exhibit 3		
Current Data and Forecasts from the Fed		
Statistic	**Status**	**Value (%)**
Fed funds rate	Current	3
	Neutral	2.5
GDP growth rate	Trend	4.5
	Forecast	3
Inflation	Target	2.5
	Forecast	3.2

To assess the attractiveness of emerging market equities, Fiske suggests that they use the data in Exhibit 4 and determine the expected return of small-cap emerging market equities using the Singer–Terhaar approach.

Exhibit 4			
Data for Analyzing Emerging Markets			
Asset Class	**Standard Deviation**	**Correlation with GIM**	**Degree of Integration with GIM**
Emerging small-cap equity	23%	0.85	65%
Global investable market (GIM)	7.00%		
Additional information			
Risk-free rate: 2.5%		Illiquidity premium: 60 bps	
Sharpe ratio for GIM and emerging small-cap equity: 0.31			

Finally, after examining data pertaining to the European equity markets, the investment team believes that there are attractive investment opportunities in selected countries. Specifically, they compare the recent economic data with long-term average trends in three different countries, shown in Exhibit 5.

Exhibit 5			
Relationship of Current Economic Data to Historical Trends: Selected European Countries			
	Ireland	**Spain**	**Hungary**

Production	Above trend, declining	Well above trend	Below trend, rising
Inflation	Above trend, declining	Average, rising	Below trend, stable
Capacity utilization	Above trend	Average, rising	Below trend
Confidence	Average, declining	Well above trend	Below trend, rising
Fiscal/monetary policies	Cautionary	Restrictive	Stimulatory

1. Regarding the approaches to economic forecasting, the statement by which analyst is most accurate?

A. Poulsen

B. Tuoc

C. Spenser

2. Using the data in Exhibit 2 and Fiske's preferred approach, the estimated expected annual return for US large-cap equities over the next 10 years is closest to:

A. 7.9%.

B. 7.6%.

C. 7.4%.

3. Using the data in Exhibit 3 and the investment team's approach to predict the Fed's next move, the new fed funds rate will most likely be:

A. 2.9%.

B. 2.1%.

C. 2.6%.

4. Using the data in Exhibit 4 and Fiske's suggested approach, the forecast of the expected return for small-cap emerging market equities is closest to:

A. 9.5%.

B. 8.9%.

C. 9.9%.

5. Among the three countries examined by the investment team, which is in the most attractive phase of the business cycle for equity returns?

A. Hungary

B. Ireland

C. Spain

Case 5: CME

The United States–based CME Foundation serves a wide variety of human interest causes in rural areas of the country. The fund's investment policy statement sets forth allocation ranges for major asset classes, including U.S. large, mid-, and small-cap stocks, international equities, and domestic and international bonds.

When revising its outlook for the capital markets, CME typically applies data from GloboStats Research on the global investable market (GIM) and major asset classes to produce long-term estimates for risk premiums, expected return, and risk measurements. Although they have worked with GloboStats for many years, CME is evaluating the services of RiteVal, a competing research firm, via a trial offer. Unlike the equilibrium modeling approach applied to GloboStats's data, RiteVal prefers to use a multifactor modeling approach. Both research firms also provide short- and long-term economic analysis.

CME has asked Pauline Cortez, chief investment officer, to analyze the benefit of adding U.S. real estate equities as a permanent asset class. To determine the appropriate risk premium and expected return for this new asset class, Cortez needs to determine the appropriate risk factor to apply to the international capital asset pricing model (ICAPM). Selected data from GloboStats is shown in Exhibit 1.

Exhibit 1				
Selected Data from GloboStats				
Asset Class	Standard Deviation	Covariance with GIM	Integration with GIM	Sharpe Ratio
U.S. real estate	14.0%	0.0075	0.60	n/a
Global investable market				0.36
Additional Information				
Risk-free rate: 3.1%		Expected return for the GIM: 7.2%		

Cortez's colleague Jason Grey notes that U.S. real estate is a partially segmented market. For this reason, Grey recommends using the Singer–Terhaar approach to the ICAPM and assumes a correlation of 0.39 between U.S. real estate and the GIM.

Cortez reviews RiteVal data (Exhibit 2) and preferred two-factor model with global equity and global bonds as the two common drivers of return for all other asset classes.

Exhibit 2			
Selected Data from RiteVal			
	Factor Sensitivities		
Asset Class	Global Equity	Global Bonds	Residual Risk (%)
U.S. real estate equities	0.60	0.15	4.4
Global timber equities	0.45	0.20	3.9

Additional Information			
Variances	0.025	0.0014	
Correlation between global equities and global bonds: 0.33			

Grey makes the following observations about the two different approaches the research firms use to create their respective covariance matrices:

➢ GloboStats uses a historical sample to estimate covariances, whereas

➢ RiteVal uses a target covariance matrix by relating asset class returns to a particular set of return drivers.

Grey recommends choosing the GloboStats approach.

Cortez states: I disagree. We will use the results of both firms by calculating a weighted average for each covariance estimate.

Grey finds that RiteVal's economic commentary reveals a non-consensus view on inflation. Specifically, they believe that a near-term period of deflation will surprise many investors but that the current central bank policy will eventually result in a return to an equilibrium expected level of inflation.

Grey states: If RiteVal is correct, in the near-term our income producing assets, such as Treasury bonds and real estate, should do well because of the unexpected improvement in purchasing power. When inflation returns to the expected level, our equities are likely to perform well.

Cortez points out that RiteVal uses an econometrics approach to economic analysis, whereas GloboStats prefers a leading indicator–based approach. Cortez and Grey discuss these approaches at length.

Cortez comments: The big disadvantage to the leading indicator approach is that it has not historically worked because relationships between inputs are not static. One major advantage to the econometric approach is quantitative estimates of the effects on the economy of changes in exogenous variables."

1. Using the data provided in Exhibit 1 and assuming perfect markets, the calculated beta for U.S. real estate is closest to:

A. 1.08.

B. 0.38.

C. 0.58.

2. Using the data provided in Exhibit 1 and Grey's recommended approach and assumed correlation, the expected return for U.S. real estate is closest to:

A. 6.3%.

B. 6.9%.

C. 4.3%.

3. Using the multifactor model preferred by RiteVal and Exhibit 2, the standard deviation of U.S. real estate is closest to:

A. 24.5%.

B. 21.0%.

C. 23.1%.

4. Cortez's statement to use the work of both firms to determine a covariance estimate is most likely an example of:

A. A prudence trap.

B. A shrinkage estimate.

C. Nonstationarity.

5. Grey's statement regarding the impact of RiteVal's inflation scenario is most likely:

A. Incorrect because of his comment about real estate.

B. Incorrect because of his comment about equities.

C. Correct.

6. Cortez's comment with regard to the two different approaches to economic analysis is most likely:

A. Incorrect because of the statement regarding leading indicators.

B. Correct.

C. Incorrect because of the statement regarding econometrics.

Case 6: Culpepper

Alexandra Sorenson has been made an investment strategist at Culpepper Investment Management (Culpepper) after working as a senior investment analyst the past several years. Sorenson has covered US equities throughout her career and has only limited knowledge of international capital markets. She is reviewing the economic and capital markets forecast report recently prepared by Culpepper's economist as she evaluates the holdings in the firm's investment portfolio.

Sorenson discusses the valuation of the EuroCountryX Stock Index with Stefan Dreschler, a fellow investment strategist. The Index comprises mature, large-cap common equities. Sorenson plans to use the Cobb–Douglas model, assuming constant returns to scale, to estimate the country's GDP growth. Given the mature nature of the economy and the market index, growth in both inflation-adjusted earnings and dividends is expected to equal real GDP growth. The current year annual dividend of the EuroCountryX Stock Index is €133.

Sorenson assumes that a 6.0% discount rate is appropriate for the foreseeable future and calculates the fair value of the Index at 31 December.

Sorenson comments to Dreschler:
"I see that at the end of December this year, the index was trading nearly 20% above its level a year ago. What do you think may have caused the price gain?"

The two continue discussing what changes Sorenson might face in her new position. She asks Dreschler:

"What challenges do we face when using discounted dividend models and macroeconomic forecasts to estimate the intrinsic value of an equity market in a developing country?"

Dreschler responds by making several points:

➢ Discount rates are relatively easy to estimate, whereas growth rates are difficult to estimate.

➢ Corporate profit trends should be relatively consistent with the overall growth of the country's GDP.

➢ Gathering accurate and consistent economic data could be a challenge.

As an investment analyst, Sorenson is experienced with bottom-up analysis but realizes that top-down analysis will now be important. She asks Dreschler what they should consider when comparing the two approaches. Dreschler makes the following points:

➢ Top-down analysis can be slower than bottom-up analysis in detecting cyclical turns.

➢ Top-down estimates coming out of a recession may be less optimistic than bottom-up estimates.

➢ We should expect to get the same results regardless of which method we use.

1. Dreschler's most appropriate response to Sorenson's question about the change in value of the EuroCountryX Index is that there was a decrease in the:

A. Long-term, real dividend growth rate.

B. Discount rate over the period.

C. Dividends paid.

2. Which of Dreschler's responses to Sorenson's question about the challenges to equity market valuation is most accurate? His response concerning:

A. The gathering of economic data.

B. Discount rates and growth rates.

C. Corporate profit and GDP growth.

3. Which of Dreschler's points comparing top-down analysis and bottom-up analysis is the most accurate? His point regarding:

A. Estimates coming out of a recession.

B. Consistency of the results.

C. Detecting cyclical turns.

Case 7: Olli Nava Scenario

Olli Nava is a junior economist for Globofunds Asset Management, a large investment management company. She has been asked to produce capital market expectations for asset classes in several different markets relevant to the Diversified Absolute Return Strategies Fund (DARS), the company's largest fund.

Nava is aware that long-term GDP trend forecasting is considered the starting point to form capital market expectations at Globofunds, but she is unsure why this is the case. She asks a colleague, Jedd Wiggins to explain why long-term trend GDP growth is considered so important when forecasting asset class returns. Wiggins makes the following two statements.

● Statement 1: There is both theoretical and empirical support for the case that the average level of real government bond yields is directly linked to the trend rate of growth in the economy.

● Statement 2: Over the long run, the total return of an equity market is directly linked to the growth rate of GDP.

In order to make a forecast of trend GDP growth in the domestic economy, Nava collates the following Globofunds data displayed in Figure 1.

Figure 1: Information on Domestic Economy	
Annual labor input growth	0.8%
Annual labor productivity growth	1.2%
Annual inflation	2.5%
Dividend yield	3.0%
Long-term change in profits as a share of GDP	0%
Long-term change in PE multiples	0%

Nava has the view that increased levels of globalization will lead to the current account playing a larger role in growth rate of economies. She considers the macroeconomic linkages between the three main economies which the fund is exposed to. Macroeconomic data relating to these economies is displayed in Figure 2.

Figure 2: Macroeconomic Data Relating to Three Economies				
Economy	Savings	Investment	Taxation	Government Spending
1	Increasing	Decreasing	Increasing	Decreasing
2	Decreasing	Increasing	Decreasing	Increasing
3	Increasing	Increasing	Increasing	Increasing

Nava also considers the movement in foreign exchange to be a key determinant of the medium term performance of DARS. She considers the macroeconomic policy of the three main developing markets which the fund is exposed to and collates the data as shown in Figure 3.

Figure 3: Macroeconomic Data Relating to Three Developing Markets

Developing Market	Capital Flows	Exchange Rate
A	Restricted	Fixed
B	Unrestricted	Fixed
C	Unrestricted	Floating

Nava attempts to forecast the likely foreign exchange rate movements that will affect the fund. She notes that the largest foreign currency exposure is in Country X. The current spot rate of the domestic currency of the fund (DOM) versus the foreign currency of Country X (FOR) is DOM/FOR = 1.3020. Data related to the expected returns in the domestic and foreign markets is displayed below in Figure 4.

Figure 4: Expected Returns in Domestic Markets and Foreign Country X		
Return	Domestic	Country X
Short-term interest rates	0.75%	1.25%
Term premium	0.00%	0.50%
Credit premium	1.10%	0.60%
Equity premium	3.00%	4.00%
Liquidity premium	0.00%	0.00%

Nava also considers purchasing power parity as a tool for long-term foreign exchange rate forecasting. She notes that expected inflation in the domestic country is higher than the expected inflation in Country X.

1. How many of the statements made by Wiggins are accurate?
A. Zero.
B. One.
C. Two.

2. Based on the data in Figure 1, the projected long-term domestic market equity return is closest to:
A. 4.5%.
B. 5.0%.
C. 7.5%.

3. Based on the data in Figure 2, the economy that is most likely to experience an increase in its current account is:
A. Economy 1.
B. Economy 2.
C. Economy 3.

72-214

4. Based on the information in Figure 3, the market that is least likely to be able to pursue an independent monetary policy is developing:

A. Market A.

B. Market B.

C. Market C.

5. Based in the data in Figure 4, the forecast one-year DOM/FOR foreign exchange rate, based on capital flows using the Dornbusch overshooting, is closest to:

A. 1.2825.

B. 1.2889.

C. 1.3215.

6. Based on purchasing power parity, Nava should forecast that, relative to the current spot rate, the DOM/FOR exchange rate is forecast to:

A. fall.

B. rise.

C. remain unchanged.

4.　SS6 Derivatives and Currency Management

Case 1: Joenia Dantas

Joenia Dantas is a financial risk manager for Alimentos Serra (AS), a Brazilian manufacturer and exporter of soybean-based food products. AS is a privately held corporation, wholly owned by Cesar Serra. Recently, AS took out a R25,000,000, four-year, floating-rate bank loan requiring semi-annual payments of interest based on SELIC (Banco Central do Brasil's overnight lending rate) plus a spread of 4.50 percent and repayment of principal at maturity. Serra believes that interest rates will rise in the near future and worries that AS will be unable to absorb the higher loan costs associated with an increase in rates. Dantas tells him that she will convert the loan to a 10.80 percent fixed rate by entering into the pay-fixed side of a four-year, R25,000,000 notional principal interest rate swap with semi-annual payments that exchanges SELIC for a fixed rate of 10.80 percent. She explains that the swap will act as a hedge for the loan, reducing the company's net cash flow risk and net market value risk.

Discussions with Dantas about using interest rate swaps to reduce risk cause Serra to think about the fixed income portion of his personal investment portfolio, which includes R12.0 million in bonds that have a modified duration of 5.50 years. Serra's beliefs about rising interest rates make him want to reduce the bond portfolio's modified duration to 2.00 years using interest rate swaps. In order to determine the correct swap position, he needs to learn how to calculate the modified duration of a swap. He asks Dantas how to do this. She explains it to him, using the example described in Exhibit 1.

Exhibit 1	
Data for Swap Example	
Maturity of swap	4 years
Payment structure	semiannual
Fixed rate on swap	10.8%
Duration of 4-year, 10.8% coupon bond	2.91 years

Serra decides to use a swap that has a modified duration of -2.40 years for the pay-fixed side to reduce his bond portfolio's duration to the desired level.

Dantas knows that AS currently needs to borrow an additional R30,000,000 for 5 years to fund its growth. Brazilian credit markets have tightened and it would cost 17.70 percent per year to borrow this amount locally, but AS can obtain a yen-denominated loan at a fixed rate of 9.50 percent. This would expose it to substantial currency risk. A 5-year currency swap is available in which AS would pay interest in real to the counterparty at 12.20 percent and receive interest in yen from the counterparty at 7.10 percent. The current exchange rate is ¥40/R.

In addition to the current needs, in six months AS will enter into a four-year, quarterly payment, R50,000,000 loan to fund local projects. Dantas expects to borrow these funds at a floating rate

and convert the loan to fixed using an interest rate swap. She explains to Serra that AS can commit to a fixed rate of 14.3 percent for the future loan by buying a payer swaption today with an exercise rate of 14.3 percent for a four-year swap with quarterly payments and a notional principal amount of R50,000,000.

1. Dantas' explanation of her plan to convert the four-year loan from floating to fixed is most likely:

A. correct.

B. incorrect, because the fixed loan rate will be 15.30%.

C. incorrect, because the swap should be entered to pay SELIC.

2. Dantas' characterization of the interest rate swap as a hedge for the bank loan is most likely:

A. correct.

B. incorrect, because the swap increases the cash flow risk of AS.

C. incorrect, because the swap increases the market value risk of AS.

3. The duration of the interest rate swap described in Exhibit 1 is closest to:

A. -2.41 years.

B. -2.66 years.

C. -2.91 years.

4. In order to reduce the duration of his bond portfolio to the desired level, Serra will enter into a pay-fixed swap position with a notional principal closest to:

A. R17.5 million.

B. R27.5 million.

C. R42.0 million.

5. If AS enters into the yen-real currency swap with a notional principal of ¥1.2 billion (R40.0 million), net yen interest expense for each year is closest to:

A. ¥28.80 million.

B. ¥85.20 million.

C. ¥114.00 million.

6. Dantas' description of the use of a swaption in anticipation of future borrowing is:

A. correct.

B. incorrect, because AS should enter into a receiver swaption.

C. incorrect, because the fixed rate paid on the loan may be less than 14.3%.

Case 2: Rose Michael

Rose Michael, CFA, is a senior portfolio manager at Platinum Investments, Inc. Selected data for the funds she manages is shown below in Exhibit 1:

Exhibit 1				
Summary of Fund Characteristics				
	Fund A	**Fund B**	**Fund C**	**Fund D**
Asset Allocation	100% large-cap U.S. equities	100% mid-cap U.S. equities	100% U.S. Treasury bonds	60% mid-cap U.S. equities 40% U.S. Treasury bonds
Stock Beta	0.95	1.20	N/A	1.12
Duration	n.a.	n.a.	5.9	5.9

Michael is training Joseph Owen, a newly hired research assistant, in the strategies used to adjust clients' exposures to various markets. She asks Owen to collect current market data on the futures contracts she uses to employ the asset allocation strategies. Owen presents Michael with the data in Exhibit 2 and notes that the U.S. risk-free rate is 4 percent while the European risk-free rate is 2 percent.

Exhibit 2					
Summary of Futures Contracts Data					
	U.S. Large-cap Equity Contract	**U.S. Mid-cap Equity Contract**	**European Broad-based Equity Contract**	**U.S Treasury Bond Contract**	**U.S. Treasury Bill (Cash Equivalent) Contract**
Beta	1.10	1.29	0.80	1.0	0
Contract Price	2,875	2,350	3,000	$110,000*	$100,000*
Multiplier	100	100	10	N/A	N/A
Duration	N/A	N/A	N/A	6.5	0.25
Expiration	0.25 years	0.25 years	0.25 years	0.25 years	0.25 years

includes the effect of any multiplier

Michael presents a summary of client portfolios in Exhibit 3:

Exhibit 3	
Summary of Current Client Holdings	
Client Name	**Market Value of Holdings**
Andrew Bolton	$50 million invested in Fund A
Georgia Harrison	$400 million invested in Fund D
Kathryn Lewis	$100 million invested in Fund A $50 million invested in Fund B

Andrew Bolton wants to reduce the level of portfolio equity risk and Michael recommends

76-214

reducing Bolton's portfolio beta to 0.8 using futures contracts.

Owen informs Michael that Georgia Harrison wants to change her portfolio mix to 80 percent bonds and 20 percent equity for the next three months, but retain the other characteristics of Fund D. Michael decides this temporary reallocation will be accomplished using futures contracts.

Owen reports that Kathryn Lewis wants to adjust her portfolio allocation so that she has 50 percent invested in Fund A and 50 percent in Fund B. Michael responds, "We can restructure her portfolio by first buying U.S. Treasury bill futures to raise cash, then selling U.S. large-cap equity futures and buying U.S. mid-cap equity futures."

1. In order to implement Michael's recommendation for Bolton's portfolio, the number of U.S. large-cap equity future contracts that must be sold is closest to:

A. 24.

B. 26.

C. 33.

2. In order to reallocate Harrison's portfolio as requested, the number of bond futures contracts that Michael should purchase is closest to:

A. 1264.

B. 1320.

C. 1454.

3. Michael's plan for reallocating Lewis' portfolio is most likely incorrect with respect to:

A. buying U.S. Treasury bill futures.

B. buying U.S. mid cap equity futures.

C. selling U.S. large cap equity futures.

Case 3: Omega Analytics

Omega Analytics provides risk management consulting for institutional and individual clients. Rachel Osborne, CFA, is an investment advisor for Omega who works with the firm's larger accounts. She is considering derivative strategies for several clients.

➢ HMM Foundation owns 30,000 shares of Nasdaq 100 Index Tracking Stock (Symbol: QQQQ), which has a current price of $30 per share. Osborne believes there is substantial risk of downside price movement in the index over the next six months. She recommends HMM use a six-month collar for the entire position of 30,000 shares as protection against the QQQQ price falling below $27. Exhibit 1 illustrates current QQQQ puts and calls expiring in 6 months.

Exhibit 1		
QQQQ Puts and Calls Expiring in Six Months		
Option Type	**Exercise Price ($)**	**Option Premium ($)**
Call	35	0.80
Put	27	0.95

HMM would hold the collar strategy until expiration of the put and call options.

➢ Bob Valentine believes the prices of large capitalization stocks will rise slightly and he wants to profit from this movement using a bull spread strategy. Osborne recommends Valentine use Dow Jones Industrial Average (DJX) options expiring in two months. The current price of DJX is $91. Exhibit 2 illustrates current option information for two DJX call options expiring in two months.

Exhibit 2		
DJX Call Options Expiring in Two Months		
Exercise Price ($)	**Option Premium ($)**	**Delta**
88	4.40	0.75
94	1.00	0.30

Valentine decides to use 100 contracts per position. Each contract is equal to 100 shares.

1. If the HHM Foundation enters into the collar recommended by Osborne and the market value of QQQQ is $33 at the expiration of the options, the profit from the position would be closest to:

A. $85,500.

B. $90,000.

C. $94,500.

2. If the HHM Foundation enters into the collar recommended by Osborne, the maximum

potential profit from the position at expiration of the options is closest to:

A. $145,500.

B. $150,000.

C. $154,500.

3. At expiration of the DJX call options, the maximum potential profit from the bull spread strategy recommended for Valentine is closest to:

A. $6,000.

B. $26,000.

C. $60,000.

4. The delta of Valentine's bull spread just before contract expiration, if the price of DJX is $93, will most likely be in the range of:

A. 0.00 to 0.20.

B. 0.40 to 0.60.

C. 0.80 to 1.00.

Case 4: Amy Allison

Amy Allison is a fund manager at Downing Securities. The third quarter ends today and she is preparing for her quarterly review with her five largest U.S.-based clients. To complete her analysis she has obtained the market data in Exhibit 1.

Exhibit 1	
Market Data as of September 30	
Level of NASDAQ 100 Index	1223.14
Level of S&P 500 Index	984.03
Level of S&P/Barra Growth Index	496.24
Level of S&P/Barra Value Index	484.28
Price of December S&P 500 Index futures contract	$245,750
Price of December S&P/Barra Growth futures contract	$117,475
Price of December S&P/Barra Value futures contract	$120,875
Beta of S&P/Barra Growth futures contract	1.15
Beta of S&P/Barra Value futures contract	1.03
Price of December U.S. Treasury-bond futures contract	$106,906
Modified Duration of U.S. Treasury-bond futures contract	6.87
Macaulay Duration of U.S. Treasury-bond futures contract	7.05

Allison's assistant has prepared the following summaries of each client's current situation, including any recent inquiries or requests from the clients.

➢ Client B's portfolio holds $40 million of US large cap value stocks with a portfolio beta of 1.06. This client wants to shift $22 million from value to growth stocks with a target beta of 1.21. Allison will implement this shift using S&P/Barra Growth and S&P/Barra Value futures contracts.

➢ Client D's portfolio contains $60 million in U.S. large cap growth stocks with a beta of 0.95 and $25 million in US Treasury bonds with a modified duration of 5.20. The client believes both stocks and bonds will have negative returns over the next 3-month period. Allison recommends converting the equity and bond exposures to cash by using futures contracts.

➢ Client E has $10 million in cash and is optimistic about the near-term performance of the large-cap stocks in the U.S. equity market. The client anticipates positive performance for approximately 3 months at which time inflation fears will begin to be priced into the market and the large-cap stocks will underperform cash. Client E asks Allison to implement a strategy that will create profit from this view if it proves to be correct and can be exited quickly if it proves to be incorrect.

1. When implementing the shift from value to growth stocks for Client B, the number of S&P/Barra value future contracts Allison shorts is closest to:
A. 177.
B. 182.
C. 187.

2. The number of S&P/Barra Growth futures contracts needed to convert Client D's stock portfolio into cash is closest to:
A. 422.
B. 511.
C. 618.

3. The number of U.S. Treasury futures contracts required to convert Client D's bond exposure to cash is closest to:
A. 177
B. 234
C. 309

4. To implement Client E's request, Allison's most appropriate course of action is to purchase:
A. risk-free bonds and buy S&P 500 index futures contracts.
B. the stocks in the S&P 500 index and sell S&P 500 index futures contracts.
C. the stocks in the S&P 500 index and sell U.S. Treasury bond futures contracts.

Case 5: Kamiko Watanabe

Kamiko Watanabe, CFA, is a portfolio advisor at Wakasa Bay Securities. She specializes in the use of derivatives to alter and manage the exposures of Japanese equity and fixed income portfolios. She has meetings today with two clients, Isao Sato and Reiko Kondo.

Sato is the manager of the Tsushima Manufacturing pension fund, which has a target asset allocation of 60% equity and 40% bonds. The fund has separate equity and fixed income portfolios, whose characteristics are provided in Exhibits 1 and 2. Sato expects equity values to increase in the coming two years and, in order to avoid substantial transaction costs now and in two years, would like to use derivatives to temporarily rebalance the portfolio. He wants to maintain the current beta of the equity portfolio and the current duration of the bond portfolio.

Exhibit 1	
Tsushima Pension Fund, Equity Portfolio Characteristics	
Current market value	JPY27.5 billion
Benchmark	Nikkei 225 Index
Current beta	1.15

Exhibit 2	
Tsushima Pension Fund, Bond Portfolio Characteristics	
Current market value	JPY27.5 billion
Benchmark	Nikko Bond Performance Index composite
Current duration	4.75

In order to rebalance the pension fund to its target allocations to equity and bonds, Watanabe recommends using Nikkei 225 Index futures contracts, which have a beta of 1.05 and a current contract price of JPY1,525,000, and Nikko Bond Performance Index futures, which have a duration of 6.90 and a current contract price of JPY4,830,000. She assumes the cash position has duration of 0.25.

Sato wants to know if other derivatives could be used to rebalance the portfolio. In response, Watanabe describes the characteristics of a pair of swaps that, together, would accomplish the same rebalancing as the proposed futures contracts strategy.

Kondo manages a fixed income portfolio for the Akito Trust. The portfolio's market value is JPY640 million, and its duration is 6.40. Kondo believes interest rates will rise and asks Watanabe to explain how to use a swap to decrease the portfolio's duration to 3.50. Watanabe proposes a strategy that uses a pay-fixed position in a 3-year interest rate swap with semi-annual payments.

Kondo decides he wants to use a 4-year swap to manage the portfolio's duration. After some calculations, Watanabe tells him a pay-fixed position in a 4-year interest rate swap with a duration of −2.875 would require a notional principal of JPY683 million (rounded to the nearest

million yen) to achieve his goals.

Kondo asks Watanabe whether it would be possible to cancel the swap prior to its maturity. Watanabe responds with three statements:

Statement 1: During the life of the swap, you could enter into a new pay-floating swap with the same terms as the original swap except it would have a maturity equal to the remaining maturity of the original swap. However, the fixed rate you receive might be lower than the fixed rate you're paying on the original swap.

Statement 2: You could purchase a payer swaption with the same terms as the original swap. This would protect you from falling fixed swap rates but at the cost of the premium you would pay to the swaption counterparty.

Statement 3: If you purchase a swaption from the same counterparty as the original swap, it is common to require the payments of the two swaps be netted or cash settled if the swaption is exercised.

1. The number of Nikkei 225 Index futures Sato must buy to rebalance the Tsushima pension fund to its target allocation is closest to:
A. 3,293.
B. 3,950.
C. 4,148.

2. Which of these is most likely to be a characteristic of one of the two swaps Watanabe describes to Sato?
A. Receive LIBOR.
B. Pay return on Nikkei 225 Index.
C. Receive return on Nikko Bond Performance Index.

3. The duration of the swap in Watanabe's first proposal to Kondo is closest to:
A. −1.75.
B. −2.00.
C. −2.75.

4. Which of Watanbe's three statements to Kondo is least likely correct?
A. Statement 1.
B. Statement 2.
C. Statement 3.

Case 6: Manuel Silva

Manuel Silva is a principal at Raintree Partners, a financial advisory firm, and a specialist in providing advice on risk management and trading strategies using derivatives. Raintree's clients include high-net-worth individuals, corporations, banks, hedge funds, and other financial market participants.

One of Silva's clients, Iria Sampras, is meeting with Silva to discuss the use of options in her portfolio. Silva has collected information on S&P 500 Index options, which is shown in Exhibit 1.

Exhibit 1		
Options Data for S&P 500 Stock Index		
Options Expire in Six Months. Multiplier $100		
Exercise Price	Call Price	Put Price
$1,100	$95.85	$42.60
$1,125	$80.50	$48.00
$1,150	$64.70	$60.00

At the beginning of the meeting Sampras states: "My investment in Eagle Corporation stock has increased considerably in value, and I would like suggestions on options strategies I can use to protect my gains." Silva responds: "There are two strategies that you may wish to consider: covered calls or protective puts. Covered calls provide a way to protect your gains in Eagle Corporation stock. Adding a short call to your long position in Eagle stock will provide protection against losses on the stock position, but it will also limit upside gains. A protective put also provides downside protection, but it retains upside potential. Unlike covered calls, protective puts require an upfront premium payment."

At the end of the meeting Sampras asks Silva to provide a written analysis of the following option strategies:

Strategy A: A butterfly spread strategy using the options information provided in Exhibit 1.

Strategy B: A straddle strategy using options in Exhibit 1 with an exercise price of $1,125.

Strategy C: A collar strategy using options information in Exhibit 1.

1. Is Silva's response to Sampras regarding reducing exposure to Eagle Corporation stock most likely correct?
A. Yes.
B. No, he is incorrect about covered calls.
C. No, he is incorrect about protective puts.

2. Based on the information in Exhibit 1, the maximum profit per contract for Strategy A is closest to:

A. $2,545.

B. $5,855.

C. $9,015.

3. Based on the information presented in Exhibit 1, the maximum loss per contract for Strategy B is *closest* to:

A. $10,350.

B. $12,850.

C. $20,900.

4. The expected volatility of the S&P 500 Index, relative to market expectations, is least likely to be a factor in the decision to implement:

A. strategy A.

B. strategy B.

C. strategy C.

Case 7: Anna Lehigh

Anna Lehigh, CFA, is a portfolio manager for Brown and White Capital Management (B&W), a U.S.-based institutional investment management firm whose clients include university endowments.

Packer College is a small liberal arts college whose endowment is managed by B&W. Lehigh is considering a number of derivative strategies to tactically adjust the Packer portfolio to reflect specific investment viewpoints discussed at a meeting with Packer's investment committee. At the meeting, the committee reviews Packer's current portfolio, whose characteristics are shown in Exhibit 1:

Exhibit 1		
Packer Portfolio Characteristics		
Investment	**Amount (USD millions)**	**Risk Measure**
Mountain Hawk, Inc. common stock	20	Beta: 1.30
U.S. large-cap stocks	30	Beta: 0.95
U.S. midcap stocks	10	Beta: 1.20
Eurozone large-cap stocks (unhedged, USD equivalent)	10	Beta: 1.10
S&P 500 Index call options (notional amount)	10	Delta: 0.50
A-rated corporate bonds	20	Duration: 5.0
Total	**100**	

Kemal Gulen, a member of the investment committee, asks Lehigh how she manages the risk exposure of the call options investment. Lehigh responds by stating that she ensures that her call option positions are delta hedged. She notes, however, that in some instances, at an option's expiration, the option gamma is very high and maintaining a delta hedged position becomes very difficult.

Lehigh intends to synthetically modify the duration of the corporate bond component of the portfolio to a target of 3.0 in anticipation of rising interest rates. Interest rate swap data are provided in Exhibit 2:

Exhibit 2		
Pay Fixed Interest Rate Swaps		
Swap	**Maturity**	**Duration**
A	3 years	−2.125
B	4 years	−2.875
C	5 years	−3.625

Lehigh notes the holding of Mountain Hawk common stock. The shares were recently donated by an alumnus who mandated that they not be sold for three years. Lehigh provides three potential

options strategies to use in order to benefit from changes in Mountain Hawk's stock price, which is presently USD 100.00. Options strategies are provided in Exhibit 3:

Exhibit 3		
Options Strategies for Mountain Hawk stock (in USD)		
Strategy	**Lower Strike**	**Upper Strike**
Straddle	95.00	95.00
Bull spread	105.00	110.00
Bear spread	90.00	100.00

Lehigh tells the committee she believes U.S. large-cap stocks will perform well over the next year. The committee agrees and wants B&W to adjust the beta of the U.S. large-cap part of the portfolio to a target of 1.10 by purchasing large-cap futures contracts. Lehigh proposes purchasing 15 contracts. For each contract, the beta is 1.00 and the price is USD 100,000.

The committee is concerned that Europe's sovereign debt crisis may lead to volatility in European stock markets and the euro currency (EUR). It considers hedging strategies outlined in Exhibit 4:

Exhibit 4		
Hedging Strategies		
Strategy	**Forwards**	**Futures**
1	Sell EUR and buy USD	Buy US stock market
2	Sell EUR and buy USD	Sell European stock market
3	Buy EUR and sell USD	Sell European stock market

Finally, Lehigh discusses B&W's market view that over the next 24 months, midcap stocks will underperform small-cap stocks and interest rates will rise. She recommends executing a swap transaction in order to alter the stock and bond allocation and thus capture the economic benefit of B&W's market view. The investment committee considers the swap strategies outlined in Exhibit5.

Exhibit 5		
Swap Strategies		
Swap Strategies	**Receive**	**Pay**
Swap 1	LIBOR	Midcap index
Swap 2	Midcap index	Small-cap index
Swap 3	Small-cap index	LIBOR

1. Lehigh's response to Gulen is most likely correct when the option is:
A. in the money.
B. at the money.
C. out of the money.

2. If the price of Mountain Hawk stock declines to USD 88.00, which options strategy will most likely have the highest value at expiration?

A. Straddle

B. Bull spread

C. Bear spread

3. Will Lehigh's purchase of U.S. large-cap futures contracts most likely result in the committee's beta objective for the U.S. large-cap investment being attained?

A. Yes

B. No, because the beta will be below the target

C. No, because the beta will be above the target

4. Given the committee's view about the sovereign debt crisis, which hedging strategy is most likely to result in Packer earning the U.S. risk-free rate of return?

A. Strategy 1

B. Strategy 2

C. Strategy 3

5. Which of the following swaps will most likely capture the greatest economic benefit based on the committee's 24-month market view?

A. Swap 1

B. Swap 2

C. Swap 3

Case 8: Garrison Investments Scenario

Garrison Investments is a money management firm focusing on endowment management for small colleges and universities. Over the past 20 years, the firm has primarily invested in U.S. securities with small allocations to high quality long-term foreign government bonds. Garrison's largest account, Point University, has a market value of $800 million and an asset allocation as detailed in Figure 1.

Figure 1: Point University Asset Allocation			
Asset Class	Allocation	Dividend/Coupon*	Beta
Large cap equities	40%	2.0%	1.0
Mid cap equities	25%	1.2%	1.3
Small cap equities	15%	0.9%	1.5
U.S. Bonds	10%	5.0%	0
U.K. Bonds	5%	4.7%	0
German Bonds	5%	4.0%	0
European Index	0%	1.8%	1.2
*Bond coupon payments are all semiannual.			

Garrison recently convinced the board of trustees at Point University that the endowment should allocate a portion of the portfolio to European equities. The board has agreed to the plan but wants the allocation to international equities to be a short-term tactical move. Managers at Garrison have put together the following proposal for the reallocation:

> To minimize trading costs while gaining exposure to international equities, the portfolio can use futures contracts on the domestic 12-month mid-cap equity index and on the 12-month European equity index. This strategy will temporarily exchange $80 million of U.S. mid-cap exposure for European equity index exposure. Relevant data on the futures contracts are provided in Figure 2.

Figure 2: Mid-cap Index and European Index Futures Data			
Futures Contract	Price	Beta	Multiplier
Mid-cap Index	$908	1.10	250
European Index	$2,351	1.05	50

Three months after proposing the international diversification plan, Garrison was able to persuade Point University to make a direct short-term investment in Haikuza International (HI), a Japanese electronics firm. Analysts at Garrison have regressed the historical returns of the HI stock with changes in value of the yen. When the HI returns are measured in U.S. dollars, the regression slope coefficient is +0.80.

The managers at Garrison are discussing other factors that may be considered if they continue to diversify into foreign markets. The following statements are made:

- Statement 1: The minimum variance hedge ratio is riskier than a simple direct one-for-one hedge ratio because it depends on the correlation between asset and currency returns.

- Statement 2: An alternative to selling the yen forward to implement the HI currency hedge would be to buy calls on the USD. This would protect the portfolio from currency risk while still retaining potential currency upside. Unfortunately, it will have a higher initial cost.

1. With regard to Garrison's proposal to generate temporary exposure to European equities in the Point University portfolio, determine the appropriate position in the mid-cap equity index futures.

A. Buy 417 contracts.

B. Sell 298 contracts.

C. Sell 417 contracts.

2. Garrison's analysis to determine a hedge ratio for the HI exposure is best described as producing a:

A. cross hedge.

B. transaction hedge.

C. minimum variance hedge.

3. Which of the following is the correct short position in yen the managers at Garrison will execute to implement a minimum variance hedge for a JPY 200,000,000 currency exposure?

A. 40 million.

B. 160 million.

C. 240 million.

4. Which of the statements regarding diversifying into foreign markets is most accurate?

A. Statement 1.

B. Statement 2.

C. Both statements.

Case 9: Declan Kaufman Scenario

Declan Kaufman is an investment manager working at New Wave Advisers, an investment firm specializing in providing innovative derivatives solutions to institutional investors and sophisticated individuals.

Ariadne Burch is corporate treasurer of a large European retailer, looking to expand operations into the United States. She is exploring ways of borrowing USD, which is required for the expansion, and has presented Kaufman with the following information:

- The rate on USD loan direct from a U.S. bank is the USD reference rate +100 bps.
- The rate on EUR loan direct from European bank is the EUR reference rate +70 bps.
- The EUR-USD cross-currency basis swap is quoted at −20 bps.

Burch would like to know what the effective cost of borrowing USD would be if this were conducted through a cross-currency basis swap rather than directly borrowing USD.

Another client of Kaufman, Beatrice Rutledge, has asked Kaufman for advice on derivatives based on volatility. Rutledge is aware that volatility is a key input when pricing options; however, she is not familiar with other derivatives used to trade volatility.

Kaufman prepares a short presentation on variance swaps. He bases his presentation on data displayed below in Figure 1.

Figure 1: Variance Swap Example Data	
Volatility strike on swap (quoted as annual volatility)	19%
Variance notional	$263
Realized volatility at end of swap	21%

During Kaufman's presentation, Rutledge asks Kaufman how the payoff of a variance swap is likely to behave. Kaufman replies with the following comments:

- Comment 1: The sensitivity of the value of a variance swap to changes in implied volatility falls over the life of the swap.
- Comment 2: The payoff of a variance swap is convex with respect to changes in volatility.

1. If Burch's firm raises USD financing through a cross currency basis swap, the cost of borrowing verses a direct USD loan would be:

A. 20 bps lower.

B. 10 bps lower.

C. 20 bps higher.

2. Using the data in Figure 1, the approximate gain or loss for a 1% change in volatility, under the variance swap, is closest to:

A. $14.

B. $263.

C. $10,000.

3. Using the data in Figure 1, the payoff to the variance buyer, from the variance swap, at the end of its life is closest to:

A. $526.

B. $21,000.

C. $800,000.

4. How many of Kaufman's comments regarding the payoff behavior of a variance swap are most accurate?

A. Zero.

B. One.

C. Two.

Case 10: Gari Dimeola Scenario

Gari Dimeola is an investment advisor specializing in derivatives strategies in equity, fixed income, and currency markets.

Dimeola is approached by his client, Ryan Karunathilike, for advice regarding option strategies. Karunathilike is a U.K. domiciled client who wants to hedge a short position in Euros (EUR) over the coming month. The current spot EUR/GBP exchange rate is 1.1523. Dimeola advises Karunathilike that he has three strategies using derivatives on the EUR/GBP exchange rate available to him, which are displayed in Figure 1.

| Figure 1: Hedging Strategies Recommended by Dimeola ||
Strategy	Position
1	Sell one month EUR/GBP forward
2	Buy one month GBP/EUR call option
3	Buy one-month EUR/GBP put option

Karunathilike asks Dimeola to review his existing options strategies. He presents the signs of the Greek exposures of his strategies as displayed in Figure 2.

| Figure 2: Greek Exposures of Dimeola's Existing Option Strategies |||||
Strategy	Delta	Gamma	Theta	Vega
A	Positive	Positive	Positive	Positive
B	Positive	Negative	Positive	Negative
C	Small	Negative	Positive	Negative

Karunathilike has identified a stock, GHS Corp., which historically has had options exhibiting a volatility skew. The options of GHS currently exhibit a volatility smile, and Karunathilike believes that within the next days implied volatility will revert back to a more usual profile. Karunathilike asks Dimeola to design an options strategy to allow him to profit from this view.

1. How many of the strategies in Figure 1 meet the objective of Karunathilike?
A. Zero.
B. Two.
C. All three.

2. Which of Karunathilike's options strategies in Figure 2 is most likely a short straddle position?
A. Strategy A.
B. Strategy B.
C. Strategy C.

3. Based on the Greek exposures displayed in Figure 2, Strategy B is most likely a:

A. short straddle.

B. short put.

C. bull spread.

4. The most appropriate options strategy, given Karunathilike's view on the implied volatility profile of GHS Corp, is to sell:

A. out-the-money calls and buy out-the-money puts.

B. out-the-money puts and buy in-the-money puts.

C. at-the-money calls and buy at-the-money puts.

.

Case 11: Upsala Asset Management Scenario

Albert Wulf, CFA, is a portfolio manager with Upsala Asset Management, a regional financial services firm that handles investments for small businesses in Northern Germany. For the most part, Wulf has been handling locally concentrated investments in European securities. Due to a lack of expertise in currency management, he works closely with James Bauer, a foreign exchange expert who manages international exposure in some of Upsala's portfolios. Both individuals are committed to managing portfolio assets within the guidelines of client investment policy statements.

To achieve global diversification, Wulf 's portfolio invests in securities from developed nations including the United States, Japan, and Great Britain. Due to recent currency market turmoil, translation risk has become a huge concern for Upsala's managers. The U.S. dollar has recently plummeted relative to the euro, while the Japanese yen and British pound have appreciated slightly relative to the euro. Wulf and Bauer meet to discuss hedging strategies that will hopefully mitigate some of the concerns regarding future currency fluctuations.

Wulf currently has a $1,000,000 investment in a U.S. oil and gas corporation. This position was taken with the expectation that demand for oil in the U.S. would increase sharply over the short-run. Wulf plans to exit this position 125 days from today. In order to hedge the currency exposure to the U.S. dollar, Bauer enters into a 90-day U.S. dollar futures contract, expiring in September. Bauer comments to Wulf that this futures contract guarantees that the portfolio will not take any unjustified risk in the volatile dollar.

Wulf recently started investing in securities from Japan. He has been particularly interested in the growth of technology firms in that country. Wulf decides to make an investment of ¥25,000,000 in a small technology enterprise that is in need of start-up capital. The spot exchange rate for the Japanese yen at the time of the investment is ¥135/€. Wulf also implements a cost-effective hedge structure using ¥/€ options that will completely eliminate the downside risk of his portfolio's exposure to the yen.

The exposure of Wulf 's portfolio to the British pound results from a 180-day pound-denominated investment of £5,000,000. The spot exchange rate for the British pound is £0.78/€. The value of the investment is expected to increase to £5,100,000 at the end of the180 day period. Bauer informs Wulf that due to the minimal expected exchange rate movement, it would be in the best interest of their clients, from a cost-benefit standpoint, to hedge only the principal of this investment. Unfortunately, the closest available contract match was a maturity of 270 days, so that was used for the hedge.

Before entering into currency futures and options contracts, Wulf and Bauer discuss the possibility of also hedging market risk due to changes in the value of the assets. Bauer suggests that in order to hedge against a possible loss in the value of an asset Wulf should short a given

foreign market index. Wulf is interested in executing index hedging strategies that are perfectly correlated with foreign investments. Bauer, however, cautions Wulf regarding the increase in trading costs that would result from these additional hedging activities.

1. Of the following cash management approaches, the one that best reflects Wulf and Bauer's currency management strategy is a:
A. strategic hedge ratio.
B. currency overlay.
C. separate asset allocation.

2. Regarding the U.S. investment in the oil and gas company, which of the following approaches would be best in eliminating potential basis risk?
A. When the 90-day futures contract expires, Bauer should enter into another 90-day contract to further hedge against any changes in the dollar relative to the euro.
B. Instead of the 90-day contract, Bauer should enter into a 180-day contract to cover the full 125-day period, which would eliminate additional transactions costs brought on by short-term contracts.
C. Despite the large amount of transaction costs, Bauer should continually adjust the hedge until the futures maturity equals the desired holding period.

3. The cost-effective hedge structure that Wulf implements for his portfolio's exposure to the yen is most likely to involve him buying:
A. an ATM call option and selling a 25-delta call option.
B. an ATM call option and selling a 25-delta put option.
C. a 25-delta call option and selling a 25-delta put option.

4. Is Bauer correct in stating to Wulf that put options provide a cheaper means of hedging than futures?
A. No, since Bauer is only concerned with unfavorable currency movements, futures would be cheaper.
B. No, despite being less liquid, futures are less expensive to use.
C. Yes, given that Bauer can choose to exercise the options or let them expire, options are cheaper since the payoff is only to one side.

5. Calculate the total rate of return that Wulf can expect from hedging the principal amount in the British denominated asset with currency futures. Assume that Bauer hedges the

principal by selling £5,000,000 in pound futures at £0.79/€ and the value of the investment is £5,100,000. When this hedge is lifted the futures rate is £0.785/€ and the spot rate is £0.75/€.

A. 6.08%.

B. 5.45%.

C. 2.00%.

6. Assuming Wulf and Bauer are successful in hedging both the foreign currency exposure and market risk exposure from the appreciation and depreciation of the asset, the expected return would be closest to:

A. zero, since all risks have been hedged.

B. the domestic risk-free rate.

C. the foreign risk-free rate.

5. SS7-8 Fixed income Portfolio Management

Case 1: Franconia Notch

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 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."

1. 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.

2. 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.

3. 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.

4. 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.

Case 2: Farro

Aina Farro and Aninda Kumar are portfolio managers at High Income Advisors, LLC (HIA), and an institutional fixed income firm based in Portsmouth, NH. Farro and Kumar manage credit portfolios for clients that include pension funds and endowments. HIA has been selected as one of three finalists to potentially manage a credit portfolio for the Delmarva City pension fund. They are making a presentation to Delmarva's investment committee, discussing HIA's investment process and trading strategies.

Farro begins the presentation by telling the investment committee that the firm's current macro view is the domestic economy is beginning to slow down given the sluggish global economic environment and, from a trading perspective, bid–ask spreads are widening.

She then begins to articulate HIA's broad capabilities in fixed income. She describes the firm's investment process using relative value as follows, "We employ a traditional portfolio construction process. Our approach is to use top-down analysis to drive asset allocation while the bottom-up component focuses on individual issuer and issue selection. Our goal with regard to relative value analysis is to identify the best values across spread sectors by ranking investments by sectors, structures, and issuers."

Nikki Winston, an investment committee member, asks Kumar to explain the various return measures contained in the presentation. Kumar responds, "In the context of a credit relative value framework, total return is often the goal of portfolio management and reflects gains and losses from both the movement of interest rates as well as the contraction and expansion of credit spreads. Excess returns refers to the credit component of total return without adjusting for the duration differential among asset classes. Relative value analysis is used to generate a ranking of expected returns during a future period of time. The analysis of expected returns is primarily focused on estimating future returns by de-composing historical patterns that are likely to recur."

Farro makes a statement regarding portfolio liquidity. "Our approach is to balance liquidity in the portfolio with the additional spread you get for holding less liquid issues. Since liquidity in the market varies over time, we monitor market conditions and position portfolios accordingly."

Gomes points out, "We are unsure of our cash flow needs but may need to redeem some portion of this portfolio in the near term."

1. Is Farro's description to the investment committee of traditional portfolio construction using relative value analysis most likely correct?

A. Yes.

B. No, she is incorrect with regards to approach.

C. No, she is incorrect with regards to relative value analysis.

2. Which return measure that Kumar explains to Winston is least likely defined correctly?

A. Total return

B. Excess return

C. Expected return

3. Which is the most likely portfolio management implication for Farro given Gomes' comments about liquidity? She will:

A. favor purchases of large corporate issues to private placements.

B. require a smaller liquidity premium when buying large medium-term notes.

C. ignore the liquidity premium for certain issues.

Case 3: Kingsbridge

London-based Kingsbridge Partners has been selected to manage a GBP150 million global bond portfolio for a pension fund. Jonathan Bixby, CFA, Kingsbridge's portfolio manager, meets with Iain Seymour, CFA, a fixed income analyst at the firm to review the portfolio and its holdings relative to the client's objectives.

The pension fund allows the use of 100% leverage to generate incremental returns. Bixby evaluates the use of leverage in the portfolio using the data in Exhibit 1.

Exhibit 1		
	Assets	**Liabilities**
Portfolio (GBP millions)	300	150
Duration	5.50	1.00
Expected Return or Cost (%)	4.75	3.95

Bixby's current macro view is that the economy is growing at a rate above the trend rate and, as a result, interest rates are likely to rise. Given his view, he is concerned the duration of the portfolio is inappropriate and plans to use the futures market to manage its interest rate risk. His new duration target for the asset portfolio is 4.25, and he uses the data in Exhibit 2 to reposition the portfolio.

Exhibit 2	
Futures Market Data	
Futures Contract Price	GBP100,500
Conversion Factor	1.12
Duration of Cheapest to Deliver Bond	5.3
Price of Cheapest to Deliver Bond	GBP97,750

Seymour suggests to Bixby that as an alternative to futures he could use interest rate swaps or options to alter the portfolio's duration. He says he can alter the duration by receiving fixed and paying floating on a swap. Seymour also suggests that buying a protective put will achieve the hedging objective but provides more upside if Bixby is wrong about the future direction of interest rates. He says Bixby can also express his view by writing a covered call and not incur the cost of the premium.

Bixby asks Seymour whether the model portfolio should be hedged back to its domestic currency, the pound sterling (GBP). Bixby tells him that actively managing currency risk is an expected source of incremental returns for the portfolio and has historically accounted for 25% of Kingsbridge's alpha relative to the benchmark.

Seymour refers to the data in Exhibit 4 to support his current view that currency exposure in the portfolio should be actively managed.

Exhibit 4

Currency Market Data			
	United States	**Eurozone**	**United Kingdom**
Risk free rate – One Year	0.25%	1.50%	0.90%
Spot rate (GBP per USD or EUR)	0.6098	0.8929	—
Forward rate (GBP per USD or EUR)	0.6137	0.8875	—
Kingsbridge forecast spot rate in 1 year	0.6173	0.8850	—

1. Based on the data in Exhibit 1, the duration of equity in the leveraged portfolio is closest to:
A. 4.50.
B. 5.00.
C. 10.00.

2. Given Bixby's new target duration and the data in Exhibits 1 and 2, the most appropriate action using Treasury futures is to sell:
A. 646 contracts.
B. 789 contracts.
C. 811 contracts.

3. Which of Seymour's comments regarding alternative ways to alter the portfolio's duration is most likely correct? The comment regarding:
A. interest rate swaps.
B. a protective put.
C. the covered call.

4. Based on the data in Exhibit 4, the most likely action that Kingsbridge would take to actively manage the portfolio's currency exposure in the currency forward markets is to sell:
A. USD and buy EUR.
B. EUR and buy USD.
C. USD, sell EUR, and buy GBP.

Case 4: Chesapeake Partners

Virginia Norfolk, CFA, is head of the client strategy committee at Chesapeake Partners, LLC, an investment consulting firm. Chesapeake advises a diverse client base on a variety of investment matters including asset allocation and manager selection. Each month the committee meets to discuss client inquiries and assignments the consultants are working on. Norfolk convenes the committee to discuss pressing issues for several clients.

Norfolk asks William Burg, a field consultant, to present on a new client, a small college that Chesapeake advises with regard to their pension fund and endowment. Burg needs to recommend to the client an appropriate benchmark for each fund. Burg tells the committee, "I recommend that the pension fund benchmark be changed from the pension's liabilities as the benchmark to a bond market index. The pension is closed to new participants and thus the amount and timing of future cash flows are known. The endowment is invested across many asset classes and generate an adequate return to meet its obligations, which consists of a 5% annual contribution to the college's operating fund. The endowment's benchmark for fixed-income managers should continue to be a bond market index, such as Barclays Aggregate Bond Index."

Alex Manassas, a committee member, asks Burg, "What factors do you consider in selecting a benchmark bond index?" Burg responds, "I look at three key factors when selecting a benchmark. Market value risk should be similar for the portfolio and the benchmark. The longer the duration, the greater the total return potential because rates are low now and the yield curve is so steep. Income risk is important for comparable assured income streams, which can be more stable and dependable in a portfolio with long maturities. The average credit risk in the benchmark should be measured against the investor's overall portfolio and satisfy credit quality constraints in the policy statement."

Boris Markov, CFA, is the firm's actuary and expert on asset liability management. His client is a life insurance company that sells guaranteed investment contracts (GICs). The company hired Chesapeake because it has not met the target yield of 4% on the GICs it sold. Markov proposes a new approach to satisfy the obligation: "First, the new single-period immunization strategy should require as a minimum condition that the duration of the bond portfolio equal the investment horizon. In addition, if the bond portfolio has a yield to maturity equal to the target yield and a maturity equal to the investment horizon, then the target value will be achieved".

Juan Ramirez, CFA, Chesapeake's chief investment officer, brings forward to the committee two investment issues that he would like to discuss. Ramirez tells the committee, "Some of our client's portfolios are for the purpose of funding liabilities, and I am concerned that these liabilities will not be met, given certain risks. In particular, I have noticed that client portfolios have a substantial position in mortgaged-backed securities. We should reallocate these securities

to invest in corporate bonds so the portfolio's convexity matches that of the liabilities."

Ramirez then presents the committee with the second investment issue. He is focused on a presentation that Alpha Managers, an investment firm that hopes to make it onto Chesapeake's "buy list," made recently. He tells the committee, "I am perplexed by the bottom-up capability that Alpha claims to have in adding value to portfolios. They claim to have a bias to yield maximization across securities without regard to rating differentials."

1. Is Burg correct with regard to his recommendations to the committee regarding benchmarks for the pension and endowment respectively?
A. Pension: Correct, Endowment: Correct
B. Pension: Incorrect, Endowment: Correct
C. Pension: Correct, Endowment: Incorrect

2. Burg's statement regarding the factors he uses in selecting a benchmark bond index is most likely:
A. correct regarding market risk and incorrect regarding income risk.
B. incorrect regarding credit risk and incorrect regarding market risk.
C. incorrect regarding market risk and correct regarding income risk.

3. Is Markov correct regarding the necessary conditions to immunize the GIC portfolio for his client?
A. No, he is incorrect regarding the bond portfolio characteristics
B. No, he is incorrect regarding duration
C. Yes

4. The risk that Ramirez notes is prevalent in client portfolios is most likely:
A. interest rate risk.
B. contingent claim risk.
C. cap risk.

5. Ramirez most likely criticizes the relative-value methodology that Alpha uses to add value because:
A. it better reflects a top-down approach to portfolio management.
B. a total return approach is a far superior framework.
C. it better reflects a structure trade.

Case 5: Laredo Advisers

Tyler Austin is a fixed-income portfolio manager at Laredo Advisers. He manages a $1 billion fund that opportunistically seeks the best ideas across fixed-income markets. He meets daily with Odessa Houston, the fund's senior analyst to discuss trade ideas that might be implemented that day. Austin has identified six ideas that he would like Houston to evaluate in more detail for potential inclusion in the fund.

Austin notes that the current low level of interest rates is limiting the potential absolute return the fund generates. He asks Houston to evaluate the use of leverage to enhance returns. He can borrow 25% of the fund's value at an annual interest rate of 1.50% and earn a rate of return of 5% per year on the invested funds.

Austin also asks Houston whether the euro-denominated bonds they buy should be hedged back to the US dollar, the fund's domestic currency. Houston responds that they should hedge back to the US dollar because short-term interest rates are 2.50% in the eurozone and 0.25% in the United States, and her forecast shows that she expects the euro to depreciate by 1.75% relative to the US dollar.

1. If Austin uses leverage as he proposes, the rate of return on the portfolio's equity will be closest to:
A. 4.70%.
B. 6.25%.
C. 5.88%.

2. Based on Houston's forecast for the euro relative to the US dollar, and assuming interest rate parity holds, should Austin most likely hedge the portfolio's euro exposure using forward contracts?
A. No, because the euro is expected to depreciate by more than implied by the forward contracts
B. Yes
C. No, because the euro is expected to depreciate by less than implied by the forward contracts

Case 6: Andres Rioja

Andres Rioja is the treasurer of Empresas Crianza. His duties have recently been expanded to include oversight of the firm's pension fund. Given his limited experience in overseeing investments, he is relying on an outside consultant. Rioja prepares a number of questions for his first meeting with the consultant, Manolo Priorat of Consulta Jerez.

Priorat starts the meeting by summarizing for Rioja the status of the defined benefit pension plan and makes the following statement:

The pension liability has a duration of 14 years and a present value of $4 billion. The liabilities are discounted using the spot rate on high-quality long-term corporate bonds. Presently, the asset portfolio covers 87.5% of these liabilities and is invested entirely in fixed-income assets. The plan assets have fallen short of the pension liabilities over the past five years because their durations are not properly matched. I am concerned that Crianza has selected the wrong benchmark for the pension plan. The current benchmark is a weighted average of the benchmarks for the various strategies used in the investment of pension assets. I believe the appropriate benchmark should be the liability itself.

Priorat and Rioja review the fixed-income funds in which the pension assets are currently invested. Portfolio managers have been given the mandate to meet or exceed their respective benchmarks based on their investment styles. Details of the various portfolios are provided in Exhibit 1.

Exhibit 1				
Portfolio Information				
Portfolio	**Duration (years)**	**Asset Value ($ thousands)**	**Benchmark**	**Investment Style**
Money market	0.25	175,000	3-Month US T-Bill	Active management
Mortgage-backed securities fund	3	700,000	Barclays Mortgage	Enhanced indexing
Emerging market bond fund	4.6	675,000	JP Morgan EMBI	Active management
Long corporate bond fund	14	1,575,000	Barclays Long Corporate	Active management
Treasury bond STRIPs	24	375,000	Barclays 20+Year STRIP	Pure bond indexing

Rioja updates Priorat on Crianza's current plans for the pension plan. Rioja states: "Crianza will make a $500 million contribution to fully fund the plan and invest the funds in Treasury STRIPs. In addition, we would like to completely reallocate pension investments away from the fund that presents the greatest contingent claim risk and into the long corporate bond fund."

Rioja then asks Priorat, "I would like to understand the risk profile of each index benchmark we

have assigned to the portfolio managers. What measures are available to do this?" Priorat responds,

There are several key measures that come to mind. Effective duration measures the sensitivity of the index's price to a relatively small parallel shift in interest rates. For large non-parallel changes in interest rates, a convexity adjustment is used to improve the accuracy of the index's estimated price change. Key rate duration measures the effect of shifts in key points along the yield curve. Key rate durations are particularly useful for determining the relative attractiveness of various portfolio strategies, such as bullet strategies versus barbell strategies. Spread duration describes how a non-Treasury security's price will change as a result of the widening or narrowing of the spread contribution.

1. Is Priorat's statement with regard to selecting a benchmark for the pension plan most likely correct?
A. No, because Crianza should select a high-quality long-term corporate bond index as the benchmark
B. Yes
C. No, because the current benchmark is appropriate to measure each strategy's performance

2. For which portfolio in Exhibit 1 is a sampling approach most likely to be used in an attempt to match the primary index risk factors?
A. Treasury STRIPs
B. Emerging market bond fund
C. Mortgage-backed securities fund

3. If Rioja rebalances the portfolio as he proposes in his statement to Priorat, the dollar duration of the assets relative to the dollar duration of the liabilities is most likely to:
A. fall well short.
B. be nearly matched.
C. be far exceeded.

4. In Priorat's response to Rioja regarding the explanation of key measures of an index's profile, he is most likely correct regarding:
A. convexity adjustment and incorrect regarding key rate duration.
B. key rate duration and incorrect regarding convexity adjustment.
C. spread duration and incorrect regarding effective duration.

Case 7: Midwest

Erik Smith, CFA, is director of investments for Midwest Industries' pension fund. He is meeting with James Brown, ASA, his actuary, and Paul Jones, CFA, an investment consultant, to discuss changes to the fund's management and asset allocation. Brown makes the following statement regarding Midwest's pension plan:

Discounting the projected benefit cash flows using a market-based discount rate of 6.2%, I find that the present value of Midwest's pension fund is $1 billion. The fund's duration is 12, and the plan assets currently cover 100% of this liability. Because the objective is primarily to meet these liabilities and we are using market rates as the discount rate, we should select a bond market index as the benchmark.

Jones offers his opinion on the appropriate investment strategy for the pension fund:

I believe that an immunization strategy that meets multiple liabilities is the best strategy. For multiple liability immunization, the necessary and sufficient conditions are: (1) the duration of the portfolio must equal the duration of the weighted average liabilities and (2) the distribution of durations of individual portfolio assets must have a wider range than the distribution of the liabilities. This strategy will not require us to rebalance the portfolio if interest rates change.

Smith expresses some concerns about immunization as a strategy:

Even if immunization minimizes risk, it assumes that the yield curve shifts in a parallel fashion, which is not what I have observed in the market. In addition, with immunization, the ability to earn some incremental return to offset additional benefit requirements is not possible.

Jones then comments on the portfolio holdings:

The current portfolio contains 40% in mortgage-backed securities (MBS), which present certain risks when immunizing a portfolio. These securities have market values that are below their purchase prices, and I am reluctant to recommend a sale in which we have to recognize a loss.

The discussion progresses to the implementation of an investment strategy. Brown presents several alternative portfolios that could be used to implement this strategy. Before presenting the portfolios, he states:

Although the pension fund is currently fully funded, I am concerned that future service benefits are not covered unless we make additional contributions. We should evaluate the following alternative portfolios to determine which one best addresses this concern while covering the liability's market-related exposures.

Portfolio A: The fixed-income assets will closely mimic the liabilities with regard to both expected return and variability. This portfolio is a low-risk strategy to meet our objectives.

Portfolio B: This portfolio hedges uncompensated liability risks, such as interest rate risk, with derivatives. This approach would free up capital to invest in higher-returning assets, such as equities and bonds.

Portfolio C: This portfolio has a traditional mix of securities, with 60% in equities and the remainder in medium-duration bonds, but does not fully hedge interest rate risk.

Smith is not completely convinced that the portfolio choices offer the right approach for the pension fund, and he offers the following alternative:

I believe cash flow matching is a superior strategy. It allows funds to be available when each liability is due and requires less cash to fund liabilities. A conservative interest rate assumption for cash must be made throughout the life of the plan.

1. Based on Midwest's stated objective, has Brown recommended the most appropriate benchmark?
A. No, because the liability itself is the benchmark
B. No, because the benchmark should contain a broader universe of asset classes
C. Yes

2. Jones's opinion of the appropriate investment strategy for the pension fund is least likely correct with respect to:
A. rebalancing the portfolio under certain conditions.
B. the distribution of durations.
C. matching durations.

3. Smith's concerns regarding immunization as a strategy are best addressed by:
A. decreasing the dispersion of cash flows around the horizon date.
B. matching assets to liabilities by using functional duration and targeting a cushion spread.
C. increasing the dispersion of cash flows around the horizon date and targeting a cushion spread.

4. The risk specific to MBS that Jones is most likely concerned about is:
A. interest rate risk.
B. contingent claim risk.
C. cap risk.

5. Based on Brown's concerns regarding future benefits, which portfolio is the most appropriate?
A. Portfolio C
B. Portfolio B
C. Portfolio A

6. Is Smith's assertion about cash flow matching most likely correct?

A. No, he is incorrect regarding the interest rate assumption.

B. Yes.

C. No, he is incorrect regarding cash balances.

Case 8: Berg

Alpha Consultants is working with the German-based Berg Pension Fund to select a fixed-income firm to manage a €100 million global bond portfolio. Delta Managers is the third and final presenter to Berg's investment committee. After going through its investment philosophy and process, Delta addresses several questions.

Alpha expresses concern about the use of leverage in the portfolio. Delta indicates that by using 100% leverage, it can generate incremental returns. Delta provides the committee with the portfolio's characteristics in Exhibit 1.

Exhibit 1		
Portfolio Characteristics		
	Assets	**Liabilities**
Portfolio (€ millions)	200	100
Duration	6	1
Expected return (%)	5.5	—
Interest rate on borrowed funds (%)	—	4.75

Berg's committee is concerned that the portfolio's duration is inappropriate given the committee's view that rates might rise. They ask how Delta can use the futures market to manage the portfolio's interest rate risk. The committee states that it would like a target duration of 4.

Exhibit 2	
Futures Market Data	
Futures contract price	€ 100,000
Conversion factor	1.15
Duration of cheapest-to-deliver bond	5.2
Market price of cheapest-to-deliver bond	€ 98,000

Delta then makes the following statement to the committee:

Berg's committee then asks Delta to make a recommendation about whether the portfolio should be hedged back to the euro, its domestic currency. Delta responds that short interest rates are currently 2.50% in the United Kingdom and 3.25% in Germany and that Delta's currency strategists forecast that the euro will depreciate by 0.35%.

Berg's committee then asks whether a global portfolio would benefit from the inclusion of emerging market debt. Delta responds that returns can be attractive in emerging markets during certain periods but that the following risks of this asset class must be understood:

Risk 1: Returns are frequently characterized by substantial positive skewness.

Risk 2: If a default of sovereign debt occurs, recovery against sovereign states can be difficult.

Risk 3: The frequency of default and ratings transition is significantly higher than it is in

developed market corporate bonds with similar ratings.

At the conclusion of the presentation, Alpha and Berg's committee convene to discuss which of the three managers that presented should be selected for the €100 million mandate. Alpha advises Berg that the following considerations are important when evaluating fixed-income portfolio managers:

Criterion 1: Style analysis will enable us to understand the active risks the manager has taken relative to the benchmark and which biases have consistently added to performance.

Criterion 2: Decomposing the portfolio's historical returns will show whether the manager's skills will allow the manager to consistently outperform over time.

Criterion 3: We could select two of the three managers that presented if our analysis shows that the correlation between their alphas is low.

1. Based on Exhibit 1, the duration of the equity in the leveraged portfolio is closest to:
A. 5.00.
B. 11.00.
C. 5.50.

2. Based on Exhibits 1 and 2, and assuming no leverage is used, the number of futures contracts Delta needs to sell to achieve the Berg committee's target duration is closest to:
A. 682.
B. 784.
C. 902.

3. Based on Delta's expectations regarding currencies, and assuming that interest rate parity holds, should Delta most likely recommend using forward contracts to hedge the portfolio's British pound exposure?
A. No, because the euro is expected to depreciate by more than 0.35%
B. Yes
C. No, because the euro is expected to appreciate by more than 0.35%

4. Delta is least likely correct with respect to which risk of investing in emerging market debt?
A. Risk 1
B. Risk 2
C. Risk 3

5. Which of the criteria outlined by Alpha is least accurate with respect to the selection of a

fixed-income manager?

A. Criterion 1
B. Criterion 2
C. Criterion 3

Case 9: Aina Monts

Aina Monts, CFA, is a fixed income portfolio manager at Girona Advisors. She has been awarded the management of a €150 million portfolio for Fondo de Pensiones Lerida, a pension fund based in Barcelona, Spain. The previous manager was fired for underperforming the benchmark by more than 100 basis points in each of the last three years. Lerida's primary objective is to immunize its liabilities, which have a duration of 4.40 years, while achieving a total rate of return in excess of the Barclays Capital U.S. Aggregate Bond Index. The benchmark's duration is currently 4.42 years. At Girona's portfolio review meeting, Monts makes the following statement:

Statement 1: "We will invest the €150 million in a multi-sector portfolio with a yield-to-maturity of 6.75%. This is above Lerida's required rate of return of 6.25%. The duration of the portfolio will be equal to the duration of the liabilities and we will manage the portfolio with an expectation of beating the Barclays Capital U.S. Aggregate Bond Index."

Monts will rebalance the portfolio by investing in securities that her research group has identified as providing the most attractive total return potential. Sector allocations for her portfolio and the benchmark, are presented in Exhibit 2.

Exhibit 2						
Sector Weightings						
	Portfolio			**Benchmark**		
Sector	**% of Portfolio**	**Duration**	**Contribution to Spread Duration**	**% of Portfolio**	**Duration**	**Contribution to Spread Duration**
Treasury	27.92	5.0	0.00	30.00	3.8	0.00
Mortgage - MBS	24.76	3.7	0.92	22.90	4.0	0.92
Corporate	47.32	4.5	2.13	47.10	5.0	2.37
Total	100.00		3.05	100.00		3.29

Monts also uses security selection in addition to sector rotation as sources of alpha and is evaluating several new trades. At the portfolio review meeting, Monts makes the following statements:

Statement 2: "I am concerned that certain types of securities in the portfolio pose a risk of not providing sufficient cash flow to pay liabilities when they come due. The allocation to mortgage-backed securities in the portfolio, for instance, exposes us to contingent claims risk. We should therefore increase the allocation to non-callable fixed-rate corporate bonds, which do not expose us to contingent claims risk."

Statement 3: "Our research team anticipates that the credit fundamentals of most issuers will deteriorate over the coming months as the economy contracts. The market

consensus is not in line with our view yet and spreads do not reflect the proper valuation."

Statement 4: "Structural analysis of corporate bonds is a key part of our research process. Given Girona's view that interest rates are in secular decline, we expect callable bonds to outperform bullets. In the event interest rates rise sharply, put structures will provide investors with some protection."

1. Based on Monts' Statement 1, the extension of classical immunization theory that Monts will use to meet Lerida's investment objective is best described as:
A. contingent immunization.
B. symmetric cash flow matching.
C. multiple liability immunization.

2. Based on the data in Exhibit 2, Mont's positioning of the portfolio would suggest that the sector that poses the most tracking error relative to the benchmark is:
A. treasury.
B. mortgage.
C. corporate.

3. Is Mont's Statement 2 mostly likely correct?
A. Yes.
B. No, she is incorrect about corporate bonds.
C. No, she is incorrect about mortgage-backed securities.

4. The strategy that is most likely to benefit from the environment described by Monts in Statement 3 is to:
A. increase exposure to the crossover sector.
B. rotate from consumer non-cyclical to consumer cyclical sectors.
C. shift the portfolio's positions to shorter duration corporate bonds.

5. Is Monts' Statement 4 most likely correct?
A. Yes.
B. No, because callable bonds would underperform.
C. No, because putable bonds would not provide protection.

Case 10: Mike Spong

Jennifer Simko's fixed income portfolio has underperformed its benchmark, the Barclays Capital Aggregate Bond Index. Simko has asked her investment advisor, Mike Spong, to recommend a new fixed income manager. Spong has selected three fixed income portfolio managers for Simko to consider:

- Mondavi Investment Partners

- Smithers Associates

- Vertex Group

Selected characteristics for each manager's portfolio are provided in Exhibit 1.

Exhibit 1								
Selected Portfolio Characteristics for the Benchmark Portfolio and Three Potential Fixed Income Managers, December 2009								
	Percent of Market Value				Contribution to Spread Duration			
Sector	Benchmark	Mondavi	Smithers	Vertex	Benchmark	Mondavi	Smithers	Vertex
Treasury	25	25	20	15	0.0	0.0	0.0	0.0
Agency	11	11	11	0	0.4	0.4	0.4	0.0
Credit	25	25	30	24	1.4	1.4	1.6	1.1
Mortgage	34	34	35	43	1.5	1.5	1.6	1.7
Asset-backed	2	2	0	2	0.0	0.0	0.0	0.2
CMBS	3	3	4	8	0.1	0.1	0.1	0.5
Cash	0	0	0	8	0.0	0.0	0.0	0.0
Total	100	100	100	100	3.4	3.4	3.7	3.5

Note that in Exhibit 1, the portfolio duration for the benchmark, Mondavi Investment Partners and Smithers Associates portfolios is 4.7. Portfolio duration for Vertex Group is 4.3.

Spong makes the following statements to Simko regarding Exhibit 1:

1. "Mondavi follows a full-replication approach where portfolio performance will match the fixed income benchmark's performance. Mondavi's portfolio sector weights, duration, convexity, and term structure match those of the benchmark. Smithers's portfolio characteristics do not match the benchmark's because Smithers has minor risk factor mismatches with the benchmark."

2. "Vertex's strategy is to construct a portfolio that has significant mismatches with the benchmark with respect to duration, key rate duration, and sector allocations. Vertex also relies on proprietary interest rate forecast models to generate superior portfolio returns. Vertex's objectives are to ensure that tracking risk is minimized and portfolio return exceeds benchmark return."

3. "Vertex also positions the portfolio to reflect the firm's opinions on the direction of

interest rates and credit spreads. Over the next six months Vertex is forecasting:

- ➢ low and stable implied interest rate volatility,
- ➢ spreads to narrow in all other spread sectors,
- ➢ a positively sloped yield curve with short rates rising 25 basis points and long rates rising by about 75 basis points."

1. Based on Exhibit 1 and Statement 1, Smithers's investment strategy is best described as:
A. pure bond indexing
B. enhanced indexing.
C. active management.

2. Based on Exhibit 1 and Statement 1, one disadvantage of the investment strategy followed by Mondavi is that the portfolio will most likely:
A. be expensive to construct.
B. result in a poorly diversified portfolio.
C. have higher advisory and non-advisory fees.

3. In Statement 2, are Vertex's objectives with regard to tracking risk and portfolio return consistent with its strategy?
A. Yes.
B. No, the objective regarding tracking risk is inconsistent with its strategy.
C. No, the objective regarding portfolio return is inconsistent with its strategy.

4. Given Vertex's interest rate volatility and yield curve forecasts in Statement 3, compared to bullet structures, callable structures and putable structures, respectively, will most likely:

	Callable Structures	Putable Structures
A.	underperform	outperform
B.	outperform	underperform
C.	outperform	outperform

5. Given Vertex's forecasts in Statement 3, the most appropriate strategy for Vertex is to:
A. lengthen duration in all spread sectors.
B. lengthen duration in the credit sector and shorten it in the Treasury sector.
C. shorten duration in the credit sector and lengthen it in the Treasury sector.

Case 11: Allied Advisors

The Flagstone College endowment fund recently received a significant donation and has decided to allocate the new funds to fixed income. Flagstone selected Allied Advisors to manage the fixed income portfolio and is currently evaluating Allied's recommendations on structuring the portfolio. Greg Thorne, fixed income portfolio manager with Allied Advisors, is meeting with the endowment fund's trustees. Jerome Moir, a trustee, makes the following statements:

Statement 1: "We want to use portfolio returns to fund as many scholarships as possible; the endowment fund has no specific liabilities to meet."

Statement 2: "The endowment fund's investment policy statement indicates a medium term time horizon and seeks to avoid capital losses."

Thorne responds: "Irrespective of whether you have specific liabilities to meet, a bond market index must be selected that will serve as a benchmark."

Thorne then presents the trustees with four benchmarks that could be used to evaluate the performance of a fixed income portfolio. The characteristics of the benchmarks are outlined in Exhibit 1.

Exhibit 1		
Fixed Income Benchmark Indices		
Benchmark Index	**Duration**	**Bond Sectors Represented**
Barclays 1-3 year Government / Corporate	1.8	Investment grade corporate and U.S. Treasury
Barclays Aggregate	4.9	Investment grade corporate, ABS, MBS, U.S. Treasury
Barclays U.S. High Yield	4.8	Corporate below investment grade
Barclays Long Government / Corporate	8.7	Investment grade corporate and U.S. Treasury

Moir asks Thorne to present the historical performance of one of Allied's portfolios relative to the benchmark index. Thorne's comparison is shown in Exhibit 2.

Exhibit 2		
Allied Representative Portfolio vs. Benchmark		
Year	**Portfolio Return***	**Benchmark Return**
2004	9.70%	9.40%
2005	-3.50%	-3.75%
2006	5.40%	6.00%
2007	0.75%	1.00%
2008	6.95%	6.25%
*Returns are net of management fees of 0.15% annually.		

Moir also is interested in the risks that Allied takes in spread sectors. He asks for additional information on the amount of spread risk in Allied's portfolio relative to the benchmark. Thorne responds with the information shown in Exhibit 3.

Exhibit 3				
Contribution to Spread Duration				
	Portfolio		**Benchmark**	
Sector	**% of Portfolio**	**Contribution to Spread Duration**	**% of Portfolio**	**Contribution to Spread Duration**
Treasury	44.0	0.0	45.0	0.0
Corporate	22.5	1.96	23.0	1.38
Mortgage	14.0	0.42	17.0	0.53
Asset backed	19.5	0.49	15.0	0.40
Total	100.0	2.87	100.0	2.31

Moir then asks Thorne for his interest rate forecast for the coming year. Thorne responds, "At Allied we expect long rates to underperform short rates causing a twist in the yield curve."

1. Is Thorne's statement regarding the selection of a bond market index as a benchmark most likely correct?

A. Yes

B. No, because if the portfolio has a liability to meet, then the liability becomes the benchmark

C. No, because the selection of a bond market index is only required if a full-blown active management strategy is followed

2. Based on Statement 2 made by Moir and the information presented in Exhibit 1, the most appropriate benchmark for Flagstone's endowment fund is the:

A. Barclays Aggregate.

B. Barclays U.S. High Yield.

C. Barclays 1-3 year Government/Corporate.

3. The strategy of the portfolio whose returns and risk characteristics are presented in Exhibits 2 and 3 is best described as:

A. enhanced indexing by minor risk factor mismatches.

B. active management by larger risk factor mismatches.

C. enhanced indexing by matching primary risk factors.

4. Given the information in Exhibit 3, a mismatch of risk exposures between the portfolio and the benchmark should most likely be attributed to the:

A. mortgage sector.

B. corporate sector.

C.   asset backed sector.

5.   Given Thorne's interest rate forecast, which method for managing interest rate risk relative to the benchmark will be most effective?

A.   Key rate duration

B.   Effective duration

C.   Convexity adjustment

Case 12: Robert Waterman

Robert Waterman, CFA, and Sophia Chen, CFA, are portfolio managers of a U.S-based investment firm, Simon Fraser Analytics. Waterman and Chen are thinking investing in U.S. and U.K bonds. They consider all kinds of yield curve and other strategies. Exhibit 1 shows the data they collected from the liquid government bonds on U.S and U.K market.

Exhibit 1. Government Bonds Yield.

Duration	United States	United Kingdom
0.9	0.5%	1.00%
1.9	0.8%	1.70%
3.0	1.00%	2.00%
4.1	1.10%	2.10%
4.9	1.20%	2.20%
5.8	1.25%	2.25%

Also both of them are interested in:

1. Riding the yield curve over next year

2. Long or short call and/or put options on U.K. government bonds through purchasing convexity

3. Carrying out a carry trade between U.S and U.K 3-year duration bonds.

Waterman and Chen consider to buy a bond issued by a Norwegian BeeBalm Manufacture firm. Exhibit 2 shows their expectation.

Exhibit 2. BeeBalm Manufacture firm bond data

Risk free rate in Norway	2.8%
Risk free rate in U.S.	0.50%
Return on BeeBalm bond in Norwegian NOK	7.00%
Expected changes in the NOK relative to the U.S. dollar	-0.40%

According to their market expectation, they decide to hedge the NOK currency risk with a one-year forward contract after investing in the BeeBalm bond. However, they find that market has become inactive resulting in high transaction costs. There is a more active forward market for the Swedish currency (SEK), so they determine to construct a cross hedge by selling the SEK forward to buy the USD.

Lastly, Waterman and Chen think about to purchase a BB-rated U.S. corporate bond with a duration of 3.5 and a yield of 3.7%. While they do not agree on the best way to measure the credit spread, they both agree its credit will improve and spread will narrow down.

- Waterman says we can use Exhibit 1 to calculate the G-spread of the U.S. bond as being 3.64%

- Chen says the I-spread is superior because it is based on swap fixed rates and these have less credit risk.

- Chen also admit that G-spread has an advantage because it is the return we can expect to earn if we hedge interest rate risk.

1. Based on the data presented, it is more likely correct to say a "riding the yield curve" strategy:

A. Assumes the level of the yield curve will change.

B. Would be more profitable in the U.K than in the U.S.

C. Cannot work in the U.S. yield curve environment.

2. Buying convexity will most likely:

A. involve increasing the portfolio's yield.

B. require selling calls but not puts.

C. require buying both calls and puts.

3. Based on the data presented, it is most correct to say the carry trade:

A. Involves borrowing in the U.S. and investing in the U.K.

B. Does best when interest rate parity correctly predicts the change in value of currencies.

C. Would perform better if U.S. rates decrease and U.K. interest rates increase.

4. Based on the data in Exhibit 2, should the BeeBalm Manufacture bond be hedged against currency risk and what is the hedged return?

A. No, the hedge return is 4.70%

B. No, the hedge return is 6.60%

C. Yes, the hedge return is 6.60%

5. In order for the cross hedge of selling the SEK forward to work, the correlation of:

A. SEK and NOK must be high, approaching +1

B. SEK and USD must be high, approaching +1

C. Both the SEK and NOK must be highly correlated to the USD, approaching +1

6. Regarding their statements concerning the spread for the BB-rated U.S. corporate bond, the most correct statement is :

A. Waterman's comment on G-spread.

B. Chen's comment on I-spread.

C. Chen's comment on G-spread.

6. SS9-10 Equity portfolio management

Case 1: William Pugh

William Pugh is a portfolio manager for the pension plan of the FMJ Corporation. Pugh is evaluating portfolio managers for the pension plan.

PMA Asset Management follows a passive investment strategy that is implemented using ETF's rather than conventional mutual funds. PMA proposes to offer a new index portfolio that reflects the Russell 2000 small-cap value index. PMA indicates that the technique used to construct the new index portfolio assumes that the factors used to explain stock returns are uncorrelated.

ASM Partners is an active manager. A common strategy that ASM implements is a pairs trade where they take equal long and short positions in two common stocks in a single industry. These positions are constructed so that they have no correlation with equity market returns.

CKI Financial Advisors also follows an active portfolio strategy. A portfolio analysis for CKI is provided below in Exhibit 1.

Exhibit 1 Portfolio Analysis for CKI		
	Portfolio	**Benchmark**
Number of Stocks	25	700
Weighted Average Market Cap	$25 billion	$50 billion
Dividend Yield	3.7%	1.8%
P/E	12	22
P/B	1.2	2.5
Projected EPS growth	8%	13%

1. The most appropriate technique for constructing PMA's new portfolio is:

A. optimization.

B. full-replication.

C. stratified sampling.

2. Relative to a long-only strategy, the expected alpha of ASM Partners' investment strategy is most likely:

A. half.

B. twice.

C. similar.

3. Based on the information presented in Exhibit 1, CKI Financial Advisors most likely follows a:

A. value strategy.

B. growth strategy.

C. market-oriented strategy.

Case 2: Bobby Sarkar

Bobby Sarkar is a senior consultant with Experian Financial Consultants (EFC), an investment advisory firm based in Cambridge, Massachusetts. EFC provides a range of consulting services including advice on investment strategy and selection of money managers. Currently, Sarkar is working with three clients: 1) Hayes University Endowment, 2) Bayside Foundation, and 3) Daniels Corporation Pension Plan.

Bayside Foundation

The investment policy committee for Bayside Foundation follows a fairly conservative investment strategy and pays particular attention to the minimization of tracking error. Bayside seeks to achieve two specific objectives:

Objective 1

Invest a portion of the portfolio in an index with a large cap bias. In addition to minimizing tracking error, Bayside would also like to ensure that the index strategy involves minimal rebalancing costs.

Objective 2

Allocate another portion of the portfolio so that it earns alpha associated with small cap stocks but without the associated small cap market beta exposure.

Daniels Corporation Pension Plan

Daniels Corporation wishes to allocate a portion of its pension portfolio to an active money manager with a value investment style. Sarkar has collected information on three active portfolio managers and will recommend one of them to Daniels. Selected information for the three managers is presented below in Exhibit 1.

Exhibit 1			
Investment Manager Data; December 31, 2009			
	Manage A	**Manager B**	**Manager C**
Assets under management ($ millions)	2,876	3,752	4,619
P/E	8.7	17.5	23.1
Dividend yield	3.50%	1.70%	1.00%
EPS growth (5-year projected)	6.75%	5.25%	14.50%
Portfolio active return	3.50%	3.00%	4.30%
Portfolio tracking risk	5.00%	1.50%	6.00%
Style fit	87.00%	95.00%	85.00%

1. The type of index that would most likely help Bayside Foundation achieve Objective 1 is a:
A. price-weighted index.
B. value-weighted index.

C. equal-weighted index.

2. The most appropriate manner for Bayside to achieve Objective 2 is to invest in small cap stocks using a:

A. long-only strategy.

B. short extension strategy.

C. market-neutral long-short strategy.

3. Based on the information presented in Exhibit 1, Sarkar should recommend to the Daniels Corporation Pension Fund that the most appropriate manager to meet its investment objective is:

A. Manager A.

B. Manager B.

C. Manager C.

4. Based on Exhibit 1, which of the following sub styles is most consistent with Manager C's investment style?

A. Low P/E

B. High yield

C. Earnings momentum

Case 3: Monongahela Ap

Monongahela Ap is an equity fund analyst. His manager asks him to evaluate three actively managed equity funds from a single sponsor, Chiyodasenko Investment Corp. Ap's assessments of the funds based on assets under management (AUM), the three main building blocks of portfolio construction, and the funds' approaches to portfolio management are presented in Exhibit 1. Selected data for Fund 1 is presented in Exhibit 2.

Exhibit 1				
Ap's Assessments of Funds 1, 2, and 3				
Fund	**Fund Category**	**Fund Size (AUM)**	**Number of Securities**	**Description**
1	Small-cap stocks	Large	Small	Fund 1 focuses on skillfully timing exposures to factors, both rewarded and unrewarded, and to other asset classes. The fund's managers use timing skills to opportunistically shift their portfolio to capture returns from factors such as country, asset class, and sector. Fund 1 prefers to make large trades.
2	Large-cap stocks	Large	Large	Fund 2 holds a diversified portfolio and is concentrated in terms of factors. It targets individual securities that reflect the manager's view that growth firms will outperform value firms. Fund 2 builds up its positions slowly, using unlit venues when possible.
3	Small-cap stocks	Small	Large	Fund 3 holds a highly diversified portfolio. The fund's managers start by evaluating the risk and return characteristics of individual securities and then build their portfolio based on their stock-specific forecasts. Fund 3 prefers to make large trades.

Exhibit 2. Selected Data for Fund 1				
Factor	**Market**	**Size**	**Value**	**Momentum**
Coefficient	1.080	0.098	−0.401	0.034
Variance of the market factor return and	0.00109	0.00053	0.0002	−0.00025

covariances with the market factor return			2	
Portfolio's monthly standard deviation of returns				3.74%

Ap learns that Chiyodasenko has initiated a new equity fund. It is similar to Fund 1 but scales up active risk by doubling all of the active weights relative to Fund 1. The new fund aims to scale active return linearly with active risk, but implementation is problematic. Because of the cost and difficulty of borrowing some securities, the new fund cannot scale up its short positions to the same extent that it can scale up its long positions.

Ap reviews quarterly holdings reports for Fund 3. In comparing the two most recent quarterly reports, he notices differences in holdings that indicate that Fund 3 executed two trades, with each trade involving pairs of stocks. Initially, Fund 3 held active positions in two automobile stocks—one was overweight by 1 percentage point (pp), and the other was underweight by 1pp. Fund 3 traded back to benchmark weights on those two stocks. In the second trade, Fund 3 selected two different stocks that were held at benchmark weights, one energy stock and one financial stock. Fund 3 overweighted the energy stock by 1pp and underweighted the financial stock by 1pp.

In Fund 3's latest quarterly report, Ap reads that Fund 3 implemented a new formal risk control for its forecasting model that constrains the predicted return distribution so that no more than 60% of the deviations from the mean are negative.

1. Based on Exhibit 1, the main building block of portfolio construction on which Fund 1 focuses is most likely:
A.   alpha skills.
B.   position sizing.
C.   rewarded factor weightings.

2. Which fund in Exhibit 1 most likely follows a bottom-up approach?
A.   Fund 1
B.   Fund 2
C.   Fund 3

3. Which fund in Exhibit 1 most likely has the greatest implicit costs to implement its strategy?
A.   Fund 1
B.   Fund 2
C.   Fund 3

4. Based on Exhibit 2, the portion of total portfolio risk that is explained by the market factor in Fund 1's existing portfolio is closest to:

A. 3%.

B. 81%.

C. 87%.

5. Relative to Fund 1, Chiyodasenko's new equity fund will most likely exhibit a lower:

A. information ratio.

B. idiosyncratic risk.

C. collateral requirement.

6. As a result of Fund 3's two trades, the portfolio's active risk most likely:

A. decreased.

B. remained unchanged.

C. increased.

7. What was the effect of Fund 3's two trades on its active share? Fund 3's active share:

A. decreased.

B. remained unchanged.

C. increased.

8. Which risk measure does Fund 3's new risk control explicitly constrain?

A. Volatility

B. Skewness

C. Drawdown

Case 4: Sonera Endowment Fund

William Gatchell, CFA, is an investment analyst with the Sonera Endowment Fund. Sonera is considering hiring a new equity investment manager. In preparation, Gatchell meets with Anjou Lafite, another analyst at the fund, to review a relevant part of the endowment's investment policy statement:

"Funds will be invested in the most efficient vehicle that meets the investment objective. Each manager must demonstrate the efficiency with which the tracking error they take on delivers active return. In addition, each manager must consistently adhere to his stated style."

Gatchell is given the task of reviewing three investment managers and selecting a manager that is most likely to adhere to Sonera's investment policy statement. Information about the investment managers is found in Exhibit 1.

Exhibit 1			
Investment Manager Data			
	Investment Manager		
	A	**B**	**C**
Assets under management ($ millions)	1,325	3,912	524
Information ratio	−0.27	0.50	0.75
Small-cap value index– beta	0.95	0.98	1.05
Small-cap growth index– beta	0.32	0.43	0.48
Large-cap value index – beta	1.05	1.10	0.96
Large-cap growth index – beta	0.47	0.39	0.37
Manager stated style	Value	Value	Growth
Manager stated sub-style	Low P/E	High yield	Momentum

Gatchell is reviewing the fee structures proposed by the three investment managers. He finds the following reference in the investment policy statement:

"The fee structure must be easy to understand and avoid undue complexity wherever possible. Also, the fee structure must be predictable, so Sonera can reasonably forecast these costs on a yearly basis as an input to the annual budgeting process."

He understands there are many different fee structures, and he wants to make sure he chooses the most appropriate one for the Sonera Endowment Fund. He prepares a recommendation to the investment policy committee regarding the most appropriate fee structure.

Sonera has followed an active investment style for many years. Gatchell would like to recommend to the investment policy committee that a portion of the funds be invested using a passive investment style. His research shows there are a number of methods used to weight the stocks in an index, each having its own characteristics. The one key feature he feels is important is that the method chosen not be biased towards small-capitalization stocks.

Gatchell is also examining different ways to establish passive equity exposure. He states to Lafite, "There are a number of ways to get passive equity exposure; we can invest in an equity index mutual fund, a stock index futures contract, or a total return equity swap. Stock index futures and equity swaps are low-cost alternatives to equity index mutual funds; however, a drawback of stock index futures is they have to be rolled over periodically. One advantage of investing in equity mutual funds is that shares can be redeemed at any point during the trading day."

1. Based on Exhibit 1, which investment manager most likely meets the criteria established in the endowment's investment policy statement?
A. Manager A
B. Manager B
C. Manager C

2. Based on Exhibit 1, is there sufficient information for Gatchell to create and interpret the results of a style box?
A. Yes
B. No, because additional index data are required
C. No, because additional holdings data are required

3. If the investment policy committee decides to accept Gatchell's recommendation to also use passive investing, the index structure that least likely meets Gatchell's requirement is:
A. a price-weighted index.
B. a value-weighted index.
C. an equal-weighted index.

4. In his statement to Lafite, Gatchell is least likely correct with respect to:
A. cost.
B. redemption.
C. periodic rollover.

Case 5: McMorris

McMorris Asset Management (MCAM) is an investment adviser based in Atlanta, Georgia. Tom Morris manages the active equity portfolios. Dan McKeen manages the semiactive equity portfolios and the semiactive derivatives portfolios. They are preparing to meet with Maggie Smith, the chief investment officer of Philaburgh Capital, who is considering hiring MCAM to replace one of its current managers.

At the meeting, Morris and McKeen discuss MCAM's investment approaches with Smith and present her with the risk and return characteristics detailed in Exhibit 1.

Exhibit 1			
Summary Information for MCAM's Investment Strategies			
	Approaches		
	Active Equity	**Semiactive Equity**	**Semiactive Derivatives**
Tracking risk	4.90%	3.70%	3.30%
Information ratio	0.50%	0.60%	0.70%
Expected alpha	2.40%	2.20%	2.30%

Smith asks if MCAM's active equity strategy is long only. McKeen responds that MCAM uses market-neutral long–short strategies for several reasons. He indicates that long–short strategies:

Reason 1: enhance portfolio performance by increasing the beta.

Reason 2: generate alpha by identifying undervalued or overvalued securities.

Reason 3: benefit from events that give rise to price changes, which are more prevalent on the short side than on the long side.

Smith considers each approach listed in Exhibit 1 but is uncertain about what would be an optimal investment strategy.

She then reviews the current characteristics of MCAM's active equity approach using the first method, as presented in Exhibit 2.

Exhibit 2		
Method 1—Portfolio Characteristics for MCAM Active Equity Strategy Based on Current-Period Data		
	Active Equity	**Benchmark**
Number of stocks	50	1,000
Market value	$180 billion	$4,400 billion
Weighted average market capitalization	$4.0 billion	$4.1 billion
Dividend yield	3.00%	2.00%
Price/Earnings	8×	12×

Smith then selects three benchmarks—value, blend, and growth—in addition to the normal

benchmark to assess the manager's style using the second method, as presented in Exhibit 3.

Exhibit 3			
Method 2—Return Correlations between MCAM's Active Equity Approach and Benchmarks Based on 36 Months of Historical Data			
	Value	Blend	Growth
Coefficient of determination	0.39	0.45	0.65

Smith indicates that Philaburgh's performance measurement is compliant with the Global Investment Performance Standards. In considering investment performance, Morris identifies three risks that may prevent MCAM's active equity approach from generating incremental returns:

Risk 1: Overestimating a stock's earnings per share growth.

Risk 2: Deciding incorrectly that a stock's earnings multiple would not contract.

Risk 3: Misjudging whether a stock's undervaluation will correct within the investor's investment horizon.

1. Based on Exhibit 1, the approach that is least likely efficient with respect to delivering active returns for a given level of tracking risk is:

A. active equity.

B. semiactive derivatives.

C. semiactive equity.

2. McKeen's response to Smith's question about MCAM's active equity style is least likely correct with respect to:

A. Reason 2.

B. Reason 1.

C. Reason 3.

3. Based on Exhibits 2 and 3, what can Smith most likely determine about MCAM's investment style over time? MCAM's style has:

A. drifted from value to growth.

B. not drifted.

C. drifted from growth to value.

4. Which of the risks Morris identifies with respect to MCAM's active equity strategy is least likely applicable to a growth-oriented investor?

A. Risk 3

B. Risk 1

C.   Risk 2

Solutions

If you have people you love, allow them to be free beings. Give and don't expect. Advise, but don't order. Ask, but never demand. It might sound simple, but it is a lesson that may take a lifetime to truly practice. It is the secret to true Love. To truly practice it, you must sincerely feel no expectations from those who you love, and yet an unconditional caring.

如果你有爱的人，允许他们自由随意的存在。给予而不指望；建议而不命令；请求而不要求；可能听起来简单，但这需要一辈子去实践。这就是真爱的秘诀。真正去实践它，你必须对那些你爱的人没有期望，并给予无条件的关爱。

1. SS1 Ethical and Professional Standards

Case 1: Anne Zawadi

1. Solution: A.

Zawadi does not include as part of the responsibilities the need to uphold the rules governing capital markets and also states that the Code must be adopted without any further provisions. The Code sets forth minimum ethical standards for providing asset management services. It is meant to be general in nature and allow flexibility for asset managers of various sizes and structures to develop the particular policies and procedures necessary to implement the Code.

2. Solution: A.

Amani failed to abide by B (6) of Investment Process and Actions. Amani managers did not take into account the client's moderate risk tolerance when he changed the asset allocation to emphasize speculative equity investments.

3. Solution: B.

While confirmation is required to ensure that portfolio information is accurate, and complete, an independent third party, not within a department of the firm, should undertake the confirmation.

4. Solution: C.

The remuneration of professional staff would most likely not be considered material when a client is determining whether to hire or stay with a fund manager.

5. Solution: C.

The Code and Standards require Managers to give priority to investments made on behalf of the client over those that benefit their own interests and must develop and maintain policies and procedures to ensure that their activities comply with the provisions of the Code and all applicable legal and regulatory requirements. By requiring employees to seek permission prior to a trade, it would better protect the interests of the clients being served prior to the Managers. Standard VI (B) - Priority of Transactions of the CFA Standards of Professional Conduct requires pre-clearance procedures to identify possible conflicts of interest prior to the execution of personal trades.

6. Solution: B.

The Code does not disallow the use of a performance fee. The Code however states that Managers must disclose to all clients and potential client's management fees and other investment costs charged to investors, including what costs are included in the fees and the

methodologies for determining fees and costs.

Case 2: Weiying Shao

1.   Solution: A.

The Asset Manager Code of Conduct requires that managers disclose to each client the actual fees and other costs charged to them, together with itemizations of such charges, when requested by clients. The disclosure should include the specific management fee, incentive fee, and the amount of commissions the manager has paid on the client's behalf during the period plus any other costs such as custodian fees. The Asset Manager Code of Conduct also requires managers to use plain language in presenting information to clients. Shao did not disclose all fees as commissions were left out and a description using plain language was also not used.

2.   Solution: A.

Shao does not violate the Standards. He recommends a fund with similar investment objectives and discloses the use of simulated data in accordance with Standard III (D). The Standard requires members and candidates to avoid misstating performance or misleading clients. The Code does not prohibit the use of proprietary funds for clients.

3.   Solution: C.

A member or candidate's duty under Standard III(C) is satisfied with respect to a particular investment if they have thoroughly considered the investment's place in the overall portfolio. Although Shao has performed appropriate due diligence prior to making his recommendation in regards to the return/risk characteristics he has not taken into consideration the particular short-term liquidity restrictions posed by the three-year lock up.

4.   Solution: B.

Zhang's policy should be disclosed to all clients. Standard III (A) and the Asset Manager Code of Conduct (Section F.4.h) require members to disclose proxy-voting policies to all clients.

5.   Solution: A.

Shao allocates the shares on a pro rata basis such that each account receives a 2% allocation to the portfolio. To meet the fair dealing requirements of Standard III (B) shares must be allocated among participating client accounts pro rata on the basis of order size.

6.   Solution: C.

Zhang must disclose both the information concerning the regulatory authorities and the information regarding the team of senior portfolio managers. The Asset Manager Code of

Conduct requires that managers disclose material information that reasonable investors would want to know relative to whether or not they would choose to use or continue to use the Manager. In this regard, possible regulatory or disciplinary action taken against the manager or its personnel related to professional conduct would be considered "material". The Code also requires that managers disclose significant personnel or organizational changes that have occurred.

Case 3: Frank Litman

1.   Solution: C.

According to Standard IV (B), Litman must obtain written permission from all parties involved.

2.   Solution: A.

According to the Recommended Procedures for Compliance for Standard IV (B), members should disclose the terms of any agreement under which a member will receive additional compensation. Terms include the nature of the compensation, the approximate amount of compensation, and the duration of the agreement. According to Standard III (E), members must keep information about current and prospective clients confidential.

3.   Solution: C.

The Code (Standard III (D)) does not prohibit the use of simulated performance analysis as long as it is clearly stated the results are simulated. While he has managed actual accounts for friends and family for ten years, he as used 20 years of historical data to prepare results.

4.   Solution: A.

According to Standard III (C) Suitability, members shall make a reasonable inquiry into a client or prospective client's investment experience, risk and return objectives and financial constraints prior to making any investment recommendations or taking investment action and must update this information regularly. Such an inquiry should be repeated at least annually and prior to material changes to specific investment recommendations or decisions on behalf of the client.

5.   Solution: A.

The Code allows outsourcing—although managers retain the liability and responsibility for any outsourced work. Managers have a responsibility to ensure the information they provide to clients is accurate and complete. By receiving an independent third-party confirmation or review of that information, clients can have an additional level of confidence that the information is correct and can enhance the Manager's credibility. Such verification is also good business practice.

6.   Solution: B.

According to the Code Recommendations and Guidance (D 2), while the new compliance officer reports directly to the CEO he is not independent in that he is also part of the investment team meaning he would review his own investment actions.

Case 4: Jorge Peña

1.   Solution: B.

Peña violated Standard VII (B) Responsibilities as a CFA Member or CFA Candidate: References to CFA Institute, the CFA Designation, and the CFA Program. Peña is not a candidate in the CFA examination program because he is not enrolled to sit for a specific examination.

2.   Solution: A.

Disclosure of additional compensation arrangements (Standard IV (B)) is required in situations where consideration might reasonably be expected to create a conflict of interest with the employer's interest. The fees in question are small and unrelated to Peña's professional activities. They create no conflict of interest with the employer as was verbally confirmed in the interview process.

3.   Solution: A.

It does not appear that Pena has made any misrepresentations. However, Peña must disclose benefits he receives in exchange for his services on the investment committee. According to Standard IV (B) Duties to Employers: Additional Compensation Arrangements, members must not accept benefits or consideration that competes with, or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved. In addition, Pena must also disclose the potential conflicts of interest (Standard VI (A)) that may arise given Horizon potentially trades the same shares as those held within Mueller's portfolio and acts as their broker.

4.   Solution: C.

In the conversation with Martinez, Peña did not violate Standard VII (B) Reference to CFA Institute, the CFA Designation, and the CFA Program because he did not call himself a candidate but explained his participation in the program and properly stated that he had passed Levels I and II of the CFA Program.

5.   Solution: A.

According to Standard IV (A) Peña is free to solicit clients using public information. Although Peña did not deliver as many clients as he had hoped, he did not make any promises as to the number of clients he would bring with him to his new employer. Finally, while encouraged, he is not obligated to inform his supervisor in writing of his obligation to comply with the Code of Ethics.

6. Solution: B.

The Standard regarding Independence and Objectivity (Standard I (B)) requires members to use reasonable care to achieve independence and objectivity. According to the Standard, members must not offer or accept any gifts or benefits that reasonably could be expected to compromise their independence. Based on the information provided, the supervisor has not received any benefits that would compromise his independence. Nevertheless, the supervisor failed to exercise thoroughness in analyzing the various tax-advantaged plans and lacked a reasonable basis for suggesting one plan over the many others. As a supervisor, he failed to establish adequate compliance procedures for determining the suitability of tax-advantaged programs, instead using standard compliance procedures designed for non-tax-advantaged products.

Case 5: Vision 2020

1. Solution: B.

B is correct because the board gave instructions to Akinyi to ensure compliance with capital markets regulations, thus upholding one of the general principles of conduct of the Asset Managers Code. However, the desire for the Fund to act as a buyer of last resort violates the principle of acting for the benefit of clients: i.e. placing their interests before their own. By putting their own interests in front of their clients, the board is not acting in a professional and ethical manner. While the Fund may benefit corporate finance clients and meet the demand of some clients for a Fund, Fund clients' interests may not be protected by the Fund guaranteeing to buy 100% of the corporate finance clients' private placements. These placements may not meet the Fund's objectives and risk profile, thus not protecting the interests of the Fund's clients.

2. Solution: C.

C is correct because the recommendation states that the Fund should respond to all client inquires where the principles state the managers should communicate with clients in a timely and accurate manner. While it is true managers should respond to client inquiries, they also have the responsibility to present performance information that is fair, accurate, relevant, timely and complete. This is a form of communication.

3. Solution: A.

A is correct because the Directors have corporate finance experience and business experience, not asset management experience and therefore they should hire professional asset managers to manage the Fund.

4. Solution: C.

C is correct because the Fund would comply with the Code if it made full disclosure to all of its clients regarding the relationship between the Fund and V2020 activities; the Investment Banking/corporate finance activities. Both parties should disclose any common ownership, even minority positions. It may disadvantage Fund clients if it were not allowed to participate in any of the private placements done by V2020 on behalf of their corporate finance clients.

5. Solution: B.

B is correct because the Code calls for the Manager to maximize client portfolio value by seeking best execution for all client transactions. If trades only go through one stockbroker, best execution cannot be assured. In addition, any equity ownership in these brokers should be

disclosed as this arrangement has the potential for conflicts of interest.

6. Solution: A.

A is correct because the Code calls for complete disclosures regarding significant changes in personnel and any regulatory or disciplinary action taken against the Fund. While they disclosed the conditional license renewal and the removal of the Fund Manager, they did not disclose the serious condition that any further violation will result in the Fund being closed. Clients should be told about the regulator's warning so they can make an informed decision regarding whether to continue their investment in the Fund. Disclosure is not required for the payment of bonuses, or termination packages to employees.

Case 6: Rayne Brothers

1.   Solution: B.

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.   Solution: C.

C is correct because 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.

3.   Solution: C.

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.   **Solution: A**.

A is correct because as a CFA 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.   Solution: B.

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.   Solution: B.

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.

Case 7: Ashraf Omar

1. Solution: B.

B is correct because Omar most likely violated Standard IV (A) Loyalty in that the checklists and templates were created while Omar was employed by Falcon. Therefore, the checklists and templates are the intellectual property of Falcon, not Omar's. If Omar wants to use the checklists and templates from his former employer, he must first seek their permission. Otherwise, he would need to develop his own based on his IPO experiences.

2. Solution: B.

B is correct because the employee theft issue concluded, so it is no longer a threat to the future operations of Sahara. However, any future plant emissions could subject the company to additional fines, or worse, closure. The debt private placement document is contradictory to the actual credit rating report of the debt issue, so further investigation is needed to determine why. As a CFA charterholder, Omar has the responsibility to not misrepresent any factual information on which investors will base their investment decisions (Standard I — Professionalism). To do so, he must be diligent in his investment analysis and recommendations as per Standard V (A) Diligence and Reasonable Basis. By promoting an IPO, Omar is effectively recommending Sahara shares to potential investors. Although potential investors in the IPO are not Omar's clients, he maintains the responsibility to not misrepresent the investment characteristics of the company and/or offer by undertaking due diligence.

3. Solution: C.

C is correct because Omar omitted the fact that the tax authorities have threatened to impound assets of the company that may cause the plant to shut down. This would be a material omission causing Omar to be in violation of Standard I (D) Misconduct. Members must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

4. Solution: C.

C is correct because to avoid violating Standard I (B) Independence and Objectivity when undertaking issuer-paid research, members and candidates must fully disclose potential conflicts of interest, including the nature of their compensation, to avoid misleading investors. The standards do not forbid Halawi from participating in the regional marketing meetings as long as she discloses all potential and actual conflicts of interest, including her compensation package. Although CFA charterholders and candidates are required to put the interests of their clients before their own, in this case it is pertinent to determine whom the client actually is. At times,

the client may be the investing public as a whole, in which case, the goals of independence and objectivity of research surpass the goal of loyalty to a single organization.

5. Solution: A.

A is correct because Omar does not appear to copy from Halawi's report. However, it does appear he omitted information (the high-risk rating) from Halawi's report that would perhaps cause some investors to make a different investment decision if it had been included. Omar is in violation of Standard I (C) Misrepresentation. Members and candidates should exercise care and diligence when incorporating third-party information. Misrepresentations resulting from the use of the research of outside parties become the responsibility of the investment professional when it affects that professional's business practice. Omar may also be in violation of Standard I (D) Misconduct if the omission was on purpose. Members and candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit that reflects adversely on their professional reputation, integrity, or competence.

6. Solution: A.

A is correct because by participating in the ESOP program, Omar does not violate any standards because the ESOP program is fully disclosed in the IPO prospectus. When he sells his allocation, he will need to ensure he gives clients and the company priority in order to avoid any standards violation.

Case 8: Kim Tang

1.　Solution: C.

C is correct because disclosure of the managers' involvement with CFA Institute is not a violation of the Standards. Standard VII (A) prohibits members from disclosing and or soliciting confidential material gained prior to or during the examination and grading process with those outside the CFA examination development process. The disclosure in this case does not reveal any confidential information. The CFA designation must always be used as an adjective (i.e., "the entire research team is made up of CFA charterholders" rather than saying "they all are CFA's").

2.　Solution: C.

C is correct because the return claim is a violation of Standard V (B) Communication with Clients and Prospective Clients, which requires that opinion be separated from fact. In the case of complex analyses, analysts must clearly separate fact from statistical conjecture and should identify the known limitations of an analysis. In addition, Standard I (C) Misrepresentation prohibits members and candidates from guaranteeing clients any specific return on volatile investments.

3.　Solution: A.

A is correct because Standard III(C) Suitability does not appear to have been violated because the fund is characterized as a high-risk investment and it is clearly stated that EnergyAlgae is also a high-risk investment. CleanTech's statement that the hedge fund benefited from the increase in share value for EnergyAlgae last year is a violation of Standard I(C) Misrepresentation because the fund had only recently invested in the stock so did not benefit from the large move in the stock's price. Standard II (A) Material Nonpublic Information has also been violated by the board member who shared material nonpublic information with the hedge fund and by the fund because it acted on the information.

4.　Solution: B.

B is correct. A reasonable and diligent effort was not made when the analysis on EnergyAlgae was updated only on an annual basis because the information on the company could change materially in such a high-risk industry, a violation of Standard V(A) Diligence and Reasonable Basis. In addition, when the company reports financial results on a semi-annual basis, an annual update to research would not be timely.

5.　Solution: C.

C is correct because according to Standard I(B) Independence and Objectivity, full and fair

disclosure of all matters that could reasonably be expected to impair independence and objectivity must be made to all clients. In this case, the controlling position in the broker held by the founders of CleanTech, as well as the fact that this firm has underwritten two stocks the hedge fund holds and whose recommendations the fund relied upon to make these investments, must be disclosed to all clients so they may be better able to judge motives and possible biases for themselves.

6. Solution: A.

A is correct because even though the hedge fund had priority in trading the stock ahead of employees, that does not alleviate the stock price manipulation that was engaged in by the fund and its employees, a violation of Standard II(B) Market Manipulation. In addition, there does not appear to be an adequate basis for recommending the stock (i.e., negative information on the company's products from potential customers and suppliers), a violation of Standard V(A) Diligence and Reasonable Basis.

Case 9: Sue Kim

1.   Solution: A.

A is correct because the hedge fund manager's trades do not represent a violation of Standard II (B), Market Manipulation. Kim is not engaging in practices that distort prices or artificially inflates trading volume with the intent to mislead market participants. Because the trades are based on material nonpublic information, however, Kim is in violation of Standard II (A) Material Nonpublic Information. Kim is also in violation of Standard V (A) Diligence and Reasonable Basis because she has based her investment decisions on information received from third parties and has not determined if this information is sound and the processes and procedures used by those responsible for the research were valid.

2.   Solution: C.

C is correct because showing past performance of funds managed at a prior firm as part of a performance track record is permissible under Standard III (D) Performance Presentation only as long as showing that record is accompanied by appropriate disclosures about where the performance took place and the person's specific role in achieving that performance, which Kim did not do. In addition, the material used to create this performance record is the property of Kim's former employer, and in order to use this record she should have obtained permission to do so but did not as required by Standard IV (A) Loyalty.

3.   Solution: C.

C is correct because disclosure that fully explains the referral fee arrangement has not been properly provided in violation of Standard VI (C) Referral Fees. Akagi is required to disclose in writing, and prior to the execution of any agreement, referral fee agreements in place including the nature and the value of the benefit. Kim is also in violation of Standard IV (C) Responsibilities of Supervisors because she has a responsibility to oversee Akagi and ensure the appropriate disclosures are made concerning referral fees. In addition, Kim verbally telling clients that Green Note compensates Akagi for his efforts to find investors for the fund is not sufficient to meet the disclosure requirements.

4.   Solution: B.

B is correct because Standard VI (B) Priority of Transactions concerns investment transactions for clients and employers having priority over investment transactions in which a member or candidate is the beneficial owner. Because the manager does not have beneficial ownership in securities traded in client accounts, this Standard has not been violated. By purchasing shares for Miriam's account before other client accounts, the manager has violated Standard III (B) Fair

Dealing, which requires members and candidates to treat all clients fairly when taking investment action with regard to general purchases. In addition, because the hedge fund manager's trades are based on material nonpublic information, they are in violation of Standard II (A) Material Nonpublic Information. The mosaic theory is not applicable here because the manager used it as a way to hide her receipt of material nonpublic information.

5.   Solution: A.

A is correct because Kim has not violated the Code of Ethics and Standard I (A) Knowledge of the Law. Her efforts to influence the legislative process, including her personal donations, are legal and not a violation of any standard.

6.   Solution: A.

A is correct because Standard V (A) Diligence and a Reasonable Basis requires members and candidates to ensure their firms have standardized criteria for reviewing external advisers, which Kim has met. Kim is in violation of Standard V (B) Communication with Clients and Prospective Clients because she has not communicated the changes in her investment process to clients. By presenting the third-party research as her own, Kim has also violated Standard I (C) Misrepresentation.

Case 10: Athena

1. Solution: B.

B is correct because Zefferman states the firm is responsible for putting clients' interests above the firm's when appropriate. The General Principles of Conduct embedded in the six components of the Asset Manager Code state that managers have the responsibility of acting for the benefit of clients. The code does not stipulate that this responsibility is applicable only when appropriate.

2. Solution: B.

B is correct because Zefferman, as a CFA charterholder, will be responsible for ensuring Athena complies with the stricter anti-money laundering laws of Europe, where some of its clients reside, as per Standard I (A) Knowledge of the Law. Europe's new laws, which encompass and exceed the local anti-money-laundering regulations, are already in place; therefore, these are the regulations that must be currently followed.

3. Solution: C.

C is correct because Section D, Risk Management, Compliance and Support of the Asset Manager Code states that portfolio information provided to clients should be reviewed by an independent third party. The compliance department would be considered an independent third party because compliance is not involved with compiling or presenting the information to clients. According to Section F, Disclosures, disclosures should be truthful, accurate, complete, and understandable. It is unlikely clients would easily understand complicated calculations. Section F, Disclosures calls for communications with clients to be on an ongoing and timely basis. Annual communication would not be considered timely.

4. Solution: B.

B is correct because Section B(6)(b) requires clients to be treated equitably, not equally. Clients have different investment objectives and risk tolerances, so treating clients equally would be inconsistent with the Asset Manager Code.

5. Solution: A.

A is correct because Section E of the Asset Manager Code calls for the use of fair-market values sourced by third parties when available, and when such are not available, the code calls for the use of "good faith" methods to determine fair value. Athena's policy appears consistent with this requirement. In terms of client reporting, monthly valuation reports would be consistent with the call for timely reporting.

6. Solution: B.

B is correct because at minimum, Section D. Risk Management, Compliance and Support of the Asset Manager Code recommends a business continuity plan to include plans for contacting and communicating with clients during a period of extended disruption. Wilson's continuity plan includes no such strategy. Her recommendation for disclosing the firm's risk management process goes beyond the code recommendations to disclose the risk management process only to clients, not to regulators. Wilson recommends they disclose to both.

Case 11: Jacaranda

1. Solution: B.

There is no indication that Remmy violated his responsibility as a supervisor under Standard IV(C): Responsibilities of Supervisors. He did, however, violate Standard I(C): Misrepresentation and Standard IV(A): Loyalty by plagiarizing his former employer's compliance manual. Work performed for an employer remains the asset of the employer and cannot be taken to another firm without permission.

2. Solution: A.

Standard V(B): Communication with Clients and Prospective Clients requires the firm to inform the clients about the specialization or diversification expertise provided by external adviser(s) when outside advisers are used to manage various portions of the clients' assets under management. This information allows clients to understand the strategies being applied that affect their investment objectives. Stating "These advisers have the necessary expertise to manage property assets" is not likely to provide enough information for the clients to understand the investment methodologies or strategies implemented by the outside advisers.

3. Solution: A.

Standard III (D): Performance Presentation requires firms to provide credible performance information to clients and prospective clients as well as to avoid misstating or misleading clients and prospective clients about the investment performance of firms. A single composite that includes all client portfolios, regardless of investment objectives (which would likely be different for the retail and institutional clients) could be considered to be misleading. The standard does not require firms to be GIPS compliant. Firms not in compliance with the GIPS standards, however, should present the performance of a weighted composite of similar portfolios, rather than using a single representative account or all accounts with different non-similar portfolios.

4. Solution: B.

Standard V(C): Record Retention requires the retention and maintenance of records to support the investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients. Because the independent research contractor provides research only for Jacaranda, he would not necessarily be considered a third-party research provider. Thus, he would be required to send his research reports to the firm along with his underlying supporting analysis and financial models. Therefore, Jacaranda does not meet the record retention requirements. The standard allows firms to keep hard copies and/or electronic copies of documents. In addition, although it recommends files be retained for

a minimum of seven years, Jacaranda is still in compliance with the standard in that it meets local regulatory requirements.

5.   Solution: C.

As Gatera is not a covered person, it is not required for Bukenya to report him to CFA Institute. However, because Bukenya is a supervisor, she does have the responsibility under Standard IV(C) Responsibility of Supervisors to conduct a thorough investigation of the activities to determine the scope of the wrongdoing. In addition, the supervisor should respond promptly and increase (not maintain) supervision.

6.   Solution: A.

Standard III (E): Preservation of Confidentiality requires information about former clients, as well as existing and prospective clients, to be kept confidential unless the law requires the disclosure or permission has been given to disclose the information. Jacaranda's policies cover only existing and prospective clients.

Case 12: Ravinder

1. Solution: A.

Recommendations for Standard VI (A)-Disclosure of Conflicts advises that employee compensation packages based on short-term performance be disclosed to clients, which is currently not allowed by Ravinder's employer. Thus, she should renegotiate her compensation package to either remove the performance aspect of the structure so she can disassociate from the practice or seek to lengthen the performance period assessed to, at minimum, one year. If Ravinder disclosed the compensation package to her clients without her employer's permission, she would be in violation of Standard IV (A)-Loyalty. If she asked her clients to renegotiate their contracts, she may potentially violate Standard III (A)-Loyalty, Prudence and Care because the new contracts may not be as favorable as the current contracts, thus potentially harming her clients.

2. Solution: A.

Taking a more aggressive investment approach for a middle-income person who aims to retire in five years and at a time when his portfolio is being drawn on to cover court-ordered liabilities, regardless of any delay in funding his son's seed capital, may only be appropriate if the portfolio in question represented a small portion of Canon's overall wealth. Typically, a person's risk tolerance decreases with age, regardless of their employment status.

3. Solution: A.

By not giving proper instructions to Obi that required him to return the brochure to her for editing review prior to distribution, she violated Standard IV(C)–Responsibilities of Supervisors. Had Ravinder properly overseen the work done by Obi, the error may have been detected and corrected prior to the brochure being distributed.

4. Solution: C.

Standard III (D)–Performance Presentation recommends terminated accounts remain in the historical records of a weighted composite. Standard III (D) requirements and recommendations can be met without complying with the GIPS standards.

5. Solution: C.

Mensah would violate Standard V (A)–Diligence and Reasonable Basis because his research indicated that the company was overvalued. Mensah would not have violated Standard II (A)–Material Nonpublic Information because causing someone to trade on rumors does not necessarily involve trading on material nonpublic information. In addition, Mensah would not

have violated Standard VI (A)–Disclosure of Conflicts because the bonus structure is not short-term focused and considers long-term value creation through correct investment recommendations. As a result, disclosure of this bonus structure is not required.

6. Solution: B.

Standard VI (A)–Disclosure of Conflicts requires a member or candidate who becomes a director of a publicly listed company to be isolated from those making investment decisions concerning the publicly listed company at which the employee is a director. One such way of doing this would be to not participate in investment strategy meetings when Naivasha is being discussed. But Ravinder would violate Standard I (D)–Misconduct if she shared nonmaterial information if the directors of Naivasha considered it to be confidential. She would also violate Standard III (A)– Loyalty, Prudence, and Care if she excluded Naivasha shares from her clients' portfolios because this approach may negatively affect their investment performance.

2. SS2 Ethical and Professional Standards

Case 1: Redlands

1. Solution: B.

The percentage of the composite which non-fee paying accounts represent should be disclosed.

2. Solution: C.

Returns must be clearly labeled as gross of fees or net of fees.

3. Solution: A.

GIPS recommends performance presentations include returns for quarterly and/or shorter time periods.

4. Solution: A.

The GIPS standards requires that returns be clearly labeled as gross of fees or net of fees.

5. Solution: B.

The GIPS standards require firms to disclose which dispersion measure is presented.

6. Solution: A.

The GIPS standards specifically prohibit firms from stating that a particular composite presentation has been "GIPS verified".

Case 2: Arcadia

1. Solution: A.

A is correct because although GIPS standards recommend that firms undertake verification, it is not required to claim compliance. The Phoenix office holds itself separate geographically, as well as with respect to personnel and its investment process. Philadelphia will be able to be GIPS compliant even if its Phoenix office is not. Finally, since Arcadia markets itself as separate and distinct from the other affiliates, it can claim compliance even if the others units are not compliant.

2. Solution: B.

B is correct because GIPS requires all transactions to be recognized on the trade date and not the settlement date. Trade date is when the transaction takes place, whereas settlement date is when the exchange of cash, securities, and paperwork involved in a transaction is completed.

3. Solution: C.

C is correct because GIPS requires cash and cash equivalents to be included in total return calculations for all asset classes.

4. Solution: C.

C is correct because Portfolio C is required to hold too much cash at 15% for the portfolio manager to execute his strategy effectively. The unanticipated nature of the contributions and withdrawals that can occur daily makes it difficult to invest the funds in equities. This large cash balance implies the portfolio is non-discretionary.

5. Solution: A.

A is correct because Arcadia is required by GIPS to present 5-years of performance since the composite has been in existence for that period. The small cap composite was started on 12/31/03 and therefore performance for 2004 should be presented. After presenting 5 years of performance, the firm must present additional annual performance up to 10 years.

6. Solution: B.

B is correct because Note 1 is required as it describes the definition of the "firm" used to determine the total firm assets. Note 2 is recommended as the firm is encouraged but not required to provide a list of the firms contained within the parent company. Note 7 is required as firms must disclose which dispersion measure is presented.

Case 3: Sing-Siew Lee

1. Solution: A.

Custody fees should not be considered direct transaction costs, even when they are charged on a per-transaction basis. They are not to be treated as a trading expense.

2. Solution: B.

GIPS standards require the use of fair value for portfolio valuations.

3. Solution: C.

GIPS standards require the separation of composites by strategy as well as vintage year.

4. Solution: B.

According to GIPS standards, the correct order of valuation methodologies is:

1. Objective, observable quoted market prices for similar investments in active markets. (#2)

2. Quoted prices for identical or similar investments in markets that are not active. (#2)

3. Market-based inputs other than quoted prices that are observable for the investment. (#3)

4. Subjective, unobservable inputs. (#1)

5. Solution: B.

Capital employed (CE) is $12,500,000 + ($1,500,000×0.51) = $13,265,000

Income return $=\frac{Y_A - E_N - I_D - T_P}{C_E} = \frac{120,000 - 312,000 - 220,000 - 31,000}{13,265,000} = -0.033$

Capital return $=\frac{V_1 - V_0 - E_C + S}{C_E} = \frac{13,000,000 - 11,700,000 - 2,700,000 + 3,500,000}{13,265,000} = 0.1583$

Total return = income return + capital return = -0.033 + 0.1583 = 0.1253

6. Solution: C.

GIPS standards require that the firm being verified, and not the verification firm (i.e., Stowe), maintain the data and information necessary for the calculations.

Case 4: Anton

1. Solution: C.

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.

2. Solution: C.

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.

3. Solution: C.

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.

4. Solution: A.

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 1999; therefore, performance for 2006 must be presented. After presenting five years of performance, the firm should present additional annual performance up to 10 years.

5. Solution: B.

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.

6. Solution: A.

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).

Case 5: Bud Walter

1.   Solution: B.

B is correct because a single verification report is required to be issued with respect to the whole firm. Verification cannot be carried out only on a composite and, accordingly, does not provide assurance about the investment performance of any specific composite. The Standards stress that firms must not state or imply that a particular composite has been "verified."

2.   Solution: C.

C is correct. WCM's return calculation is not GIPS compliant. GIPS requires that returns are calculated on a monthly basis for periods beginning on or after 1 January 2001.

3.   Solution: A.

A is correct because the composite consists of all actual, fee-paying portfolios, which are managed on a discretionary basis.

4.   Solution: A.

A is correct because custodial fees should not be considered a component of direct trading expenses.

5.   Solution: B.

B is correct. Walter is correct about the high/low range, which is skewed by outliers. He is also correct that the standard deviation allows for comparability across investment firms. However, he is incorrect about the interquartile range. Because this measure includes only the middle 50% of portfolio returns, thus excluding extreme observations, it is not impacted by outliers.

6.   Solution: A.

A is correct. The valuation hierarchy presented by Walter is GIPS compliant.

Case 6: Ng

1. Solution: A.

Ng is correct. Because Rune Europe is using the Rune Managers name and marketing materials, the division is not being held out to clients or potential clients as a distinct business entity and so it should be included in the definition of the firm.

2. Solution: B.

The policy on account inclusion is compliant with the standards.

3. Solution: A.

For periods after 1 January 2010, carve-outs must include their own cash balance in order to be included in a composite, so a cash allocation policy for periods after 1 January 2010 would not be GIPS compliant.

4. Solution: C.

The firm description must always be presented in GIPS compliant advertisements. The number of accounts in the composite need not be disclosed in advertisements, and only advertisements that include performance information must disclose the composite and benchmark descriptions.

5. Solution: B.

The currency used to express performance, whether any fees other than trading expenses are deducted from gross-of-fees returns, whether any fees other than trading expenses and management fees are deducted from net-of-fees returns, the fee schedule, and a measure of internal dispersion are all required disclosures for compliance with the GIPS standards.

6. Solution: B.

The annualized three-year ex post standard deviation of monthly returns must be presented for both the composite and the benchmark for each annual period after 1 January 2011. Firms are required to disclose that policies for valuing portfolios, calculating returns, and preparing compliant presentations are available upon request.

R4 Professionalism in the Investment Industry

1.   Solution: C.

High ethical standards distinguish professions from the craft guilds or trade bodies. Unlike trade bodies, professional bodies also typically have a mission to serve society and enforce professional conduct rules for practitioners.

2.   Solution: B.

Fiduciary duty is an obligation to deliver a high standard of care when acting for the benefit of another party. Professionals must act in the best interest of the client, exercising a reasonable level of care, skill, and diligence. Other entities—including employers, regulators, trade associations, and not-for-profit bodies—may also support an industry but are not the same as professional bodies. Unlike professions, these other entities generally do not exist to set and maintain professional standards.

3.   Solution: C.

The investment management profession and investment firms must be interdependent to maintain trust. Employers and regulators have their own standards and practices, which may differ from regulations and standards set by professional bodies.

4.   Solution: C.

When a dilemma occurs, raising an issue internally is often a good starting place and creates an opportunity for an independent internal review. Protecting the client and the firm may take priority over the position of an individual professional raising a concern.

3. SS4 CME

Case 1: Brian O'Reilly

1. Solution: A.

O'Reilly's explanation of survivorship bias is correct.

2. Solution: C.

O'Reilly's explanation of appraisal data bias is incorrect because calculated correlations with other assets tend to be smaller in absolute value compared to the true correlations. O'Reilly is correct in that appraisal values tend to be less volatile than market determined values for identical assets and the true variance (and standard deviation) of the asset is biased downward.

3. Solution: C.

O'Reilly's answer is incorrect with respect to correlation estimates. High-frequency data are more sensitive to asynchronism across variables and, as a result, tend to produce lower correlation estimates.

4. Solution: C.

O'Reilly's explanation of the anchoring trap is incorrect. The anchoring trap is the tendency of the mind to give disproportionate weight to the first information it receives on a topic. Initial impressions, estimates, or data anchor subsequent thoughts and judgments.

5. Solution: C.

The covariance between Market 1 and Market 2 is calculated as follows:

$M_{12} = (1.20 \times 0.90 \times 0.0225) + (0 \times 0 \times 0.0025) + [(1.20 \times 0) + (0 \times 0.90)] \times 0.0022 = 0.0243$.

6. Solution: C.

According to the Grinold-Kroner model, the expected long-term developed market equity return is equal to the sum of the: 1) expected income return (dividend yield minus the percentage change in the number of shares outstanding), 2) expected nominal earnings growth return (long-term inflation rate plus long-term corporate earnings growth rate), and 3) repricing return (expansion rate for P/E multiples). In this case:

E (Re) = [1.95 − (−1.0)] + [1.75 + 3.50] + 0.15 = 2.95 + 5.25 + 0.15 = 8.35%

Case 2: Rogers

1. Solution: A.

A is correct. Data for alternative investments without liquid public markets tend to overly smooth return variations because they are often appraisal-based rather than transaction-based. This smoothing underestimates risk and the magnitudes of correlation values.

2. Solution: A.

A is correct. Survivorship bias is when a data series only reflects companies that exist at a given moment in time and not companies that may have left prior to the given moment in time (i.e., only the surviving firms are in the data). The NEXT Index has survivorship bias as evidenced by the frequent change in its component firms because of failure and acquisition by larger non-index firms.

3. Solution: B.

B is correct. To determine the correlation matrix within the different energy sectors, Rogers' team relies on a weighted average of correlations derived from multifactor models and historical correlations. A shrinkage estimator is a weighted average of correlation (or covariance) matrices created from at least two different correlation (or covariance) matrices generated from different sources.

4. Solution: A.

A is correct. Rogers' team views giving more weight to the historical correlations as a safety measure and as a way to manage client expectations. The prudence trap is a tendency to be overly cautious in forecasts because of potentially damaging results from being incorrect.

5. Solution: B.

B is correct. Phillips believes the impact of hurricane activity will not necessarily continue in the future. A time-period bias occurs when particular relationships or sensitivities only occur during a particular period of time.

Case 3: Minglu Li

1. Solution: C.

C is correct. The SCI data is an index that is not composed of the same number of firms in each period because of firm failures and combinations through time, which indicates survivorship bias.

2. Solution: C.

C is correct. As stated, the projections in the survey data tended to be more volatile than the actual outcomes over the same time period. This finding indicates that the ex post risk (i.e., the volatility of the actual data) tends to have a downward bias relative to the ex ante risk displayed by the survey data. This result is evidence of ex post risk being a biased measure of ex ante risk.

3. Solution: B.

The Taylor rule sets the optimal short-term rate as:

Neutral rate + 0.5 × (GDP growth forecast − GDP growth trend) + 0.5 × (Inflation forecast − Inflation target)

Applying numbers from Exhibit 3, 2%=2.5%+0.5×(2%-1%) + 0.5×(1.5%-3.5%).

4. Solution: B.

B is correct. A flat yield curve is consistent with tight monetary policy and loose fiscal policy making. Tolliver's statement is incorrect in regard to fiscal policy.

Case 4: Ptolemy

1. Solution: C.

Spenser's statement is most accurate. In the economic indicators approach, for example, the composite of leading economic indicators is based on an analysis of its forecasting usefulness in past cycles. The indicators are intuitive, simple to construct, require only a limited number of variables, and third-party versions are also available.

2. Solution: B.

The Grinold–Kroner model formula is

E(R) = D/P − ΔS + i + g + ΔP/E.

First, compute the compound annual growth rate of the P/E: (15.0/15.6)1/10 − 1 = −0.4%.

Next, compute, as a percentage, the expected return per the Grinold–Kroner model formula:

E(R) = 2.1 − (−1.0) + 2.3 + 2.6 − 0.4 = 7.6,

where

E(R) = expected rate of return on equity

D/P = expected dividend yield

ΔS = expected percent change in number of shares outstanding

i = the expected inflation rate

g = the expected real total earnings growth rate (not identical to EPS growth rate in general, with changes in shares outstanding)

ΔP/E = per period percent change in the P/E multiple

3. Solution: B.

The Taylor rule is

R$_{optimal}$ = R$_{neutral}$ + [0.5 × (GDPg$_{forecast}$ − GDP$_{trend}$)] + [0.5 × (I$_{forecast}$ − I$_{target}$)].

R$_{optimal}$ = 2.5 + [0.5 × (3.0 − 4.5)] + [0.5 × (3.2 − 2.5)] = 2.5 − 0.75 + 0.35 = 2.10%.

4. Solution: A.

The Singer–Terhaar approach for determining the expected return on an asset class involves determining the risk premium arising from systematic risk as a weighted average of the risk premiums arising from a fully integrated market and fully segmented market, where the weights for the fully integrated market are the degree of integration of the markets. The risk premium for the fully integrated market is given by

$RP_i = \sigma_i \rho_{i,M} \left(\frac{RP_M}{\sigma_M} \right)$ where $\frac{RP_M}{\sigma_M}$ is the Sharpe ratio for the world market portfolio.

The risk premium for the fully segmented market is given by $RP_i = \sigma_i \left(\frac{RP_M}{\sigma_M} \right)$

In addition, if there are market imperfections, such as illiquidity premiums, they must be added in. · Finally, the expected return on the asset class is determined by adding these risk premiums to the risk-free rate, in classical capital asset pricing model fashion.

Step 1:

Systematic risk premium in fully integrated market

Risk premium: $RP_i = \sigma_i \rho_{i,M} \left(\frac{RP_M}{\sigma_M} \right)$ (23% × 0.85 × 0.31) = 6.06%

Step 2:

Systematic risk premium in fully segmented market

Risk premium: $RP_i = \sigma_i \left(\frac{RP_M}{\sigma_M} \right)$ (23% × 0.31) = 7.13%

Step 3:

Weight systematic risk premiums by degree of integration: (0.65 × 6.06 + 0.35 × 7.13) = 6.43%

Step 4:

Add the illiquidity premium 6.43% + 0.60% = 7.03%

Step 5:

Add the risk-free rate 2.5% + 7.03% = 9.53%

5. Solution: A.

The most favorable phases when considering equity returns are initial recovery and early upswing whereas the late upswing, slowdown, and recession phases carry the greater risk for equities. Hungary has the combination of factors consistent with the initial recovery/early upswing phases of the business cycle – increasing production, low inflation, improving confidence, stimulatory fiscal/monetary policies, and abundant capacity. These indicators point to strongly rising stock prices and therefore most attractive for equity returns.

Case 5: CME

1. Solution: C.

β_i = Cov (R_i, R_M)/Var(R_M)

Note that covariance is given as 0.0075.

Find Var (R_M) by using the Sharpe ratio = RP_M/σ_M and solve for σ_M

Expected return – Risk-free rate = RP_M

7.2% – 3.1% = 4.1% (or 0.041)

σ_M = 0.041/0.36 = 0.1139

Var (R_M) = $(0.1139)^2$ = 0.0130

β_i = 0.0075/0.0130 = 0.58

2. Solution: A.

Grey recommends the Singer–Terhaar approach and a correlation of 0.39 between real estate and the market. Use these steps to solve for the expected return:

Step 1	Fully integrated risk premium	(14.0% × 0.39 × 0.36) =	1.97%
	Fully segmented risk premium	(14.0% × 0.36) =	5.04%
Step 2	Fully integrated and segmented risk premium, considering the degree of integration	(1.97% × 0.6) + (5.04% × 0.4) =	3.20%
Step 3	Expected return estimate: Fully integrated and segmented risk premium + Risk-free rate	3.20% + 3.1% =	6.3%

3. Solution: C.

F_1 = Factor 1, Global Equity

F_2 = Factor 2, Global Bonds

Var $(F_1)^{0.5}$ = $0.025^{0.5}$ = 0.1581

Var $(F_2)^{0.5}$ = $0.0014^{0.5}$ = 0.0374

Cov (F_1, F_2) = $\sigma_1 \sigma_2 \rho_{1,2}$ = 0.1518 × 0.374 × 0.33 = 0.002

Real estate factor sensitivities are $b_{re,1}$ 1 0.6 for sensitivity to global equity and $b_{re,2}$ 0.15 for global bonds. Residual risk variance (given) is Var (εre) = 0.044.

Variance of real estate =

$b_{re,1}^2$ VAR (F_1) + $b_{re,2}^2$ VAR (F_2) + $2b_{re,1}b_{re,2}COV(F_1, F_2) + Var(\varepsilon_{re})$

=$(0.6)^2$×0.025+$(0.15)^2$×0.0014+2×0.6×0.15×0.002+0.044=0.053392

Square root of variance is the standard deviation = 0.231, or 23.1%.

4. Solution: B.

Cortez's statement to calculate a weighted average for the covariance estimate is an example of shrinkage estimation. Shrinkage estimation involves taking a weighted average of a historical estimate of a parameter and some other parameter estimate, in which the weights reflect the analyst's relative belief in the estimates. A shrinkage estimator of the covariance matrix is a weighted average of the historical covariance matrix and an alternative estimator of the covariance matrix.

5. Solution: A.

In deflation, real estate experiences downward pricing pressure (negative) and bonds benefit from improving purchasing power (positive). Therefore, Grey's comment about real estate is incorrect. In equilibrium, inflation at or below expectations is a positive for equities. The comment about equities is correct.

6. Solution: B.

Cortez's statement is entirely correct. A disadvantage of the leading indicators–based approach is that historically, it has not consistently worked because relationships between inputs are not static. An advantage to the econometric approach is that it provides quantitative estimates of the effects on the economy of changes in exogenous variables.

Case 6: Culpepper

1. Solution: B.

The most likely cause of the price gain was a decrease in the discount rate over the period. Given the mature nature of the economy and companies in the Index, it is unlikely that the estimate of long-term real dividend growth or dividend payouts changed much, if at all.

2. Solution: A.

In a developing country, there may be severe problems with the accuracy of data inputs. It is difficult to obtain macroeconomic data in developed countries with long-established methods and facilities. The problems of obtaining accurate and historically consistent data are multiplied in developing markets.

3. Solution: C.

Most top-down models are of the econometric type and rely on historical relationships to be the basis for assumptions about the future. Thus, they can be slow in detecting cyclical turns.

Case 7: Olli Nava Scenario

1. Solution: B

Statement 1 is correct. There is theoretical and empirical evidence that average long-term government bond yields are directly linked to the trend rate of growth in an economy.

Statement 2 is incorrect. Over the long run, the capital gains component of equity returns is directly linked to GDP. However, this does not apply to the income component of returns (i.e., the dividend yield). Hence, it is not true to say that the total return (capital gains plus income) is linked to GDP growth.

2. Solution: C.

Real GDP growth = labor input growth + labor productivity growth = 0.8% + 1.2% = 2.0%

Nominal GDP growth = real GDP growth + inflation = 2.0% + 2.5% =4.5%

Long-term capital gains in equity markets = %Δ nominal GDP + %Δ profits/GDP + %Δ PE = 4.5% + 0% + 0% = 4.5%

Long-term total domestic market equity return = capital gains + dividend yield = 4.5% + 3.0% = 7.5%

3. Solution: A.

The macroeconomic linkages between countries can be summarized by the formula

$$(X - M) = (S - I) + (T - G) \text{ , where:}$$

(X – M) = net exports (i.e., the current account)

S = domestic private saving

I = domestic investment

T = taxation

G = government spending

This relationship states that a country with increasing savings and taxation, and decreasing domestic investment and government spending is most likely to experience an improvement in the current account (X – M). Based on Figure 2, this is Economy 1.

4. Solution: B.

A country cannot simultaneously have unrestricted capital flows, a fixed exchange rate, and an independent monetary policy because changes in monetary policy (e.g., interest rates) will likely cause capital flows, which will impact on the currency exchange rate. Hence, developing Market B is least likely to be able to follow an independent monetary policy.

5. Solution: A.

The Dornbusch overshooting mechanism states that immediate capital flows will strengthen the currencies of countries with high expected returns to the point where the high return currency will be expected to depreciate going forward by the return differential.

This is captured by the relation:

$$E(\%\Delta S_{VAR/FIX}) = E(R_{VAR}) - E(R_{FIX}), \quad \text{where:}$$

$$E(R_{VAR}) = \text{expected return in the variable currency market}$$

$$E(R_{FIX}) = \text{expected return in the fixed currency market}$$

The quote of DOM/FOR has the domestic currency as variable and the foreign currency of Country X as fixed.

The expected return of the domestic market is given by the sum of the domestic returns and premiums. This is equal to 0.75% + 0.00% + 1.10% + 3.00% + 0.00% = 4.85%.

The expected return of the market in Country X is given by the sum of the Country X returns and premiums. This is equal to 1.25% + 0.50% + 0.60% + 4.00% + 0.00% = 6.35%.

Hence under the Dornbusch overshooting model: $E(\%\Delta S_{DOM/FOR}) = 4.85\% - 6.35\% = -1.50\%$

Hence, the forecast foreign exchange rate in one year = $(1 - 0.015) \times \text{spot}_{DOM/FOR} = (1 - 0.015) \times 1.3020 = 1.2825$.

Note that the higher expected return currency of Country X is expected to weaken going forward.

6. **Solution: B.**

Purchasing power parity states that high inflation currencies are expected to weaken. If the domestic country inflation is expected to be higher than inflation in Country X, then the domestic currency is expected to weaken. This means the DOM/FOR quote will rise as there will be more DOM units per FOR units.

4. SS6 Derivatives and Currency Management

Case 1: Joenia Dantas

1. Solution: B.

Converting a floating-rate loan to a fixed-rate loan requires entering into a plain-vanilla (fixed-for-floating) interest rate swap on the pay-fixed side. The swap should have the same maturity, the same payment frequency, and the same floating interest rate index as the loan and its notional principal should be equal to principal balance of the loan. The borrower will pay the fixed rate on the swap (here 10.80%) and receive the index (SELIC) from the swap counterparty. The borrower will pay the index (SELIC) plus any spread (4.50%) to the lender. The net, fixed interest rate on the swapped loan is the fixed rate on the swap plus any spread over index on the loan or 10.80% + 4.50% = 15.30% in this situation.

2. Solution: C.

The original loan is floating rate. A floating rate loan has very low duration and therefore little market value risk. It might, as Serra suggests, pose a cash flow risk if the firm is not able to handle the increase in loan payments associated with an increase in market interest rates. Using an interest rate swap to convert the loan from a floating rate to a fixed rate reduces the cash flow risk. However, the resulting fixed rate loan has a much higher duration and its market value will therefore fluctuate much more drastically as market interest rates change.

3. Solution: B.

The duration of the pay-fixed position in an interest rate swap is equal to the duration of a floating rate bond with the same payment frequency minus the duration of a fixed rate bond with coupon rate equal to the fixed rate and maturity equal to the swap maturity. The duration of the floating rate bond is, on average, half of the time interval between payments (in this case, half of 0.5 years or 0.25 years.) The duration of the fixed rate bond is given as 2.91 years. 0.25 years - 2.91 years = -2.66 years.

4. Solution: A.

When the current duration (DB), the target duration (DT), and the value (B) of the bond portfolio are known and the duration of the swap has been calculated, the notional principal of the appropriate swap (NP) is found as $NP = B\left(\dfrac{MDUR_T - MDUR_B}{MDUR_S}\right)$; In this case, the notional

principal is: $12,000,000\left(\dfrac{2.00 - 5.50}{-2.40}\right) = 17,500,000$.

5.   Solution: A.

If AS borrows in yen, it will borrow ¥1.2 billion (=R30,000,000 × ¥40/R). In order to hedge this, it will enter into a currency swap with a notional principal of ¥1.2 billion/R30,000,000. It will receive 7.10% in yen from the swap and pay 9.50% in yen on the loan, for a net payment of 2.40% (on ¥1.2 billion) or ¥28.80 million.

6.   Solution: C.

The payer swaption gives AS the right (but not the obligation) to enter into the desired swap position at a fixed rate of 14.3%. In six months, the market (fixed) rate on a four-year swap may be less than 14.3%, in which case the swaption will be out-of-the-money and will expire worthless.   In such case, AS will enter into the desired swap at a rate of less than 14.3%.

Case 2: Rose Michael

1.　Solution: A.

$$N_f = \left(\frac{\beta_T - \beta_S}{\beta_f} \right)\left(\frac{S}{f} \right) = \left(\frac{0.8 - 0.95}{1.1} \right)\left(\frac{\$50,000,000}{\$287,500} \right) = -23.7$$, which is negative so the

Bolton account should sell 24 contracts.

2.　Solution: A.

To adjust the allocation from 40% bonds, or $160 million, to 80% bonds, or $320 million, Michael must convert $160 million of stock to a cash equivalent and then convert the cash equivalent into

bonds by buying the following number of bond futures contracts. $N_{bf} = \left(\frac{MDUR_T - MDUR_B}{MDUR_f} \right)\frac{B}{f}$,

where $MDUR_T$ is the target bond duration of 5.9 years; $MDUR_B$ is the duration of the cash index of 0.25 years; $MDUR_f$ is the duration of the bond futures contract of 6.5 years; B is the market value of the bonds being purchased or $160 million; f is the price of the bond futures contract. So

$$N_{bf} = \left(\frac{5.9 - 0.25}{6.5} \right)\frac{160,000,000}{110,000} = 1264.35 \; contracts$$

3.　Solution: A.

There is no need to raise cash (by buying U.S. Treasury Bill futures) to alter the holdings of Portfolio A and Portfolio B.

Case 3: Omega Analytics

1. Solution: A.

The profit per collar = $S_T + \max(0, X_1-S_T) - \max(0, S_T-X_2) - S_0 - (p_0-c_0)$, where:

S_0, S_T = price of underlying at time 0 and time T

X_1 = exercise price of put, X_2 = exercise price of call;

p_0 = price of put at time 0; c_0 = price of call at time 0

Profit = 33+0-0-30-0.15 = 2.85

Total profit = $2.85x30,000 = $85,500

2. Solution: A.

The maximum profit on the collar occurs when the short call expires at the money, i.e., QQQQ = $35.

Max profit per collar = $S_T + \max(0, X_1-S_T) - \max(0, S_T-X_2) - S_0 - (p_0-c_0)$

Max profit per collar = 35+0-0-30-.15 = $4.85

Total max profit = 4.85×30,000 = $145,500

3. Solution: B.

A bull spread combines a long call at a lower exercise price (X_1 = 88) and a short call at a higher exercise price (X_2 = 94). The cost of X_1 is c_1 = $4.40 and the cost of X_2 is c_2 = +$1.00.

The maximum profit per contract = $(X_2 - X_1 - c_1 + c_2) \times 100$ = ($94 − $88 − $4.40 + $1.00) × 100

= 2.60 × 100 = $260; the maximum profit for 100 contracts is $260 × 100 = $26,000.

4. Solution: C.

If the price of DJX= $93, then the long call (exercise price = $88) will be in the money and its delta would be close to 1.0. The short call (exercise price = $94) will be out of the money and (very close to expiration) its delta would be close to 0.0. The overall delta is then very close to 1.0.

Case 4: Amy Allison

1. Solution: C.

To convert $22 million of the value-stock portfolio to cash (beta=0) will require:

$$N_{Vf} - \left(\frac{\beta_T - \beta_S}{\beta_f} \right)\left(\frac{S}{f} \right) = ((0 - 1.06)/1.03) \times (22,000,000/120,875) = -187.3 \text{ value futures.}$$

2. Solution: A.

A is correct because to convert $60 million of the growth stock portfolio to cash (beta=0) will require:

$$N_{Vf} - \left(\frac{\beta_T - \beta_S}{\beta_f} \right)\left(\frac{S}{f} \right) = ((0 - .95)/1.15) \times (60,000,000/117,475) = -422 \text{ growth}$$

3. Solution: A.

A is correct because the number of bond futures required is:

$$N_{bf} = \left(\frac{MDUR_T - MDUR_B}{MDUR_f} \right)\left(\frac{B}{f_b} \right) = (0 - 5.20)/ (6.87) \times (25,000,000/106,906) = -177.0 \text{ futures}$$

4. Solution: A.

These steps create a synthetic stock index fund that replicates a position in the underlying stocks. This is an appropriate strategy since Client E is long $10 million in cash. The synthetic stock index fund results in significant transaction cost savings and preserves the liquidity Client E requires.

Case 5: Kamiko Watanabe

1. Solution: B.

B is correct because the total value of the portfolio is JPY55.0 billion and the 60% target allocation to equity would be JPY33.0 billion, but the current allocation is JPY27.5 or JPY5.5 billion less. In order to correct this, the equivalent of JPY5.5 billion in bonds with a duration of 4.75 must be sold using bond futures (converted to synthetic cash) and then converted to equity exposure with a 1.15 beta using stock futures. The number of equity futures contracts to be bought is

$$N_{sf} = \left(\frac{\beta_T - \beta_S}{\beta_f} \right)\left(\frac{S}{f_S} \right)$$ where β_T is the target beta (1.15), β_S is the beta of the synthetic

cash position (0), β_f is the beta of the futures contract (1.05), S is the value of the stock being created from the synthetic cash position (JPY5.5 billion), and f_S is the price of one equity futures contract (JPY1,525,000). Therefore, the number of contracts is:

$$N_{sf} = \left(\frac{1.15 - 0.00}{1.05} \right) \times \left(\frac{5,500,000,000}{1,525,000} \right) = 3,950.04$$

2. Solution: A.

A is correct because one of the swaps would be pay Nikko Bond Performance Index return and receive LIBOR.

3. Solution: B.

B is correct because a pay-fixed (receive-floating) position in an interest rate swap is similar to issuing a fixed-rate bond and buying a floating-rate bond with the proceeds. The duration of the fixed-rate bond is approximately 75% of the maturity, and the swap is short this duration. The duration of the floating-rate bond is approximately half its repricing frequency, and the swap is long this duration. Therefore, the duration of the 3-year swap with semi-annual payments is (0.5 × 0.5) − (0.75 × 3) = −2.00.

4. Solution: B.

B is correct because the original swap is pay-fixed, implying that the offsetting swap would be pay-floating. A receiver swaption provides its owner with the right to enter a pay-floating (receive-fixed) in a swap at the exercise fixed rate, whereas a payer swaption provides the right to enter the swap in a pay-fixed position.

Case 6: Manuel Silva

1.   Solution: B.

B is correct. Silva is incorrect about covered calls. Covered calls do not provide protection against downside losses. They do limit upside gains.

2.   Solution: A.

A is correct. In the butterfly spread, using calls you go long the 1100 and 1150 strikes and short 2 of the 1125 strike. The maximum profit is when the index is at 1125. The maximum profit per contract = Profit on long 1100 + Profit on 2 short 1125 + Profit on long 1150 = (1125 − 1100) − 95.85 + (2 × 80.50) − 64.70 = 25.45. The profit per contract = 25.45 × 100 = $2,545.

3.   Solution: B.

B is correct. The straddle consists of a long call and a long put at a strike price of 1125. The maximum loss occurs when the index is at 1125, when the call and put are at the money. The maximum loss = Call premium + Put premium = 80.50 + 48.00 = 128.50. Per contract the loss is 100 × 128.50 = $12,850.

4.   Solution: C.

C is correct. Strategy C is a collar, which is a directional strategy; that is, its performance is dependent on the direction of the movement of the underlying (in this instance, the S&P 500 Index). The performance of strategy A (butterfly spread) and strategy B (straddle) are based on the expected volatility (relative to the rest of the market) of the S&P 500 Index.

Case 7: Anna Lehigh

1. Solution: B.

B is correct. At expiration, at-the-money call options move very rapidly to a delta of 1 or 0. At this point, the gamma is the highest and it is very difficult to maintain a delta-hedged position.

2. Solution: C.

C is correct. Strategy 3 will have a value of USD10. A put bear spread entails buying the put with the higher exercise price (USD100) and selling the put with the lower exercise price (USD90). Value at expiration = max (0, 100 – 88) – max(0, 90 – 88) = 10

3. Solution: B.

B is correct because purchasing 15 futures contracts increases the beta to 1.00, not 1.10. Purchasing 45 futures contracts is necessary to attain the beta target.

$$N_f = \left(\frac{\beta_t - \beta_s}{\beta_f} \right) \left(\frac{S}{f} \right)$$ where: N_f = number of futures, β_t = beta target, β_s = beta of the

stock portfolio, β_f = beta of the futures contract, S = stock portfolio value, and f = price of the

futures contract. $$45 = \left(\frac{1.10 - 0.95}{1.00} \right) \left(\frac{30,000,000}{100,000} \right)$$

4. Solution: B.

B is correct. Shorting European stock market futures, selling EUR, and buying USD will result in the Packer endowment fund earning the U.S. risk-free rate.

5. Solution: A.

A is correct because a swap that receives LIBOR and pays the midcap index will outperform either of the other swap alternatives outlined. Given the market expectation, Lehigh wants to receive LIBOR because rates are expected to rise and pay the midcap index because that index is expected to underperform the small-cap index.

Case 8: Garrison Investments Scenario

1.   Solution: C.

In order to adjust the allocation of an existing equity portfolio, two futures contracts are needed. The first contract should have an underlying equal (or highly similar) to the existing equity exposure to be reduced. This contract is sold to reduce a portion of the existing portfolio to a zero beta, effectively canceling the exposure to that equity sector. The second futures contract should have an underlying equal to the desired equity exposure. This contract is purchased to provide the desired equity exposure. The number of contracts to use is calculated using the following formula:

$$\text{number of contracts} = \left(\frac{\beta_{target}-\beta_{positiont}}{\beta_{futures}}\right)\left(\frac{value\ of\ position}{futures\ price\times multiplier}\right)$$

For Point University, should sell 417 mid-cap contracts:

$$\text{number of contracts} = \left(\frac{0-1.3}{1.1}\right)\left(\frac{80,000,000}{908\times250}\right) = -416.5 \approx -417 \text{ contracts}$$

Note that the negative sign indicates that the contracts should be sold.

2.   Solution: C.

Regressing the foreign market return measured in the investor's domestic currency versus the foreign currency value produces a minimum variance hedge ratio, and the intent is to minimize the volatility of the return to the domestic investor. It jointly minimizes the volatility of the foreign market and currency. It would be a form of a cross hedge because the hedged item (RDC) is not the same thing as the hedging vehicle (the foreign currency), but that is a vague answer and much less specific than correctly describing it as a MVH. (All MVHs are cross hedges, but most cross hedges are not MVHs.) A transaction exposure generally refers to hedging a known in or out flow of a foreign currency. There are elements of that here, but it is a much less specific answer and so is not acceptable.

3.   Solution: B.

The slope coefficient for a regression of the foreign asset returns measured in the investor's domestic currency (USD) is the MVHR. JPY 200,000,000 × 0.8 = JPY 160,000,000.

4.   Solution: C.

The MVHR is based on regressing historical returns and its future performance is therefore less predictable and riskier. The relationship (correlation) can change. Buying calls on the USD is equivalent to buying puts on the yen and the statement correctly describes the consequences of

a protective put on the yen: downside protection, full upside participation, but an initial option premium expense.

Case 9: Declan Kaufman Scenario

1.   Soluton: B.

If Burch's firm borrows directly in USD, her firm will pay the USD reference rate +100bps.

If Burch's firm uses the cross-currency basis swap to borrow USD the firm will:

● Borrow EUR directly at EUR reference rate +70bps.

● Swap the Euros for USD under the swap, and in doing so agreeing to pay the USD reference rate, and receive the EUR reference rate *minus 20bps since the basis is -20bps.*

The net interest paid would, therefore, be:

(EUR reference rate + 70bps) + USD reference rate – (EUR reference rate – 20bps) = USD reference rate + 90bps

The advantage of borrowing USD through the swap market versus directly is therefore 10 bps (i.e., the difference between the cost of direct borrowing [USD reference rate + 100bps] and the cost of borrowing USD through the swap [USD reference rate + 90bps]).

2.   Solution: C.

The approximate gain or loss for a 1% change in volatility for a variance swap is the swap's vega notional. The vega notional is related to variance notional through the formula:

$$\text{variance notional} = \frac{\text{vega notional}}{2 \times \text{volatility strike price}}$$

Here the variance notional is given as 263; therefore, the vega notional = 263 × 2 × 19 = $9,994.

3.   Solution: B.

Payoff to variance buyer = variance notional × (realized variance – variance strike) = 263 × (21^2 – 19^2) = $21,040

4.   Solution: C.

Both comments are accurate comments. The value of a variance swap becomes less dependent on implied volatility and more dependent on realized volatility as time passes. The payoff of variance swaps is convex in relation to volatility due to the nonlinear (squared) nature of variance in relation to volatility.

Case 10: Gari Dimeola Scenario

1.   Solution: C.

The U.K. investor is short EUR, so they will lose on this position when the Euro strengthens against GBP. When the EUR strengthens against GBP the EUR/GBP rate will fall since it will cost less EUR to b uy GBP (recall that the CFA curriculum presents currency quotes as variable or fixed). Hence, Strategy 1 and Strategy 3 would be adequate hedges. Conversely, when the EUR strengthens against GBP the GBP/EUR rate will rise meaning that Strategy 2 is also an effective hedge.

2.   Solution: C.

A short straddle position is created by selling a call and a put with the same underlying details. The short straddle will have a delta that is close to zero when the options are at the money, but will have negative gamma since it is a short option position. Short options also have a positive theta and negative vega as found in Strategy C.

3.   Solution: B.

A short put will have a positive delta since it loses value as the underlying asset price falls, and a negative gamma since it is a short option position. It also has positive theta since short options profit as time decay reduces the value of the option. It will also have negative vega since an increase in volatility will increase the value of the put and causes losses to the short put position.

4.   Solution: A.

A volatility smile occurs when both out-the money (OTM) puts and OTM calls have higher implied volatility than at-the-money (ATM) options. A volatility smirk occurs when OTM puts have higher implied volatility but OTM calls have lower implied volatility. Since options prices decline as implied volatility falls, Karunathilike should sell OTM calls and buy OTM puts to profit from his view.

Case 11: Upsala Asset Management Scenario

1.   Solution: B.

The currency overlay approach follows the IPS guidelines, but the portfolio manager is not responsible for currency exposure. Instead, a separate manager, who is considered an expert in foreign currency management, is hired to manage the currency exposure within the guidelines of the IPS. A strategic hedge ratio probably refers to a long-term percentage of currency risk to be hedged. In a separate asset allocation approach, there are two separate managers much like the currency overlay approach, but the managers use separate guidelines.

2.   Solution: C.

Since the question is concerned with eliminating basis risk and not with mitigating transactions costs, statement C is the best choice. The only way to avoid basis risk is to enter a contact with a maturity equal to the desired holding period. Continually adjusting the hedge would likely create significant trading costs, but is the best method for reducing basis risk. When the futures contract is longer than the desired holding period, the investor must reverse at the end of the holding period at the existing futures price. If the futures contract is shorter than the desired holding period, the investor must close the first contract and then enter another. Both the shorter-term and longer-term contracts will create basis risk for Wulf 's portfolio.

3.   Solution: B.

Wulf needs protection against depreciation of the yen, (i.e., appreciation of the euro and appreciation of the ¥/€ rate). Buying an ATM ¥/€ call option (i.e., a long position in the euro) provides the complete downside risk protection that Wulf has implemented. Selling a 25-delta put option will limit upside potential from yen appreciation (euro depreciation), but reduce the cost of the hedge. The combination of a long position in a call option and a short position in a put option is called a risk reversal. Answer A is incorrect because selling a 25-delta call option in conjunction with buying an ATM call option (bull spread) will only provide limited protection against yen depreciation (i.e. limited downside risk protection). Answer C is incorrect because buying a 25-delta call option will only provide downside risk protection starting from the relevant 25-delta strike level.

4.   Solution: A.

Futures remove translation risk by protecting the investor against losses on the amount hedged, but they also eliminate any chance of a gain from favorable movements. They are, however, very liquid and are less expensive to use. Options require a premium in order to provide insurance against unfavorable exchange rate movements.

5. Solution: B.

To answer this question, you must determine the beginning and ending value of the unhedged investment in terms of the investor's domestic currency. The domestic currency is the EUR and the foreign currency is the GBP. Note that the data is given as indirect quotes of the GBP (i.e., FC in the numerator). The following solution takes that into account.

BV = GBP5,000,000 / (0.78/EUR) = EUR6,410,256, based on S_o

EV = GBP5,100,000 / (0.75/EUR) = EUR6,800,000, based on S_t

Also account for the gain/loss on the 5,000,000 short GBP contract position. We know from the case that a contract longer than the desired period was used, which is why F_t and S_t can differ at the end of the end of the evaluation period. The beginning and ending contract prices in direct quotes of the GBP are:

F_o = 1 / 0.79 = EUR1.26582/GBP

F_t = 1 / 0.785 = EUR1.27389/GBP

Having sold at the lower F_o there is a loss of:

(EUR1.27389 / GBP − 1.26582) $\times$ GBP5,000,000 = EUR40,350

This makes the total return:

(EUR6,800,000 − EUR40,350) / EUR6,410,256 = 5.45%

Note that there are other ways to order these calculations that give the same result. This is the normal "CFA way" to analyze the situation, and it is recommended you follow it, especially if this had been a constructed response. Other methods that reach the same result should be acceptable, but why risk it.

6. Solution: B.

If Bauer shorts the appropriate amount of the index and the short position is perfectly correlated with the investment, the return must be the foreign risk-free rate. If Bauer then chooses to hedge the currency risk, he knows the exact value of the foreign currency to hedge and that the return to the (double) hedging strategy must be the domestic risk-free rate.

5. SS7-8 Fixed income Portfolio Management

Case 1: Franconia Notch

1. Solution: C.

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.

2. Solution: B.

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.

3. Solution: C.

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.

4. Solution: C.

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.3

Case 2: Farro

1.   Solution: A.

A is correct. Farro's explanation is correct. There are two basic approaches to credit bond portfolio management, top-down and bottom-up. The top-down approach forms views on large-scale economic and industry developments and drives asset allocation decisions. The bottom-up approach focuses on individual issuers and issues that will outperform their peer groups. Relative value refers to the ranking of fixed-income investments by sectors, structures, issuers, and issues in terms of their expected performance during some future period of time.

2.   Solution: B.

B is correct because Kumar is incorrect regarding his explanation of excess returns. Excess returns represent the difference, positive or negative, between the total return of all credit securities and Treasury securities along a set of key rate duration points across the term structure. This single statistic, excess return, therefore normalizes for the duration differential among debt asset classes, in this case between longer-duration credit and shorter-duration Treasuries.

3.   Solution: A.

A is correct. Liquidity needs will impact portfolio construction. There are certain securities such as bonds issued by large corporations that will be more liquid than others such as private placements. Farro should emphasize large corporate issuers when constructing the portfolio to meet Delmarva's potential cash withdrawal.

Case 3: Kingsbridge

1.   Solution: C.

Kingsbridge can leverage the GBP150 million portfolio by 100% by borrowing an additional GBP150 million. The duration of equity is provided by:

$$D_E = \frac{D_A A - D_L L}{E}$$

$$D_E = \frac{5.50(300) - 1.00(150)}{150} = 10.00$$

2.   Solution: C.

To hedge against rising rates, Bixby needs to reduce duration by selling the following number of Treasury futures contracts:

$$\left(\frac{(D_T - D_I \times P_I)}{D_{CTD} P_{CTD}}\right) \times \text{ Conversion factor for the CTD bond}$$

where D = duration, T = target, I = initial

$$\left(\frac{(4.25 - 5.50) \times 300,000,000}{5.3 \times 97,750}\right) \times 1.12 = \frac{-375,000,000}{518,075} \times 1.12 = -810.69$$

3.   Solution: B.

The protective put buying strategy establishes a minimum value for the portfolio if interest rates rise but allows the manager to benefit from a decline in rates if his view does not materialize.

4.   Solution: B.

The forward rates for both USD and EUR fully reflect the interest rate differentials as expected by interest rate parity. As such, forwards reflect that USD is expected to appreciate relative to GBP and EUR to depreciate relative to GBP. Kingsbridge's view, however, is that USD will appreciate more than the forward implies and EUR will depreciate more than the forward implies. The result in actively managing the portfolio is that the EUR bonds should be hedged into USD.

Case 4: Chesapeake Partners

1.   Solution: B.

The investor with liabilities will measure success by whether the portfolio generates the funds necessary to pay out the cash outflows associated with the liabilities-in this case, a defined benefit pension plan. Meeting the liability is the investment objective; as such, it also becomes the benchmark for the portfolio. The endowment is focused on measuring the success of its fixed-income managers and does not have a specific liability to meet, therefore a bond market index is an appropriate benchmark.

2.   Solution: C.

Burg is incorrect regarding market risk. Although market risk should be comparable for the portfolio and benchmark index, given a normal upward-sloping yield curve, a bond portfolio's yield to maturity increases as the maturity of the portfolio increases. Because a long duration portfolio is more sensitive to changes in interest rates, a long portfolio will likely fall more in price than a short one. Burg's statement on income risk is correct.

3.   Solution: A.

To immunize a portfolio's target value or target yield against a change in the market yield, a manager must invest in a bond or a bond portfolio whose (1) duration is equal to the investment horizon and (2) initial present value of all cash flows equals the present value of the future liability. Thus, investing in a bond portfolio with a yield to maturity equal to the target yield and a maturity equal to the investment horizon does not assure that the target value will be achieved because of reinvestment risk.

4.   Solution: B.

When such assets 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 seen with a noncallable security. Mortgaged-backed securities exhibit negative convexity. But corporate bonds, if noncallable, are positively convex.

5.   Solution: B.

Yield measures have limitations as an indicator of potential performance. The total return framework is a superior framework for assessing potential performance for a trade.

Case 5: Laredo Advisers

1.   Solution: C.

The profit on the borrowed funds accrues to the equity; therefore, the rate of return increases from 5% in the all-equity case to 5.88% when leverage is used:

$$\frac{50,000,000+12,500,000-3,750,000}{1,000,000,000} = 5.875\%$$

The following table provides the calculations:

		Borrowed Funds	Equity Funds
Amount		$250,000,000	$1,000,000,000
Return rate	5.0%	$12,500,000	$50,000,000
Interest expense	1.5%	$3,750,000	$0
Net profit		$8,750,000	$50,000,000
Component return		3.50%	5.00%
Overall return		5.88%	

2.   Solution: C.

Using interest rate parity, the euro is expected to depreciate by 0.25% − 2.50% = −2.25%. Houston believes that the euro will depreciate by only 1.75%. Based on expected returns alone, Austin should not hedge the currency risk using a forward contract because he would lock in a 2.25% loss in the euro.

Case 6: Andres Rioja

1.   Solution: B.

The investor with liabilities will measure success by whether the portfolio generates the funds necessary to pay the cash outflows associated with the liabilities. In other words, meeting the liabilities is the investment objective; as such, it also becomes the benchmark for the pension plan. Although Crianza should use the pension liabilities as the benchmark, this does not preclude managers of the various asset portfolios from being assigned an appropriate asset benchmark to manage against.

2.   Solution: C.

The mortgage-backed securities fund strategy uses enhanced indexing. This management style uses a sampling approach in an attempt to match the primary index risk factors and achieve a higher return than under full replication.

3.   Solution: B.

The portfolio has to be rebalanced to match the dollar duration of the liabilities. The liabilities have dollar duration of $4,000,000 (thousands) × 14 = $56,000,000 (thousands). The mortgage-backed securities fund is the asset class that poses contingent claim risk, so it is being liquidated, and the $700,000 thousand is being invested in the long corporate bond fund. The new $500,000 thousand contribution is invested in Treasury STRIPs. The reallocated assets have dollar durations nearly identical to the liabilities as calculated in the following table:

Strategy	Old Market Value ($ thousands)	New Market Value ($ thousands)	Duration (years)	Dollar Duration ($ thousands)
Money market	175,000	175,000	0.25	43,750
Mortgage-backed securities fund	700,000	0	3	0
Emerging market bond fund	675,000	675,000	4.6	3,105,000
Long corporate bond fund	1,575,000	2,275,000	14	31,850,000
Treasury STRIPs	375,000	875,000	24	21,000,000
Total	3,500,000	4,000,000		55,998,750

4.   Solution: B.

Priorat's explanation of key rate duration is accurate, whereas his explanation of convexity adjustment is incorrect. A convexity adjustment is used to improve the accuracy of the index's estimated price change for large parallel ch anges in interest rates. A convexity adjustment is an estimate of the change in price that is not explained by duration.

198-214

Case 7: Midwest

1. Solution: A.

The investor with liabilities will measure success by whether the portfolio generates the funds necessary to pay out the cash associated with the liabilities—in this case, a defined benefit pension plan. Meeting the liability is the investment objective; as such, it also becomes the portfolio's benchmark.

2. Solution: A.

The portfolio does need to be rebalanced. As interest rates fluctuate or as time elapses, the portfolio duration will also change; thus, the portfolio must be rebalanced to adjust duration to the desired level.

3. Solution: B.

Applying functional duration or key rate durations allows durations along the yield curve to match those of the liabilities. A nonparallel shift in the yield curve will affect assets and liabilities in an offsetting manner. In addition, the portfolio could allow for active management to generate additional returns—for an incremental difference between the minimum acceptable return and the higher possible immunized rate, which is referred to as the "cushion spread."

4. Solution: B.

When such assets as MBS have a contingent claim provision, explicit or implicit, there is an associated risk. As rates fall, the security could have coupons halted and principal repaid. The result is reinvestment risk. It also limits any potential upside that would be generated by a non-callable security.

5. Solution: B.

Portfolio B is the optimal strategy. Interest rate swaps are used to mimic the term structure exposure of the liability, freeing up capital to invest in higher-returning assets, such as equities. In this liability-relative approach, investments are in long-duration bonds, equities (a small allocation), and interest rate derivatives (to hedge the liability). Although interest rate risk is hedged with derivatives, Portfolio B allows for additional expected return by including equities to meet future benefits.

6. Solution: C.

Cash flow matching requires a relatively conservative rate-of-return assumption for short-term cash, and cash balances may occasionally be substantial. In contrast, an immunized portfolio is

essentially fully invested at the remaining horizon duration. Funds from a cash flow–matched portfolio must be available when each liability is due.

Case 8: Berg

1.   Solution: B.

Delta plans to leverage the €100 million portfolio by 100% by borrowing an additional €100 million. So, the duration of equity is calculated as follows:

$$D_E = \frac{D_A A - D_L L}{E}$$

$$D_E = \frac{6.00(200) - 1.00(100)}{100} = 11.00$$

2.   Solution: C.

To hedge against rising rates, Delta needs to reduce duration by selling the following number of bond futures contracts:

$$\left(\frac{(D_T - D_I) \times P_I}{D_{CTD} P_{CTD}}\right) \times \text{conversion factor for the CTD bond}$$

where

DT= target duration for the portfolio

DI =initial duration for the portfolio

PI = initial market value of the portfolio

D_{CTD} = duration of the cheapest-to-deliver bond

P_{CTD}= price of the cheapest-to-deliver bond

$$\left(\frac{(4.00 - 6.00) \times 200,000,000}{5.2 \times 98,000}\right) \times 1.15 = \frac{-400,000,000}{509,600} \times 1.15 = -902.669$$

3.   Solution: B.

Using interest rate parity, the euro is expected to depreciate by 3.25% − 2.50% = 0.75%. Delta's strategists believe that the euro will depreciate by only 0.35%. Based on expected returns alone, Delta should hedge the currency risk using a forward contract and lock in a 0.75% gain in British pounds.

4.   Solution: A.

The statement about Risk 1 is incorrect; emerging market debt returns are characterized by significant negative skewness.

5.   Solution: B.

Decomposing a portfolio's historical returns shows whether a manager has skill in security selection. For long periods, when fund fees and expenses are factored in, the realized alpha of fixed-income managers has averaged close to zero with little evidence of persistence.

Case 9: Aina Monts

1.   Solution: A.

A is correct because an extension of classical immunization is to integrate immunization strategies with elements of active management strategies. The difference between the 6.75% YTM and 6.25% required rate is the cushion spread. As long as there is a spread cushion the manager can actively manage part or the entire portfolio.

2.   Solution: C.

C is correct because contribution to spread duration is the key measure that provides the relative sensitivity to movements in spreads for a particular sector. The portfolio has an overweight to Treasury on a contribution to overall duration but is not a spread sector; a neutral position in mortgages and an underweight in corporate bonds (2.13 years in the portfolio vs. 2.37 years in the benchmark). The equal weight on a nominal basis in corporate bonds implies the duration of those bonds in the portfolio is shorter than the bonds in the index which will be less sensitive to changes in spread movement.

3.   Solution: A.

A is correct because when securities have a contingent claim provision, explicit or implicit, there is an associated risk. In a falling rate scenario, the manager may have higher coupon payments halted and receive principal as is the case with mortgage-backed securities. Mortgage-backed securities therefore have contingent claims risk. Fixed-rate corporate bullet bonds do not have contingent claims risk.

4.   Solution: C.

C is correct because curve-adjustment trades take place when the portfolio manager expects credit spreads will widen (either overall or in a particular sector). The specific strategy is to shift the portfolio's exposure to shorten spread duration by selling longer maturity corporate bonds and buying shorter maturity bonds, which lowers the contribution to spread duration.

5.   Solution: B.

B is correct because callable bonds significantly underperform non-callable bonds when interest rates decline because of their negative convexity. When the bond market rallies, callable structures do not fully participate given the upper boundary imposed by call prices.

Case 10: Mike Spong

1.   Solution: B.

In Exhibit 1, the contributions to spread duration for the Credit Sector (1.6) and for the Mortgage Sector (1.6) are slightly higher than the corresponding contributions to spread duration in the Benchmark, that is, there are minor risk factor mismatches. Note, however that the portfolio duration of the benchmark and the Smithers portfolio is 4.7. Thus the strategy followed by Smithers is best described as an enhanced indexed strategy with minor risk factor mismatches. Also, in Statement 1, Spong states "…Smithers has minor risk factor mismatches with the benchmark."

2.   Solution: A.

Statement 1 indicates that Mondavi follows a full-replication approach that is pure bond indexing. In this approach many issues in the bond index may be illiquid and infrequently traded. This makes full-replication of an index not only difficult but also expensive to implement.

3.   Solution: B.

The objective regarding tracking risk is inconsistent with their strategy. In Statement 2, Spong states that Vertex's strategy is to construct a portfolio with significant risk factor mismatches with the benchmark and that it relies on proprietary interest rate forecast models to generate returns. Exhibit 1 indicates that for Vertex the contributions to spread duration are significantly different from the benchmark in the credit and CMBS sectors. Note also that portfolio duration is different from the benchmark duration. All this suggests that Vertex is an active manager. As an active manager Vertex would be willing accept large tracking error with the objective of generating portfolio returns that exceed the benchmark.

4.   Solution: C.

Spong's fourth statement indicates that Vertex expects a 25 basis point rise in short-term rates and a 75 basis point increase in long-term rates, that is, the yield curve is expected to steepen. In this environment callables and putables will outperform bullet structures. As rates rise, given low implied interest rate volatility, the probability of a call diminishes as does the value of the call option. Consequently callables will outperform bullets. As rates rise the put option becomes more valuable, furthermore the put allows the investor to put the option back at par thus avoiding losses. For these reasons the value of the putable structure can be expected to increase. In contrast, the bullet structure will decline in value. Thus putables also outperform bullets.

5.   Solution: B.

As spreads tighten the credit sector will benefit from increased exposure to longer duration issues. Since the yield curve is expected to steepen, it would be appropriate for Vertex to shorten duration in Treasuries since rising yields will cause security prices to fall. Ideally, the net effect should be to reduce duration below the benchmark.

Case 11: Allied Advisors

1. Solution: B.

Thorne's statement is incorrect because if Flagstone had specific liabilities to match, then the liability itself becomes the benchmark.

2. Solution: A.

The Barclays Aggregate index represents a diversified portfolio of sectors and has medium-term duration which should generate reasonable returns with moderate price sensitivity as interest rates fluctuate. Statement 2 clearly indicates that the Flagstone endowment fund has a medium term horizon and generally seeks to avoid capital losses.

3. Solution: B.

The portfolio's large deviations from the benchmark in returns shown in Exhibit 2 indicate that Allied makes active bets. These returns exceed the modest that expected from enhanced indexing where the objective maybe to earn back the administrative fees of 0.15% in this case. Exhibit 3 in fact shows that Allied's sector allocation as measured by spread duration deviate materially from the index.

4. Solution: B.

The portfolio's spread duration (2.87) is greater than that of the benchmark (2.31) resulting in a mismatch of risk exposures. The difference is primarily because of the larger contribution to spread duration of corporate bonds in the portfolio (1.96) compared to the benchmark (1.38) despite having the similar nominal representation (22.5% and 23.0%, respectively).

5. Solution: A.

Matching key rate durations will reduce tracking error resulting from a non-parallel shift, such as a twist in the yield curve.

Case 12: Robert Waterman

1.   Solution: B.

The riding the yield curve strategy is based on assuming the yield curve is upward sloping and will not change in shape. Therefore, buy the bond at the end of the steeper segment of the curve and hold it. As it shortens in maturity (duration), it will trade at a now lower yield and there will be a price again. The U.K. curve is steeper and more suited to the strategy. The decline in rates from holding a U.K. bond will be larger, and therefore, the price again will be larger. Of course, the yield is also better.

2.   Solution: C.

Buying convexity means increasing portfolio convexity. Higher convexity is a benefit if there are large changes in interest rates, but the "cost" is a lower yield. Increasing portfolio convexity can be done by reducing exposure to callable and MBS (both have embedded short call positions), buying

putable bonds, or most effectively by buying calls and/or puts on bonds. While it is not a requirement to buy both options, that certainly works and is the only choice that is true.

3.   Solution: A.

The carry trade refers to borrowing at lower rates to invest at higher rates. In this case, it was specified to use three-year duration instruments, so borrow at 1% U.S. rates and invest at 2% U.K. rates. An increase in U.K. rates would hurt the value of the bonds purchased and having borrowed in the United States at 3-year duration, the decline in U.S. rates increases the value of that liability, which is also a loss to the investor. The carry trade will not work if IRP predicts changes in currency value. The United Kingdom has the higher interest rate, so its currency will trade at a forward discount. If the U.K. currency (GBP) declines it will take more GBP to buy the USD required to pay back the U.S. borrowing. The cross currency carry trade actually depends in part on the observation that the higher interest rate (GBP) currency usually appreciates in value, Forward premiums and discounts are not valid predictors of change in currency value.

4.   Solution: A.

The unhedged return on the foreign bond is the return on the bond plus the expected change in
The NOK:

7.00 − 0.40 = 6.60

Hedging the currency requires selling the NOK forward and buying the USD. That makes the return on the hedged currency the initial forward premium or discount, which is approximated at lose the NOK and gain the USD short-term rate:

0.5-2.80=-2.30

The hedged return is the return on the bond plus the forward discount for the NOK:

7.00-2.30=4.70

The currency unhedged return is superior. Therefore, do not hedge the currency risk.

5. Solution: A.

The U.S.-based firm would normally sell the foreign currency (NOK) and buy the USD to hedge the currency risk. An alternative is to sell another currency that is highly correlated to the NOK, a form of cross hedge (sometimes called a proxy hedge). The idea is that if the NOK declines versus the USD, the SEK will also decline for a gain on the short SEK contracts that offsets the loss on NOK. There must be high correlation and a predictable relationship of the SEK and NOK for this to work. Higher correlation to the USD has nothing to do directly with the cross hedge of the currency risk. Note that if the USD and the other currencies are highly correlated, it suggests they change in similar fashion to each other; in other words, the exchange rate will be relatively stable and change in currency value will be a less significant factor in the return earned from investing in the foreign bond.

6. Solution: C.

G-spread is the yield of the bond minus the interpolated yield of a comparable duration government bond. Letting w be the weight to the 3.0 duration U. S. government bond, the interpolated yield for a 3.5-year duration U.S. government bond is found as follows:

3.5= w3.0+ (1-w) 4.1

3.5= 3.0w+4.1-4.1w

0.6=1.1w

W=55% and the weight in the 4.1 duration bond is 45%

Interpolated yield of a comparable duration U.S. government bond:

0. 55(1.00) + 0.45(1.10) = 1. 05%

And G-spread is: 3.70-1. 05 = 2. 65%

Furthermore, this G-spread is the expected return if you invest in and hedge the interest rate risk of the corporate bond by shorting a 55/45 weighted combination of the two government bonds that duration matches the corporate bond.

While SFR are similar to government bond yields, SFR do reflect some credit risk. SFR are not less credit risky than government bonds.

6. SS9-10 Equity portfolio management

Case 1: William Pugh

1. Solution: C.

The Russell 2000 small-cap value index contains a large proportion of illiquid stocks. PMA also indicates that they assume that the factors used to explain stock returns are uncorrelated. In such cases the best index construction method is stratifiedr sampling.

2. Solution: B.

ASM Partners' strategy is a market neutral long-short strategy. This strategy generates two alphas, one from the long position and one from the short position.

3. Solution: A.

The CKI portfolio has a dividend yield that exceeds the benchmark dividend yield. The P/E and P/B for the portfolio are less than the benchmark P/E and P/B. In addition, the forecast growth of the portfolio is under the forecast growth of the benchmark. These factors indicate that CKI manages a value portfolio.

Case 2: Bobby Sarkar

1. Solution: B.

B is correct. A value weighted index is biased toward large mature companies and it minimizes tracking error. Furthermore, the index is self-rebalancing in that the weights automatically adjust as stock prices change, thus rebalancing costs are minimal.

2. Solution: C.

C is correct. A market neutral long-short strategy implemented using small cap stocks will help Bayside earn alpha associated with small cap stocks but without beta exposure to the small cap sector. The overall market beta of the market neutral long-short strategy is zero.

3. Solution: A.

A is correct. Manager A has a low PE, high dividend yield and a style fit of 87% which suggests that he is following an active value strategy.

4. Solution: C.

C is correct. Manager C follows a growth investment style. Earnings momentum is a growth investment sub-style.

Case 3: Monongahela Ap

1. Solution: A.

A is correct. The three main building blocks of portfolio construction are alpha skills, position sizing, and rewarded factor weightings. Fund 1 generates active returns by skillfully timing exposures to factors, both rewarded and unrewarded, and to other asset classes, which constitute a manager's alpha skills.

2. Solution: C.

C is correct. Bottom-up managers evaluate the risk and return characteristics of individual securities and build portfolios based on stock-specific forecasts; Fund 3 follows this exact approach. Example views of bottom-up managers include expecting one auto company to outperform another, expecting a pharmaceutical company to outperform an auto company, and expecting a technology company to outperform a pharmaceutical company. Both bottom-up and top-down managers can be either diversified or concentrated in terms of securities.

3. Solution: A.

A is correct. Because Fund 1 has a large AUM but focuses on small-cap stocks, holds a relatively small number of securities in its portfolio, and prefers to make large trades, Fund 1 likely has the highest implicit costs. Each of these characteristics serves to increase the market impact of its trades. Market impact is a function of the security's liquidity and trade size. The larger a trade size relative to a stock's average daily volume, the more likely it is that the trade will affect prices. The relatively low level of trading volume of small-cap stocks can be a significant implementation hurdle for a manager running a strategy with significant assets under management and significant positive active weights on smaller companies.

4. Solution: C.

C is correct. The portion of total portfolio risk explained by the market factor is calculated in two steps. The first step is to calculate the contribution of the market factor to total portfolio variance as follows:

$$CV\text{market factor} = \sum_{j=1}^{n} x_{marketfactor} x_j C_{mf,j} = x_{marketfactor} \sum_{j=1}^{n} x_j C_{mf,j}$$

where

$CV_{market\,factor}$ = contribution of the market factor to total portfolio variance

$x_{market\,factor}$ = weight of the market factor in the portfolio

x_j = weight of factor j in the portfolio

$C_{mf,j}$ = covariance between the market factor and factor j

The variance attributed to the market factor is as follows:

$CV_{market\,factor}$ = (1.080 × 0.00109 × 1.080) + (1.080 × 0.00053 × 0.098) + (1.080 × 0.00022 × −0.401) + (1.080 × −0.00025 × 0.034)
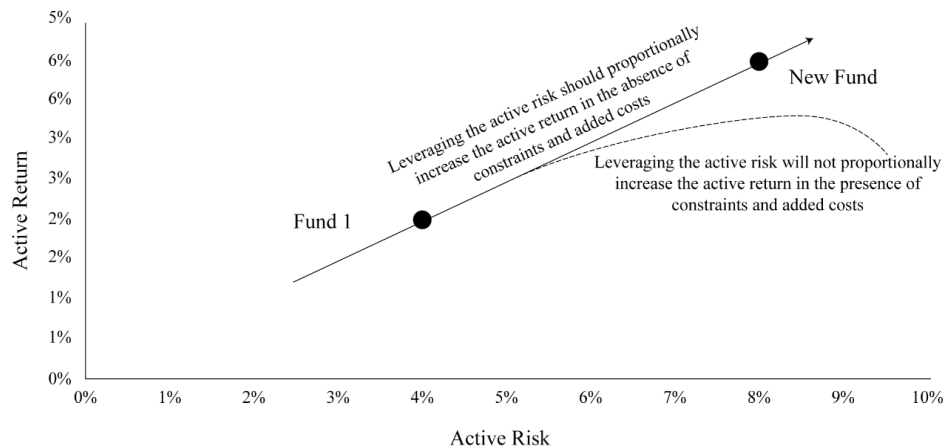
$CV_{market\,factor}$ = 0.001223

The second step is to divide the resulting variance attributed to the market factor by the portfolio variance of returns, which is the square of the standard deviation of returns:

Portion of total portfolio risk explained by the market factor = 0.001223/(0.0374)2

Portion of total portfolio risk explained by the market factor = 87%

5. Solution: A.

A is correct. As the new fund scales up active risk by doubling active weights, it will face implementation constraints that will prevent it from increasing the weights of many of its short positions. The information ratio (IR) is defined as the ratio of active return to active risk. If there were no constraints preventing the new fund from scaling up active weights, it could scale up active risk by scaling up active weights, proportionally increase active return, and keep the IR unchanged. Implementation constraints experienced by the new fund, however, such as the cost and difficulty in borrowing securities to support the scaled-up short positions, will prevent the active return from proportionally increasing with the active risk. Therefore, the IR would most likely be lower for the new fund than for Fund 1. As the following chart illustrates, as active risk is scaled up, implementation constraints create diminishing returns to scale for active returns, thereby degrading the IR.

The chart shows Active Return (y-axis, 0% to 5%) versus Active Risk (x-axis, 0% to 10%), with Fund 1, New Fund plotted, and annotations "Leveraging the active risk should proportionally increase the active return in the absence of constraints and added costs" and "Leveraging the active risk will not proportionally increase the active return in the presence of constraints and added costs".

6. Solution: C.

C is correct. Active risk is affected by the degree of cross-correlation. The correlation of two stocks in different sectors is most likely lower than the correlation of two stocks in the same sector. Therefore, the correlation of the energy/financial pair is most likely lower than that of the automobile/automobile pair. Because both positions were implemented as an overweight and underweight, the lower correlation of the two stocks in the new position should contribute more to active risk than the two-stock position that it replaced.

7. Solution: B.

B is correct. Active share changes only if the total of the absolute values of the portfolio's active weights changes. For the two trades in Fund 3, both the initial position and the new position involved two stocks such that one was 1pp underweighted and the other was 1pp overweighted. Although the active weights of particular securities did change between the initial position and the new position, the total absolute active weights did not change. Therefore, the portfolio's active share did not change.

8. Solution: B.

B is correct. Skewness measures the degree to which return expectations are non-normally distributed. If a distribution is positively skewed, the mean of the distribution is greater than its median—more than half of the deviations from the mean are negative and less than half are positive—and the average magnitude of positive deviations is larger than the average magnitude of negative deviations. Negative skew indicates that that the mean of the distribution lies below its median, and the average magnitude of negative deviations is larger than the average magnitude of positive deviations. Fund 3's new risk control constrains its model's predicted return distribution so that no more than 60% of the deviations from the mean are negative. This is an explicit constraint on skewness.

Case 4: Sonera Endowment Fund

1. Solution: B.

B is correct because manager B has a positive information ratio, demonstrating that he has been able to deliver active returns relative to his level of tracking error. Manager B's investment style is consistent with a value investment style, with a higher beta for the two value indices, the small-cap value index and the large-cap value index.

2. Solution: C.

C is correct because holdings data are required to create a style box and interpret the results. Gatchell is given the styles and the assets under management but not each individual investment or holding that each investment manager has selected.

3. Solution: C.

C is correct because an equal-weighted index is biased towards small-capitalization stocks.

4. Solution: B.

B is correct. Gatchell is correct that stock index futures and equity swaps are low-cost alternatives to equity index mutual funds. He is also correct that a drawback of stock index futures is they have to be rolled over periodically. He is incorrect about the pricing of mutual funds: They are priced once daily.

Case 5: McMorris

1. Solution: A.

The active equity strategy has the lowest information ratio and is thus least efficient in delivering active returns. Information ratio = Active return (Portfolio − Benchmark)/Tracking risk. The information ratio is 0.5%, which is the lowest of the three.

2. Solution: B.

A market-neutral strategy is constructed to have an overall zero beta and thus show a pattern of returns expected to be uncorrelated with equity market returns.

3. Solution: C.

The active equity strategy was not value oriented because the returns-based style analysis indicates a growth orientation given a 0.65 coefficient of determination with respect to growth returns. The current holdings, however, depict a value orientation when compared with the manager's normal benchmark given the differences in dividend yield and P/E. MCAM's style has drifted over time from growth to value.

4. Solution: A.

The main risk for a value-oriented investor rather than a growth-oriented investor is misinterpreting a stock's cheapness within the investor's time horizon.