Ethical and Professional Standards

CFA三级培训项目

讲师：

Reading 3

Application of the Code and Standards: Level III

Case: Jason Locke

- Jason Locke, CFA, has recently been hired as the Chief Investment Officer of the Escarpment Regional Government Employees' Pension Fund (the Fund). Currently, he is conducting evaluations of all external managers employed by the Fund to ensure that they are providing the highest possible returns for their mandates, while complying with all applicable laws and regulations.

  Locke is evaluating the activity of Niagara Growth Managers (NGM), a local money manager allocated 10 percent of the Fund's assets. He realizes that any reduction in the allocation to this local manager will be met with considerable political pressure. The investment policy statement (IPS) for NGM's portion of the Fund's assets states that NGM is to actively manage an equity portfolio of local small-cap, high-tech companies.

Case: Jason Locke

- Upon his review of NGM's activity, Locke is concerned about two items that he would like explained. At a meeting with NGM's portfolio manager, Emma Black, CFA, Locke asks her to comment on each item:

  Commodities Positions

  Locke: "Over the last year, several large positions in commodities have been taken by the Fund's portfolio. This is inconsistent with the IPS."

  Black: "Commodities have significantly outperformed high-tech equities recently. I added commodities to larger clients' portfolios on a temporary basis. Clients were not informed because the positions will be sold once market sentiment shifts. I have not managed commodities before, but I am getting good returns."

  Locke: "I am uncomfortable with these investments in this portfolio."

Case: Jason Locke

- **IPO Share Allocation**

  Locke: "The Fund's portfolio received 50,000 shares of an initial public offering (IPO) on 1 April. On 15 May, 30,000 shares were removed at the current market price."

  Black: "There was a problem with NGM's IPO allocation algorithm. Initially, you were over-allocated and when we discovered the error, your account was adjusted."

  Locke: "Short-term interest should have been credited to the Fund for use of its cash to cover the trade. In any case, this was an IPO of a large international high-tech company. It was not an appropriate investment for the portfolio."

Case: Jason Locke

- After the meeting, Locke is not satisfied with Black's comments and decides that further action is required. He also decides that he will allow NGM to continue to manage Fund assets until he finishes his evaluation. This decision is based on the superior returns of the NGM-managed assets, the significant diversification this portfolio adds to the Fund, and also the political implications of firing the local money manager.

  The next week, Locke calls Black and outlines several conditions that must be fulfilled for NGM to continue as a manager for the Fund. One of the conditions outlined relates to trade allocations.

Case: Jason Locke

- **Trade Allocation**

  Locke: "Provide written trade allocation procedures consistent with the CFA Institute Standards of Professional Conduct."

  Black: "I will mail you a copy of our new procedures stating that trade allocations must be reviewed at the end of each month against clients' IPS. It also says that interest will be credited to accounts that have been incorrectly allocated shares and debited from those accounts that should have received shares."

  With his evaluation complete, Locke must now consider whether to retain NGM as one of the Fund's asset managers.

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Case: Jason Locke

- According to the CFA Institute Standards of Professional Conduct, Locke owes his primary duty of loyalty in managing the Fund to:

  A. the plan trustees.

  B. all of the pension plan beneficiaries.

  C. the Escarpment Regional Government.

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Case: Jason Locke

- **Answer: B.**

  Locke's primary duty is to his clients. In the case of a pension plan, the clients are all of the ultimate beneficiaries.

Case: Jason Locke

- With respect to the commodities positions, which of the following actions best describes Black's violation of the CFA Institute Standards of Professional Conduct? Black violated CFA Institute Standards by:
  A. buying an asset class in which she has no prior management experience.
  B. buying assets that are inconsistent with the portfolio's Investment Policy Statement.
  C. failing to notify the client that she would temporarily deviate from the client's Investment Policy Statement.

Case: Jason Locke

- **Answer: B.**
  Under no circumstances should a manager take investment action that is inconsistent with the client's IPS.

Case: Jason Locke

- With regard to the IPO share allocation, are both NGM's method of trade correction on 15 May and Locke's demand for a short-term interest credit, respectively, consistent with the CFA Institute Standards of Professional Conduct?
  A. Yes.
  B. No, only the method of trade correction is consistent.
  C. No, only the demand for a short-term interest credit is consistent.

Case: Jason Locke

➢ **Answer: C.**

Locke's interest claim is legitimate since the Fund's cash was employed to purchase equities that were later removed from the account. Therefore, the Fund is owed interest for the period in question.

Case: Jason Locke

➢ After his initial meeting with Black, does Locke's decision to allow NGM to continue managing the portfolio violate the CFA Institute Standards of Professional Conduct?

A. No.

B. Yes, because he allowed political factors to influence his decision.

C. Yes, because he is obligated to immediately suspend NGM until he finishes his evaluation.

Case: Jason Locke

➢ **Answer: A.**

Until Locke's investigation is complete, he has no obligation to suspend the manager or take any other action. He believes the manager can and does add value through superior returns and diversification, and therefore it may be reasonable to retain NGM if Locke can be satisfied that the manager can act within the constraints of the IPS and CFA Institute Standards. Until the analysis is complete, it would not be practical, and Locke would be violating his duty to act in his clients' best interests by suspending the manager and leaving the assets unmanaged or to temporarily moving them to another manager for safe-keeping.

Case: Jason Locke

➢ With regard to Locke's condition regarding trade allocation, does Black's response violate the CFA Institute Standards of Professional Conduct with respect to allocation reviews and interest adjustments, respectively?

A. Yes.

B. No, it violates the standards only with respect to allocation reviews.

C. No, it violates the standards only with respect to interest adjustments.

Case: Jason Locke

➢ **Answer: A.**

Client suitability for an investment must be reviewed prior to allocation, not afterward. With respect to interest adjustments, clients who were incorrectly allocated shares must be paid for the use of their cash; however, in no instance should clients suffer a loss because of an allocation error by the manager (that is, have interest removed from their portfolio even though shares are put in their account on a back-dated basis).

Case: Jason Locke

➢ Based on his complete evaluation, what is Locke's best course of action with respect to NGM's management of the Fund's assets?

A. Reduce NGM's allocation of the Fund's assets until NGM has demonstrated its compliance with Locke's conditions.

B. Eliminate NGM as a manager since Locke cannot be sure that NGM will act fairly and in accordance with the Fund's IPS.

C. Maintain NGM's allocation of the Fund's assets and concentrate on evaluating managers with larger proportions of the Fund's assets or with sub-standard performance.

Case: Jason Locke

- **Answer: B.**

  Locke has a duty to the pension plan beneficiaries to act in their best interests. He would be violating that duty if he continues to employ a manager who does not manage its mandate or demonstrate that it is aware of and complies with its own duties to clients. He must demonstrate his own professional competence by firing the manager.

Case: Elias Nano

- Elias Nano, a recent MBA graduate and a CFA Level II candidate, is an unpaid summer intern with Patriarch Investment Counsel and expects to be offered a full-time paid position in the fall. Through his efforts, he is able to convince some family members and friends to become clients of the firm, and he now assists with the management of their accounts. His supervisor congratulates him and states: "These clients are the foundation from which you will be able to build your career as an investment advisor." After working hard all summer, Nano is told that Patriarch will not be able to offer him a paid position.

Case: Elias Nano

- Nano interviews with a number of firms, and tells each one about the accounts that he is managing and expects to be able to bring with him. Because he was merely an intern at Patriarch, he does not think he owes any particular loyalty to Patriarch. He gains further assurance that he can keep the clients from the fact that his former supervisor implied that these were Nano's clients.

  Nano subsequently joins Markoe Advisors as an assistant director with supervisory responsibilities. Markoe Advisors is an investment management firm that advertises that it provides customized portfolio solutions for individual and institutional clients. As a matter of policy, Markoe does not reject as a client any individual meeting the account minimum size. Markoe has two strategies—aggressive growth equity and growth equity—and is always fully invested. Nano asks his family and friends to transfer their accounts from Patriarch to Markoe.

Case: Elias Nano

- As the first CFA candidate to be employed by Markoe, Nano has been asked to head a team that is reviewing the firm's compliance policies and procedures, which Nano considers inadequate and incomplete. He states his concerns to President Markoe: "Although Markoe Advisors, as a firm, cannot adopt the CFA Institute Code of Ethics and Standards of Professional Conduct, the firm can adopt the CFA Institute Asset Manager Code of Professional Conduct." President Markoe tells Nano that the firm is considering acquiring another advisory firm that has similar compliance policies and procedures. Markoe says: "We are not going to consider any compliance changes at this time."

Case: Elias Nano

- Nano decides to draft a model compliance document to guide discussions about compliance issues at the firm in the future. Nano's initial draft includes the following components of a compliance policy statement:

  Performance Presentation

  Performance data must be documented for each of Markoe Advisors' active accounts, be disclosed upon request, and be compared with the firm's composite, which is composed of active accounts only. Performance data must be presented on a before-tax basis to all clients, with the disclosure that all performance data are presented gross of fees.

  Suitability of Investments

  Markoe Advisors, to maintain consistency of performance, assigns each client to one of the firm's two portfolios. Both of these portfolios are sufficiently broadly diversified to meet the investment objectives of all of our clients.

Case: Elias Nano

- **Disclosures of Conflicts**

  Markoe Advisors encourages its staff to be involved in the business and civic community. Only business or civic interests that relate to current portfolio holdings need to be reported to the firm.

  Violations

  Any violation of the Markoe Advisors compliance policy statement will be reported to the president, and employees will receive an official warning.

  Compensation

  All staff members of Markoe Advisors will discuss with their supervisor all outside compensation that they are receiving or may receive.

Case: Elias Nano

- Does Nano comply with the CFA Institute Standards of Professional Conduct when he asks his clients to transfer their accounts to Markoe Advisors?

  A. No.

  B. Yes, because he contacted the clients after leaving Patriarch.

  C. Yes, because he was an intern and not a paid employee of Patriarch.

Case: Elias Nano

- **Answer: B.**

  Standard IV(A) prohibits employees from soliciting the clients of employers prior to, but not subsequent to, their departure.

Case: Elias Nano

- Is Nano's statement with respect to adoption of the CFA Institute Code of Ethics and Standards of Professional Conduct and the CFA Institute Asset Manager Code of Professional Conduct, respectively, correct?

	CFA Institute Code and Standards	CFA Institute Asset Manager Code of Professional Conduct
A.	No	No
B.	No	Yes
C.	Yes	No

Case: Elias Nano

- **Answer: B.**

  The CFA Code and Standards apply to individual members and candidates of CFA Institute, but firms are encouraged to adopt the Code and Standards as part of their firm code of ethics. The CFA Institute Asset Manager Code of Professional Conduct has been drafted specifically for firms.

Case: Elias Nano

- According to the CFA Institute Code and Standards, what action should Nano take after discussing the firm's compliance policy with President Markoe? Nano should:

  A. resign from the firm.

  B. notify the board of directors.

  C. decline to accept supervisory responsibilities.

Case: Elias Nano

- **Answer: C.**

  Standard IV(C) states that the member or candidate should decline in writing to accept supervisory responsibility until the firm adopts reasonable procedures to allow him to adequately exercise such responsibility.

Case: Elias Nano

- Does Nano's draft compliance policy statement conform to the CFA Institute Code and Standards with respect to performance presentation?
  - A. No, because terminated accounts are excluded.
  - B. No, because performance is reported to all clients gross of fees.
  - C. No, because performance data are presented on a before-tax basis.

Case: Elias Nano

- **Answer: A.**

  Standard III(D) states that both terminated and active accounts must be included as part of the performance history.

Case: Elias Nano

- Does Nano's draft compliance policy statement conform to the CFA Institute Code and Standards with respect to:

	suitability of investments?	disclosures of conflicts?
A.	No	No
B.	No	Yes
C.	Yes	No

Case: Elias Nano

- **Answer: A.**

  By placing all clients in one of the two specialized portfolios it operates, Markoe Advisors is not giving adequate consideration to the individual needs, circumstances, and objectives of each client as required by the Standards. In addition, the Standards require that members and candidates disclose all actual and potential conflicts of interest, not just those that relate to current portfolio holdings.

Case: Elias Nano

- Does Nano's draft compliance policy statement conform to the CFA Institute Code and Standards with respect to:

	violations?	compensation?
A.	No	No
B.	No	Yes
C.	Yes	No

Case: Elias Nano

- **Answer: A.**

  The Standards require that the supervisor promptly initiate an investigation to ascertain the extent of the violation and should take steps to ensure that violations will not be repeated by limiting or monitoring the employees' activities. The Standards also require that members and candidates obtain written permission from their employer before accepting any compensation or benefits from third parties that may create a conflict of interest.

Case: Patricia Jollie

- Patricia Jollie, CFA, is the fixed-income analyst and portfolio manager at Mahsud Financial Corporation, a small investment firm.

  On 5 April, a friend who works for a bond-rating agency mentions to Jollie that a bond the agency is analyzing will experience a rating change. That bond also happens to be in Mahsud Financial's portfolios. Not wanting to trade ahead of the rating change announcement, Jollie decides to wait for distribution of the information through her friend's scheduled interview on a business television program the afternoon of 8 April. On the morning of 8 April, the information is released on a worldwide financial news service. Jollie immediately changes her mind about waiting for the interview and trades the bonds in Mahsud Financial's portfolios.

Case: Patricia Jollie

- On 8 April, Jollie also trades a second bond to rebalance one of Mahsud Financial's portfolios. Jollie knows before executing her transaction that the bond is thinly traded. Although Jollie's trade will materially affect the bond's market price, it is not her intention to create price movement. A colleague witnesses the trade and large bond price change and says, "What a market overreaction; the bond price appears to be distorted now!" The colleague also points out to Jollie that Mahsud Financial's policy on market manipulation states: "Mahsud Financial employees must refrain from making transactions that distort security prices or volume with the intent to mislead market participants."

Case: Patricia Jollie

- In conducting fixed-income research, Jollie believes that insight into prospective corporate bond returns can be derived from information that is also relevant to a company's stock. She spends several hours a week in equity investment chat rooms on the internet, and she pays particular attention to the research reports posted by Jill Dean, CFA, a self-employed analyst, on www.Jill_Dean_the_Independent_Analyst.com. Prior to writing each report, Dean is paid a flat fee by the companies whose stocks she researches, but she does not reveal this fact to readers of her reports. She produces reports only for those companies whose stocks she can legitimately give "buy" recommendations after conducting a thorough analysis. Otherwise, she returns the flat fee. Investors have come to recognize all her "buy" ratings as having a sound and reasonable basis.

Case: Patricia Jollie

- Jollie considers Dean's summaries and forecasts to be very well-crafted. Dean has given Jollie written permission to use her summaries and forecasts, word for word and without attribution, in her own bond analysis reports. On occasion, Jollie has done so. In Dean's other internet postings, she reports the results of relevant academic finance studies. Once Jollie learns of a study by reading Dean's postings, she often reads the original study and mentions the results in her own reports. Jollie always cites the original study only and does not reveal that she learned of the study through Dean.

Case: Patricia Jollie

- Mahsud Financial occasionally sponsors seminars on ethics. In the most recent seminar, the main speaker made statements about the relationship between ethics and the law, and also about potential sources of conflict of interest for research analysts. The seminar speaker's statements were:

  Statement 1: An illegal action is unethical, and actions that are legal are ethically sound.

  Statement 2: For analysts, a major source of conflict of interest is potential profit resulting from a weak barrier between the employer's research department and investment banking department.

Case: Patricia Jollie

- **Statement 3:** For situations in which conflicts of interest cannot be avoided, Mahsud Financial's written compliance policy should include the following component: "For unavoidable conflicts of interest that the employee judges to be material, employees must disclose the conflicts of interest to clients prominently, and in plain language."

  Statement 4: On the matter of gifts that might impair employees' objectivity, Mahsud Financial's written compliance policy should also include the following component: "Employees must disclose to Mahsud Financial all client gifts regardless of value."

Case: Patricia Jollie

- Does Jollie violate the CFA Institute Standards of Professional Conduct by trading on the news of the bond rating change?
  A. No.
  B. Yes, only because she possessed material nonpublic information.
  C. Yes, only because she should have waited to trade until after her friend's television interview took place.

Case: Patricia Jollie

- **Answer: A.**
  Jollie did not act on the material nonpublic information she possessed but waited until it became public. According to the *Standards of Practice Handbook*, "It is not necessary … to wait for the slowest methods of delivery."

Case: Patricia Jollie

- Are Jollie's 8 April trade of the second bond and Mahsud Financial's policy on market manipulation, respectively, consistent with CFA Institute Standards on market manipulation?
  A. Both Jollie's 8 April trade of the second bond and Mahsud Financial's policy on market manipulation are consistent with CFA Institute Standards.
  B. Jollie's 8 April trade of the second bond is inconsistent and Mahsud Financial's policy on market manipulation is consistent with CFA Institute Standards.
  C. Jollie's 8 April trade of the second bond is consistent and Mahsud Financial's policy on market manipulation is inconsistent with CFA Institute Standards.

Case: Patricia Jollie

- **Answer: A.**

  Jollie's transaction is a legitimate market order in a thinly-traded security, and Mahsud Financial's policy statement is consistent with CFA Institute Standards relating to the Integrity of Capital Markets.

Case: Patricia Jollie

- Does Dean violate CFA Institute Standards in preparing and disseminating her equity reports?

  A. No.

  B. Yes, only by misrepresenting her recommendations as independent.

  C. Yes, only by accepting payment from the companies on which she produces reports.

Case: Patricia Jollie

- **Answer: B.**

  It is not a violation to accept compensation from an issuer in exchange for research but such arrangements must be disclosed prominently and in plain language.

Case: Patricia Jollie

- In preparing investment reports, does Jollie violate the CFA Institute Standards with respect to her:

	use of Dean's summaries and forecasts?	citation of studies found in Dean's internet postings?
A.	No	Yes
B.	Yes	No
C.	Yes	Yes

Case: Patricia Jollie

- **Answer: B.**

  Receiving Dean's written permission does not absolve Jollie of her responsibility to provide attribution. Because Jollie uses the results of the research studies and does not use Dean's interpretation of the studies, it is appropriate to cite the original authors only.

Case: Patricia Jollie

- Are the seminar speaker's Statements 1 and 2, respectively, correct?

	Statement 1	Statement 2
A.	No	No
B.	No	Yes
C.	Yes	No

Case: Patricia Jollie

- **Answer: B.**

  The first statement is incorrect and the second statement is correct. What is legal is not necessarily ethical. A weak barrier between the employer's research department and investment banking department is a potential source of conflicts.

Case: Patricia Jollie

- Are the seminar speaker's Statements 3 and 4, respectively, sufficient to meet the requirements of related CFA Institute Standards?

	Statement 3	Statement 4
A.	No	No
B.	No	Yes
C.	Yes	No

Case: Patricia Jollie

- **Answer: B.**

  Statement 3 is incorrect. The disclosure of a conflict should be made—prominently and in plain language—regardless of whether the member views the conflict as material, so the client can determine the materiality of the conflict. Statement 4 is in compliance with CFA Institute Standards. The Mahsud Financial disclosure requirement meets CFA Institute Standards. Gifts from clients should be disclosed to the employer, which is responsible for determining whether the gift could affect the employee's independence and objectivity.

Case: Stacia Finnegan

- Stacia Finnegan, CFA, manages a regional office of Harvest Financial's brokerage business. Her responsibilities include training all personnel in compliance with the firm's standards, policies, procedures, and applicable laws and regulations.

  Finnegan is currently providing training on the firm's new PlusAccount, a comprehensive fee-based brokerage account. "PlusAccounts," she tells the brokers, "are an excellent way to ensure that the financial advisor does not recommend trades for the purpose of generating commissions. The advisor and client's interests are aligned." She continues, "You will find that many clients will benefit from converting a traditional brokerage account to a PlusAccount.

Case: Stacia Finnegan

- Be aware, however, that PlusAccounts are not appropriate for all categories of investors, including buy-and-hold clients and certain clients with assets less than $50,000." Finnegan distributes written compliance procedures for establishing and maintaining PlusAccounts. She carefully explains that regulatory rules "require that we have reasonable grounds for believing that the PlusAccount is appropriate for a particular customer. Additionally, we must review each account on an annual basis to determine whether PlusAccount status remains appropriate. The policies outlined in these documents are designed to ensure compliance with industry standards and regulatory requirements. You must follow these compliance procedures exactly."

Case: Stacia Finnegan

- Finnegan then distributes and explains the sales and disclosure materials for clients. The materials include the following fee structure:

PlusAccount Annual Fee (as a Percent of Assets)*		
Account Asset Level	Equity (%)	Mutual Fund/Fixed Income (%)
From 0–$250,000	2.00	1.00
Next $250,000	1.50	1.00
Next $250,000	1.25	1.00
Next $250,000	1.00	1.00
More than $1 million	0.75	0.75
*Minimum annual fee of $1,000 billed quarterly.		

Case: Stacia Finnegan

- Finnegan spends the rest of the afternoon training the staff on detailed procedures and answering their questions.

  Chris Klein is a registered broker and financial advisor with Harvest. He is also a Level II Candidate in the CFA Program. Klein is excited about the new PlusAccounts and believes that they will be attractive for many clients.

  One of Klein's clients is Elaine Vanderon, who contributes weekly to her brokerage account. Under Vanderon's directions, Klein invests the weekly contributions in actively managed mutual funds (unit trusts). The funds have below-average management fees and average returns. Commissions for Vanderon average $35 per transaction.

Case: Stacia Finnegan

- When Vanderon's account reaches $50,000 in assets, Klein recommends conversion to a PlusAccount. He carefully explains that in a PlusAccount, both the cost of investment advice and many implementation costs are wrapped into the management fee billed on a quarterly basis. Stock and bond commissions, he tells Vanderon, are discounted by 70%. Klein informs Vanderon that in a PlusAccount, she can buy or sell thousands of mutual funds or unit trusts (including those in which she invests) for no commissions or transaction charges. He explains that PlusAccounts are ideal for clients who trade often—or as part of a periodic investment program such as hers. Vanderon reads through the disclosure material provided by Klein and accepts his recommendation.

Case: Stacia Finnegan

- Klein routinely informs clients about the benefits of PlusAccount status and presents them with all the disclosure materials. Another client Klein encourages to open a PlusAccount is Lee Brown. Brown has accumulated stock holdings of $300,000 and trades equities almost daily. His annual commissions for the previous twelve months equal $9,100. His portfolio is well-diversified. He has a high risk tolerance and prefers growth stocks. After explaining the fee structure, Klein tells Brown "The PlusAccount is ideal for an active trader like you."

  One year later, Finnegan is promoted. She delegates supervisory responsibility for Klein and 15 other brokers to her assistant branch manager.

Case: Stacia Finnegan

- The same month, Klein meets with Vanderon and Brown to review their portfolios and financial situations. Both clients are happy with their PlusAccounts. Vanderon's commission costs have declined to zero. Her account continues to grow in line with her plans and expectations. Brown is also happy with his account. His annual commission costs have declined 70% to $2,700.

Case: Stacia Finnegan

- Two months later, Vanderon receives a $1 million inheritance and places it in her PlusAccount. Although he conducted a full review two months earlier, Klein meets with Vanderon to review her financial situation and discuss potential changes to her investment policy. During their meeting, Klein mentions that he has completed Level III of the CFA examination. He informs Vanderon "Completion of the CFA Program has enhanced my portfolio management skills." He tells Vanderon "As a CFA charterholder, I am the best qualified to manage your investments." Vanderon congratulates Klein on his accomplishment and agrees to consider any changes he recommends to her PlusAccount.

Case: Stacia Finnegan

- The following month, Klein telephones Vanderon to recommend a highly-rated mutual fund. Klein states "The fund has an excellent performance history and is ranked in the top decile of comparable funds. For the past three- and five-year periods, its average annual return has exceeded the benchmark by 90 basis points. Of course, past performance is no guarantee of future returns, but several of my clients hold this fund and they are all very happy with it. One of them invested $50,000 five years ago. That investment is worth more than $100,000 today." When Vanderon asks about fees, Klein explains that the fund's management fees are 25 basis points higher than those of her existing investments. He adds "Because of your PlusAccount status, you won't incur a brokerage commission for this transaction even though I will receive a referral fee if you invest in the fund."

Case: Stacia Finnegan

- Six months later, Brown suffers serious medical and financial problems and stops trading. Klein telephones him to review his financial situation. Brown insists that he will make a full recovery and that he will be trading again shortly. During the next twelve months, Brown is too ill to trade. His growing expenses force him to withdraw large amounts from his PlusAccount. Within another 18 months, his PlusAccount value is less than $50,000.

Case: Stacia Finnegan

- When recommending Vanderon convert to a PlusAccount, does Klein violate any CFA Institute Standards of Professional Conduct?

  A. No.

  B. Yes, because he does not have a reasonable basis.

  C. Yes, because the account is unsuitable for Vanderon.

Case: Stacia Finnegan

- **Answer: A.**

  Klein does not violate the CFA Standards of Professional Conduct when recommending a PlusAccount to Vanderon. His actions comply with Standard III(A)—Loyalty, Prudence, and Care; Standard III(C)—Suitability; and Standard V(A)—Diligence and Reasonable Basis. As required, Klein discloses the fee structure associated with the PlusAccount. Based on the fee structure and Vanderon's trading activity, the PlusAccount appears to be a suitable investment vehicle. By converting to PlusAccount status, Vanderon will incur an annual fee of $1,000 and eliminate approximately $1,800 in annual brokerage commissions. The potential savings of approximately $800 provides a reasonable basis for recommending PlusAccount status.

Case: Stacia Finnegan

- When recommending Brown convert to a PlusAccount, does Klein violate any CFA Institute Standards?
  A. No.
  B. Yes, relating to suitability.
  C. Yes, relating to reasonable basis.

Case: Stacia Finnegan

- **Answer: A.**
  Klein does not violate CFA Standards when recommending a PlusAccount to Brown. His actions comply with Standard III(A)—Loyalty, Prudence, and Care; Standard III(C)—Suitability; and Standard V(A)—Diligence and Reasonable Basis. As required, he discloses the fee structure. Based on the fee structure and Brown's annual commissions, the PlusAccount appears to be a suitable investment vehicle. By converting to PlusAccount status, Brown will incur an annual fee of $5,750 and save approximately $6,400 in annual brokerage commissions. The potential savings of approximately $650 provides a reasonable basis for recommending PlusAccount status.

Case: Stacia Finnegan

- When meeting with Vanderon, does Klein violate any CFA Standards?
  A. No.
  B. Yes, because he improperly references the CFA designation.
  C. Yes, because he claims enhanced portfolio management skills.

Case: Stacia Finnegan

- **Answer: B.**

  Klein improperly references the CFA designation when he states "As a CFA charterholder, I am the best qualified to manage your investments." He is in violation of Standard VII(B)—Reference to CFA Institute, the CFA Designation, and the CFA Program.

Case: Stacia Finnegan

- When recommending the mutual fund to Vanderon, does Klein violate any CFA Standards?

  A. No.

  B. Yes, relating to suitability.

  C. Yes, relating to referral fees.

Case: Stacia Finnegan

- **Answer: C.**

  Klein violates Standard VI(C) relating to Referral Fees because he fails to provide appropriate disclosure. The Standard states that members must disclose the nature of the consideration or benefit—for example, whether flat fee or percentage basis; one-time or continuing benefit; based on performance—together with the estimated monetary value. Although Klein acknowledges receipt of referral fees from the fund, he does not disclose an estimated dollar value or the nature of the consideration.

Case: Stacia Finnegan

- In her supervisory duties, does Finnegan violate any CFA Standards?
  A. No.
  B. Yes, because she fails to ensure that compliance procedures are enforced.
  C. Yes, because she delegates supervisory authority to her assistant branch manager.

Case: Stacia Finnegan

- **Answer: B.**

  Finnegan violates Standard IV(C)—Responsibilities of Supervisors by failing to ensure that compliance procedures are enforced. As she informed her staff, Harvest "must review each account on an annual basis to determine whether PlusAccount status remains appropriate." Had Vanderon's and Brown's accounts been reviewed annually in accordance with compliance procedures, it would have been clear that the PlusAccount was no longer suitable for either. Delegating supervisory authority to another individual does not violate the Standards.

Case: A.J. Vinken

- A.J. Vinken, CFA, manages the Stonebridge Fund at Silk Road Capital Management. He develops a growth-stock selection model which produces highly favorable simulated performance results. He would like to employ the model in managing the Stonebridge Fund, a large-capitalization equity fund. He drafts a letter for distribution to all shareholders. In it, he discusses in detail his approach to equity selection using the model. He includes both the actual and simulated performance results of the Stonebridge Fund for the past three years as seen in Exhibit 1:

Case: A.J. Vinken

➢ Exhibit 1. Stonebridge Fund Annual Returns

Year	Stonebridge Fund (Simulated)	Stonebridge Fund (Actual)
1	10.71%	9.22%
2	2.83%	−4.13%
3	22.23%	22.23%
Average annual return	11.92%	9.11%

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Case: A.J. Vinken

➢ Vinken writes, "Using the proprietary selection model for the past three years, the Stonebridge Fund would have earned an average annual return of almost 300 basis points in excess of the fund's actual return. Based on these simulated results, I am confident that employing the model will yield better performance results in the future; however, Silk Road Capital Management can make no statement of assurances or guarantee regarding future investment returns."

D.S. Khadri, CFA, is also a portfolio manager at Silk Road. She recently assumed management of the small-cap Westlake Fund from Vinken.

101% Contribution Breeds Professionalism! PROFESSIONAL·INNOVATIVE·VALUE CREATING

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Case: A.J. Vinken

➢ Khadri implements an electronic record-retention policy when she becomes the Westlake manager. In accordance with her policy, all records for the fund, including investment analyses, transactions, and investment-related communications with clients and prospective clients, are scanned and electronically stored. Vinken maintained the same records in hard-copy format for the five years that he managed the Westlake Fund. Khadri has begun the process of scanning all of the past records of the Westlake Fund; however, Vinken complains that Khadri is wasting company resources by scanning old records. Vinken insists that he will continue to maintain only hard-copy records for the Stonebridge Fund for the five years required by regulators.

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Case: A.J. Vinken

- Khadri writes a performance review of the Westlake Fund for its quarterly newsletter. She reports that Silk Road Capital Management is moving toward compliance with the Global Investment Performance Standards (GIPS). She states, "The Westlake Fund is already partially GIPS compliant. We expect to be fully compliant with the GIPS standards within the next 12 months."

  In the quarterly newsletter, Khadri makes the following statements:

  Statement 1: "China's pegging of the yuan to the US dollar will end within the next 12 months which will lead to the yuan increasing in value by more than 40%, supporting our overweighting of Chinese-related stocks in the Westlake Fund."

Case: A.J. Vinken

- Statement 2: "Increased geo-political uncertainty around the globe should keep oil prices above 3-year levels and supports our recommendation for an over-weighting of equities in the small-cap energy sector."

  Khadri also reports: "The quarterly return of the Westlake Fund was 4.07%. The quarterly return exceeded the performance of its benchmark, the Russell 2000 Index by .16%. Investors should not expect this type of performance to continue into the foreseeable future.

  * Additional detailed information available upon request."

Case: A.J. Vinken

- After the quarterly newsletter is distributed, a client contacts Khadri claiming that the Westlake Fund actually underperformed the benchmark during the quarter. After researching the issue, Khadri confirms that the client is correct and sends him a letter in which she provides the corrected results. In her letter to the client, she blames the discrepancy—which was the result of a human typographical error—on a computer programming error.

Case: A.J. Vinken

- In his letter regarding the stock-selection model, does Vinken violate any CFA Institute Standards of Professional Conduct?
  A. No.
  B. Yes, because he uses simulated performance results.
  C. Yes, because he claims that the new model will yield better performance results.

Case: A.J. Vinken

- **Answer: A.**
  Vinken does not violate any CFA Standards of Professional Conduct in his letter. In accordance with Standard III(D)—Performance Presentation, he presents fair, accurate, and complete information when he identifies actual and simulated performance results. Also in accordance with the Standard, he does not guarantee superior future investment returns. In accordance with Standard V(B)—Communication with Clients and Prospective Clients, Vinken describes to his clients and prospective clients the process and logic of the new investment model. By providing the basic details of the model, Vinken provides his clients the basis for understanding the limitations or inherent risks of the investment strategy.

Case: A.J. Vinken

- Are the record-retention policies of both Khadri and Vinken consistent with CFA Institute Standards?
  A. Yes.
  B. No, Khadri's policy is not consistent.
  C. No, Vinken's policy is not consistent.

Case: A.J. Vinken

- **Answer: A.**

  The policies of both Khadri and Vinken are consistent with Standard V(C)—Record Retention, which states that members and candidates must develop and maintain appropriate records to support their investment analyses, recommendation, actions, performance and other communications with clients and prospective clients. The records required to support recommendations and/or investment actions depend on the role of the member or candidate in the investment decision-making process. Records can be maintained either in hard copy or electronic form. Even though they use different methods, Khadri and Vinken each maintain the appropriate records and have adequate systems of record control.

Case: A.J. Vinken

- Are Khadri's statements regarding compliance with the GIPS standards consistent with the CFA Institute Standards?

  A. Yes.

  B. No, because Khadri may not claim partial compliance.

  C. No, because Khadri fails to disclose the areas of noncompliance.

Case: A.J. Vinken

- **Answer: B.**

  Khadri is in violation of Standard III(D): Duties to Clients, Performance Presentation. When claiming compliance with GIPS standards, firms must meet all the requirements. GIPS standards, while voluntary, only apply on a firmwide basis. Neither a firm nor a fund can claim partial compliance with GIPS standards.

Case: A.J. Vinken

- Are Khadri's statements in the quarterly newsletter consistent with CFA Institute Standards?
  A. Yes.
  B. No, because Statement 1 is opinion, not fact.
  C. No, because Statement 2 is opinion, not fact.

Case: A.J. Vinken

- **Answer: B.**
  Communication with Clients and Prospective Clients requires the member or candidate to separate and distinguish "facts from opinions" in the presentation of analyses and investment recommendations. Statement 1 in the newsletter states that "China's pegging of the yuan to the US dollar will end within the next 12 months which will lead to the yuan increasing in value by more than 40%, supporting our overweighting of Chinese-related stocks in the Westlake Fund." Khadri does not clearly differentiate between opinion and fact. The statement about the future of oil pricing is not as questionable because Khadri uses the term "should," which helps clients understand that this is an opinion and not a certainty. Members may communicate opinions, estimates, and assumptions about future values and possible events, but they must take care to differentiate fact from opinion.

Case: A.J. Vinken

- Are Khadri's newsletter comments regarding returns consistent with CFA Institute Standards?
  A. Yes.
  B. No, because Khadri used an inappropriate benchmark.
  C. No, because Khadri did not disclose whether the performance results are before or after fees.

Case: A.J. Vinken

- **Answer: C.**

  Khadri violates the Standard relating to Performance Presentation because he does not disclose whether the performance results are before or after fees. Standard III(D) requires that members make reasonable efforts to ensure that investment performance information is “fair, accurate, and complete.” According to the guidance provided in the *Standards of Practice Handbook*, members should include disclosures that fully explain the performance results (for example, whether the performance is gross of fees, net of fees, or after tax).

Case: A.J. Vinken

- When responding to the client complaint regarding Westlake’s performance, Khadri least likely violates the Standard relating to:

  A. misconduct.

  B. misrepresentation.

  C. performance presentation.

Case: A.J. Vinken

- **Answer: C.**

  As Khadri provides the corrected information in her letter to the client, she is least likely to violate the Standard relating to performance presentation. She is more likely to violate the Standards relating to Misconduct and Misrepresentation because she knowingly misrepresents the cause of the error. Standard I(D)—Misconduct requires that members not engage in any professional conduct involving dishonesty. Standard I(C) prohibits members from knowingly making any misrepresentation relating to investment actions and professional activities.

Case: Omega Financial

➢ Omega Financial, a large financial services firm, makes a market in more than 500 stocks. As a market-maker, the firm executes institutional orders as well as retail orders placed by its private wealth unit, its broker-dealer affiliate, and other third-party broker-dealers.

A page in Omega's compliance manual, which adheres to all legal and regulatory requirements, includes the following information:

Case: Omega Financial

<table>
<tr><td colspan="2" align="center">OTC Stocks in Which Omega is a Market-Maker</td></tr>
<tr><td colspan="2">Definitions:</td></tr>
<tr><td colspan="2"><u>Riskless principal transaction</u>: an order in which a firm, after receiving a customer's order, executes the order on a principal basis from another market center.</td></tr>
<tr><td colspan="2"><u>Net Trade/Trade on a net basis</u>: a principal transaction in which a market-maker, after having received an order, executes the order at one price with another broker-dealer or another customer and then sells to (buys from) the customer at a different price.</td></tr>
<tr><td colspan="2">Compliance Policies:</td></tr>
<tr><td><u>Institutional Orders</u></td><td><u>Retail Orders</u></td></tr>
<tr><td>Riskless principal transactions may be traded on a net basis.</td><td>Riskless principal transactions may not be traded on a net basis. They receive the same execution price without mark-up, mark-down, commissions, or fees.</td></tr>
</table>

Case: Omega Financial

➢ Consistent with regulatory requirements, Omega discloses the information about riskless principal transactions to all clients and third-party broker-dealers. In addition, Omega informs third-party broker-dealers that it will seek best execution on retail orders.

Omega is developing an automated order-handling system to improve efficiencies in order flow. Anticipated benefits of the new system include much faster execution speeds. Additionally, the system design includes a trading mechanism that will execute portions of certain large orders to reduce market impact. The trading mechanism delays some orders to allow the firm to obtain a better overall price.

Case: Omega Financial

- Xavier Brown, CFA, is responsible for overseeing the project to ensure its timely completion. Brown enlists the compliance department to review the programming during the initial development phase and identify any potential problems. The compliance department compares the order-handling function of the new system to the third-party software currently in use. They identify a number of potential problems including delays in execution of certain large market orders and embedded mark-ups and mark-downs on stocks in which the firm makes a market. According to the compliance department, changes are necessary to comply with regulatory requirements.

Case: Omega Financial

- Brown directs the programmers to correct the problems and run tests and simulations. The programmers spend the next few months making changes to the system and adding comments throughout the code that clearly explain the purpose of particular functions. After several months, the programmers report that they have corrected all the identified problems and run the necessary tests and simulations. The following month, the firm switches to the automated order-handling system as planned.

  Joy Chen, CFA, trades Xydeo stock for Omega. One month following the switch to the new order-handling system, Chen is able to execute a number of principal riskless transactions for both institutional and retail clients at $25.00 per share. When processing the customer buy orders totaling 500,000 shares, the new system automatically uses the best-publicized price of $25.01 and the firm issues client confirmations showing a purchase price of $25.01.

Case: Omega Financial

- Stephen Smith, CFA, works across from Chen on the trading desk at Omega. His seat is close to a speaker for the company's squawk box, which is used to broadcast information about current analyst recommendations; news about market events; and information about pending block trades.

  Smith's young brother-in-law, Adolfo Garcia, recently accepted a position as a broker at a third-party broker-dealer that trades with Omega. Garcia has a modest income and little savings. He is enthusiastic about investments and has enrolled as a CFA candidate. Smith calls Garcia early each morning to talk about the previous day's events. At the end of their conversation, Smith places the call on speakerphone and resumes his work.

Case: Omega Financial

- In his office, Garcia can hear Omega's squawk box over the speakerphone. Garcia enjoys listening as Omega analysts discuss changes in ratings, economic forecasts, and capital market developments. He is careful not to trade in stocks mentioned explicitly on the squawk box. Rather, he sometimes researches competitors and other firms operating in the same industry. In one case, he immediately shorts the stock of Tefla Corporation after an Omega analyst downgrades a firm in the same industry.

  Garcia frequently places large block orders for low-priced small-capitalization stocks at the market price. Once the new system is operational, Smith processes the orders through the new trading-system mechanism, which delays execution of portions of the orders and allows the firm to obtain a better price for Garcia.

Case: Omega Financial

- For a CFA charterholder, would adhering to Omega's policies regarding riskless principal transactions result in a violation of the CFA Institute Standards of Professional Conduct?

  A. No.

  B. Yes, because Omega disadvantages institutional clients.

  C. Yes, because disclosure of the policy does not relieve Omega of its obligation to treat clients equally.

Case: Omega Financial

- **Answer: A.**

  Mark-ups and mark-downs in net trades are considered fees paid by clients. Standard III(B)—Fair Dealing requires that members treat all clients fairly in light of their investment objectives and circumstances. Treating institutional and retail investors differently is not a violation. According to the Standards, members can differentiate their services to clients but different levels of service must be disclosed and should not negatively affect clients. Omega has made the appropriate disclosures to its clients in compliance with legal and regulatory requirements as well as the Standards.

Case: Omega Financial

- When overseeing the development of the automated-trading system, does Brown violate any CFA Institute Standards?
  A. No.
  B. Yes, because he accepted an assignment for which he was inadequately trained and skilled.
  C. Yes, because he did not ensure that the final system complied with regulatory requirements.

Case: Omega Financial

- **Answer: C.**
  Brown is in violation of Standard IV(C)—Responsibilities of Supervisors because he did not ensure that the final system complied with regulatory requirements. According to the Standard, Brown has a responsibility to make reasonable efforts to detect and prevent violations of applicable laws, rules, and regulations. Alerted to potential problems by the compliance department, he had a responsibility to ensure that the modifications corrected the potential problems without introducing new problems.

Case: Omega Financial

- With regard to Chen's trades in Xydeo, do the institutional and retail trades both comply with CFA Institute Standards?
  A. Only the retail trades comply.
  B. Only the institutional trades comply.
  C. Neither the retail nor the institutional trades comply.

Case: Omega Financial

- **Answer: B.**

  Only the institutional trades comply with CFA Institute Standards. All the trades were processed on a net basis. Because the firm disclosed that institutional orders may be executed on a net basis, the institutional trades did not result in a violation. The firm disclosed to clients that in riskless principal trades, retail clients will receive the same execution price without mark-up. Executing the retail orders on a net basis with a $.01 mark-up resulted in a violation of Standards I(C) and III(B) relating to misrepresentation and fair dealing.

Case: Omega Financial

- When placing the morning phone call on speakerphone, does Smith violate any CFA Institute Standards?

  A. No.

  B. Yes, his duty to Omega.

  C. Yes, his duty to clients and to Omega.

Case: Omega Financial

- **Answer: C.**

  Smith violated his duties to both clients and Omega by not protecting confidential information. By providing Garcia access to confidential information such as changes in recommendations and information regarding block trades, Smith provided Garcia the opportunity to front-run, which could cause harm to both Omega and its clients. Thus, Smith's actions violate his duty of loyalty, prudence, and care to his clients and his duty of loyalty to his employer, Standards III(A) and IV(A), respectively.

Case: Omega Financial

➢ When listening to the Omega squawk box, does Garcia violate any CFA Institute Standards?

A. No.

B. Yes, the standard regarding professionalism.

C. Yes, the standard regarding material nonpublic information.

Case: Omega Financial

➢ **Answer: B.**

Garcia violated the Standard of Professionalism by engaging in eavesdropping on confidential information including changes in analyst recommendations and pending block trades. According to Standard I(D) members must not engage in professional conduct involving dishonesty, deceit, or fraud or commit any act that reflects adversely on their professional reputation, integrity, or competence. Garcia engages in deceitful conduct in obtaining information from the squawk box. His actions reflect adversely on his professional reputation and integrity and thus violate Standard I(D). Garcia is not in violation of Standard II(A)—Material Nonpublic Information, although he listens to the material nonpublic information on pending block trades. Possession of such material nonpublic information is not a violation of the Standard, which prohibits acting on the information.

Case: Omega Financial

➢ When shorting Tefla stock, does Garcia violate any CFA Institute Standards?

A. No.

B. Yes, because he does not have a reasonable basis for the trade.

C. Yes, because he is in possession of material nonpublic information.

Case: Omega Financial

- **Answer: C.**

  Garcia is in possession of material nonpublic information and acted on it in violation of Standard II(A). After the analyst's recommendation has been issued and/or distributed publicly, Garcia would be free to make the trade. Because this is a personal purchase, the standard relating to diligence and reasonable basis is not applicable.

Case: Sebastian Riser

- Sebastian Riser, CFA, works as a portfolio manager for Swibank, a small private bank in Switzerland. Riser manages the accounts of his clients according to best practices, keeping clients' interests before those of the bank and his own. He allocates investments in a fair manner when he deems them consistent with the stated objectives and constraints of clients.

  Swibank has a Luxembourg subsidiary, which distributes fund-of-funds products. Riser recently received a request to serve on the board of directors for the subsidiary. In this role, Riser would advise management on business strategies; market opportunities; potential clients; and current and prospective fund managers. For his role on the board, Riser would receive an annual payment directly from the subsidiary equivalent to 5% of his total portfolio manager salary in Switzerland.

Case: Sebastian Riser

- The following month, Riser accepts the position on the board. The subsidiary registers each new fund-of-funds product with regulatory authorities in Luxembourg and discloses Riser's role as a board member in the required filings, which are public and readily available.

  Riser serves as the contact person for the subsidiary's institutional clients in Switzerland and participates in the subsidiary's road shows in Switzerland. His role during these road shows varies. On some occasions, he simply attends the presentations while the operating management sells the products; on others he gives the actual presentation promoting the products. Riser's name does not appear in the promotional material distributed at the road shows.

Case: Sebastian Riser

- Alexander Komm, a long-time colleague of Riser, is the founder of Komm Private Management, which provides asset management, advisory, and trust services to high-net-worth individuals. The firm has several well-managed proprietary funds. Komm offers Riser a position with the firm as managing partner. Riser is flattered, but declines the offer, explaining that he is very happy working at Swibank.

  That same week, the subsidiary informs Riser that it needs an experienced fund manager to manage a new publicly-traded Japanese equity product. Riser is convinced that Komm Private Management would be qualified and recommends the firm for the new product. After a thorough search process, the subsidiary hires Komm Private Management for the new product.

Case: Sebastian Riser

- Six months later, after numerous discussions, Komm finally convinces Riser to join Komm Private Management as a managing partner. The following week, Riser submits his resignation at the private bank. His position on the board of the subsidiary is not dependent on his employment at the bank, and he agrees to serve the remaining three years of his term.

  After signing and submitting his employment contract to Komm, Riser takes three weeks of vacation before starting his new position. During this time he purchases 2,000 shares of the new Japanese equity product for his private account. When he begins working at Komm Private Management, he purchases a large block of shares in the Japanese equity product, which he allocates according to internal procedures to all accounts for which it is suitable.

Case: Sebastian Riser

- According to the CFA Institute Standards of Professional Conduct, before accepting the position on the board of the subsidiary, Riser should:

  A. receive verbal consent from Swibank.

  B. receive verbal consent from his clients.

  C. disclose to his employer the financial compensation proposed by the subsidiary.

Case: Sebastian Riser

- **C is correct.**

  According to Standard IV(B), members must not accept compensation that competes with their employers' interest unless they obtain written consent from all parties involved. Thus Riser must receive written, not verbal, consent from his employer before accepting the position on the subsidiary's board. According to the recommended procedures for compliance, Riser should make an immediate written report to his employer specifying the terms of the agreement; the nature of the compensation; the approximate amount of the compensation; and the duration of the agreement. The Standards do not require that members receive permission from clients before accepting board positions.

Case: Sebastian Riser

- When participating in the road shows in Switzerland, Riser least likely violates the Standard relating to:

  A. Disclosure of Conflicts.

  B. Independence and Objectivity.

  C. Additional Compensation Arrangements.

Case: Sebastian Riser

- **C is correct.**

  Riser least likely violates Standard IV(B)—Additional Compensation Arrangements when participating in the road shows. The Standard provides guidance regarding the acceptance and disclosure of compensation that might conflict with an employer's interests. Participating in the road shows and receiving compensation from the subsidiary do not appear to conflict with his employer's interests.

  When participating in the road shows, Riser may violate Standards I(B)—Independence and Objectivity and VI(A)—Disclosure of Conflicts. The Standard relating to Independence and Objectivity requires that members use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Riser's role as board member could jeopardize his objectivity and create a conflict of interest. Standard VI(A)—Disclosure of Conflicts requires that members make full and fair disclosure of all matters that could reasonably be expected to impair the independence and objectivity or interfere with respective duties to the clients, and prospective clients.

Case: Sebastian Riser

- When recommending Komm, does Riser violate any CFA Institute Standards?
  A. No.
  B. Yes, relating to duties to employer.
  C. Yes, relating to disclosure of conflicts.

Case: Sebastian Riser

- **C is correct.**
  All actual and potential conflicts of interest must be disclosed. Although Riser's recommendation may be based solely on his knowledge of the firm's track record, his prior relationship with Komm, including the job offer, should be disclosed so the subsidiary will have all the information needed to evaluate the objectivity of his recommendation."

Case: Sebastian Riser

- When resigning from Swibank, does Riser violate any CFA Institute Standards?
  A. No.
  B. Yes, because he breaches his duty of loyalty to his employer.
  C. Yes, because he does not resign his position with the Luxembourg subsidiary.

Case: Sebastian Riser

- **A is correct.**

  No violation occurred. Riser is not required to resign his position with the subsidiary. Riser did not engage in any activities that would conflict with his employer's interest before his resignation became effective.

Case: Sebastian Riser

- In his original purchase of 2,000 shares of the Japanese equity product, Riser least likely violates the Standard relating to:

  A. Suitability.

  B. Priority of Transactions.

  C. Integrity of Capital Markets.

Case: Sebastian Riser

- **A is correct.**

  Riser least likely violates Standard III(C) relating to suitability when purchasing shares for his own account. Riser may violate Standard II(A)—Material Nonpublic Information and possibly Standard VI(B)—Priority of Transactions when making the purchase. If, when trading for his own account, Riser knows that he will place a large block trade for Komm clients, he may be in possession of material nonpublic information. Standard VI(B) covers the activities of all members who have knowledge of pending transactions that may be made on behalf of their clients or employers. Riser has accepted the position of managing partner, has recommended the manager for the product, and knows, or should know, that he will purchase the product for at least some Komm clients once he begins work at Komm. His purchase ahead of Komm's clients might be front-running. Best practice would be to delay his private account purchase until after he purchases shares for clients.

Case: Sebastian Riser

- According to CFA Institute Standards, Riser is not required to disclose to clients his:
  A. holdings of the Japanese equity product.
  B. relationship with the Swibank subsidiary.
  C. compensation from the Swibank subsidiary.

Case: Sebastian Riser

- **C is correct.**

  Standard VI(A)—Disclosure of Conflicts requires that members and candidates make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and their employer. Riser's holdings of the Japanese equity product and his position on the board of the subsidiary could impair his objectivity and must be disclosed to clients. He need not disclose his compensation from the subsidiary because it is not a referral fee.

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Case: Prudent Investment Associates (PIA)

- Prudent Investment Associates (PIA) is a small-cap equity investment management company that uses fundamental equity analysis in its investment decision-making process. All portfolio managers at PIA manage both discretionary and non-discretionary accounts. Kevin Danko, CFA, is PIA's owner and chief investment officer and supervises May Chau, a recently hired portfolio manager. PIA has adopted the CFA Institute Code of Ethics and Standards of Professional Conduct.

  Chau is enrolled to sit for the Level III CFA examination. In its marketing brochure, PIA states: "May Chau is a Level III candidate in the CFA Program." A colleague tells Chau this presentation may be incorrect according to the CFA Institute Code and Standards and suggests the following change: "May Chau has passed Level II of the CFA examination."

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Case: Prudent Investment Associates (PIA)

- PIA has established a relationship with Fair Trading Incorporated (FTI), a regional investment bank and broker/dealer. FTI provides clients with access to research and analysts' recommendations via a user-registered website. This access is available on the condition that clients not forward any of the research and recommendations to any other parties. In exchange for this access and after concluding that FTI provides best execution, Danko directs to FTI most of his trade orders.

  FTI also provides to a select group of brokerage clients, including PIA, information regarding several of its investment banking customers. This information includes the customers' own earnings projections. FTI instructs this select group of brokerage clients not to disseminate these earnings projections to the public until released by the investment banking customers.

Case: Prudent Investment Associates (PIA)

- On a regular basis, Danko reviews the list of "strong buys" on FTI's website to see if there have been any new "buy" recommendations. Danko quickly places orders for discretionary client accounts to purchase shares of any company for which the investment recommendation has been changed to a "strong buy." He takes this action so discretionary account clients do not miss any price appreciation. After each purchase, he instructs Chau to perform the appropriate fundamental analysis on these companies within five business days so the research file is adequately documented.

  From time to time, PIA receives initial public offering (IPO) allocations from FTI. Danko allocates these IPOs to those discretionary accounts that normally participate in IPOs. If the IPO is oversubscribed, he excludes his wife's discretionary non-fee-paying account so that he is not accused of bias when allocating the oversubscribed IPOs.

Case: Prudent Investment Associates (PIA)

- During a recent presentation, Danko and Chau are asked what procedures PIA uses to ensure employees do not benefit from information prior to executing trades in client accounts. Danko responds that PIA has the following Trading Procedures:

  Procedure 1: Investment personnel are not permitted to trade securities for five business days prior to trades executed in discretionary client accounts.

  Procedure 2: Each quarter a randomly selected group of investment personnel must provide duplicate trade confirmations to the PIA compliance officer.

  Procedure 3: Investment personnel must receive prior approval for personal trades only for those trades greater than $5,000.

Case: Prudent Investment Associates (PIA)

- Does the reference to Chau's participation in the CFA Program, as presented in the marketing brochure, or in the suggested change, violate CFA Institute Standards of Professional Conduct?
  A. No.
  B. The marketing brochure is a violation, but the suggested change is not a violation.
  C. The suggested change is a violation, but the marketing brochure is not a violation.

Case: Prudent Investment Associates (PIA)

- **A is correct.**

  Both the first and second presentations are consistent with the CFA Institute Code and Standards. According to the Standards, candidates may reference their participation in the CFA Program as long as they are active, but they cannot imply a partial designation. A statement about the level of the exam successfully passed or a level of the exam upcoming is appropriate, whereas indicating or implying a partial designation or citing a future date of expected completion of a level in the CFA Program is prohibited.

Case: Prudent Investment Associates (PIA)

- Does Danko violate CFA Institute Standards when he directs trades to FTI?
  A. No.
  B. Yes, because by trading with FTI, Danko is putting PIA's interests ahead of his clients.
  C. Yes, because Danko has a duty to provide FTI's research to PIA's clients before executing trades.

Case: Prudent Investment Associates (PIA)

- **A is correct.**

  Danko directs his trading with FTI only after taking into account FTI's ability to provide best execution. There is no indication that FTI requires a certain amount of trading for access to the website, only that access is provided in exchange for orders. This arrangement for trading in return for research services is discussed in the Guidance to Standard III(A): Duties to Clients, Loyalty, Prudence, and Care.

Case: Prudent Investment Associates (PIA)

- According to CFA Institute Standards, which of the following actions is the most appropriate for Danko to take with respect to the use of the earnings projections? Danko should:

  A. disclose the information to the public.

  B. terminate PIA's relationship with FTI.

  C. keep the information confidential and not use it in his analysis.

Case: Prudent Investment Associates (PIA)

- **C is correct.**

  The information that Danko received is material non-public information. Disclosing the information to the public is not his role; further, earning gains for his clients does not excuse the violation and is not a justifiable reason for taking action on the material non-public information. The only entities that should release the information are the corporations or another entity with their permission, perhaps FTI.

Case: Prudent Investment Associates (PIA)

- Does Danko's decision to purchase shares that are recommended as a "strong buy" violate the CFA Institute Standards?
  - A. No.
  - B. Yes, because Danko must have a reasonable and adequate basis prior to purchasing the shares.
  - C. Yes, because Danko must give non-discretionary accounts the opportunity to purchase equities at the same time he purchases equities in the discretionary accounts.

Case: Prudent Investment Associates (PIA)

- **B is correct.**

  Investment decision making due to speed or based on third-party research alone is insufficient for meeting Standard V(A): Investment Analysis, Recommendations, and Actions, Diligence and Reasonable Basis.

Case: Prudent Investment Associates (PIA)

- Does Danko violate the CFA Institute Standards when he allocates oversubscribed IPO issues?
  - A. No.
  - B. Yes, because he should allocate the oversubscribed IPOs across all discretionary accounts.
  - C. Yes, because he should treat his wife's account the same as other discretionary accounts and include it in the oversubscribed IPO allocations.

Case: Prudent Investment Associates (PIA)

- **A is correct.**

  When an issue is oversubscribed, allocations cannot be made to accounts where members and candidates have beneficial interest; client orders must be filled first.

Case: Prudent Investment Associates (PIA)

- Which of PIA's Trading Procedures is most consistent with the CFA Institute Standards?

  A. Procedure 1.

  B. Procedure 2.

  C. Procedure 3.

Case: Prudent Investment Associates (PIA)

- **A is correct.**

  A blackout period is appropriate for investment decision-making personnel so that managers do not take advantage of their knowledge of trading activity and 'front run' the trade. The actual detail of the blackout period is not specified in the Standards, only that one should exist.

Reading 5

Asset Manager Code of Professional Conduct

Case: Bornelli Asset Management

- Bornelli Asset Management offers traditional long-only funds as well as a variety of hedge funds for both private and institutional clients. Bornelli is a well-managed firm of more than 100 employees. Its board of directors has voted to adopt the Asset Manager Code of Professional Conduct (the Code).

  Bornelli has hired Ava Campanelli as chief compliance officer with responsibility for implementing the Code. Campanelli develops a plan to evaluate the firm's current policies and procedures for compliance with the Code. Campanelli begins by reviewing three of the firm's compliance procedures:

Case: Bornelli Asset Management

Portfolio review	Portfolio information provided to clients is reviewed by an independent third-party.
Record retention	The firm retains records to substantiate all investment decisions for seven years. In compliance with regulatory requirements, the firm also retains copies of all emails for the same period. The firm retains its records in a combination of both hard-copy and electronic formats.
Investigation of complaints	The chief compliance officer (CCO) is responsible for investigating and documenting all complaints. The CCO reports to the chief investment officer and works with management to take appropriate disciplinary action in cases of compliance breaches.

Case: Bornelli Asset Management

- Campanelli then evaluates the firm's business-continuity plan. Under the current plan, the technology division backs up all of the firm's computer systems and client records twice daily. The back-ups are stored in a fireproof storage facility offsite. Bornelli outsources certain emergency plans to a disaster recovery firm. The disaster recovery firm is responsible for developing and implementing plans to communicate with employees and mission-critical vendors and suppliers in the event of a facility or communication disruption. The same firm also provides plans for contacting and communicating with clients in event of an extended disruption.

  For her next project, Campanelli reviews the disclosures provided to both prospective and current clients. The disclosures regarding management fees state:

Case: Bornelli Asset Management

- Bornelli charges a 2% asset-based management fee. In addition to the management fee, clients may pay an incentive fee at the end of each year. The incentive fee is equal to 20% of the account's net investment income and net realized and unrealized capital gains for the year.

  No incentive fee will be paid unless the Fund has offset all prior net realized capital losses and net investment losses with realized capital gains, unrealized appreciation, and net investment income from all securities held by the Fund.

Case: Bornelli Asset Management

- Campanelli's evaluation of the management fee disclosures is interrupted by a more urgent matter involving a client. The client has requested monthly performance reporting of his investment in a long-short equity hedge fund. The fund's administrator argues "Our procedures call for us to provide clients with both gross- and net-of-fees returns within 30 days of the end of the quarter." He adds "Quarterly reporting is the industry standard."

  The administrator complains "This client, Rossi, is overly demanding. He telephoned yesterday and requested an itemization of the fees and other costs charged to him for the past three years. He wants to know the specific management fee, the incentive fee, and the amount of commissions paid. The more time we spend answering his requests, the less time we have to research investments." Campanelli promises to look into the matter for the administrator.

Case: Bornelli Asset Management

- The following week, Campanelli meets with Lee Bruno, manager of the firm's alternative assets fund. Bruno informs Campanelli, "The fund has a three-year lock-up period. We disclosed to all the prospective clients in writing before they invested that this is a long-term investment and that they should not focus on short-term performance results. During the lock-up period, we provide semiannual reporting. After the lock-up, we report quarterly."

  Bruno informs Campanelli that whenever possible, the firm uses fair market prices to value client holdings. He adds "Of course, our fund invests in alternative assets—some of which are very difficult to value. They aren't like public equities with independent, third-party market quotations available, so we use an internal model to value client holdings." He continues, "We disclose the use of internal models for valuation purposes on all our reports."

Case: Bornelli Asset Management

- Following her conversation with Bruno, Campanelli researches a complaint from a new client regarding the valuations of his fund's holdings. The client complains that another management firm reported much lower valuations on similar instruments. Campanelli researches the methodologies Bornelli uses for valuing fund holdings. She determines the following:
  - All publicly traded US and foreign equities, including large-, mid-, small-, and micro-cap shares are valued at the last available closing price.
  - The value of certain securities such as swaps are based on quotes collected from broker-dealers.
  - When prices are not available from either of the above sources, valuations are based on internal models.

Case: Bornelli Asset Management

- Are the three compliance procedures reviewed by Campanelli consistent with both the required and recommended standards of the CFA Institute Asset Manager Code of Professional Conduct?

  A. No, the procedures regarding record retention are inconsistent.

  B. No, the procedures regarding portfolio review are inconsistent.

  C. No, the procedures regarding investigation of complaints are inconsistent.

Case: Bornelli Asset Management

- **C is correct.**

  According to the recommendations of Section D(2) of the Asset Manager Code, where possible, the CCO should be independent from the investment and operations personnel and should report directly to the CEO or the board of directors.

Case: Bornelli Asset Management

- Is Bornelli's disaster recovery plan consistent with both the required and recommended standards of the Asset Manager Code?

  A. Yes.

  B. No, because the plan lacks a backup plan for monitoring, analyzing, and trading investments.

  C. No, because the plan only provides for contacting and communicating with clients during periods of extended disruption.

Case: Bornelli Asset Management

- **B is correct.**

  According to the guidance provided in Section D(6) of the Asset Manager Code, the level and complexity of business-continuity planning depends on the size, nature, and complexity of the organization involved. Bornelli is a large firm with hedge fund investments and it should have alternative plans for monitoring, analyzing, and trading investments if primary systems become unavailable.

Case: Bornelli Asset Management

- Are the firm's disclosures regarding management fees consistent with the required and recommended standards of the Asset Manager Code?
  A. Yes.
  B. No, because they do not use plain language.
  C. No, because they do not include the average or expected expenses or fees clients are likely to incur.

Case: Bornelli Asset Management

- **C is correct.**
  According to the recommendations and guidance of Section F(4d) of the Asset Manager Code, managers must disclose to prospective clients the average or expected expenses or fees clients are likely to incur, and to existing clients the actual fees and other costs charged to them.

Case: Bornelli Asset Management

- Are the performance reporting procedures described by the fund's administrator consistent with the required disclosure standards of the Asset Manager Code?
  A. Yes.
  B. No, because the AMC requires firms to report performance to all clients on a monthly basis.
  C. No, because the AMC requires firms to provide performance on a monthly basis when requested by clients.

Case: Bornelli Asset Management

- **A is correct.**

  The performance reporting procedures described by the administrator are consistent with the Asset Manager Code (AMC) which requires disclosing the "performance of clients' investments on a regular and timely basis." The AMC recommends that "managers should report to clients at least quarterly, and when possible, such reporting should be provided within 30 days after the end of the quarter." The AMC also states that "at a minimum, Managers should provide clients with gross- and net-of-fees returns." Because quarterly reporting is the recommended minimum, managers may choose to provide more timely performance to clients.

Case: Bornelli Asset Management

- To comply with both the required and recommended standards of the Asset Manager Code, must Bornelli honor Rossi's telephone request regarding an itemization of fees?

  A. Yes.

  B. No, because the firm is not required to disclose the amount of incentive fee charged to an individual client.

  C. No, because unless the firm claims compliance with the Soft Dollar Standards, it is not required to disclose the amount of commissions paid on clients' behalf.

Case: Bornelli Asset Management

- **A is correct.**

  According to the recommendations of Section F(4d) of the Asset Manager Code, managers should 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 paid on clients' behalf during the period.

Case: Bornelli Asset Management

- Are the policies of the alternative assets fund consistent with the required and recommended standards of the Asset Manager Code?
  A. Yes.
  B. No, the frequency of reporting is inconsistent with the AMC.
  C. No, the use of internal valuation models is inconsistent with the AMC.

Case: Bornelli Asset Management

- **B is correct.**

  Clients must have regular performance information to evaluate their overall asset allocations and to determine whether rebalancing is necessary. This concept applies even to investment vehicles with lock-up periods. According to the Asset Manager Code, unless otherwise specified by the client, managers should report to clients at least quarterly, and when possible, within 30 days of the end of the period.

Case: Henry Schmidt

- Henry Schmidt, David Zane, and Andrew Ronoldo founded SZR LLC (SZR), an investment advisory firm managing portfolios for individuals. Although none of the founders holds the CFA charter, SZR has adopted the CFA Institute Asset Manager Code of Professional Conduct.

  SZR's client portfolios average $50,000 and are entirely invested in SZR's commingled fund, managed by Ronoldo. Ronoldo implements a quantitative enhanced index process in SZR's fund and has consistently added moderate performance (alpha) over the fund's mid-cap benchmark index. After five years of strong performance, Ronoldo worries that the mid-cap fund will lag broad market indexes, so he decides to broaden the fund's strategy. After doing research, he adds micro-cap, foreign, and convertible preferred stocks to the fund and doubles some holdings so that their weights are much larger than they are in the benchmark index.

Case: Henry Schmidt

- Since the fund achieves even stronger performance, both against the benchmark mid-cap index and major market indexes, Ronoldo plans to describe the new strategy in the company's next annual newsletter, due to be sent to clients in three months.

  As a prominent member of the community, Schmidt has just joined the board of a local company, Trezeguet Baking Company, which recently went public. Trezeguet's shares are in most micro-capitalization (cap) indexes. As a board member, Schmidt receives a small annual stipend of $2,000; however, he is granted several thousand stock options, which he can exercise after 24 months' board service. Since his stipend is insignificant and he will not exercise his options for at least 24 months, Schmidt does not disclose his Trezeguet board service to SZR clients.

Case: Henry Schmidt

- One of SZR's clients is president of Sastre International. Because of SZR's success, this client hires SZR to manage $800 million of Sastre International's corporate cash in a separate account, but asks that its hiring of SZR not be made public. Sastre's board asks Ronoldo to direct all of the Sastre account trades through a local financial advisor, to thank the advisor for selecting SZR. Ronoldo is concerned that this direction may limit SZR's ability to achieve best execution, but after Sastre acknowledges in writing that this is their preference, Ronoldo agrees to follow Sastre's direction.

Case: Henry Schmidt

- As head of operations, Zane wishes to simplify trading and implements a new trade policy: first place trades for the Sastre account through the local financial advisor and then submit the commingled fund's trades through national brokerage houses and electronic networks. The local financial advisor is pleased with this arrangement, as he is able to buy securities before other clients; he informs Zane that he'll recommend SZR to additional clients.

Case: Henry Schmidt

- Schmidt, SZR's sales director, sends the commingled fund's stellar performance track record to several investment consultants, who serve as "gatekeepers" for large institutional clients, but he is told that SZR is too small to be considered by their clients. After Schmidt reveals that Sastre has recently hired SZR, and offers to negotiate the same special fee discount that has been given to Sastre, one consultant agrees to consider SZR for its clients. The consultant indicates that if SZR agrees to sponsor the consulting firm's annual conference, Schmidt will meet many potential clients. Schmidt considers this conference sponsorship, but decides that it is too costly for SZR's budget, so he declines the offer.

Case: Henry Schmidt

- As SZR grows, Zane hires his brother-in-law, John Karna (top salesman for a local auto parts company) as Compliance Officer. Karna is tasked with writing SZR's Code of Ethics and its Investment Policies and Procedures Manual. Karna is also put in charge of the firm's Business Continuity Plan. The plan consists of his taking home, each evening, the computer records of SZR's daily trades.

Case: Henry Schmidt

- Does Ronoldo violate the CFA Institute Asset Manager Code of Professional Conduct with respect to his broader investment strategy?
  - A. No.
  - B. Yes, with respect to client disclosure only.
  - C. Yes, with respect to reasonable and adequate basis only.

Case: Henry Schmidt

- **B is correct.**

  Ronoldo should have disclosed his change in investment strategy to clients, allowing them to move their accounts if not in agreement. Until he disclosed a planned change in strategy, he should have continued to manage in the manner for which clients had hired him.

Case: Henry Schmidt

- Does Schmidt violate the CFA Institute Asset Manager Code of Professional Conduct with respect to his current Trezeguet board service?

  A. No.

  B. Yes, with respect to priority of client interests only.

  C. Yes, with respect to priority of client interests and participation in business relationships.

Case: Henry Schmidt

- **C is correct.**

  Schmidt is on the board of a company whose stock is in microcap indexes. This is a conflict of interest, as Ronoldo's widened investment guidelines allow purchase of Trezeguet stock for the fund. As Schmidt is an insider for the company and received options that can be sold (after 24 months), this relationship should be terminated.

Case: Henry Schmidt

- By agreeing to Sastre's direction, does Ronoldo violate the CFA Institute Asset Manager Code of Professional Conduct?
  A. No.
  B. Yes, only with respect to best execution.
  C. Yes, only with respect to fair and equitable trade allocation.

Case: Henry Schmidt

- **A is correct.**
  The Sastre board requests directed trading for its discretionary account and acknowledges, in writing, that trading through the local financial advisor may limit best execution. As this is a discretionary (not pension) account, the client has the right to direct to a less-than-optimal trading venue.

Case: Henry Schmidt

- Does Zane's revision of SZR's trading process violate the CFA Institute Asset Manager Code of Professional Conduct?
  A. No.
  B. Yes, only with respect to best execution.
  C. Yes, with respect to best execution and fair, equitable trade allocation.

Case: Henry Schmidt

➢ **C is correct.**

Zane should have pursued best execution for all clients in the fund (which is not accomplished by placing trades with the local financial advisor first versus with national brokers or electronic networks), and fairly traded for all clients. While Sastre is welcome to direct trades, Zane's change in procedures harms other clients.

Case: Henry Schmidt

➢ Does Schmidt violate the CFA Institute Asset Manager Code of Professional Conduct in his interaction with consultants?

A. No.

B. Yes, only with respect to confidentiality.

C. Yes, only with respect to business relationships that could affect independence.

Case: Henry Schmidt

➢ **B is correct.**

Schmidt violated Code A-2 by revealing Sastre's hiring of SZR and its special fee discount.

Case: Henry Schmidt

- Does Karna's role as Chief Compliance Officer, and the process of SZR's Business Continuity Plan, respectively, conform to the requirements and recommendations of the CFA Institute Asset Manager Code of Professional Conduct?
  A. Neither Karna's role nor the Business Continuity Plan conforms.
  B. Karna's role conforms, but the Business Continuity Plan does not conform.
  C. Karna's role does not conform, but the Business Continuity Plan does conform.

Case: Henry Schmidt

- **A is correct.**
  Karna's qualification as compliance officer is inadequate (D-2, D-5), and taking tapes home each night is inadequate business continuity for a firm of $1.5 billion (D-6).

Reading 6

Overview of the Global Investment Performance Standards

Case: Belltower Investment Management

- Belltower Investment Management defines its core-plus fixed-income composite as containing all discretionary portfolios over $10 million that are invested in accordance with a strategy that includes domestic high-yield debt in addition to US government and agency securities and investment-grade bonds issued by US corporations. The composite benchmark is 75% Bloomberg Barclays Capital US Government/Credit Index and 25% Bloomberg Barclays Capital US High Yield Index, rebalanced monthly.

Case: Belltower Investment Management

- The core-plus fixed-income composite includes a portfolio managed on behalf of the Avonfield Academy endowment fund. The trustees of Avonfield inform Belltower in writing that, due to a change in investment policy, the endowment fund is no longer permitted to hold below-investment-grade securities. Belltower determines that henceforth the Avonfield portfolio should be included in the core fixed-income composite, rather than the core-plus fixed-income composite. The historical record of the portfolio must be:

  A. included in both composites.

  B. kept in the core-plus fixed income composite.

  C. excluded from the core-plus fixed income composite.

Case: Belltower Investment Management

- **Answer: B**

  A. Provision I.3.A.7 states, "Portfolios must not be switched from one composite to another unless documented changes to a portfolio's investment mandate, objective, or strategy or the redefinition of the composite make it appropriate. The historical performance of the portfolio must remain with the original composite." (Emphasis added.) (See Section 3.9 of the reading.)

Case: Belltower Investment Management

- After an extended period of rising interest rates, the market value of Hartford Special Machinery Company's core-plus fixed-income portfolio falls below the composite minimum of $10 million. The Hartford portfolio remains below the composite-specific minimum asset level for nine months until the client makes an additional contribution that brings it back above $10 million in assets. Belltower must:
  A. temporarily switch the Hartford portfolio to the firm's miscellaneous composite.
  B. include the Hartford portfolio in the core-plus fixed income composite in all measurement periods.
  C. exclude the Hartford portfolio from the core-plus fixed income composite for the period it was below the minimum asset level.

Case: Belltower Investment Management

- **Answer: C**
  A. Provision I.3.A.9 states in pertinent part, "If the firm sets a minimum asset level for portfolios to be included in a composite, the firm must not include portfolios below the minimum asset level in that composite." Belltower must remove the Hartford portfolio from the core-plus fixed-income composite when the portfolio's assets fall below the minimum, and return it to the composite when it once again qualifies for inclusion. A is incorrect because composites must be defined according to similar investment objectives and/or strategies; there should be no "miscellaneous" composite. (See Section 3.9 of the reading.)

Case: Belltower Investment Management

- Kingswood Manufacturing Company, a core-plus fixed-income client, informs Belltower in writing that, in the future, all security transactions must be approved in advance by Kingswood's controller. The most likely consequence is that Belltower must prospectively exclude the Kingswood portfolio from:
  A. all composites.
  B. total firm assets.
  C. the core-plus fixed-income composite only.

Case: Belltower Investment Management

- **Answer: A**

  A. The client's prior approval authority for security transactions appears to render the portfolio non-discretionary. Provision I.3.A.1 states, in part, that "non-discretionary portfolios must not be included in a firm's composites." B is incorrect because, in accordance with Provision I.0.A.13, total firm assets must include all discretionary and non-discretionary assets managed by the firm. (See Sections 3.1 and 3.7 of the reading.)

Case: Tidewater Investment Management

- Tidewater Investment Management's performance presentation for its large cap US value composite is shown below.

Large-Cap US Value Composite
Composite Creation Date: 1 July 2001 ($ in millions)

Period	Composite Return %	Composite Median Return %	Benchmark Return %	Internal Dispersion	Number of Accounts	Total Composite Assets ($)	Total Firm Assets ($)
2005	6.37	6.52	6.14	1.54	15	922.4	9,752.3
2004	12.03	11.97	12.73	2.37	17	985.6	9,889.9
2003	26.52	26.74	26.01	4.05	19	1,028.3	10,779.5
2002	–19.06	–18.11	–21.52	3.97	22	1,354.8	11,845.3
2001	–12.00	–8.51	–12.16	2.13	27	1,227.5	11,253.6

Case: Tidewater Investment Management

Notes:

- Tidewater Investment Management has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®).
- For the purposes of compliance with the GIPS standards, the firm is defined as all institutional accounts managed by Tidewater Investment Management. A complete list and description of all the firm's composites is available upon request.

Case: Tidewater Investment Management

- The strategy of the US Large Cap Value Composite (formerly the Core Domestic Equity Composite) is to invest in US large cap value equity securities. The composite consists of all fee-paying and non-fee-paying discretionary accounts with a minimum market value of $5 million.
- The benchmark for periods beginning 1 January 2003 is a custom security-based benchmark that is rebalanced to target sector weights monthly. The benchmark for periods prior to 1 January 2003 is the Russell 1000® Value Index.
- Between 25% and 35% of the assets contained in the composite in 2001 and 2002 were carved out of portfolios managed according to the firm's Large Cap Value Balanced style.

Case: Tidewater Investment Management

- For new clients acquired in periods starting 1 January 2004, Tidewater charges a bundled fee of 1.0% on assets up to $10 million and 0.85% on assets in excess of $10 million. The bundled fee includes investment management and administrative fees.
- Additional information regarding policies for calculating and reporting returns is available upon request.

(There are numerous errors and omissions in Tidewater's performance presentation. The following questions do not address all of them.)

Case: Tidewater Investment Management

➢ Tidewater's performance presentation for the large cap US value composite fails to comply with the GIPS standards because it does **not** present:

A. cumulative composite and benchmark returns.

B. the percentage of the total firm assets represented by the composite.

C. the percentage of composite assets represented by non-fee-paying portfolios.

Case: Tidewater Investment Management

- **Answer: C**

A. The composite description indicates that the composite contains both fee-paying and non-fee-paying portfolios. GIPS Provision I.5.A.6 states, "If a composite includes non-fee-paying portfolios, the firm must present the percentage of composite assets represented by non-fee-paying portfolios as of each annual period end." A is incorrect because the Standards recommend but do not require that firms present cumulative returns for all periods. B is incorrect because the Standards permit firms to present either the percentage of the total firm assets represented by the composite or the amount of total firm assets at the end of each annual period. (See Sections 3.12 and 3.13 of the reading.)

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Case: Tidewater Investment Management

- Tidewater's performance presentation most likely fails to comply with the GIPS standards because it does **not** disclose the:

A. custom benchmark weights and components.

B. presence, use, and extent of leverage or derivatives.

C. date and reasons for the change in the composite name.

101% Contribution Breeds Professionalism!
PROFESSIONAL-INNOVATIVE-VALUE CREATING

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Case: Tidewater Investment Management

- **Answer: A**

A. GIPS Provision I.4.A.31 states, "If a custom benchmark or combination of multiple benchmarks is used, the firm must disclose the benchmark components, weights and re-balancing process." Tidewater discloses the frequency of custom benchmark rebalancing but does not describe the custom benchmark weights and components. B is not the best answer because the Standards require disclosure of the presence, use, and extent of leverage or derivatives only if the use of leverage or derivatives is material. C is incorrect because the Standards require only that firms disclose any changes to the name of a composite. Firms are not required to disclose the date and reasons for the composite name change. (See Section 3.11 of the reading.)

101% Contribution Breeds Professionalism!
PROFESSIONAL-INNOVATIVE-VALUE CREATING

Case: Tidewater Investment Management

- In order to comply with the GIPS standards, Tidewater's disclosures related to fees must include the:
  A. fee schedule for periods prior to 1 January 2004.
  B. investment management and administrative fees on a segregated basis.
  C. bundled fee portfolios as a percentage of composite assets for each annual period.

Case: Tidewater Investment Management

- **Answer: C**
  A. GIPS Provision I.5.A.7 states, "If a composite includes portfolios with bundled fees, the firm must present the percentage of composite assets represented by portfolios with bundled fees as of each annual period end." The Standards do not require firms to disclose the fee schedule in effect for prior periods or the segregated components of bundled fees. (See Section 3.12 of the reading.)

Case: Techno Investment Partners

- Techno Investment Partners serves as general partner in a limited partnership whose strategy is to invest in privately owned software companies with innovative products designed to improve productivity in the service sector of the economy. The investment results of the limited partnership are presented in the firm's GIPS-compliant Service Productivity Enhancement Software (SPES) composite.

  Paul Reid, a performance analyst, is updating the SPES composite performance presentation through the end of the third year since inception. The information shown in Exhibit 1 is taken from one of Reid's worksheets.

Case: Techno Investment Partners

Exhibit 1. SPES Composite Data as of the End of Year 3 ($ in millions)					
Paid-In Capital	Invested Capital	Cumulative Distributions	Realization Multiple (DPI)	PIC Multiple	Ratio of Residual Value to Paid in Capital (RVPI)
20.0	16.6	2.5	0.13	0.80	0.99

Case: Techno Investment Partners

➢ The market value of the SPES composite is closest to:

A. $16.6 million.

B. $19.8 million.

C. $20.2 million.

Case: Techno Investment Partners

➢ **Answer: B**

A. The GIPS Glossary gives this definition of Residual Value (private equity and real estate): “The remaining equity that limited partners (or investors) have in an investment vehicle at the end of the performance reporting period.” The GIPS Glossary defines the RVPI (real estate and private equity) as “residual value divided by since inception paid-in capital”. Accordingly, the market value of the SPES composite can be estimated by multiplying the paid-in capital by the RVPI measure. The calculation is $20.0 × 0.99 = $19.8 million. (See Section 3.15 of the reading.)

- The SPES composite's investment multiple (TVPI) is closest to:
  A. 0.13.
  B. 0.86.
  C. 1.12.

Case: Techno Investment Partners

- **Answer: C**
  A. The GIPS Glossary defines the TVPI (real estate and private equity) as "total value divided by since inception paid-in capital." The GIPS Glossary defines Total Value (real estate and private equity) as "residual value plus distributions". Using the data given in Exhibit I, the simplest way to find TVPI is to add RVPI and DPI. The calculation is: 0.99 + 0.13 = 1.12. Alternately, one can multiply the monetary amount of paid-in capital by RVPI to determine the residual value, add it to cumulative distributions, and divide the sum by paid-in capital. In this approach, the calculation is [(20 × 0.99) + 2.5]/20 = 1.12. (See Section 3.15 of the reading.)

Case: Techno Investment Partners

- What percentage of the limited partners' paid-in capital has been returned to them?
  A. 13%
  B. 15%
  C. 80%

Case: Techno Investment Partners

- **Answer: A**

A. The GIPS Glossary defines the Realization Multiple (DPI) (real estate and private equity) as "since inception distributions divided by since inception paid-in capital". The realization multiple (DPI) may be described as a measure of how much of the investors' capital has been returned to them. Exhibit I displays the realization multiple (0.13 or 13%), and it can also be calculated by dividing cumulative distributions by paid-in capital. (See Section 3.15 of the reading.)

Case: Techno Investment Partners

- The limited partnership's committed capital is closest to:

A. $16.6 million.

B. $20.4 million.

C. $25.0 million.

Case: Techno Investment Partners

- **Answer: C**

A. The GIPS Glossary defines the PIC Multiple (real estate and private equity) as "since inception paid-in capital divided by cumulative committed capital". Accordingly, given paid-in capital of $20 million and a PIC multiple of 0.80, committed capital is $20/0.80 = $25.0. (See Section 3.15 of the reading.)

Case: Amelia Gordon

- Amelia Gordon, the head of compliance at Herrschaft Asset Management Corporation, is examining an advertisement that promotes the firm's fundamental value strategy. The advertisement is shown in Exhibit 1.

Exhibit 1. "Herrschaft. Master the market."

Herrschaft Asset Management
Fundamental Value Composite Performance

	3 Months Ended 31 March 2006	Periods Ended 31 December 2005		
		1 Year	3 Years (Annualized)	5 Years (Annualized)
Composite	5.51%	14.56%	22.03%	5.17%
Custom Benchmark	5.35%	14.72%	21.47%	4.86%

Case: Amelia Gordon

- Herrschaft Asset Management Corporation meets all applicable requirements of the Global Investment Performance Standards (GIPS®).
- Herrschaft Asset Management Corporation is a registered investment advisory firm offering a full suite of equity and fixed-income products for individuals and institutions.
- The Fundamental Value Composite contains all discretionary portfolios that are invested in accordance with Herrschaft's proprietary fundamental value strategy.

Case: Amelia Gordon

- Portfolios in the Fundamental Value Composite may include futures solely to equitize portfolio cash during inflows and outflows. Futures are not used to add leverage to the portfolio.
- To receive a complete list and description of Herrschaft Asset Management Corporation's composites, contact Jules Arnauld at (212) 555-0000 or write Herrschaft Asset Management Corporation, 1250 15th Avenue, New York, NY or jarnauld@herrschaftam.com

Case: Amelia Gordon

- Which of the following statements is most accurate? Herrschaft's advertisement does **not** meet the requirements of the GIPS Advertising Guidelines because it fails to disclose:

  A. a description of the benchmark.

  B. the benchmark construction rules.

  C. how often the benchmark is rebalanced.

Case: Amelia Gordon

- **Answer: A**

  A. GIPS Provision III.B.8 states, "All advertisements that include a claim of compliance with the GIPS standards by following the GIPS Advertising Guidelines must disclose the following: The benchmark description." (See Section 5 of the reading.)

Case: Amelia Gordon

- Which of the following statements is most accurate? Herrschaft's advertisement does **not** meet the requirements of the GIPS Advertising Guidelines because it fails to:

  A. present five years of annual composite returns.

  B. present a measure of dispersion of individual portfolio returns.

  C. disclose whether performance is shown gross or net of investment management fees.

Case: Amelia Gordon

- **Answer: C**

  A. GIPS Provision III.B.6 states, "All advertisements that include a claim of compliance with the GIPS standards by following the GIPS Advertising Guidelines must disclose the following: Whether returns are presented gross-of-fees and/or net-of-fees". A is incorrect because GIPS-compliant advertisements may show either five years of annual composite returns or period-to-date, one-, three-, and five-year cumulative annualized composite returns. Herrschaft's advertisement shows the latter. B is incorrect because the GIPS Advertising Guidelines do not require firms to present a measure of dispersion. (See Section 5 of the reading.)

Case: Amelia Gordon

- Herrschaft's compliance statement does **not** meet the requirements of the GIPS Advertising Guidelines. The correct statement is:

  A. Herrschaft Asset Management Corporation claims compliance with the Global Investment Performance Standards (GIPS®).

  B. Herrschaft Asset Management Corporation has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®).

  C. Herrschaft Asset Management Corporation has prepared and presented this advertisement in compliance with the Advertising Guidelines of the Global Investment Performance Standards (GIPS®).

Case: Amelia Gordon

- **Answer: A**

  A. Answer A presents the prescribed wording of the GIPS Advertising Guidelines compliance statement. (See Section 5 of the reading.)

Case: Amelia Gordon

- Which of the following statements is most accurate? Herrschaft's advertisement does **not** satisfy an applicable requirement of the GIPS Advertising Guidelines because it fails to include all salient features in its description of the:

  A. firm.

  B. composite strategy.

  C. extent and use of leverage and derivatives.

Case: Amelia Gordon

- **Answer: B**

  A. Herrschaft's description of the composite strategy is uninformative. It would most likely be possible for Herrschaft to provide a more satisfactory description without revealing its trade secrets. A is incorrect because the description of the firm is adequate. C is incorrect because Herrschaft states that derivatives are used solely for the purpose of efficient management of cash flows. GIPS Provision III.B.11 states, "All advertisements that include a claim of compliance with the GIPS standards by following the GIPS Advertising Guidelines must disclose the following: The presence, use, and extent of leverage, derivatives, and short positions, if material, including a description of the frequency of use and characteristics of the instruments sufficient to identify risks". Consequently, a description of the use and extent of leverage or derivatives is not required in this case. (See Sections 3.11 and 5 of the reading.)

Case: Excedent Asset Management

- Excedent Asset Management hires Maven Performance Consulting, Inc. to verify its claim of compliance with the GIPS standards.

  Excedent offers equity and fixed-income portfolio management services to US-based institutional clients. Maven's services include customized training programs, technology and operational consulting, and GIPS verification.

  At the outset of the verification process, Maven reviews Excedent's performance-related policies and procedures. The verifier also obtains a list of open and closed accounts for all composites for the years under examination.

Case: Excedent Asset Management

- Which statement most accurately describes a requirement of the GIPS standards? Maven must be satisfied that Excedent's composite benchmarks are:
  A. free from systematic bias.
  B. consistently applied over time.
  C. unambiguous, investable, and measurable.

Case: Excedent Asset Management

- **Answer: B**
  A. GIPS Provision IV.B.2.a.vii states, "Verifiers must perform sufficient procedures to determine that: The composite benchmark reflects the investment mandate, objective, or strategy of the composite." (See Section 6 of the reading.)

Case: Excedent Asset Management

- Maven asks Excedent to provide the account agreements for certain open and closed accounts. Reviewing the selected account agreements is least likely to be useful in determining whether:
  A. Excedent's treatment of taxes, tax reclaims, and tax accruals are correct.
  B. Excedent has appropriately classified accounts as discretionary or non-discretionary.
  C. the accounts' objectives are consistent with the definitions of the composites in which they are included.

Case: Excedent Asset Management

- **Answer: A**

  A. The account agreements are unlikely to shed light on whether the firm's treatment of taxes, tax reclaims, and tax accruals is correct. B is incorrect because GIPS Provision IV.B.2.b states, in part, "Verifiers must obtain a list of all portfolios. Verifiers must select portfolios from this list and perform sufficient procedures to determine that the firm's classification of the portfolios as discretionary or non-discretionary is appropriate by referring to the portfolio's investment management agreement and/or investment guidelines and the firm's policies and procedures for determining investment discretion." C is incorrect because GIPS Provision IV.B.2.c.iii states, in part, "Verifiers must...determine that: The portfolio's investment mandate, objective, or strategy, as indicated by the portfolio's investment management agreement, investment guidelines, portfolio summary, and/or other appropriate documentation, is consistent with the composite definition." (See Section 6 of the reading.)

问题反馈

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Behavioral Finance

CFA三级培训项目

讲师：

Reading 7

The Behavioral Finance Perspective

Case: Mimi Fong

- Mimi Fong, CFA, a private wealth manager with an asset management firm, has been asked to make a presentation to her colleagues comparing traditional and behavioral finance. She decides to enliven her presentation with statements from colleagues and clients. These statements are intended to demonstrate some key aspects of and differences between traditional and behavioral finance.
- Statement 1
- (from a colleague): "When new information on a company becomes available, I adjust my expectations for that company's stock based on past experiences with similar information."

Case: Mimi Fong

- Statement 2
- (from a client): "When considering investments, I have always liked using long option positions. I like their risk/return tradeoffs. My personal estimates of the probability of gains seem to be higher than that implied by the market prices. I am not sure how to explain that, but to me long options provide tremendous upside potential with little risk, given the low probability of limited losses."
- Statement 3
- (from a client): "I have always followed a budget and have been a disciplined saver for decades. Even in hard times when I had to reduce my usual discretionary spending, I always managed to save."

Case: Mimi Fong

- Statement 4
- (from a colleague): "While I try to make decisions analytically, I do believe the markets can be driven by the emotions of others. So I have frequently used buy/sell signals when investing. Also, my 20 years of experience with managers who actively trade on such information makes me think they are worth the fees they charge."
- Statement 5
- (from a colleague): "Most of my clients need a well-informed advisor to analyze investment choices and to educate them on their opportunities. They prefer to be presented with three to six viable strategies to achieve their goals. They like to be able to match their goals with specific investment allocations or layers of their portfolio."

Case: Mimi Fong

- Statement 6
- (from a client): "I follow a disciplined approach to investing. When a stock has appreciated by 15 percent, I sell it. Also, I sell a stock when its price has declined by 25 percent from my initial purchase price."
- Statement 7
- (from a client): "Overall, I have always been willing to take a small chance of losing up to 8 percent of the portfolio annually. I can accept any asset classes to meet my financial goals if this constraint is considered. In other words, an acceptable portfolio will satisfy the following condition: Expected return – 1.645 × Expected standard deviation ≥ –8%."

Case: Mimi Fong

- Which of the following statements is *most* consistent with expected utility theory?
  A. Statement 1.
  B. Statement 2.
  C. Statement 3.

Case: Mimi Fong

- **Solution: C**

  Statement 3 is most consistent with expected utility theory. The client exhibits self-control and is able to defer consumption. This client is considering short-term and long-term goals and attempting to maximize the present value of utility. In Statement 1, beliefs are being updated using heuristics rather than Bayes' formula. Statement 2 is consistent with prospect theory; the client is overweighting the probability of a high financial impact outcome (gains on options) and underweighting the probability of a loss (the option premium cost).

Case: Mimi Fong

- Which of the following statements *most likely* indicates a belief that technical anomalies exist in the capital markets?
  A. Statement 2.
  B. Statement 4.
  C. Statement 6.

- **Solution: B**

  Statement 4 indicates the belief that buy/sell signals can be used to earn excess returns.

Case: Mimi Fong

- Statement 4 is *most* consistent with:
  - A. the adaptive markets hypothesis.
  - B. a behavioral approach to asset pricing.
  - C. Savage's subjective expected utility theory.

- **Solution: B**

  Statement 4 indicates that markets can be influenced by the emotions of others (sentiment). This is consistent with a behavioral approach to asset pricing that includes sentiment such as the behavioral stochastic discount factor-based asset pricing model proposed by Shefrin.

Case: Mimi Fong

- The clients of Statement 5 *most likely* exhibit:
  - A. loss-aversion.
  - B. bounded rationality.
  - C. mental accounting bias.

Case: Mimi Fong

- **Solution: C**

  The clients discussed in Statement 5 exhibit mental accounting bias because they consider their portfolio by matching its layers to goals. The clients may not have time themselves to examine the investment universe and arrive at optimal solutions, but they rely on their adviser to do this for them. Thus, they do not exhibit bounded rationality.

Case: Mimi Fong

- The client of Statement 6 is *most likely* behaving consistently with:
  A. prospect theory.
  B. expected utility theory.
  C. behavioral portfolio theory.

- **Solution: C**
  The client of Statement 6 is behaving consistently with behavioral portfolio theory. The client sells and holds a stock not because of the stock's potential, but rather from a fear of the stock declining in value and gains dissipating and an aversion to realizing losses. Loss-aversion in prospect theory is discussed from a different perspective.

Case: Mimi Fong

- The client of Statement 7 would *most likely* agree with which of the following statements?
  A. I strive for a mean–variance efficient portfolio.
  B. I construct my portfolio in layers to meet my goals.
  C. I am loss-averse and have a value function that is steeper for losses than gains.

Case: Mimi Fong

- **Solution: A**
  The client is expressing a portfolio goal that considers expected return and standard deviation. This is consistent with traditional finance and the client is likely to prefer a mean–variance efficient portfolio. There is nothing in the statement that indicates loss-aversion as opposed to risk-aversion or a preference for constructing a portfolio in layers.

Reading 8

The Behavioral Biases of Individuals

Case: Tiffany Jordan

- Tiffany Jordan is a hedge fund manager with a history of outstanding performance. For the past 10 years, Jordan's fund has used an equity market neutral strategy (long/short strategy that strives to eliminate market risk; i.e., beta should be zero) which has proved to be effective as a result of Jordan's hard work. An equity market neutral strategy normally generates large daily trading volume and shifts in individual security positions. Jordan's reputation has grown over the years as her fund has consistently beaten its benchmark. Employee turnover on Jordan's team has been high; she has a tendency to be quick to blame, and rarely gives credit to team members for success. During the past twelve months, her fund has been significantly underperforming against its benchmark.

Case: Tiffany Jordan

One of Jordan's junior analysts, Jeremy Tang, is concerned about the underperformance and notes the following:

- Observation 1

  Certain positions are significantly under water, have much higher risk profiles, and have been held for much longer than normal.

- Observation 2

  The trading volume of the fund has decreased by more than 40 percent during the past year.

- Observation 3

  The portfolio is more concentrated in a few sectors than in the past.

Case: Tiffany Jordan

- Tang is worried that the portfolio may be in violation of the fund's Investment Policy Statement (IPS). Tang brings this to Jordan's attention during a regular weekly team meeting. Jordan dismisses Tang's analysis and tells the team not to worry because she knows what she is doing. Jordan indicates that since she believes the pricing misalignment will correct itself, the portfolio will not be able to take advantage of the reversion to the mean if she sells certain losing positions. She reassures the team that this strategy has performed well in the past and that the markets will revert and the fund's returns will return to normal levels.
- Tang tactfully suggests that the team review the fund's IPS together, and Jordan interrupts him and reminds the team that she has memorized the IPS by heart. Tang contemplates his next step. He is concerned that Jordan is displaying behavioral biases which are affecting the fund's performance.

Case: Tiffany Jordan

- By taking credit for successes but assigning blame for failures, Jordan is *most likely* demonstrating:

  A. loss-aversion bias.

  B. self-attribution bias.

  C. illusion of knowledge bias.

Case: Tiffany Jordan

- **Solution: B**

  Self-attribution is a bias in which people take credit for successes and assign responsibilities for failure. Jordan attributes successful decisions to herself while poor decisions are attributed to the team. Her self-esteem affects how she looks at success and failure. Self-attribution and illusion of knowledge biases contribute to overconfidence bias, which Jordan clearly demonstrates later when she tells the team that she knows what she is doing.

Case: Tiffany Jordan

- Which of Tang's observations is *least likely* to be the consequence of Jordan demonstrating loss-aversion bias?
  - A. Observation 1.
  - B. Observation 2.
  - C. Observation 3.
- **Solution: C**

  Loss aversion by itself may cause a sector concentration; however, a market neutral strategy tends to focus on individual stocks without regard to the sector. The sector exposure would be mitigated with the balancing of the individual long and short positions.

Case: Tiffany Jordan

- Which of Jordan's actions *least* supports that she may be affected by the illusion of control bias?
  - A. Her dismissal of Tang's analysis.
  - B. Her routine of holding weekly team meetings.
  - C. Her comment on market turnaround and current holdings.

Case: Tiffany Jordan

- **Solution: B**

  Holding weekly team meetings, which would indicate a willingness to listen to feedback from others, is not representative of the illusion of control bias. The illusion of control bias is one in which people believe they can control outcomes. Individuals exhibiting this bias display great certainty in their predictions of outcomes of chance events and ignore others' viewpoints. Jordan is sure that the market will turn around even though it is out of her control. She chooses not to listen to Tang who is questioning her viewpoint.

Case: Tiffany Jordan

- How does Jordan *most likely* demonstrate loss-aversion bias?
  - A. Telling the team not to worry.
  - B. Reducing the portfolio turnover this year.
  - C. Deciding to hold the losing positions until they turn around.

Case: Tiffany Jordan

- **Solution: C**

  Jordan's behavior is a classic example of loss aversion: When a loss occurs, she holds on to these positions longer than warranted. By doing so, Jordan has accepted more risk in the portfolio. Loss-aversion bias is one in which people exhibit a strong preference to avoid losses versus achieving gains. One of the consequences of loss aversion bias is that the financial management professional (in this case, Jordan) may hold losing investments in the hope that they will return to break-even or better.

Case: Tiffany Jordan

- Which of the following emotional biases has Jordan *most likely* exhibited?
  - A. Endowment.
  - B. Regret aversion.
  - C. Overconfidence.

Case: Tiffany Jordan

- **Solution: C**

  Jordan exhibits overconfidence in several ways. She ignores the analysis done by Tang. This may be because Jordan believes she is smarter and more informed than her team members, which is typical of an individual with an illusion of knowledge bias. The certainty she demonstrates that the market will revert is evidence of overconfidence. Her overconfidence is intensified by her self-attribution bias, which is demonstrated through her dealings with her team when she blames them for losses while taking credit for the gains. Finally, her portfolio's underperformance against the benchmark is a consequence of overconfidence bias.

Case: Tiffany Jordan

- Which one of the following biases did Jordan *not* demonstrate?

  A. Self-attribution.

  B. Representativeness.

  C. Illusion of knowledge.

- **Solution: B**

  B is correct. Nowhere in the scenario did it mention that Jordan classified certain information into a personalized category. Representativeness bias is a cognitive bias in which people tend to classify new information based on past experiences and classifications. Jordan is not relating the certainty about the future or her decision to hold losing positions back to something she has done or experienced in the past.

Case: Tiffany Jordan

- Which of Tang's findings is *not* a typical consequence of self-control bias?

  A. Failure to explore other portfolio opportunities.

  B. Asset allocation imbalance problems in the portfolio.

  C. A higher risk profile in the portfolio due to pursuit of higher returns.

Case: Tiffany Jordan

- **Solution: A**

  Failing to explore other opportunities is a demonstration of status quo bias, not self-control. Self-control bias occurs when individuals deviate from their long-term goals, in this case, the investment policy statement, due to a lack of self-discipline. Jordan is not adhering to the strategy which has been successful in the past. The consequences of self-control bias include accepting too much risk in the portfolio (C) and asset allocation imbalance problems (B) as Jordan attempts to generate higher returns.

Reading 9

Behavioral Finance and Investment Processes

Case: Ian Wang

- Ian Wang, CFA, is a financial advisor at Garnier Brothers, a US money management firm. He became a financial advisor several years ago after receiving his CFA charter and currently has three high-net-worth individuals as clients. Wang is conducting his annual review of each client's investment policy statement along with their recently completed risk tolerance questionnaires. He is reflecting on their varying psychographic characteristics:
  - Michael Perez is a successful 45-year-old investment banker. Wang describes Perez as a passive investor who is sensible and secure. Perez exhibits low to medium risk tolerance but often overestimates his risk tolerance. His biases include hindsight, framing, and regret aversion. On his questionnaire, Perez indicated a desire for wealth preservation while wanting to invest a significant portion of his assets in his employer's stock.

Case: Ian Wang

- Sarah Johnson is an independent-minded 45-year-old real estate developer who has historically utilized significant amounts of financial leverage. Prior to becoming a Garnier client, Johnson managed her own investment portfolio, which was concentrated in just a few stocks. Johnson exhibits a great deal of confidence and high risk tolerance. Johnson's biases include illusion of control and overconfidence. On her questionnaire, Johnson indicated a desire for wealth accumulation and an aversion to investing in non-US equities. In addition, she indicated that her risk tolerance toward a stock investment would increase significantly if she knew that more than one of Garnier's research analysts supported it.

Case: Ian Wang

金程教育 GOLDEN FUTURE

- Neal Patel is a 66-year-old billionaire who accumulated his wealth by starting a successful retail business. Wang describes Patel as cautious and concerned about the future. Patel is concerned about protecting his assets and often seeks advice from those he perceives as being more knowledgeable than himself. Patel exhibits low risk tolerance. Patel's biases include endowment, loss aversion, and status quo. Patel indicated that his risk tolerance would increase significantly if he knew that an investment had the unanimous support of Garnier's Private Wealth Investment Committee.

➢ There was one common observation that Wang noted in all three questionnaires: All three clients indicated that they would perceive a company with a good growth record and good previous share price performance as a good investment.

Case: Ian Wang

金程教育 GOLDEN FUTURE

➢ Once Wang completes his annual review, he revises the investment policy statement for the client's approval. After the client approves the revised policy statement, the portfolio for the client will be reviewed to determine any necessary reallocations. Wang is limited by Garnier as to the specific investment options that can be placed in a client's portfolio; only securities that are covered by Garnier's research analysts and approved by the Private Wealth Investment Committee can be placed in a client's portfolio. Garnier is confident that its analysts provide superior forecasts and ratings because they use a Bayesian approach. Garnier is also proud of its investment approval process. The Private Wealth Investment Committee regularly meets to discuss and debate each security and then votes on which will be approved.

➢ Wang is scheduled to meet with his supervisor next week to discuss the results of his annual review and recommended portfolio reallocations.

Case: Ian Wang

- When advising his clients, Wang is *least likely* to:
  - A. educate Perez on the benefits on portfolio diversification.
  - B. limit Johnson's role in the investment decision-making process.
  - C. provide Patel with details like standard deviations and Sharpe ratios.

Case: Ian Wang

- **Solution: C**

  This would not be an effective way to advise Patel. Given Patel's information, he is likely to be more receptive to "big picture" advice that does not dwell on details like standard deviations and Sharpe ratios. He is emotionally biased and providing excessive cognitive detail will lose his attention. He needs to be convinced of his advisor's general philosophy first and then, as trust is gained, he will respond to advice and take action. (Patel is a Passive Preserver.)

Case: Ian Wang

- A traditional risk tolerance questionnaire is *most likely* to be effective as a diagnostic tool for:
  - A. Patel.
  - B. Perez.
  - C. Johnson.

- **Solution: B**

  Perez exhibits primarily cognitive rather than emotional biases. Although risk tolerance questionnaires may fail for emotionally biased individuals and work best for institutional investors, they are generally effective for cognitive-based individuals.

Case: Ian Wang

- Which of the following behavioral biases would be *most* relevant in constructing a portfolio for Johnson?
  - A. Home bias.
  - B. Overconfidence.
  - C. Inertia and default.

- **Solution: A**
  Home bias is evident in Johnson's questionnaire. Johnson has expressed an aversion to investing in non-US equities. Familiarity with their country may lead investors to own high concentrations of domestic assets and ignore the benefits of international diversification.

Case: Ian Wang

- Which investment portfolio is *least likely* to deviate from the mean–variance portfolio?
  - A. Patel.
  - B. Perez.
  - C. Johnson.
- **Solution: B**
  Perez has primarily cognitive error biases. Accordingly, it is likely that, with education, the impact of these biases can be reduced or even eliminated. Because cognitive biases dominate, Wang should seek to moderate the effect of these biases and adopt a program to reduce or eliminate the bias rather than accept the bias. The result will be a portfolio that is similar to the mean–variance portfolio.

Case: Ian Wang

- With regard to Johnson's comment relating to Garnier's research analysts, which of the following biases is *most likely* to be present in the analysts' data?
  - A. Confirmation bias.
  - B. Availability bias.
  - C. Self-attribution bias.

Case: Ian Wang

- **Solution: A**
  Confirmation bias, a cognitive bias, is the tendency for people to misread evidence as additional support for an initial hypothesis. Confirmation bias is a potential bias for analysts conducting research. It is a form of resolving cognitive dissonance that described the tendency to search for, or interpret, information in a way that confirms the analyst's prior beliefs. The additional information may not be analyzed in a rigorous way, but it can nevertheless appear to make the judgment or forecast more likely by sharing some of its general characteristics.

Case: Ian Wang

- Patel's comment in his risk tolerance questionnaire regarding the Private Wealth Investment Committee fails to recognize which bias?
  A. Social proof.
  B. Confirmation bias.
  C. Gambler's fallacy.

Case: Ian Wang

- **Solution: A**
  Social proof is a belief in which individuals are biased to follow the beliefs of a group. The structure of Garnier's Private Wealth Investment Committee indicates that they may be susceptible to a social proof bias. The committee meets to discuss and debate each security and then votes on which will be approved. Committee members may wrongly favor the judgment of others, often without being fully aware that they are doing so. The process of reaching a consensus will usually narrow the range of views. If a group decision process does not encourage private information held by individual committee members to be shared fully with others before a decision is made, the decision may fail to combine the collective wisdom of the group. There is no evidence that this committee encourages private information.

Case: Ian Wang

- The clients' common observation in their risk tolerance questionnaires is *least likely* indicative of:
  A. herding.
  B. home bias.
  C. halo effect.

- **Solution: B**
  Home bias occurs when investors exhibit a strong bias in favor of domestic securities in the context of global portfolios. There is no evidence of a home bias in the clients' common observation.

Case: Empire & Associates

- Empire & Associates, an investment management firm, has been in operation since 1974. Empire utilizes a proprietary valuation model based on fundamental analysis to select individual stock and bonds, and also employs technical analysis to help identify market anomalies and momentum effects. They use the output of their fundamental and technical analyses to actively manage clients' accounts. Empire also recognizes the effects of investors' background and past experiences on investors' behaviors and decision making, and uses a behavioral alpha process to classify its clients into behavioral investor types.
- Anthony Rodriguez, investment adviser, has been tasked with transitioning three new clients' investment portfolios. Rodriguez has reviewed for each completed new client questionnaire, current portfolio, and some notes on the client. He prepares the following summaries:

Case: Empire & Associates

- Christine Blake is a 35-year old free-lance writer of several successful children's books. Her primary source of income is royalty payments. She has accumulated a portfolio with a current value of $3.6 million. Blake has always self-managed the portfolio and has confidence in her investment abilities. Blake would like to be able to make independent decisions when opportunities arise. On several occasions, Blake has found herself holding positions with sizable losses and she has been reluctant to sell when a security declines. Because of these losses and the general size of her portfolio, she is seeking professional help. She is willing to consider higher risk investments if her research identifies an attractive opportunity. Her current portfolio consists of 15 equity positions of equal dollar value, diversified across eight industries and four different countries.

Case: Empire & Associates

- Margaret Neilson is a 59-year-old senior vice president of marketing for a highly successful, plastic injection corporation. Neilson has little investment experience and currently holds an $800,000 investment portfolio. Neilson has come to Empire because 80% of her portfolio is invested in the plastic injection corporation's shares that were obtained through an employee stock ownership plan. Neilson is nearing retirement and is worried about a weakening economy and the potential effect it could have on the plastic injection corporation's share price. Neilson wishes to avoid high risk situations.

Case: Empire & Associates

- Thomas Williamson is a 47-year-old surgeon; he is considered one of the world's best in his specialty, and earns several million dollars each year. Williamson recognizes that he has limited investment expertise and considers himself a low to moderate risk taker. Williamson established a brokerage account several years ago and funded it with $4 million. He has made no withdrawals from and no additional payments into the account. He selected investments by acting on the advice of other doctors and friends. This advice led him to purchase many popular stocks, and his portfolio is currently worth $3.55 million. Because he was so busy, he felt he mistimed buying and selling stocks. His current portfolio is concentrated in shares of eight US healthcare companies.

Case: Empire & Associates

- Rodriguez is meeting with Ian Carter, portfolio manager and Lila Suzuki, investment strategist, later in the week to establish an investment plan for each client. Rodriguez has worked with Carter and Suzuki on other client accounts. To facilitate discussion at the meeting, Rodriguez has emailed the summary on each client and asked that they provide some preliminary views prior to the meeting.
- Carter is a senior portfolio manager with an excellent performance record. He has expressed concern about the use of investor type classification models due to their many limitations. Carter believes that Empire's fundamental approach to analysis provides great value. However, he believes the technical analysis department is compatible with sound investment practices.

Case: Empire & Associates

- Suzuki tends to rigidly adhere to asset selections based on the proprietary valuation model. She has stated, "Sure it's a complex model, but it incorporates hundreds of different pieces of data relevant to a company; therefore, it's more thorough than any other analysis." With respect to Empire's technical analysis, Suzuki believes that the identified opportunities are not 'true' market anomalies but rather they are associated with higher risk exposures.

Case: Empire & Associates

- In establishing the portfolios for these new accounts, Rodriguez would like to address a recent memo from the technical analysis department that recommended overweighting clients' portfolios in the technology and consumer goods sectors. The memo's conclusion stated, "These sectors are depressed below their ten-year average levels. Every time that this has occurred in the past, these sectors have recovered to their mean in a short period of time." Rodriguez believes that technical analysis has the potential to uncover opportunities where there are over- or under-reactions to relevant information.

Case: Empire & Associates

- Which new client would most likely be identified as a friendly follower?

  A. Blake.

  B. Neilson.

  C. Williamson.

Case: Empire & Associates

- **Solution: C**

  Friendly followers are passive investors with low to moderate risk tolerance. Friendly followers tend to follow leads from their friends, colleagues, or advisors. They often want to be in the latest, most popular investments without regard to suitability for long-term goals. Rodriguez's notes indicate Williamson considers himself to be a low to moderate risk taker. In addition, he admits following the advice of colleagues and this advice resulted in purchase of latest, popular stocks without consideration of goals.

Case: Empire & Associates

- Carter's statement regarding behavioral classifications is *most likely* justified because individual investors generally:

  A. exhibit characteristics of multiple investor types.

  B. retain the same emotional biases as they become older.

  C. exhibit primarily emotional or cognitive biases, but not both.

- **Solution: A**

  A limitation of behavioral models is that individual investors do frequently exhibit characteristics of multiple investor types. This is a limitation of behavioral models and justifies Carter's concern. Users of these models should not look for people to fit neatly into one "box" or type.

Case: Empire & Associates

- Given Neilson's behavioral investor characteristics, the *most* effective approach in advising her would include providing her with:

  A. frequent reports of the portfolio return and risk measures.

  B. information detailing how Empire selects individual securities.

  C. information about how Empire will help her meet her investment goals.

Case: Empire & Associates

- **Solution: C**

  Neilson would be classified as a guardian or passive-preserver investment type and these investors are more receptive to "big picture" advice. Passive preservers display predominantly emotional biases and the focus of advice should be on addressing these emotions. Describing how the investment relationship will help her to accomplish her retirement goals would seem most appropriate.

Case: Empire & Associates

- Blake's portfolio would *most likely* indicate which behavioral bias?

  A. Home bias.

  B. Loss aversion.

  C. Investing in the familiar.

Case: Empire & Associates

- **Solution: B**

  Loss aversion is a bias in which people tend to strongly prefer avoiding losses as opposed to achieving gains. The disposition effect, which includes an emotional bias to loss aversion, will encourage investors to hold on to losers, causing an inefficient and gradual adjustment to deterioration in fundamental value. On several occasions, Blake has found herself holding positions with sizable losses, and she has been reluctant to sell when a security declines. This suggests that Blake may exhibit loss aversion bias.

Case: Empire & Associates

- Suzuki's rigid adherence to the proprietary valuation model *most likely* exhibits overconfidence in Empire's fundamental analysis due to:

  A. availability bias.

  B. self-attribution bias.

  C. an illusion of control.

Case: Empire & Associates

- **Solution: C**

  An illusion of control is a behavioral bias of someone who believes that he or she can know more than others simply by acquiring information. This may result in collection of too much information. While this data may not add to the accuracy of the forecast, it does reinforce the confidence placed in that forecast. Suzuki's endorsement of the complex valuation model which relies on large amounts of data most likely would give her an illusion of control.

Case: Empire & Associates

- The recent technical analysis department memo is *most likely* evidence of:

  A. anchoring.

  B. a confirmation bias.

  C. the gambler's fallacy.

Case: Empire & Associates

- **Solution: C**

  The gambler's fallacy is a cognitive behavioral bias in which an analyst wrongly projects a reversal to a long-term trend. This reflects a faulty understanding about the behavior of random events. The analyst expects a pattern that has diverged from the long term average to reverse within a specific period of time. The memo's statement that technology and consumer goods sectors should rebound within a short time period demonstrates the gamble's fallacy.

Case: Empire & Associates

- Blake's portfolio *least likely* reflects:

  A. home bias.

  B. a disposition effect.

  C. naïve diversification.

- **Solution: A**

  Home bias occurs when an investor exhibits an emotional attraction to a stock that may be enhanced by the proximity of the headquarters to the investor. This creates portfolios that show strong bias in favor of domestic equities in the context of global portfolios. Blake's portfolio is diversified among four different countries and therefore would not indicate a home bias.

Case: Empire & Associates

- Whose statement regarding the technical analysis department is most accurate?

  A. Carter.

  B. Suzuki.

  C. Rodriguez.

- **Solution: C**

  Momentum can be partly explained by short-term under-reaction to relevant information, and longer term over-reaction and thus supports Rodriguez's view that the technical analysis department has value.

问题反馈

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Capital Market Expectations

CFA三级培训项目

讲师：

Reading 10

Capital Market Expectations, Part 1: Framework and Macro

Case: Neshie Wakuluk

- Neshie Wakuluk is an investment strategist who develops capital market expectations for an investment firm that invests across asset classes and global markets. Wakuluk started her career when the global markets were experiencing significant volatility and poor returns; as a result, she is now careful to base her conclusions on objective evidence and analytical procedures to mitigate any potential biases.

Case: Neshie Wakuluk

- Wakuluk's approach to economic forecasting utilizes a structural model in conjunction with a diffusion index to determine the current phase of a country's business cycle. This approach has produced successful predictions in the past, thus Wakuluk has high confidence in the predictions. Wakuluk also determines whether any adjustments need to be made to her initial estimates of the respective aggregate economic growth trends based on historical rates of growth for Countries X and Y (both developed markets) and Country Z (a developing market). Exhibit 1 summarizes Wakuluk's predictions:

Case: Neshie Wakuluk

Exhibit 1 Prediction for Current Phase of the Business Cycle		
Country X	**Country Y**	**Country Z**
Initial Recovery	Contraction	Late Upswing

- Wakuluk assumes short-term interest rates adjust with expected inflation and are procyclical. Wakuluk reviews the historical short-term interest rate trends for each country, which further confirms her predictions shown in Exhibit 1.

Case: Neshie Wakuluk

- Wakuluk decides to focus on Country Y to determine the path of nominal interest rates, the potential economic response of Country Y's economy to this path, and the timing for when Country Y's economy may move into the next business cycle. Wakuluk makes the following observations:

  Observation 1 Monetary policy has been persistently loose for Country Y, while fiscal policies have been persistently tight.

  Observation 2 Country Y is expected to significantly increase transfer payments and introduce a more progressive tax regime.

  Observation 3 The current yield curve for Country Y suggests that the business cycle is in the slowdown phase, with bond yields starting to reflect contractionary conditions.

Case: Neshie Wakuluk

- Wakuluk decides to focus on Country Y to determine the path of nominal interest rates, the potential economic response of Country Y's economy to this path, and the timing for when Country Y's economy may move into the next business cycle. Wakuluk makes the following observations:
- **Observation 1** Monetary policy has been persistently loose for Country Y, while fiscal policies have been persistently tight.
- **Observation 2** Country Y is expected to significantly increase transfer payments and introduce a more progressive tax regime.
- **Observation 3** The current yield curve for Country Y suggests that the business cycle is in the slowdown phase, with bond yields starting to reflect contractionary conditions.

Case: Neshie Wakuluk

- Wakuluk most likely seeks to mitigate which of the following biases in developing capital market forecasts?

  A. Availability

  B. Time period

  C. Survivorship

Case: Neshie Wakuluk

- **Solution: A**

  Wakuluk started her career when the global markets were experiencing significant volatility and poor returns. She is careful to base her conclusions on objective evidence and analytical procedures to mitigate potential biases, which suggests she is seeking to mitigate an availability bias. Availability bias is the tendency to be overly influenced by events that have left a strong impression and/or for which it is easy to recall an example.

Case: Neshie Wakuluk

- Wakuluk's approach to economic forecasting:
  A. is flexible and limited in complexity.
  B. can give a false sense of precision and provide false signals.
  C. imposes no consistency of analysis across items or at different points in time.

Case: Neshie Wakuluk

- **Solution: B**

  Wakuluk's approach to economic forecasting utilizes both a structural model (e.g., an econometric model approach) and a diffusion index (e.g., a leading indicator-based approach). However, the two approaches have weaknesses: An econometric model approach may give a false sense of precision, and a leading indicator-based approach can provide false signals. Two strengths of the checklist approach are its flexibility and limited complexity, although one weakness is that it imposes no consistency of analysis across items or at different points in time.

Case: Neshie Wakuluk

- Wakuluk is most likely to make significant adjustments to her estimate of the future growth trend for which of the following countries?
  A. Country Y only
  B. Country Z only
  C. Countries Y and Z

Case: Neshie Wakuluk

- **Solution: B**

  Country Z is a developing market. Less-developed markets are likely to be undergoing more rapid structural changes, which may require the analyst to make more significant adjustments relative to past trends.

Case: Neshie Wakuluk

- Based on Exhibit 1 and Wakuluk's assumptions about short-term rates and expected inflation, short-term rates in Country X are most likely to be:

  A. low and bottoming.

  B. approaching a peak.

  C. above average and rising.

Case: Neshie Wakuluk

- **Solution: A**

  Country X is predicted to be in the initial recovery phase of the business cycle, which suggests short-term (money market) rates are low or bottoming. Inflation is procyclical. It accelerates in the later stages of the business cycle when the output gap has closed, and it decelerates when a large output gap puts downward pressure on wages and prices, which often happens during a recession or the early years afterward.

Case: Neshie Wakuluk

As long as short-term interest rates adjust with expected inflation, cash is essentially a zero-duration, inflation-protected asset that earns a floating real rate, which is typically procyclical. Wakuluk assumes short-term interest rates adjust with expected inflation and are procyclical. Thus, short-term rates are most likely to be low and bottoming if Country X is in the initial recovery phase of the business cycle.

Case: Neshie Wakuluk

- Based on Exhibit 1, what capital market effect is Country Z most likely to experience in the short-term?

  A. Cyclical assets attract investors.

  B. Monetary policy becomes restrictive.

  C. The yield curve steepens substantially.

Case: Neshie Wakuluk

- **Solution: B**

  Wakuluk's model predicts that Country Z's business cycle is currently in the late upswing phase. In the late upswing phase, interest rates are typically rising as monetary policy becomes more restrictive. Cyclical assets may underperform, whereas the yield curve is expected to continue to flatten.

Case: Neshie Wakuluk

- Based on Observation 1, fiscal and monetary policies in Country Y will most likely lead to:

  A. low nominal rates.

  B. high nominal rates.

  C. either high or low nominal rates.

Case: Neshie Wakuluk

- **Solution: C**

  Monetary policy has been persistently loose for Country Y, while fiscal policies have been persistently tight. With this combination of persistently loose and tight policies, the impact could lead to higher or lower nominal rates (typically labeled as mid-nominal rates).

Case: Neshie Wakuluk

- Based on Observation 2, what impact will the policy changes have on the trend rate of growth for Country Y?

  A. Negative

  B. Neutral

  C. Positive

- **Solution: C**

  Country Y is expected to significantly increase transfer payments and introduce a more progressive tax regime. Both of these changes are pro-growth government policies and should have a positive impact on the trend rate of growth for a business cycle that is in slowdown or contraction. Transfer payments help mitigate fluctuations in disposable income for the most vulnerable households, while progressive tax regimes imply that the effective tax rate on the private sector is pro-cyclical (i.e., rising as the economy expands and falling as the economy contracts).

Case: Neshie Wakuluk

- Based on Observation 3, Wakuluk most likely expects Country Y's yield curve in the near term to:

  A. invert.

  B. flatten.

  C. steepen.

Case: Neshie Wakuluk

- **Solution: C**

  The current yield curve for Country Y suggests that the business cycle is in the slowdown phase (curve is flat to inverted), with bond yields starting to reflect contractionary conditions (i.e., bond yields are declining). The curve will most likely steepen near term, consistent with the transition to the contractionary phase of the business cycle, and be the steepest on the cusp of the initial recovery phase.

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Asset Allocation

CFA三级培训项目

讲师：

Reading 12

Overview of Asset Allocation

101% Contribution Breeds Professionalism!
PROFESSIONAL·INNOVATIVE·VALUE CREATING

Case: Meg and Cramer Law

- Meg and Cramer Law, a married couple aged 42 and 44, respectively, are meeting with their new investment adviser, Daniel Raye. The Laws have worked their entire careers at Whorton Solutions (WS), a multinational technology company. The Laws have two teenage children who will soon begin college.
- Raye reviews the Laws' current financial position. The Laws have an investment portfolio consisting of \$800,000 in equities and \$450,000 in fixed-income instruments. Raye notes that 80% of the equity portfolio consists of shares of WS. The Laws also own real estate valued at \$400,000, with \$225,000 in mortgage debt. Raye estimates the Laws' pre-retirement earnings from WS have a total present value of \$1,025,000. He estimates the Laws' future expected consumption expenditures have a total present value of \$750,000.

101% Contribution Breeds Professionalism!
PROFESSIONAL·INNOVATIVE·VALUE CREATING

Case: Meg and Cramer Law

- The Laws express a very strong desire to fund their children's college education expenses, which have an estimated present value of $275,000. The Laws also plan to fund an endowment at their alma mater in 20 years, which has an estimated present value of $500,000. The Laws tell Raye they want a high probability of success funding the endowment. Raye uses this information to prepare an economic balance sheet for the Laws.
- In reviewing a financial plan written by the Laws' previous adviser, Raye notices the following asset class specifications.
  - **Equity:** US equities;
  - **Debt:** Global investment-grade corporate bonds and real estate;
  - **Derivatives:** Primarily large-capitalization foreign equities.

Case: Meg and Cramer Law

- The previous adviser's report notes the asset class returns on equity and derivatives are highly correlated. The report also notes the asset class returns on debt have a low correlation with equity and derivative returns.
- Raye is concerned that the asset allocation approach followed by the Laws' previous financial adviser resulted in an overlap in risk factors among asset classes for the portfolio. Raye plans to address this by examining the portfolio's sensitivity to various risk factors, such as inflation, liquidity, and volatility, to determine the desired exposure to each factor.

Case: Meg and Cramer Law

- Raye concludes that a portfolio of 75% global equities and 25% bonds reflects an appropriate balance of expected return and risk for the Laws with respect to a 20-year time horizon for most moderately important goals. Raye recommends the Laws follow a goals-based approach to asset allocation and offers three possible portfolios for the Laws to consider. Selected data on the three portfolios are presented in Exhibit 1.

Case: Meg and Cramer Law

Exhibit 1. Proposed Portfolio Allocations for the Law Family				
	Cash	**Fixed Income**	**Global Equities**	**Diversifying Strategies***
Portfolio 1	35%	55%	10%	0%
Portfolio 2	10%	15%	65%	10%
Portfolio 3	10%	30%	40%	20%
* Diversifying strategies consists of hedge funds				

- Raye uses a cost–benefit approach to rebalancing and recommends that global equities have a wider rebalancing range than the other asset classes.

Case: Meg and Cramer Law

- Using the economic balance sheet approach, the Laws' economic net worth is *closest* to:
  A. $925,000.
  B. $1,425,000.
  C. $1,675,000.

- **Solution: A**
  The Laws' economic net worth is closest to $925,000. An economic balance sheet includes conventional financial assets and liabilities, as well as extended portfolio assets and liabilities that are relevant in making asset allocation decisions. The economic balance sheet for the Law family is shown in the following exhibit.

Case: Meg and Cramer Law

Assets		**Liabilities and Net Worth**	
Financial Assets		*Financial Liabilities*	
	450,000	Mortgage debt	225,000
	400,000		
Equity	800,000		
Extended Assets		*Extended Liabilities*	
Human capital	1,025,000	Children's education	275,000
		Endowment funding	500,000
		Present value of consumption	750,000
Total Economic Assets	2,675,000	*Total Economic Liabilities*	1,750,000
		Economic Net Worth	925,000

Case: Meg and Cramer Law

Economic net worth is equal to total economic assets minus total economic liabilities ($2,675,000 – $1,750,000 = $925,000).

Case: Meg and Cramer Law

- Using an economic balance sheet, which of the Laws' current financial assets is *most* concerning from an asset allocation perspective?
  - A. Equities.
  - B. Real estate.
  - C. Fixed income.
- **Solution: A**

  The Laws' equity portfolio is heavily concentrated in WS stock (80% of the equity portfolio), and both Laws work at WS. Should WS encounter difficult economic circumstances, the investment value of WS stock and the Laws' human capital are both likely to be adversely affected. Thus, their investment in WS should be reviewed and their equity portfolio diversified further.

Case: Meg and Cramer Law

- Raye believes the previous adviser's specification for debt is incorrect given that, for purposes of asset allocation, asset classes should be:
  - A. diversifying.
  - B. mutually exclusive.
  - C. relatively homogeneous.
- **Solution: C**

  In order to effectively specify asset classes for the purpose of asset allocation, assets within an asset class should be relatively homogeneous and have similar attributes. The previous adviser's specification of the debt asset class includes global investment-grade corporate bonds and real estate. This definition results in a non-homogeneous asset class.

Case: Meg and Cramer Law

➢ Raye believes the previous adviser's asset class specifications for equity and derivatives are inappropriate given that, for purposes of asset allocation, asset classes should be:

A. diversifying.

B. mutually exclusive.

C. relatively homogeneous.

Case: Meg and Cramer Law

➢ **Solution: A**

For risk control purposes, an asset class should be diversifying and should not have extremely high expected correlations with other classes. Because the returns to the equity and the derivatives asset classes are noted as being highly correlated, inclusion of both asset classes will result in duplication of risk exposure. Including both asset classes is not diversifying to the asset allocation.

Case: Meg and Cramer Law

➢ To address his concern regarding the previous adviser's asset allocation approach, Raye should assess the Laws' portfolio using:

A. a homogeneous and mutually exclusive asset class–based risk analysis.

B. a multifactor risk model to control systematic risk factors in asset allocation.

C. an asset class–based asset allocation approach to construct a diversified portfolio.

Case: Meg and Cramer Law

- **Solution: B**

  Raye believes the Laws' previous financial adviser followed an asset allocation approach that resulted in an overlap in risk factors among asset classes. A multifactor risk model approach can be used to address potential risk factor overlaps. Risk factor approaches to asset allocation focus on assigning investments to the investor's desired exposures to specified risk factors. These methods are premised on the observation that asset classes often exhibit some overlaps in sources of risk.

Case: Meg and Cramer Law

- Based on Exhibit 1, which portfolio *best* meets the Laws' education goal for their children?
  A. Portfolio 1.
  B. Portfolio 2.
  C. Portfolio 3.

- **Solution: A**
  Portfolio 1 best meets the Laws' education goal for their children. The estimated present value of the Laws' expected education expense is $275,000. Given that the children will be starting college soon, and the Laws have a very strong desire to achieve this goal, Portfolio 1, which stresses liquidity and stability, is most appropriate to meet the Laws' short-term education goal.

Case: Meg and Cramer Law

- Based on Exhibit 1, which portfolio best meets the Laws' goal to fund an endowment for their alma mater?

  A. Portfolio 1.

  B. Portfolio 2.

  C. Portfolio 3.

Case: Meg and Cramer Law

- **Solution: B**

  Portfolio 2 best meets the Laws' goal to fund an endowment for their alma mater in 20 years. In present value terms, the gift is valued at $500,000, with the Laws desiring a high probability of achieving this goal. Although slightly more conservative than the 75/25 global equity/bond mix, Portfolio 2 has a greater growth emphasis compared with Portfolios 1 and 3. Therefore, Portfolio 2 is best for funding the endowment at their alma mater given the goal's long-term horizon and the Laws' desire for a high probability of achieving it.

Case: Meg and Cramer Law

- Raye's approach to rebalancing global equities is consistent with:
  - A. the Laws' being risk averse.
  - B. global equities' having higher transaction costs than other asset classes.
  - C. global equities' having lower correlations with other asset classes.

- **Solution: B**

  Using the cost–benefit approach, higher transaction costs for an asset class imply wider rebalancing ranges. Raye's recommendation for a wider rebalancing range for global equities is consistent with the presence of higher transaction costs for global equities.

Reading 13

Principles of Asset Allocation

Case: Megan Beade and Hanna Müller

- Megan Beade and Hanna Müller are senior analysts for a large, multi-divisional money management firm. Beade supports the institutional portfolio managers, and Müller does the same for the private wealth portfolio managers.
- Beade reviews the asset allocation in Exhibit 1, derived from a mean–variance optimization (MVO) model for an institutional client, noting that details of the MVO are lacking.

Case: Megan Beade and Hanna Müller

Exhibit 1. Asset Allocation and Market Weights (in percent)

Asset Classes	Asset Allocation	Investable Global Market Weights
Cash	0	—
US bonds	30	17
US TIPS	0	3
Non-US bonds	0	22
Emerging market equity	25	5
Non-US developed equity	20	29
US small- and mid-cap equity	25	4
US large-cap equity	0	20

Case: Megan Beade and Hanna Müller

- The firm's policy is to rebalance a portfolio when the asset class weight falls outside of a corridor around the target allocation. The width of each corridor is customized for each client and proportional to the target allocation. Beade recommends wider corridor widths for high-risk asset classes, narrower corridor widths for less liquid asset classes, and narrower corridor widths for taxable clients with high capital gains tax rates.
- One client sponsors a defined benefit pension plan where the present value of the liabilities is \$241 million and the market value of plan assets is \$205 million. Beade expects interest rates to rise and both the present value of plan liabilities and the market value of plan assets to decrease by \$25 million, changing the pension plan's funding ratio.

Case: Megan Beade and Hanna Müller

- Beade uses a surplus optimization approach to liability-relative asset allocation based on the objective function

$$U_m^{LR} = E(R_{s,m}) - 0.005\lambda\sigma^2(R_{s,m})$$

- where $E(R_{s,m})$ is the expected surplus return for portfolio *m*, λ is the risk aversion coefficient, and $\sigma^2(R_{s,m})$ is the variance of the surplus return. Beade establishes the expected surplus return and surplus variance for three different asset allocations, shown in Exhibit 2. Given λ = 1.50, she chooses the optimal asset mix.

Case: Megan Beade and Hanna Müller

Exhibit 2. Expected Surplus Return and Volatility for Three Portfolios

	Return	**Standard Deviation**
Portfolio 1	13.00%	24%
Portfolio 2	12.00%	18%
Portfolio 3	11.00%	19%

- Client Haunani Kealoha has a large fixed obligation due in 10 years. Beade assesses that Kealoha has substantially more funds than are required to meet the fixed obligation. The client wants to earn a competitive risk-adjusted rate of return while maintaining a high level of certainty that there will be sufficient assets to meet the fixed obligation.

Case: Megan Beade and Hanna Müller

- In the private wealth area, the firm has designed five subportfolios with differing asset allocations that are used to fund different client goals over a five-year horizon. Exhibit 3 shows the expected returns and volatilities of the subportfolios and the probabilities that the subportfolios will exceed an expected minimum return. Client Luis Rodríguez wants to satisfy two goals. Goal 1 requires a conservative portfolio providing the highest possible minimum return that will be met at least 95% of the time. Goal 2 requires a riskier portfolio that provides the highest minimum return that will be exceeded at least 85% of the time.

Case: Megan Beade and Hanna Müller

Exhibit 3. Characteristics of Subportfolios					
Subportfolio	**A**	**B**	**C**	**D**	**E**
Expected return, in percent	4.60	5.80	7.00	8.20	9.40
Expected volatility, in percent	3.46	5.51	8.08	10.80	13.59
Required Success Rate	**Minimum Expected Return for Success Rate**				
99%	1.00	0.07	–1.40	–3.04	–4.74
95%	2.05	1.75	1.06	0.25	–0.60
90%	2.62	2.64	2.37	2.01	1.61
85%	3.00	3.25	3.26	3.19	3.10
75%	3.56	4.14	4.56	4.94	5.30

Case: Megan Beade and Hanna Müller

- Müller uses a risk parity asset allocation approach with a client's four–asset class portfolio. The expected return of the domestic bond asset class is the lowest of the asset classes, and the returns of the domestic bond asset class have the lowest covariance with other asset class returns. Müller estimates the weight that should be placed on domestic bonds.
- Müller and a client discuss other approaches to asset allocation that are not based on optimization models or goals-based models. Müller makes the following comments to the client:

Case: Megan Beade and Hanna Müller

- Comment 1: An advantage of the "120 minus your age" heuristic over the 60/40 stock/bond heuristic is that it incorporates an age-based stock/bond allocation.
- Comment 2: The Yale model emphasizes traditional investments and a commitment to active management.
- Comment 3: A client's asset allocation using the 1/N rule depends on the investment characteristics of each asset class.

Case: Megan Beade and Hanna Müller

- The asset allocation in Exhibit 1 *most likely* resulted from a mean–variance optimization using:

  A. historical data.

  B. reverse optimization.

  C. Black–Litterman inputs.

Case: Megan Beade and Hanna Müller

- **Solution: A**

  The allocations in Exhibit 1 are most likely from an MVO model using historical data inputs. MVO tends to result in asset allocations that are concentrated in a subset of the available asset classes. The allocations in Exhibit 1 have heavy concentrations in four of the asset classes and no investment in the other four asset classes, and the weights differ greatly from global market weights. Compared to the use of historical inputs, the Black–Litterman and reverse-optimization models most likely would be less concentrated in a few asset classes and less distant from the global weights.

Case: Megan Beade and Hanna Müller

- For clients concerned about rebalancing-related transactions costs, which of Beade's suggested changes in the corridor width of the rebalancing policy is correct? The change with respect to:

  A. high-risk asset classes.

  B. less liquid asset classes.

  C. taxable clients with high capital gains tax rates.

Case: Megan Beade and Hanna Müller

- **Solution: A**

  Theoretically, higher-risk assets would warrant a narrow corridor because high-risk assets are more likely to stray from the desired strategic asset allocation. However, narrow corridors will likely result in more frequent rebalancing and increased transaction costs, so in practice corridor width is often specified to be proportionally greater the higher the asset class's volatility.

Case: Megan Beade and Hanna Müller

Thus, higher-risk assets should have a wider corridor to avoid frequent, costly rebalancing costs. Her other suggestions are not correct. Less-liquid asset classes should have a wider, not narrower, corridor width. Less-liquid assets should have a wider corridor to avoid frequent rebalancing costs. For taxable investors, transactions trigger capital gains in jurisdictions that tax them. For such investors, higher tax rates on capital gains should be associated with wider (not narrower) corridor widths.

Case: Megan Beade and Hanna Müller

- Based on Beade's interest rate expectations, the pension plan's funding ratio will:
  A. decrease.
  B. remain unchanged.
  C. increase.

- **Solution: A**

  The original funding ratio is the market value of assets divided by the present value of liabilities. This plan's ratio is $205 million/$241 million = 0.8506. When the assets and liabilities both decrease by $25 million, the funding ratio will decrease to $180 million/$216 million = 0.8333.

Case: Megan Beade and Hanna Müller

- Based on Exhibit 2, which portfolio provides the greatest objective function expected value?
  A. Portfolio 1
  B. Portfolio 2
  C. Portfolio 3

- **Solution: B**

  The objective function expected value is $U_m^{LR} = E(R_{s,m}) - 0.005\lambda\sigma^2(R_{s,m})$. λ is equal to 1.5, and the expected value of the objective function is shown in the rightmost column below.

Case: Megan Beade and Hanna Müller

Portfolio	$E(R_{s,m})$	$\sigma^2(R_{s,m})$	$U_m^{LR} = E(R_{s,m}) - 0.005\lambda\sigma^2(R_{s,m})$
1	13.00	576	8.68
2	12.00	324	9.57
3	11.00	361	8.29

Portfolio 2 generates the highest value, or utility, in the objective function.

Case: Megan Beade and Hanna Müller

- The asset allocation approach most appropriate for client Kealoha is *best* described as:
  A. a surplus optimization approach.
  B. an integrated asset–liability approach.
  C. a hedging/return-seeking portfolios approach.
- **Solution: C**

  The hedging/return-seeking portfolios approach is best for this client. Beade should construct two portfolios, one that includes riskless bonds that will pay off the fixed obligation in 10 years and the other a risky portfolio that earns a competitive risk-adjusted return. This approach is a simple two-step process of hedging the fixed obligation and then investing the balance of the assets in a return-seeking portfolio.

Case: Megan Beade and Hanna Müller

- Based on Exhibit 3, which subportfolios *best* meet the two goals expressed by client Rodríguez?
  A. Subportfolio A for Goal 1 and Subportfolio C for Goal 2.
  B. Subportfolio B for Goal 1 and Subportfolio C for Goal 2.
  C. Subportfolio E for Goal 1 and Subportfolio A for Goal 2.

- **Solution: A**
  Goal 1 requires a success rate of at least 95%, and Subportfolio A has the highest minimum expected return (2.05%) meeting this requirement. Goal 2 requires the highest minimum expected return that will be achieved 85% of the time. Subportfolio C meets this requirement (and has a minimum expected return of 3.26%).

Case: Megan Beade and Hanna Müller

- In the risk parity asset allocation approach that Müller uses, the weight that Müller places on domestic bonds should be:
  A. less than 25%.
  B. equal to 25%.
  C. greater than 25%.

- **Solution: C**
  A risk parity asset allocation is based on the notion that each asset class should contribute equally to the total risk of the portfolio. Bonds have the lowest risk level and must contribute 25% of the portfolio's total risk, so bonds must be overweighted (greater than 25%). The equal contribution of each asset classis calculated as:

Case: Megan Beade and Hanna Müller

$$w_i \times Cov(r_i, r_p) = \frac{1}{n}\sigma_p^2$$

where

w_i = weight of asset *i*

$Cov(r_i, r_p)$ = covariance of asset *i* with the portfolio

n = number of assets

σ_p^2 = variance of the portfolio

In this example, there are four asset classes, and the variance of the total portfolio is assumed to be 25%; therefore, using a risk parity approach, the allocation to each asset class is expected to contribute (1/4 × 25%) = 6.25% of the total variance. Because bonds have the lowest covariance, they must have a higher relative weight to achieve the same contribution to risk as the other asset classes.

Case: Megan Beade and Hanna Müller

- Which of Müller's comments about the other approaches to asset allocation is correct?
  A. Comment 1
  B. Comment 2
  C. Comment 3

Case: Megan Beade and Hanna Müller

- **Solution: A**
  Comment 1 is correct because the "120 minus your age" rule reduces the equity allocation as the client ages, while the 60/40 rule makes no such adjustment. Comments 2 and 3 are not correct. The Yale model emphasizes investing in alternative assets (such as hedge funds, private equity, and real estate) as opposed to investing in traditional asset classes (such as stock and bonds). The 1/*N* rule allocates an equal weight to each asset without regard to its investment characteristics, treating all assets as indistinguishable in terms of mean returns, volatility, and correlations.

Case: Carl Monteo

- Investment adviser Carl Monteo determines client asset allocations using quantitative techniques such as mean–variance optimization (MVO) and risk budgets. Monteo is reviewing the allocations of three clients. Exhibit 1 shows the expected return and standard deviation of returns for three strategic asset allocations that apply to several of Monteo's clients.

Case: Carl Monteo

Exhibit 1. Strategic Asset Allocation Alternatives		
	Adviser's Forecasts	
Asset Allocation	Expected Return (%)	Standard Deviation of Returns (%)
A	10	12.0
B	8	8.0
C	6	2.0

- Monteo interviews client Mary Perkins and develops a detailed assessment of her risk preference and capacity for risk, which is needed to apply MVO to asset allocation. Monteo estimates the risk aversion coefficient (λ) for Perkins to be 8 and uses the following utility function to determine a preferred asset allocation for Perkins:

Case: Carl Monteo

$$U_m=E(R_m)-0.005\lambda\sigma_m^2$$

- Another client, Lars Velky, represents Velky Partners (VP), a large institutional investor with $500 million in investable assets. Velky is interested in adding less liquid asset classes, such as direct real estate, infrastructure, and private equity, to VP's portfolio. Velky and Monteo discuss the considerations involved in applying many of the common asset allocation techniques, such as MVO, to these asset classes. Before making any changes to the portfolio, Monteo asks Velky about his knowledge of risk budgeting. Velky makes the following statements:
  - Statement 1: An optimum risk budget minimizes total risk.
  - Statement 2: Risk budgeting decomposes total portfolio risk into its constituent parts.

Case: Carl Monteo

  - Statement 3: An asset allocation is optimal from a risk-budgeting perspective when the ratio of excess return to marginal contribution to risk is different for all assets in the portfolio.
- Monteo meets with a third client, Jayanta Chaterji, an individual investor. Monteo and Chaterji discuss mean–variance optimization. Chaterji expresses concern about using the output of MVOs for two reasons:
  - Criticism 1: The asset allocations are highly sensitive to changes in the model inputs.
  - Criticism 2: The asset allocations tend to be highly dispersed across all available asset classes.

Case: Carl Monteo

- Monteo and Chaterji also discuss other approaches to asset allocation. Chaterji tells Monteo that he understands the factor-based approach to asset allocation to have two key characteristics:
  - Characteristic 1: The factors commonly used in the factor-based approach generally have low correlations with the market and with each other.
  - Characteristic 2: The factors commonly used in the factor-based approach are typically different from the fundamental or structural factors used in multifactor models.
- Monteo concludes the meeting with Chaterji after sharing his views on the factor-based approach.

Case: Carl Monteo

- Based on Exhibit 1 and the risk aversion coefficient, the preferred asset allocation for Perkins is:
  A. Asset Allocation A.
  B. Asset Allocation B.
  C. Asset Allocation C.

- **Solution: C**

  The risk aversion coefficient (λ) for Mary Perkins is 8. The utility of each asset allocation is calculated as follows:

  Asset Allocation A: U_A = 10.0% – 0.005(8)(12%)^2 = 4.24%.

  Asset Allocation B: U_B = 8.0% – 0.005(8)(8%)^2 = 5.44%.

  Asset Allocation C: U_C = 6.0% – 0.005(8)(2%)^2 = 5.84%.

Case: Carl Monteo

- In their discussion of the asset classes that Velky is interested in adding to the VP portfolio, Monteo should tell Velky that:
  A. these asset classes can be readily diversified to eliminate idiosyncratic risk.
  B. indexes are available for these asset classes that do an outstanding job of representing the performance characteristics of the asset classes.
  C. the risk and return characteristics associated with actual investment vehicles for these asset classes are typically significantly different from the characteristics of the asset classes themselves.

Case: Carl Monteo

➢ **Solution: C**

- Less liquid asset classes—such as direct real estate, infrastructure, and private equity—represent unique challenges when applying many of the common asset allocation techniques. Common illiquid asset classes cannot be readily diversified to eliminate idiosyncratic risk, so representing overall asset class performance is problematic. Furthermore, there are far fewer indexes that attempt to represent aggregate performance for these less liquid asset classes than indexes of traditional highly liquid asset classes. Finally, the risk and return characteristics associated with actual investment vehicles—such as direct real estate funds, infrastructure funds, and private equity funds—are typically significantly different from the characteristics of the asset classes themselves.

Case: Carl Monteo

➢ Which of Velky's statements about risk budgeting is correct?

A. Statement 1.

B. Statement 2.

C. Statement 3.

➢ **Solution: B**

The goal of risk budgeting is to maximize return per unit of risk. A risk budget identifies the total amount of risk and attributes risk to its constituent parts. An optimum risk budget allocates risk efficiently.

Case: Carl Monteo

➢ Which of Chaterji's criticisms of MVO is/are valid?

A. Only Criticism 1.

B. Only Criticism 2.

C. Both Criticism 1 and Criticism 2.

➢ **Solution: A**

One common criticism of MVO is that the model outputs, the asset allocations, tend to be highly sensitive to changes in the model. Another common criticism of MVO is that the resulting asset allocations tend to be highly concentrated in a subset of the available asset classes.

Case: Carl Monteo

- Which of the characteristics put forth by Chaterji to describe the factor-based approach is/are correct?

  A. Only Characteristic 1.

  B. Only Characteristic 2.

  C. Both Characteristic 1 and Characteristic 2.

Case: Carl Monteo

- **Solution: A**

  The factors commonly used in the factor-based approach generally have low correlations with the market and with each other. This results from the fact that the factors typically represent what is referred to as a zero (dollar) investment or self-financing investment, in which the underperforming attribute is sold short to finance an offsetting long position in the better-performing attribute. Constructing factors in this manner removes most market exposure from the factors (because of the offsetting short and long positions); as a result, the factors generally have low correlations with the market and with one another. Also, the factors commonly used in the factor-based approach are typically similar to the fundamental or structural factors used in multifactor models.

Reading 14

Asset Allocation with Real-World Constraints

Case: Rebecca Mayer

- Rebecca Mayer is an asset management consultant for institutions and high-net-worth individuals. Mayer meets with Sebastian Capara, the newly appointed Investment Committee chairman for the Kinkardeen University Endowment (KUE), a very large tax-exempt fund.
- Capara and Mayer review KUE's current and strategic asset allocations, which are presented in Exhibit 1. Capara informs Mayer that over the last few years, Kinkardeen University has financed its operations primarily from tuition, with minimal need of financial support from KUE. Enrollment at the University has been rising in recent years, and the Board of Trustees expects enrollment growth to continue for the next five years. Consequently, the board expects very modest endowment support to be needed during that time.

Case: Rebecca Mayer

- These expectations led the Investment Committee to approve a decrease in the endowment's annual spending rate starting in the next fiscal year.

Exhibit 1. Kinkardeen University Endowment—Strategic Asset Allocation Policy

Asset Class	Current Weight	Target Allocation	Lower Policy Limit	Upper Policy Limit
Developed markets equity	30%	30%	25%	35%
Emerging markets equity	28%	30%	25%	35%
Investment-grade bonds	15%	20%	15%	25%
Private real estate equity	15%	10%	5%	15%
Infrastructure	12%	10%	5%	15%

Case: Rebecca Mayer

- As an additional source of alpha, Mayer proposes tactically adjusting KUE's asset-class weights to profit from short-term return opportunities. To confirm his understanding of tactical asset allocation (TAA), Capara tells Mayer the following:
  - Statement 1: The Sharpe ratio is suitable for measuring the success of TAA relative to SAA.
  - Statement 2: Discretionary TAA attempts to capture asset-class-level return anomalies that have been shown to have some predictability and persistence.
  - Statement 3: TAA allows a manager to deviate from the IPS asset-class upper and lower limits if the shift is expected to produce higher expected risk-adjusted returns.

Case: Rebecca Mayer

- Capara asks Mayer to recommend a TAA strategy based on excess return forecasts for the asset classes in KUE's portfolio, as shown in Exhibit 2.

Exhibit 2. Short-Term Excess Return Forecast	
Asset Class	**Expected Excess Return**
Developed markets equity	2%
Emerging markets equity	5%
Investment-grade bonds	–3%
Private real estate equity	3%
Infrastructure	–1%

Case: Rebecca Mayer

- Following her consultation with Capara, Mayer meets with Roger Koval, a member of a wealthy family. Although Koval's baseline needs are secured by a family trust, Koval has a personal portfolio to fund his lifestyle goals.
- In Koval's country, interest income is taxed at progressively higher income tax rates. Dividend income and long-term capital gains are taxed at lower tax rates relative to interest and earned income. In taxable accounts, realized capital losses can be used to offset current or future realized capital gains. Koval is in a high tax bracket, and his taxable account currently holds, in equal weights, high-yield bonds, investment-grade bonds, and domestic equities focused on long-term capital gains.

Case: Rebecca Mayer

- Koval asks Mayer about adding new asset classes to the taxable portfolio. Mayer suggests emerging markets equity given its positive short-term excess return forecast. However, Koval tells Mayer he is not interested in adding emerging markets equity to the account because he is convinced it is too risky. Koval justifies this belief by referring to significant losses the family trust suffered during the recent economic crisis.
- Mayer also suggests using two mean–variance portfolio optimization scenarios for the taxable account to evaluate potential asset allocations. Mayer recommends running two optimizations: one on a pre-tax basis and another on an after-tax basis.

Case: Rebecca Mayer

- The change in the annual spending rate, in conjunction with the board's expectations regarding future enrollment and the need for endowment support, could justify that KUE's target weight for:

  A. infrastructure be increased.

  B. investment-grade bonds be increased.

  C. private real estate equity be decreased.

Case: Rebecca Mayer

- **Solution: A**

  A lower annual spending rate, in addition to the board's expectations of rising enrollment and minimal need for endowment support over the next five years, indicates a decreased need for liquidity. Therefore, KUE could justify an increase in the strategic allocation to less liquid asset classes (such as private real estate equity and infrastructure) and a decrease in the strategic allocation to liquid assets (such as investment-grade bonds).

Case: Rebecca Mayer

- Which of Capara's statements regarding tactical asset allocation is correct?

  A. Statement 1.

  B. Statement 2.

  C. Statement 3.

- **Solution: A**

  The Sharpe ratio is suitable for measuring the success of TAA relative to SAA. Specifically, the success of TAA decisions can be evaluated by comparing the Sharpe ratio realized under the TAA with the Sharpe ratio that would have been realized under the SAA.

Case: Rebecca Mayer

- Based on Exhibits 1 and 2, to attempt to profit from the short-term excess return forecast, Capara should increase KUE's portfolio allocation to:

  A. developed markets equity and decrease its allocation to infrastructure.

  B. emerging markets equity and decrease its allocation to investment-grade bonds.

  C. developed markets equity and increase its allocation to private real estate equity.

Case: Rebecca Mayer

- **Solution: A**

  The forecast for expected excess returns is positive for developed markets equity and negative for infrastructure. Therefore, to attempt to profit from the short-term excess return forecast, KUE can overweight developed markets equity and underweight infrastructure. These adjustments to the asset-class weights are within KUE's lower and upper policy limits.

Case: Rebecca Mayer

- Given Koval's current portfolio and the tax laws of the country in which he lives, Koval's portfolio would be more tax efficient if he reallocated his taxable account to hold more:

  A. high-yield bonds.

  B. investment-grade bonds.

  C. domestic equities focused on long-term capital gain opportunities.

Case: Rebecca Mayer

- **Solution: C**

  As a general rule, the portion of a taxable asset owner's assets that are eligible for lower tax rates and deferred capital gains tax treatment should first be allocated to the investor's taxable accounts. Assets that generate returns mainly from interest income tend to be less tax efficient and in Koval's country are taxed at progressively higher rates. Also, the standard deviation (volatility) of after-tax returns is lower when equities are held in a taxable account. Therefore, Koval's taxable account would become more tax efficient if it held more domestic equities focused on long-term capital gain opportunities.

Case: Rebecca Mayer

- Koval's attitude toward emerging markets equity reflects which of the following behavioral biases?

  A. Hindsight bias.

  B. Availability bias.

  C. Illusion of control.

Case: Rebecca Mayer

- **Solution: B**

  Availability bias is an information-processing bias in which people take a mental shortcut when estimating the probability of an outcome based on how easily the outcome comes to mind. On the basis of the losses incurred by his family trust during the recent economic crisis, Koval expresses a strong preference for avoiding the emerging markets equity asset class. Such behavior is consistent with availability bias, where investors who personally experience an adverse event are likely to assign a higher probability to such an event occurring again.

Case: Rebecca Mayer

- In both of Mayer's optimization scenarios, which of the following model inputs could be used without adjustment?
  A. Expected returns.
  B. Correlation of returns.
  C. Standard deviations of returns.

- **Solution: B**
  After-tax portfolio optimization requires adjusting each asset class's expected return and risk for expected taxes. The correlation of returns is not affected by taxes and does not require an adjustment when performing after-tax portfolio optimization.

Case: Elsbeth Quinn and Dean McCall

- Elsbeth Quinn and Dean McCall are partners at Camel Asset Management (CAM). Quinn advises high-net-worth individuals, and McCall specializes in retirement plans for institutions.
- Quinn meets with Neal and Karina Martin, both age 44. The Martins plan to retire at age 62. Twenty percent of the Martins' $600,000 in financial assets is held in cash and earmarked for funding their daughter Lara's university studies, which begin in one year. Lara's education and their own retirement are the Martins' highest-priority goals. Last week, the Martins learned that Lara was awarded a four-year full scholarship for university. Quinn reviews how the scholarship might affect the Martins' asset allocation strategy.

Case: Elsbeth Quinn and Dean McCall

- The Martins have assets in both taxable and tax-deferred accounts. For baseline retirement needs, Quinn recommends that the Martins maintain their current overall 60% equity/40% bonds (± 8% rebalancing range) strategic asset allocation. Quinn calculates that given current financial assets and expected future earnings, the Martins could reduce future retirement savings by 15% and still comfortably retire at 62. The Martins wish to allocate that 15% to a sub-portfolio with the goal of making a charitable gift to their alma mater from their estate. Although the gift is a low-priority goal, the Martins want the sub-portfolio to earn the highest return possible. Quinn promises to recommend an asset allocation strategy for the Martins' aspirational goal.

Case: Elsbeth Quinn and Dean McCall

- Next, Quinn discusses taxation of investments with the Martins. Their interest income is taxed at 35%, and capital gains and dividends are taxed at 20%. The Martins want to minimize taxes. Based on personal research, Neal makes the following two statements:
  - Statement 1: The after-tax return volatility of assets held in taxable accounts will be less than the pre-tax return volatility.
  - Statement 2: Assets that receive more favorable tax treatment should be held in tax-deferred accounts.

Case: Elsbeth Quinn and Dean McCall

- The equity portion of the Martins' portfolios produced an annualized return of 20% for the past three years. As a result, the Martins' equity allocation in both their taxable and tax-deferred portfolios has increased to 71%, with bonds falling to 29%. The Martins want to keep the strategic asset allocation risk levels the same in both types of retirement portfolios. Quinn discusses rebalancing; however, Neal is somewhat reluctant to take money out of stocks, expressing confidence that strong investment returns will continue.

Case: Elsbeth Quinn and Dean McCall

- Quinn's CAM associate, McCall, meets with Bruno Snead, the director of the Katt Company Pension Fund (KCPF). The strategic asset allocation for the fund is 65% stocks/35% bonds. Because of favorable returns during the past eight recession-free years, the KCPF is now overfunded. However, there are early signs of the economy weakening. Since Katt Company is in a cyclical industry, the Pension Committee is concerned about future market and economic risk and fears that the high-priority goal of maintaining a fully funded status may be adversely affected. McCall suggests to Snead that the KCPF might benefit from an updated IPS. Following a thorough review, McCall recommends a new IPS and strategic asset allocation.

- The proposed IPS revisions include a plan for short-term deviations from strategic asset allocation targets. The goal is to benefit from equity market trends by automatically increasing (decreasing) the allocation to equities by 5% whenever the S&P 500 Index 50-day moving average crosses above (below) the 200-day moving average.

Case: Elsbeth Quinn and Dean McCall

- Given the change in funding of Lara's education, the Martins' strategic asset allocation would *most likely* decrease exposure to:

  A. cash.

  B. bonds.

  C. equities.

Case: Elsbeth Quinn and Dean McCall

- **Solution: A**

  The changing character of liabilities through time affects the asset allocation to fund those liabilities. The Martins' investment horizon for some of their assets has changed. The amount of liquidity needed for Lara's near-term education has been greatly reduced owing to the receipt of the scholarship. The Martins will likely still have to pay for some university-related expenses; however, a large part of the $120,000 in cash that is earmarked for Lara's expenses can now be allocated to the Martins' long-term goal of early retirement. Retirement is 18 years away, much longer than the one- to five-year horizon for university expenses. Therefore, the Martins' allocation to cash would likely decrease.

Case: Elsbeth Quinn and Dean McCall

- The *most* appropriate asset allocation for the Martins' new charitable gift sub-portfolio is:
  - A. 40% equities/60% bonds.
  - B. 70% equities/30% bonds.
  - C. 100% equities/0% bonds.
- **Solution: C**

  The Martins' sub-portfolio is aspirational and a low priority. Investors are usually willing to take more risk on lower-priority, aspirational portfolios. The charitable gift will be made from their estate, which indicates a long time horizon. In addition, the Martins want the highest return possible. Therefore, the highest allocation to equities is most appropriate

Case: Elsbeth Quinn and Dean McCall

- Which of Neal's statements regarding the taxation of investments is correct?
  - A. Statement 1 only.
  - B. Statement 2 only.
  - C. Both Statement 1 and Statement 2.
- **Solution: A**

  Taxes alter the distribution of returns by both reducing the expected mean return and muting the dispersion of returns. The portion of an owner's taxable assets that are eligible for lower tax rates and deferred capital gains tax treatment should first be allocated to the investor's taxable accounts.

Case: Elsbeth Quinn and Dean McCall

- Given the Martins' risk and tax preferences, the taxable portfolio should be rebalanced:
  - A. less often than the tax-deferred portfolio.
  - B. as often as the tax-deferred portfolio.
  - C. more often than the tax-deferred portfolio.

Case: Elsbeth Quinn and Dean McCall

- **Solution: A**

  The Martins wish to maintain the same risk level for both retirement accounts based on their strategic asset allocation. However, more frequent rebalancing exposes the taxable asset owner to realized taxes that could have otherwise been deferred or even avoided. Rebalancing is discretionary, and the Martins' also wish to minimize taxes. Because after-tax return volatility is lower than pre-tax return volatility, it takes larger asset-class movements to materially alter the risk profile of a taxable portfolio. This suggests that rebalancing ranges for a taxable portfolio can be wider than those of a tax-exempt/tax-deferred portfolio with a similar risk profile; thus, rebalancing occurs less frequently.

Case: Elsbeth Quinn and Dean McCall

- During the rebalancing discussion, which behavioral bias does Neal exhibit?

  A. Framing bias.

  B. Loss aversion.

  C. Representative bias.

- **Solution: C**

  Representative, or recency, bias is the tendency to overweight the importance of the most recent observations and information relative to a longer-dated or more comprehensive set of long-term observations and information. Return chasing is a common result of this bias, and it results in overweighting asset classes with strong recent performance.

Case: Elsbeth Quinn and Dean McCall

- Given McCall's IPS recommendation, the *most* appropriate new strategic asset allocation for the KCPF is:

  A. 40% stocks/60% bonds.

  B. 65% stocks/35% bonds.

  C. 75% stocks/25% bonds.

- **Solution: A**

  McCall recommends a new IPS. Changes in the economic environment and capital market expectations or changes in the beliefs of committee members are factors that may lead to an altering of the principles that guide investment activities.

Case: Elsbeth Quinn and Dean McCall

Because the plan is now overfunded, there is less need to take a higher level of equity risk. The Pension Committee is concerned about the impact of future market and economic risks on the funding status of the plan. Katt Company operates in a cyclical industry and could have difficulty making pension contributions during a recession. Therefore, a substantial reduction in the allocation to stocks and an increase in bonds reduce risk. The 40% stocks/60% bonds alternative increases the allocation to bonds from 35% to 60%. Increasing the fixed-income allocation should moderate plan risk, provide a better hedge for liabilities, and reduce contribution uncertainty.

Case: Elsbeth Quinn and Dean McCall

- The proposal for short-term adjustments to the KCPF asset allocation strategy is known as:

  A. de-risking.

  B. systematic tactical asset allocation.

  C. discretionary tactical asset allocation.

Case: Elsbeth Quinn and Dean McCall

- **Solution: B**

  Using rules-based, quantitative signals, systematic tactical asset allocation (TAA) attempts to capture asset-class-level return anomalies that have been shown to have some predictability and persistence. Trend signals are widely used in systematic TAA. A moving-average crossover is a trend signal that indicates an upward (downward) trend when the moving average of the shorter time frame, 50 days, is above (below) the moving average of the longer time frame, 200 days.

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Derivatives and Currency Management

CFA三级原版书课后题

讲师：Bob Hong

Reading 15

Option Strategies

Case: Aline Nuñes

➢ Aline Nuñes, a junior analyst, works in the derivatives research division of an international securities firm. Nuñes's supervisor, Cátia Pereira, asks her to conduct an analysis of various option trading strategies relating to shares of three companies: IZD, QWY, and XDF. On 1 February, Nuñes gathers selected option premium data on the companies, presented in Exhibit 1.

Case: Aline Nuñes

Exhibit 1 Share Price and Option Premiums as of 1 February (share prices and option premiums in €)				
Company	**Share Price**	**Call Premium**	**Option Date/Strike**	**Put Premium**
IZD	93.93	9.45	April/87.50	1.67
		2.67	April/95.00	4.49
		1.68	April/97.50	5.78
QWY	28.49	4.77	April/24.00	0.35
		3.96	April/25.00	0.50
		0.32	April/31.00	3.00
XDF	74.98	0.23	February/80.00	5.52
		2.54	April/75.00	3.22
		2.47	December/80.00	9.73

Case: Aline Nuñes

- Nuñes considers the following option strategies relating to IZD:

  Strategy 1: Constructing a synthetic long put position in IZD

  Strategy 2: Buying 100 shares of IZD and writing the April €95.00 strike call option on IZD

  Strategy 3: Implementing a covered call position in IZD using the April €97.50 strike option

Case: Aline Nuñes

- Nuñes next reviews the following option strategies relating to QWY:

  Strategy 4: Implementing a protective put position in QWY using the April €25.00 strike option

  Strategy 5: Buying 100 shares of QWY, buying the April €24.00 strike put option, and writing the April €31.00 strike call option

  Strategy 6: Implementing a bear spread in QWY using the April €25.00 and April €31.00 strike options

Case: Aline Nuñes

- Finally, Nuñes considers two option strategies relating to XDF:

  Strategy 7: Writing both the April €75.00 strike call option and the April €75.00 strike put option on XDF

  Strategy 8: Writing the February €80.00 strike call option and buying the December €80.00 strike call option on XDF

Case: Aline Nuñes

- Strategy 1 would require Nuñes to buy:
  - A. shares of IZD.
  - B. a put option on IZD.
  - C. a call option on IZD.

Case: Aline Nuñes

- **Solution: C.**

  To construct a synthetic long put position, Nuñes would buy a call option on IZD. Of course, she would also need to sell (short) IZD shares to complete the synthetic long put position.

Case: Aline Nuñes

- Based on Exhibit 1, Nuñes should expect Strategy 2 to be least profitable if the share price of IZD at option expiration is:
  - A. less than €91.26.
  - B. between €91.26 and €95.00.
  - C. more than €95.00.

Case: Aline Nuñes

- **Solution: A.**

  Strategy 2 is a covered call, which is a combination of a long position in shares and a short call option. The breakeven point of Strategy 2 is €91.26, which represents the price per share of €93.93 minus the call premium received of €2.67 per share ($S_0 - c_0$). So, at any share price less than €91.26 at option expiration, Strategy 2 incurs a loss. If the share price of IZD at option expiration is greater than €91.26, Strategy 2 generates a gain.

Case: Aline Nuñes

- Based on Exhibit 1, the breakeven share price of Strategy 3 is closest to:
  - A. €92.25.
  - B. €95.61.
  - C. €95.82.

Case: Aline Nuñes

➢ **Solution: A.**

Strategy 3 is a covered call strategy, which is a combination of a long position in shares and a short call option. The breakeven share price for a covered call is the share price minus the call premium received, or $S_0 - c_0$. The current share price of IZD is €93.93, and the IZD April €97.50 call premium is €1.68. Thus, the breakeven underlying share price for Strategy 3 is $S_0 - c_0$ = €93.93 – €1.68 = €92.25.

Case: Aline Nuñes

➢ Based on Exhibit 1, the maximum loss per share that would be incurred by implementing Strategy 4 is:

A. €2.99.

B. €3.99.

C. unlimited.

Case: Aline Nuñes

➢ **Solution: B.**

Strategy 4 is a protective put position, which is a combination of a long position in shares and a long put option. By purchasing the €25.00 strike put option, Nuñes would be protected from losses at QWY share prices of €25.00 or lower. Thus, the maximum loss per share from Strategy 4 would be the loss of share value from €28.49 to €25.00 (or €3.49) plus the put premium paid for the put option of €0.50: $S_0 - X + p_0$ = €28.49 – €25.00 + €0.50 = €3.99.

Case: Aline Nuñes

- Strategy 5 is best described as a:
  A. collar.
  B. straddle.
  C. bear spread.

Case: Aline Nuñes

- **Solution: A.**

  Strategy 5 describes a collar, which is a combination of a long position in shares, a long put option with an exercise price below the current stock price, and a short call option with an exercise price above the current stock price.

Case: Aline Nuñes

- Based on Exhibit 1, Strategy 5 offers:
  A. unlimited upside.
  B. a maximum profit of €2.48 per share.
  C. protection against losses if QWY's share price falls below €28.14.

Case: Aline Nuñes

- **Solution: B.**

  Strategy 5 describes a collar, which is a combination of a long position in shares, a long put option, and a short call option. Strategy 5 would require Nuñes to buy 100 QWY shares at the current market price of €28.49 per share. In addition, she would purchase a QWY April €24.00 strike put option contract for €0.35 per share and collect €0.32 per share from writing a QWY April €31.00 strike call option. The collar offers protection against losses on the shares below the put strike price of €24.00 per share, but it also limits upside to the call strike price of €31.00 per share. Thus, the maximum gain on the trade, which occurs at prices of €31.00 per share or higher, is calculated as $(X_2 - S_0) - p_0 + c_0$, or (€31.00 – €28.49) – €0.35 + €0.32 = €2.48 per share.

Case: Aline Nuñes

- Based on Exhibit 1, the breakeven share price for Strategy 6 is closest to:

  A. €22.50.

  B. €28.50.

  C. €33.50.

Case: Aline Nuñes

- **Solution: B.**

  Strategy 6 is a bear spread, which is a combination of a long put option and a short put option on the same underlying, where the long put has a higher strike price than the short put. In the case of Strategy 6, the April €31.00 put option would be purchased and the April €25.00 put option would be sold. The long put premium is €3.00 and the short put premium is €0.50, for a net cost of €2.50. The breakeven share price is €28.50, calculated as $X_H - (p_H - p_L)$ = €31.00 – (€3.00 – €0.50) = €28.50.

Case: Aline Nuñes

- Based on Exhibit 1, the maximum gain per share that could be earned if Strategy 7 is implemented is:
  - A. €5.74.
  - B. €5.76.
  - C. unlimited.

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Case: Aline Nuñes

- **Solution: B.**

  Strategy 7 describes a short straddle, which is a combination of a short put option and a short call option, both with the same strike price. The maximum gain is €5.76 per share, which represents the sum of the two option premiums, or $c_0 + p_0$ = €2.54 + €3.22 = €5.76. The maximum gain per share is realized if both options expire worthless, which would happen if the share price of XDF at expiration is €75.00.

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Case: Aline Nuñes

- Based on Exhibit 1, the best explanation for Nuñes to implement Strategy 8 would be that, between the February and December expiration dates, she expects the share price of XDF to:
  - A. decrease.
  - B. remain unchanged.
  - C. increase.

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Case: Aline Nuñes

- **Solution: C.**

  Nuñes would implement Strategy 8, which is a long calendar spread, if she expects the XDF share price to increase between the February and December expiration dates. This strategy provides a benefit from the February short call premium to partially offset the cost of the December long call option. Nuñes likely expects the XDF share price to remain relatively flat between the current price €74.98 and €80 until the February call option expires, after which time she expects the share price to increase above €80. If such expectations come to fruition, the February call would expire worthless and Nuñes would realize gains on the December call option.

- Over the past few months, Nuñes and Pereira have followed news reports on a proposed merger between XDF and one of its competitors. A government antitrust committee is currently reviewing the potential merger. Pereira expects the share price to move sharply upward or downward depending on whether the committee decides to approve or reject the merger next week. Pereira asks Nuñes to recommend an option trade that might allow the firm to benefit from a significant move in the XDF share price regardless of the direction of the move.
- The option trade that Nuñes should recommend relating to the government committee's decision is a:

  A. collar.

  B. bull spread.

  C. long straddle.

- **Solution: C.**

  Nuñes should recommend a long straddle, which is a combination of a long call option and a long put option, both with the same strike price. The committee's announcement is expected to cause a significant move in XDF's share price. A long straddle is appropriate because the share price is expected to move sharply up or down depending on the committee's decision. If the merger is approved, the share price will likely increase, leading to a gain in the long call option. If the merger is rejected, then the share price will likely decrease, leading to a gain in the long put option.

Case: Stanley Kumar Singh

- Stanley Kumar Singh, CFA, is the risk manager at SKS Asset Management. He works with individual clients to manage their investment portfolios. One client, Sherman Hopewell, is worried about how short-term market fluctuations over the next three months might impact his equity position in Walnut Corporation. Although Hopewell is concerned about short-term downside price movements, he wants to remain invested in Walnut shares because he remains positive about its long-term performance. Hopewell has asked Singh to recommend an option strategy that will keep him invested in Walnut shares while protecting against a short-term price decline. Singh gathers the information in Exhibit 2 to explore various strategies to address Hopewell's concerns.

Case: Stanley Kumar Singh

- Another client, Nigel French, is a trader who does not currently own shares of Walnut Corporation. French has told Singh that he believes that Walnut shares will experience a large move in price after the upcoming quarterly earnings release in two weeks. French also tells Singh, however, that he is unsure which direction the stock will move. French asks Singh to recommend an option strategy that would allow him to profit should the share price move in either direction.

Case: Stanley Kumar Singh

- A third client, Wanda Tills, does not currently own Walnut shares and has asked Singh to explain the profit potential of three strategies using options in Walnut: a long straddle, a bull call spread, and a bear put spread. In addition, Tills asks Singh to explain the gamma of a call option. In response, Singh prepares a memo to be shared with Tills that provides a discussion of gamma and presents his analysis on three option strategies:

  Strategy 1: A long straddle position at the $67.50 strike option

  Strategy 2: A bull call spread using the $65 and $70 strike options

  Strategy 3: A bear put spread using the $65 and $70 strike options

Case: Stanley Kumar Singh

Exhibit 2 Walnut Corporation Current Stock Price: $67.79 Walnut Corporation European Options				
Exercise Price	Market Call Price	Call Delta	Market Put Price	Put Delta
$55.00	$12.83	1.00	$0.24	–0.05
$65.00	$3.65	0.91	$1.34	–0.29
$67.50	$1.99	0.63	$2.26	–0.42
$70.00	$0.91	0.37	$3.70	–0.55
$80.00	$0.03	0.02	$12.95	–0.76
Note: Each option has 106 days remaining until expiration.				

Case: Stanley Kumar Singh

- The option strategy Singh is *most likely* to recommend to Hopewell is a:
  A. collar.
  B. covered call.
  C. protective put.

Case: Stanley Kumar Singh

- **Solution: C.**

  A protective put accomplishes Hopewell's goal of short-term price protection. A protective put provides downside protection while retaining the upside potential. While Hopewell is concerned about the downside in the short-term, he wants to remain invested in Walnut shares, as he is positive about the stock in the long-term.

Case: Stanley Kumar Singh

- The option strategy that Singh is most likely to recommend to French is a:
  A. straddle.
  B. bull spread.
  C. collar.

Case: Stanley Kumar Singh

- **Solution: A.**
  The long straddle strategy is based on expectations of volatility in the underlying stock being higher than the market consensus. The straddle strategy consists of simultaneously buying a call option and a put option at the same strike price. Singh could recommend that French buy a straddle using near at-the-money options ($67.50 strike). This allows French to profit should the Walnut stock price experience a large move in either direction after the earnings release.

Case: Stanley Kumar Singh

- Based on Exhibit 2, Strategy 1 is profitable when the share price at expiration is closest to:
  A. $63.00.
  B. $65.24.
  C. $69.49.

Case: Stanley Kumar Singh

- **Solution: A.**

  The straddle strategy consists of simultaneously buying a call option and buying a put option at the same strike price. The market price for the $67.50 call option is $1.99, and the market price for the $67.50 put option is $2.26, for an initial net cost of $4.25 per share. Thus, this straddle position requires a move greater than $4.25 in either direction from the strike price of $67.50 to become profitable. So, the straddle becomes profitable at $67.50 – $4.26 = $63.24 or lower, or $67.50 + $4.26 = $71.76 or higher. At $63.00, the profit on the straddle is positive.

Case: Stanley Kumar Singh

- Based on Exhibit 2, the maximum profit, on a per share basis, from investing in Strategy 2, is closest to:

  A. $2.26.

  B. $2.74.

  C. $5.00.

Case: Stanley Kumar Singh

- **Solution: A.**

  The bull call strategy consists of buying the lower-strike option and selling the higher-strike option. The purchase of the $65 strike call option costs $3.65 per share, and selling the $70 strike call option generates an inflow of $0.91 per share, for an initial net cost of $2.74 per share. At expiration, the maximum profit occurs when the stock price is $70 or higher, which yields a $5.00 per share payoff ($70 – $65) on the long call position. After deduction of the $2.74 per share cost required to initiate the bull call spread, the profit is $2.26 ($5.00 – $2.74).

Case: Stanley Kumar Singh

- Based on Exhibit 2, and assuming the market price of Walnut's shares at expiration is \$66, the profit or loss, on a per share basis, from investing in Strategy 3, is closest to:

  A. \$2.36.

  B. \$1.64.

  C. \$2.64.

Case: Stanley Kumar Singh

- **Solution: B.**

  The bear put spread consists of buying a put option with a high strike price (\$70) and selling another put option with a lower strike price (\$65). The market price for the \$70 strike put option is \$3.70, and the market price for the \$65 strike put option is \$1.34 per share. Thus, the initial net cost of the bear spread position is \$3.70 – \$1.34 = \$2.36 per share. If Walnut shares are \$66 at expiration, the \$70 strike put option is in the money by \$4.00, and the short position in the \$65 strike put expires worthless. After deducting the cost of \$2.36 to initiate the bear spread position, the net profit is \$1.64 per contract.

Case: Stanley Kumar Singh

- Based on the data in Exhibit 2, Singh would advise Tills that the call option with the largest gamma would have a strike price closest to:

  A. \$ 55.

  B. \$ 67.50.

  C. \$ 80.

Case: Stanley Kumar Singh

- **Solution: B.**

  The $67.50 call option is approximately at the money because the Walnut share price is currently $67.79. Gamma measures the sensitivity of an option's delta to a change in the underlying. The largest gamma occurs when options are trading at the money or near expiration, when the deltas of such options move quickly toward 1.0 or 0.0. Under these conditions, the gammas tend to be largest and delta hedges are hardest to maintain.

Reading 17

Currency Management: An Introduction

Case: Guten Investments GmbH

- Guten Investments GmbH, based in Germany and using the EUR as its reporting currency, is an asset management firm providing investment services for local high net worth and institutional investors seeking international exposures. The firm invests in the Swiss, UK, and US markets, after conducting fundamental research in order to select individual investments. Exhibit 1 presents recent information for exchange rates in these foreign markets.

Case: Guten Investments GmbH

Exhibit 1. Exchange Rate Data		
	One Year Ago	Today
Euro-dollar (USD/EUR)*	1.2730	1.2950
Euro-sterling (GBP/EUR)	0.7945	0.8050
Euro-Swiss (CHF/EUR)	1.2175	1.2080
* The amount of USD required to buy one EUR		

Case: Guten Investments GmbH

- In prior years, the correlation between movements in the foreign-currency asset returns for the USD-denominated assets and movements in the exchange rate was estimated to be +0.50. After analyzing global financial markets, Konstanze Ostermann, a portfolio manager at Guten Investments, now expects that this correlation will increase to +0.80, although her forecast for foreign-currency asset returns is unchanged.
- Ostermann believes that currency markets are efficient and hence that long-run gains cannot be achieved from active currency management, especially after netting out management and transaction costs. She uses this philosophy to guide hedging decisions for her discretionary accounts, unless instructed otherwise by the client.

Case: Guten Investments GmbH

- Ostermann is aware, however, that some investors hold an alternative view on the merits of active currency management. Accordingly, their portfolios have different investment guidelines. For these accounts, Guten Investments employs a currency specialist firm, Umlauf Management, to provide currency overlay programs specific to each client's investment objectives. For most hedging strategies, Umlauf Management develops a market view based on underlying fundamentals in exchange rates. However, when directed by clients, Umlauf Management uses options and a variety of trading strategies to unbundle all of the various risk factors (the "Greeks") and trade them separately.
- Ostermann conducts an annual review for three of her clients and gathers the summary information presented in Exhibit 2.

Case: Guten Investments GmbH

Exhibit 2. Select Clients at Guten Investments	
Client	**Currency Management Objectives**
Adele Kastner – A high net worth individual with a low risk tolerance.	Keep the portfolio's currency exposures close, if not equal to, the benchmark so that the domestic-currency return is equal to the foreign-currency return.
Braunt Pensionskasse – A large private-company pension fund with a moderate risk tolerance.	Limited discretion which allows the actual portfolio currency risk exposures to vary plus-or-minus 5% from the neutral position.
Franz Trading GmbH – An exporting company with a high risk tolerance.	Discretion with respect to currency exposure is allowed in order to add alpha to the portfolio.

Case: Guten Investments GmbH

- Based on Exhibit 1, the domestic-currency return over the last year (measured in EUR terms) was higher than the foreign-currency return for:
  A. USD-denominated assets.
  B. GBP-denominated assets.
  C. CHF-denominated assets.

- **Solution: C**
  The domestic-currency return is a function of the foreign-currency return and the percentage change of the foreign currency against the domestic currency. Mathematically, the domestic-currency return is expressed as:

Case: Guten Investments GmbH

$R_{DC} = (1 + R_{FC})(1 + R_{FX}) – 1$

where R_{DC} is the domestic-currency return (in percent), R_{FC} is the foreign-currency return, and R_{FX} is the percentage change of the foreign currency against the domestic currency. Note that this R_{FX} expression is calculated using the investor's domestic currency (the EUR in this case) as the *price* currency in the P/B quote. This is different than the market-standard currency quotes in Exhibit 1, where the EUR is the *base* currency in each of these quotes. Therefore, for the foreign currency (USD, GBP, or CHF) to *appreciate* against the EUR, the market-standard quote (USD/EUR, GBP/EUR, or CHF/EUR, respectively) must *decrease*; i.e. the EUR must depreciate.

Case: Guten Investments GmbH

The Euro-Swiss (CHF/EUR) is the only spot rate with a negative change (from 1.2175 to 1.2080), meaning the EUR depreciated against the CHF (the CHF/EUR rate decreased). Or put differently, the CHF appreciated against the EUR, adding to the EUR-denominated return for the German investor holding CHF-denominated assets. This would result in a higher domestic-currency return (R_{DC}), for the German investor, relative to the foreign-currency return (R_{FC}) for the CHF-denominated assets. Both the Euro-dollar (USD/EUR) and Euro-sterling (GBP/EUR) experienced a positive change in the spot rate, meaning the EUR appreciated against these two currencies (the USD/EUR rate and the GBP/EUR rate both increased). This would result in a lower domestic-currency return (R_{DC}) for the German investor relative to the foreign-currency return (R_{FC}) for the USD- and GBP-denominated assets.

Case: Guten Investments GmbH

A is incorrect because the Euro-dollar (USD/EUR) experienced a positive change in the spot rate, meaning the EUR appreciated against the USD (the USD/EUR rate increased). This would result in a lower domestic-currency (i.e. EUR-denominated) return relative to the foreign-currency return for the USD-denominated assets, since the USD has depreciated against the EUR.

B is incorrect because the Euro-sterling (GBP/EUR) experienced a positive change in the spot rate, meaning the EUR appreciated against the GPB (the GBP/EUR rate increased). This would result in a lower domestic-currency (i.e. EUR-denominated) return relative to the foreign-currency return for the GBP-denominated assets, since the GBP has depreciated against the EUR.

Case: Guten Investments GmbH

- Based on Ostermann's correlation forecast, the expected domestic-currency return (measured in EUR terms) on USD-denominated assets will most likely:
  A. increase.
  B. decrease.
  C. remain unchanged.

- **Solution: C**
  An increase in the expected correlation between movements in the foreign-currency asset returns and movements in the spot exchange rates from 0.50 to 0.80 would increase the domestic-currency return risk but would not change the level of expected domestic-currency return.

Case: Guten Investments GmbH

The domestic-currency return risk is a function of the foreign-currency return risk [$\sigma(R_{FC})$] the exchange rate risk [$\sigma(R_{FX})$] and the correlation between the foreign-currency returns and exchange rate movements. Mathematically, this is expressed as:

$$\sigma^2(R_{DC}) \approx \sigma^2(R_{FC}) + \sigma^2(R_{FX}) + 2\sigma(R_{FC})\sigma(R_{FX})\rho(R_{FC}R_{FX})$$

If the correlation increases from +0.50 to +0.80, then the variance of the expected domestic-currency return will increase—but this will not affect the level of the expected domestic-currency return (RDC). Refer to the equation shown for the answer in Question 1 and note that Ostermann's expected RFC has not changed. (Once again, note as well that RFX is defined with the domestic currency as the price currency.)

Case: Guten Investments GmbH

A and B are incorrect. An increase in the expected correlation between movements in the foreign-currency asset returns and movements in the spot rates from 0.50 to 0.80 would increase the domestic-currency return risk but would not impact the expected domestic-currency return.

Case: Guten Investments GmbH

- Based on Ostermann's views regarding active currency management, the percentage of currency exposure in her discretionary accounts that is hedged is most likely:

  A. 0%.

  B. 50%.

  C. 100%.

Case: Guten Investments GmbH

➢ **Solution: A**

Guten believes that, due to efficient currency markets, there should not be any long-run gains for speculating (or active management) in currencies, especially after netting out management and transaction costs. Therefore, both currency hedging and actively trading currencies represent a cost to the portfolio with little prospect of consistently positive active returns. Given a long investment horizon and few immediate liquidity needs, Guten is most likely to choose to forgo currency hedging and its associated costs.

Case: Guten Investments GmbH

➢ B and C are incorrect because given a long investment horizon and little immediate liquidity needs, Guten is most likely to choose to forgo currency hedging and its associated costs. Guten believes that due to efficient currency markets there should not be any long-run gains when speculating in currencies, especially after netting out management and transaction costs.

Case: Guten Investments GmbH

➢ The active currency management approach that Umlauf Management is least likely to employ is based on:

A. volatility trading.
B. technical analysis.
C. economic fundamentals.

➢ **Solution: B**

Umlauf develops a market view based on underlying fundamentals in exchange rates (an economic fundamental approach). When directed by clients, Umlauf uses options and a variety of trading strategies to unbundle all of the various risk factors and trades them separately (a volatility trading approach).

A market technical approach would entail forming a market view based on technical analysis (i.e., a belief that historical prices incorporate all relevant information on future price movements and that such movements have a tendency to repeat).

A is incorrect because, in using options and a variety of trading strategies to unbundle all of the various risk factors and trade them separately, Umlauf is likely to periodically employ volatility trading-based currency strategies.

C is incorrect because, in developing a market view based on underlying fundamentals in exchange rates, Umlauf does utilize an economic fundamentals approach.

Case: Guten Investments GmbH

- Based on Exhibit 2, the currency overlay program most appropriate for Braunt Pensionskasse would:
  - A. be fully passive.
  - B. allow limited directional views.
  - C. actively manage foreign exchange as an asset class.

- **Solution: B**

  Braunt Pensionskasse provides the manager with limited discretion in managing the portfolio's currency risk exposures.

Case: Guten Investments GmbH

This would be most consistent with allowing the currency overlay manager to take directional views on future currency movements (within predefined bounds) where the currency overlay is limited to the currency exposures already in the foreign asset portfolio. It would not be appropriate to use a fully-passive hedging approach since it would eliminate any alpha from currency movements. Further, a currency overlay program, which considers "foreign exchange as an asset class", would likely expose Braunt's portfolio to more currency risk than desired given the given primary performance objectives.

A is incorrect because a directional view currency overlay program is most appropriate given the limited discretion Braunt Pensionskasse has given the manager. A fully passive currency overlay program is more likely to be used when a client seeks to hedge all the currency risk.

C is incorrect because a directional view currency overlay program is most appropriate given the limited discretion Braunt Pensionskasse has given the manager. In contrast, the concept of "foreign exchange as an asset class" allows the currency overlay manager to take currency exposure positions in any currency pair where there is value-added to be harvested.

Case: Guten Investments GmbH

- Based on Exhibit 2, the client most likely to benefit from the introduction of an additional overlay manager is:
  - A. Adele Kastner.
  - B. Braunt Pensionskasse.
  - C. Franz Trading GmbH.

- **Solution: C**

  The primary performance objective of Franz Trading GmbH is to add alpha to the portfolio, and thus has given the manager discretion in trading currencies. This is essentially a "foreign exchange as an asset class" approach.

Case: Guten Investments GmbH

Braunt Pensionskasse and Kastner have more conservative currency strategies, and thus are less likely to benefit from the different strategies that a new overlay manager might employ.

A is incorrect because Franz Trading GmbH is more likely to benefit from the introduction of an additional overlay manager. Kastner is more likely to have a fully passive currency overlay program.

B is incorrect because Franz Trading GmbH is more likely to benefit from the introduction of an additional overlay manager. Braunt is more likely to have a currency overlay program where the manager takes a directional view on future currency movements.

Case: Li Jiang

- Li Jiang is an international economist operating a subscription website through which she offers financial advice on currency issues to retail investors. One morning she receives four subscriber e-mails seeking guidance.
  - Subscriber 1: "As a French national now working in the United States, I hold US dollar-denominated assets currently valued at USD 700,000. The USD/EUR exchange rate has been quite volatile and now appears oversold based on historical price trends. With my American job ending soon, I will return to Europe. I want to protect the value of my USD holdings, measured in EUR terms, before I repatriate these funds back to France. To reduce my currency exposure I am going to use currency futures contracts. Can you explain the factors most relevant to implementing this strategy?"

Case: Li Jiang

- Subscriber 2: "I have observed that many of the overseas markets for Korean export goods are slowing, while the United States is experiencing a rise in exports. Both trends can combine to possibly affect the value of the won (KRW) relative to the US dollar. As a result, I am considering a speculative currency trade on the KRW/USD exchange rate. I also expect the volatility in this exchange rate to increase."

Case: Li Jiang

- Subscriber 3: "India has relatively high interest rates compared to the United States and my market view is that this situation is likely to persist. As a retail investor actively trading currencies, I am considering borrowing in USD and converting to the Indian rupee (INR).I then intend to invest these funds in INR-denominated bonds, but without using a currency hedge."
- Subscriber 4: "I was wondering if trading in emerging market currencies provides the more opportunities for superior returns through active management than trading in Developed Market currencies."

Case: Li Jiang

- For Subscriber 1, the *most* significant factor to consider would be:

  A. margin requirements.

  B. transaction costs of using futures contracts.

  C. different quoting conventions for future contracts.

Case: Li Jiang

- **Solution: A**

  Exchange-traded futures contract not only have initial margin requirements, they also have daily mark-to-market and, as a result, can be subject to daily margin calls. Market participants must have sufficient liquidity to meet margin calls, or have their positions involuntarily liquidated by their brokers. Note that the risk of daily margin calls is not a feature of most forwards contracts; nor is initial margin. (However, this is changing among the largest institutional players in FX markets as many forward contracts now come with what are known as Collateral Support Annexes—CSAs—in which margin can be posted. Posting additional margin would typically not be a daily event, however, except in the case of extreme market moves.)

Case: Li Jiang

B is incorrect because futures contracts have low transactions costs.

C is incorrect because whether the EUR is the price or the base currency in the quote will not affect the hedging process. In fact, on the CME the quote would be the market-standard USD/EUR quote, with the EUR as the base currency.

Case: Li Jiang

- For Subscriber 2, and assuming all of the choices relate to the KRW/USD exchange rate, the *best* way to implement the trading strategy would be to:

  A. write a straddle.

  B. buy a put option.

  C. use a long NDF position.

Case: Li Jiang

- **Solution: C**

  Based on predicted export trends, Subscriber 2 most likely expects the KRW/USD rate to increase (i.e., the won—the price currency—to depreciate relative to the USD). This would require a long forward position in a forward contract, but as a country with capital controls, a NDF would be used instead. (Note: While forward contracts offered by banks are generally an institutional product, not retail, the retail version of a non-deliverable forward contract is known as a "contract for differences" (CFD) and is available at several retail FX brokers.)

Case: Li Jiang

A is incorrect because Subscriber 2 expects the KRW/USD rate to increase. A short straddle position would be used when the direction of exchange rate movement is unknown and volatility is expected to remain low.

B is incorrect because a put option would profit from a decrease of the KRW/USD rate, not an increase (as expected). Higher volatility would also make buying a put option more expensive.

Case: Li Jiang

- Which of the following market developments would be *most* favorable for Subscriber 3's trading plan?

  A. A narrower interest rate differential.

  B. A higher forward premium for INR/USD.

  C. Higher volatility in INR/USD spot rate movements.

Case: Li Jiang

- **Solution: B**

  Subscriber 3's carry trade strategy is equivalent to trading the forward rate bias, based on the historical evidence that the forward rate is not the center of the distribution for the spot rate. Applying this bias involves buying currencies selling at a forward discount and selling currencies trading at a forward premium. So a higher forward premium on the lower yielding currency—the USD, the base currency in the INR/USD quote—would effectively reflect a more profitable trading opportunity. That is, a higher premium for buying or selling the USD forward is associated with a lower US interest rate compared to India. This would mean a wider interest rate differential in favor of Indian instruments, and hence potentially more carry trade profits.

Case: Li Jiang

A is incorrect because Subscriber 3's carry trade strategy depends on a wide interest rate differential between the high-yield country (India) and the low-yield country (the United States). The differential should be wide enough to compensate for the unhedged currency risk exposure.

C is incorrect because a guide to the carry trade's riskiness is the volatility of spot rates on the involved currencies, with rapid movements in exchange rates often associated with a panicked unwinding of carry trades. All things being equal, higher volatility is worse for carry trades.

Case: Li Jiang

- Jiang's *best* response to Subscriber 4 would be that active trading in trading in emerging market currencies:

  A. typically leads to return distributions that are positively skewed.

  B. should not lead to higher returns because FX markets are efficient.

  C. often leads to higher returns through carry trades, but comes with higher risks and trading costs.

Case: Li Jiang

- **Solution: C**

  Emerging market currencies are often the investment currencies in the carry trade. This reflects the higher yields often available in their money markets compared to Developed Market economies (funding currencies are typically low-yield currencies such as the JPY). This can lead to higher holding returns, but these higher returns can also come with higher risks: carry trades are occasionally subject to panicked unwinds in stressed market conditions. When this occurs, position exit can be made more difficult by market illiquidity and higher trading costs (wider bid/offer spreads). The leverage involved in the carry trade can magnify trading losses under these circumstances.

Case: Li Jiang

A is incorrect because return distributions are often negatively skewed, reflecting the higher event risk (panicked carry trade unwinds, currency pegs being re-set, etc.) associated with the carry trade.

B is incorrect because although FX markets are typically efficient (or very close thereto) this does not mean that higher returns are not available. The key question is whether these are abnormally high risk-adjusted returns. Higher return in an efficient market comes with higher risk. The higher (short-term) return in the carry trade reflects the risk premia for holding unhedged currency risk, in the context of a favorable interest rate differential.

Case: Rika Björk

- Rika Björk runs the currency overlay program at a large Scandinavian investment fund, which uses the Swedish krona (SEK) as its reporting currency. She is managing the fund's exposure to GBP-denominated assets, which are currently hedged with a GBP 100,000,000 forward contract (on the SEK/GBP cross rate, which is currently at 10.6875 spot). The maturity for the forward contract is December 1, which is still several months away. However, since the contract was initiated the value of the fund's assets has declined by GBP 7,000,000. As a result, Björk wants to rebalance the hedge immediately.

Case: Rika Björk

- Next Björk turns her attention to the fund's Swiss franc (CHF) exposures. In order to maintain some profit potential Björk wants to hedge the exposure using a currency option, but at the same time, she wants to reduce hedging costs. She believes that there is limited upside for the SEK/CHF cross rate.
- Björk then examines the fund's EUR-denominated exposures. Due to recent monetary tightening by the Riksbank (the Swedish central bank) forward points for the SEK/EUR rate have swung to a premium. The fund's EUR-denominated exposures are hedged with forward contracts.

Case: Rika Björk

- Finally Björk turns her attention to the fund's currency exposures in several emerging markets. The fund has large positions in several Latin American bond markets, but Björk does not feel that there is sufficient liquidity in the related foreign exchange derivatives to easily hedge the fund's Latin American bond markets exposures. However, the exchange rates for these countries, measured against the SEK, are correlated with the MXN/SEK exchange rate. (The MXN is the Mexican peso, which is considered to be among the most liquid Latin American currencies). Björk considers using forward positions in the MXN to cross-hedge the fund's Latin American currency exposures.

Case: Rika Björk

- To rebalance the SEK/GBP hedge, and assuming all instruments are based on SEK/GBP, Björk would buy:
  A. GBP 7,000,000 spot.
  B. GBP 7,000,000 forward to December 1.
  C. SEK 74,812,500 forward to December 1.

- **Solution: B**
  The GBP value of the assets has declined, and hence the hedge needs to be *reduced* by GBP 7,000,000. This would require buying the GBP forward to net the outstanding (short) forward contract to an amount less than GBP 100,000,000.

Case: Rika Björk

A is incorrect because to rebalance the hedge (reduce the net size of the short forward position) the GBP must be bought *forward*, not with a spot transaction.

C is incorrect because the GBP must be bought, not sold. Buying SEK against the GBP is equivalent to selling GBP. Moreover, the amount of SEK that would be sold forward (to buy GBP 7,000,000 forward) would be determined by the *forward* rate, not the spot rate (7,000,000 × 10.6875 = 74,812,500).

Case: Rika Björk

- Given her investment goals and market view, and assuming all options are based on SEK/CHF, the *best* strategy for Björk to manage the fund's CHF exposure would be to buy an:
  A. ATM call option.
  B. ITM call option and write an OTM call option.
  C. OTM put option and write an OTM call option.

- **Solution: C**
  The fund holds CHF-denominated assets and hence Björk wants to protect against a depreciation of the CHF against the SEK, which would be a down-move in the SEK/CHF cross rate.

Case: Rika Björk

An OTM put option provides some downside protection against such a move, while writing an OTM call option helps reduce the cost of this option structure. Note that Björk does not expect that the SEK/CHF rate will increase, so this option (in her view) will likely expire OTM and allow her to keep the premia. This hedging structure is known as a short risk reversal (or a collar) and is a popular hedging strategy.

A is incorrect because the ATM call option will not protect against a decrease in the SEK/CHF rate. An ATM option is also expensive (compared to an OTM option). Note that Björk does not expect the SEK/CHF rate to increase, so would not want a long call option position for this rate.

B is incorrect because this structure is expensive (via the long ITM call option) and does not protect against a decrease in the SEK/CHF rate.

Case: Rika Björk

- Given the recent movement in the forward premium for the SEK/EUR rate, Björk can expect that the hedge will experience higher:
  - A. basis risk.
  - B. roll yield.
  - C. premia income.

- **Solution: B**

  To hedge the EUR-denominated assets Björk will be selling forward contracts on the SEK/EUR cross rate. A higher forward premium will result in higher roll return as Björk is selling the EUR forward at a higher all-in forward rate, and closing out the contract at a lower rate (all else equal), given that the forward curve is in contango.

Case: Rika Björk

A is incorrect because Björk is hedging EUR-denominated assets with a EUR-denominated forward contract. While it is true that the gap between spot and forward rates will be higher the higher the interest rate differential between countries, this gap (basis) converges to zero near maturity date, when the forward contracts would be rolled.

C is incorrect because forward contracts do not generate premia income; writing options does.

Case: Rika Björk

- The *most* important risk to Björk's Latin American currency hedge would be changes in:
  A. forward points.
  B. exchange rate volatility.
  C. cross-currency correlations.

- **Solution: C**
  A cross hedge exposes the fund to basis risk; that is, the risk that the hedge fails to protect against adverse currency movements because the correlations between the value of the assets being hedged and the hedging instrument change.

Case: Rika Björk

- A is incorrect because movements in forward points (and hence roll yield) would be of secondary importance compared to the basis risk of a cross hedge.
- B is incorrect because exchange rate volatility would not necessarily affect a hedge based on forward contracts, as long as the correlations between the underlying assets and the hedge remained stable. Although relevant, volatility in itself is not the "most" important risk to consider for a cross-hedge. (However, movements in volatility would affect hedges based on currency options.)

Case: Kalila Al-Khalili

- Kalila Al-Khalili has been hired as a consultant to a Middle Eastern sovereign wealth fund. The fund's oversight committee has asked her to examine the fund's financial characteristics and recommend an appropriate currency management strategy given the fund's Investment Policy Statement. After a thorough study of the fund and its finances, Al-Khalili reaches the following conclusions:
  - The fund's mandate is focused on the long-term development of the country, and the royal family (who are very influential on the fund's oversight committee) are prepared to take a long-term perspective on the fund's investments.
  - The fund's strategic asset allocation is tilted towards equity rather than fixed-income assets.

Case: Kalila Al-Khalili

- The fund's strategic asset allocation is tilted towards equity rather than fixed-income assets.
- Both its fixed-income and equity portfolios have a sizeable exposure to emerging market assets.
- Currently, about 90% of exchange rate exposures are hedged although the IPS allows a range of hedge ratios.
- Liquidity needs of the fund are minimal, since the government is running a balanced budget and is unlikely to need to dip into the fund in the near term to cover fiscal deficits. Indeed, the expected lifetime of country's large oil reserves has been greatly extended by recent discoveries, and substantial oil royalties are expected to persist into the future.

Case: Kalila Al-Khalili

- Based on her investigation, Al-Khalili would *most* likely recommend:
  A. active currency management.
  B. a hedging ratio closer to 100%.
  C. a narrow discretionary band for currency exposures.

- **Solution: A**
  The fund has a long-term perspective, few immediate liquidity needs, and a lower weight in fixed income that in equities (bond portfolios are typically associated with hedge ratios closer to 100% than equity portfolios). The emerging market exposure would also support active management, given these countries' typically higher yields (carry trade) and often volatile exchange rates.

Case: Kalila Al-Khalili

B is incorrect because the characteristics of the fund and the beneficial investor (in this case, the royal family) do not argue for a conservative currency strategy.

C is incorrect because a more active currency management strategy would be more suitable for this fund.

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Equity

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讲师：

Reading 22

Overview of Equity Portfolio Management

Case: Albright

- Three years ago, the Albright Investment Management Company (Albright) added four new funds—the Barboa Fund, the Caribou Fund, the DoGood Fund, and the Elmer Fund—to its existing fund offering. Albright's new funds are described in Exhibit 1.
- Hans Smith, an Albright portfolio manager, makes the following notes after examining these funds:
- **Note 1:** The fee on the Caribou Fund is a 15% share of any capital appreciation above a 7% threshold and the use of a high-water mark.
- **Note 2:** The DoGood Fund invests in Fleeker Corporation stock, which is rated high in the ESG space, and Fleeker's pension fund has a significant investment in the DoGood Fund. This dynamic has the potential for a conflict of interest on the part of Fleeker Corporation but not for the DoGood Fund.

Case: Albright

Exhibit 1. Albright Investment Management Company New Funds	
Fund	**Fund Description**
Barboa Fund	Invests solely in the equity of companies in oil production and transportation industries in many countries.
Caribou Fund	Uses an aggressive strategy focusing on relatively new, fast-growing companies in emerging industries.
DoGood Fund	Investment universe includes all US companies and sectors that have favorable environmental, social, and governance (ESG) ratings and specifically excludes companies with products or services related to aerospace and defense.
Elmer Fund	Investments selected to track the S&P 500 Index. Minimizes trading based on the assumption that markets are efficient.

Case: Albright

- **Note 3:** The DoGood Fund's portfolio manager has written policies stating that the fund does not engage in shareholder activism. Therefore, the DoGood Fund may be a free-rider on the activism by these shareholders.
- **Note 4:** Of the four funds, the Elmer Fund is most likely to appeal to investors who want to minimize fees and believe that the market is efficient.
- **Note 5:** Adding investment-grade bonds to the Elmer Fund will decrease the portfolio's short-term risk.

Case: Albright

- Smith discusses means of enhancing income for the three funds with the junior analyst, Kolton Frey, including engaging in securities lending or writing covered calls. Frey tells Smith the following:
- **Statement 1:** Securities lending would increase income through reinvestment of the cash collateral but would require the fund to miss out on dividend income from the lent securities.
- **Statement 2:** Writing covered calls would generate income, but doing so would limit the upside share price appreciation for the underlying shares.

Case: Albright

➢ The Barboa Fund can be *best* described as a fund segmented by:

A. size/style.

B. geography.

C. economic activity.

Case: Albright

➢ **Solution: C.**

C is correct. The Barboa Fund invests solely in the equity of companies in the oil production and transportation industries in many countries. The fund's description is consistent with the production-oriented approach, which groups companies that manufacture similar products or use similar inputs in their manufacturing processes.

A is incorrect because the fund description does not mention the firms' size or style (i.e., value, growth, or blend). Size is typically measured by market capitalization and often categorized as large cap, mid-cap, or small cap. Style is typically classified as value, growth, or a blend of value and growth. In addition, style is often determined through a "scoring" system that incorporates multiple metrics or ratios, such as price-to-book ratios, price-to-earnings ratios, earnings growth, dividend yield, and book value growth. These metrics are then typically "scored" individually for each company, assigned certain weights, and then aggregated.

Case: Albright

B is incorrect because the fund is invested across many countries, which indicates that the fund is not segmented by geography. Segmentation by geography is typically based upon the stage of countries' macroeconomic development and wealth. Common geographic categories are developed markets, emerging markets, and frontier markets.

Case: Albright

- The Caribou Fund is *most* likely classified as a:
  - A. large-cap value fund.
  - B. small-cap value fund.
  - C. small-cap growth fund.

Case: Albright

- **Solution: C.**

  C is correct because the fund focuses on new funds that are generally classified as small firms, and the fund has a style classified as aggressive. A widely used approach to segment the equity universe incorporates two factors: size and style. Size is typically measured by market capitalization and often categorized as large cap, mid-cap, or small cap. Style is typically classified as value, growth, or a blend of value and growth.

Case: Albright

- The DoGood Fund's approach to the aerospace and defense industry is *best* described as:
  - A. positive screening.
  - B. negative screening.
  - C. thematic investing.

Case: Albright

- **Solution: B.**

  B is correct. The DoGood fund excludes companies based on specified activities (e.g., aerospace and defense), which is a process of negative screening. Negative or exclusionary screening refers to the practice of excluding certain sectors or companies that deviate from accepted standards in areas such as human rights or environmental concerns

  A is incorrect because positive screening attempts to identify companies or sectors that score most favorably regarding ESG-related risks and/or opportunities. The restrictions on investing indicates that a negative screen is established.

  C is incorrect because thematic investing focuses on investing in companies within a specific sector or following a specific theme, such as energy efficiency or climate change. The DoGood Fund's investment universe includes all companies and sectors that have favorable ESG (no specific sectors or screens) but with specific exclusions.

Case: Albright

- The Elmer fund's management strategy is:

  A. active.

  B. passive.

  C. blended.

Case: Albright

- **Solution: B.**

  B is correct. The fund is managed assuming that the market is efficient, and investments are selected to mimic an index. Compared with active strategies, passive strategies generally have lower turnover and generate a higher percentage of long-term gains. An index fund that replicates its benchmark can have minimal rebalancing.

Case: Albright

- Based on Note 1, the fee on the Caribou Fund is *best* described as a:
  A. performance fee.
  B. management fee.
  C. administrative fee.

Case: Albright

- **Solution: A.**

  A is correct. Performance fees serve as an incentive for portfolio managers to achieve or outperform return objectives, to the benefit of both the manager and investors. Several performance fee structures exist, although performance fees tend to be "upward only"—that is, fees are earned by the manager when performance objectives are met, but fund investors are not reimbursed when performance is negative. Performance fees could be reduced following a period of poor performance, however. Fee calculations also reflect high-water marks. As described in Note 1, the fee for the Caribou Fund is a 15% share of any capital appreciation above a 7% threshold, with the use of a high-water mark, and is therefore a performance fee.

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Case: Albright

B is incorrect because management fees include direct costs of research (such as remuneration and expenses for investment analysts and portfolio managers) and the direct costs of portfolio management (e.g., software, trade processing costs, and compliance). Management fees are typically determined as a percentage of the funds under management.

C is incorrect because administrative fees include the processing of corporate actions such as rights issues and optional stock dividends, the measurement of performance and risk of a portfolio, and voting at company meetings. Generally, these functions are provided by an investment management firm itself and are included as part of the management fee.

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Case: Albright

- Which of the following notes about the DoGood Fund is *correct*?
  A. Only Note 2
  B. Only Note 3
  C. Both Note 2 and Note 3

Case: Albright

- **Solution: B.**
  B is correct because the fund becomes a free-rider if it allows other shareholders to engage in actions that benefit the fund, and therefore Note 3 is correct. In theory, some investors could benefit from the shareholder engagement of others under the so-called "free rider problem." Specifically, assume that a portfolio manager using an active strategy actively engages with a company to improve its operations and was successful in increasing the company's stock price. The manager's actions in this case improved the value of his portfolio and also benefitted other investors that own the same stock in their portfolios. Those investors that did not participate in shareholder engagement benefit from improved performance but without the costs necessary for engagement.

Case: Albright

- Note 2 is incorrect because a conflict of interest arises on the part of the DoGood Fund if it owns shares of a company that invests in the fund. Conflicts of interest can result for a company. For example, a portfolio manager could engage with a company that also happens to be an investor in the manager's portfolio. In such a situation, a portfolio manager may be unduly influenced to support the company's management so as not to jeopardize the company's investment mandate with the portfolio manager.

Case: Albright

- Which of the notes regarding the Elmer Fund is *correct*?
  A. Only Note 4
  B. Only Note 5
  C. Both Note 4 and Note 5

Case: Albright

- **Solution: A.**

  A is correct. For passively managed portfolios, management fees are typically low because of lower direct costs of research and portfolio management relative to actively managed portfolios. Therefore, Note 4 is correct.

  Note 5 is incorrect because the predictability of correlations is uncertain.

Case: Albright

- Which of Frey's statements about securities lending and covered call writing is *correct*?
  A. Only Statement 1
  B. Only Statement 2
  C. Both Statement 1 and Statement 2

Case: Albright

- **Solution: B.**

  B is correct. Writing covered calls also generates additional income for an equity portfolio, but doing so limits the upside from share price appreciation of the underlying shares. Therefore, Statement 2 is correct.

  A is incorrect because dividends on loaned stock are "manufactured" by the stock borrower for the stock lender—that is, the stock borrower ensures that the stock lender is compensated for any dividends that the lender would have received had the stock not been loaned. Therefore, Statement 1 is incorrect. Frey is incorrect in stating that the funds would miss out on dividend income on lent securities.

Reading 23

Passive Equity Investing

Case: Evan Winthrop

- Evan Winthrop, a senior officer of a US-based corporation, meets with Rebecca Tong, a portfolio manager at Cobalt Wealth Management. Winthrop recently moved his investments to Cobalt in response to his previous manager's benchmark-relative underperformance and high expenses.
- Winthrop resides in Canada and plans to retire there. His annual salary covers his current spending needs, and his vested defined benefit pension plan is sufficient to meet retirement income goals. Winthrop prefers passive exposure to global equity markets with a focus on low management costs and minimal tracking error to any index benchmarks. The fixed-income portion of the portfolio may consist of laddered maturities with a home-country bias.

Case: Evan Winthrop

- Tong proposes using an equity index as a basis for an investment strategy and reviews the most important requirements for an appropriate benchmark. With regard to investable indexes, Tong tells Winthrop the following:
- **Statement 1:** A free-float adjustment to a market-capitalization weighted index lowers its liquidity.
- **Statement 2:** An index provider that incorporates a buffering policy makes the index more investable.

Case: Evan Winthrop

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- Winthrop asks Tong to select a benchmark for the domestic stock allocation that holds all sectors of the Canadian equity market and to focus the portfolio on highly liquid, well-known companies. In addition, Winthrop specifies that any stock purchased should have a relatively low beta, a high dividend yield, a low P/E, and a low price-to-book ratio (P/B).
- Winthrop and Tong agree that only the existing equity investments need to be liquidated. Tong suggests that, as an alternative to direct equity investments, the new equity portfolio be composed of the exchange-traded funds (ETFs) shown in Exhibit 1.

Case: Evan Winthrop

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Exhibit 1. Available Equity ETFs

Equity Benchmark	ETF Ticker	Number of Constituents	P/B	P/E	Fund Expense Ratio
S&P/TSX 60	XIU	60	2.02	17.44	0.18%
S&P 500	SPY	506	1.88	15.65	0.10%
MSCI EAFE	EFA	933	2.13	18.12	0.33%

Case: Evan Winthrop

- Winthrop asks Tong about the techniques wealth managers and fund companies use to create index-tracking equity portfolios that minimize tracking error and costs. In response, Tong outlines two frequently used methods:
- **Method 1:** One process requires that all index constituents are available for trading and liquid, but significant brokerage commissions can occur when the index is large.
- **Method 2:** When tracking an index with a large number of constituents and/or managing a relatively low level of assets, a relatively straightforward and technically unsophisticated method can be used to build a passive portfolio that requires fewer individual securities than the index and reduces brokerage commission costs.

Case: Evan Winthrop

- Tong adds that portfolio stocks may be used to generate incremental revenue, thereby partially offsetting administrative costs but potentially creating undesirable counterparty and collateral risks.
- After determining Winthrop's objectives and constraints, the CAD147 million portfolio's new strategic policy is to target long-term market returns while being fully invested at all times. Tong recommends quarterly rebalancing, currency hedging, and a composite benchmark composed of equity and fixed-income indexes. Currently the USD is worth CAD1.2930, and this exchange rate is expected to remain stable during the next month. Exhibit 2 presents the strategic asset allocation and benchmark weights.

Case: Evan Winthrop

Exhibit 2. Composite Benchmark and Policy Weights

Asset Class	Benchmark Index	Policy Weight
Canadian equity	S&P/TSX 60	40.0%
US equity	S&P 500	15.0%
International developed markets equity	MSCI EAFE	15.0%
Canadian bonds	DEX Universe	30.0%
Total portfolio		100.0%

Case: Evan Winthrop

- In one month, Winthrop will receive a performance bonus of USD5,750,000. He believes that the US equity market is likely to increase during this timeframe. To take advantage of Winthrop's market outlook, he instructs Tong to immediately initiate an equity transaction using the S&P 500 futures contract with a current price of 2,464.29 while respecting the policy weights in Exhibit 2. The S&P 500 futures contract multiplier is 250, and the S&P 500 E-mini multiplier is 50.
- Tong cautions Winthrop that there is a potential pitfall with the proposed request when it comes time to analyze performance. She discloses to Winthrop that equity index futures returns can differ from the underlying index, primarily because of corporate actions such as the declaration of dividends and stock splits.

Case: Evan Winthrop

- Which of Tong's statements regarding equity index benchmarks is (are) *correct*?
  A. Only Statement 1
  B. Only Statement 2
  C. Both Statement 1 and Statement 2

Case: Evan Winthrop

- **Solution: B.**

  B is correct. The three requirements for an index to become the basis for an equity investment strategy are that the index be (a) rules based, (b) transparent, and (c) investable. Buffering makes index benchmarks more investable (Statement 2) by making index transitions a more gradual and orderly process.

  A is incorrect because basing the index weight of an individual security solely on the total number of shares outstanding without using a free-float adjustment may make the index less investable. If a stock market cap excludes shares held by founders, governments, or other companies, then the remaining shares more accurately reflect the stock's true liquidity. Thus a free-float adjustment (Statement 1) to a market index more accurately reflects its actual liquidity (it does not lower its liquidity). Many indexes require that individual stocks have float and average shares traded above a certain percentage of shares outstanding.

Case: Evan Winthrop

- To satisfy Winthrop's benchmark and security selection specifications, the Canadian equity index benchmark Tong selects should be:
  - A. small-capitalization with a core tilt.
  - B. large-capitalization with a value tilt.
  - C. mid-capitalization with a growth tilt.

Case: Evan Winthrop

- **Solution: B.**

  B is correct. To address Winthrop's concerns (sector diversification, liquidity, risk, dividend yield, P/E, and P/B), the Canadian equity index benchmark should consist of large-capitalization stocks with a value tilt. A large-capitalization index contains the largest-cap stocks, which tend to have the highest liquidity. Value stocks tend to exhibit high dividend yields and low P/E and P/B ratios.

  A is incorrect because small-capitalization stocks tend to be riskier than large-capitalization stocks. Winthrop has a preference for low-beta (risk) stocks.

  C is incorrect because a growth index will not address Winthrop's preference for a low P/E. Growth stocks exhibit characteristics such as high price momentum, high P/Es, and high EPS growth.

Case: Evan Winthrop

- Based on Exhibit 1 and assuming a full-replication indexing approach, the tracking error is expected to be *highest* for:
  - A. XIU.
  - B. SPY.
  - C. EFA.

Case: Evan Winthrop

- **Solution: C.**

  C is correct. An index that contains a large number of constituents will tend to create higher tracking error than one with fewer constituents. Based on the number of constituents in the three indexes (S&P/TSX 60 has 60, S&P 500 has 506, and MSCI EAFE has 933), EFA (the MSCI EAFE ETF) is expected to have the highest tracking error. Higher expense ratios (XIU: 0.18%; SPY: 0.10%; and EFA: 0.33%) also contribute to lower excess returns and higher tracking error, which implies that EFA has the highest expected tracking error.

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Case: Evan Winthrop

- Method 1's portfolio construction process is *most* likely:

  A. optimization.

  B. full replication.

  C. stratified sampling.

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Case: Evan Winthrop

- **Solution: B.**

  B is correct. Full replication occurs when a manager holds all securities represented by the index in weightings that closely match the actual index weightings. Thus it requires that all index constituents are liquid and available for trading, and the asset size of the mandate must also be sufficient. Significant brokerage commissions can occur, however, when the index is large.

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Case: Evan Winthrop

- Method 2's portfolio construction process is *most* likely:
  - A. optimization.
  - B. full replication.
  - C. stratified sampling.

Case: Evan Winthrop

- **Solution: C.**

  C is correct. Stratified sampling methods are most frequently used when a portfolio manager is tracking an index that has a large number of constituents, or when managing a relatively low level of assets. Brokerage fees can become excessive when the number of constituents in the index is large.

  A is incorrect because optimization does not involve simple techniques. Optimization requires a high level of technical sophistication, including familiarity with computerized optimization software or algorithms, and a good understanding of the output.

  B is incorrect because full replication occurs when a manager holds all (not fewer) securities represented by the index in weightings that closely match actual index weightings. Full replication techniques require that the mandate's asset size is sufficient and that the index constituents are available for trading. Full replication can create significant brokerage commissions when the index is large.

Case: Evan Winthrop

- The method that Tong suggests to *add* incremental revenue is:
  - A. program trading.
  - B. securities lending.
  - C. attribution analysis.

Case: Evan Winthrop

- **Solution: B.**

  B is correct. Securities lending is typically used to offset the costs associated with portfolio management. By lending stocks, however, the investor is exposed to the credit quality of the stocks' borrower (counterparty or credit risk) and to risks involved with the posted collateral (market risk).

  A is incorrect because program trading is a strategy of buying or selling many stocks simultaneously. It is used primarily by institutional investors, typically for large-volume trades. Orders from the trader's computer are entered directly into the market's computer system and executed automatically.

  C is incorrect because attribution analysis is not a method of generating incremental revenue. Attribution analysis is a method that helps the manager understand the sources of return.

Case: Evan Winthrop

- In preparation for receipt of the performance bonus, Tong should immediately:

  A. buy two US E-mini equity futures contracts.

  B. sell nine US E-mini equity futures contracts.

  C. buy seven US E-mini equity futures contracts.

Case: Evan Winthrop

- **Solution: C.**

  C is correct. The amount of the performance bonus that will be received in one month (USD5,750,000) needs to be invested passively based upon the strategic allocation recommended by Tong. Using the strategic allocation of the portfolio, 15% (USD862,500.00) should be allocated to US equity exposure using the S&P 500 E-mini contract, which trades in US dollars. Because the futures price is 2,464.29 and the S&P 500 E-mini multiplier is 50, the contract unit value is USD123,214.50 (2,464.29 × 50).

  The correct number of futures contracts is (5,750,000.00 × 0.15)/123,214.50 = 7.00.

  Therefore, Tong will buy seven S&P 500 E-mini futures contracts.

Case: Evan Winthrop

- The risk that Tong discloses regarding the equity futures strategy is *most* likely:
  A. basis risk.
  B. currency risk.
  C. counterparty risk.

Case: Evan Winthrop

- **Solution: A.**
  A is correct. Basis risk results from using a hedging instrument that is imperfectly matched to the investment being hedged. Basis risk can arise when the underlying securities pay dividends, because the futures contract tracks only the price of the underlying index. Stock splits do not affect investment performance comparisons.

Case: Mackenzie Education Foundation funds

- The Mackenzie Education Foundation funds educational projects in a four-state region of the United States. Because of the investment portfolio's poor benchmark-relative returns, the foundation's board of directors hired a consultant, Stacy McMahon, to analyze performance and provide recommendations.
- McMahon meets with Autumn Laubach, the foundation's executive director, to review the existing asset allocation strategy. Laubach believes the portfolio's underperformance is attributable to the equity holdings, which are allocated 55% to a US large-capitalization index fund, 30% to an actively managed US small-cap fund, and 15% to an actively managed developed international fund.

Case: Mackenzie Education Foundation funds

- Laubach states that the board is interested in following a passive approach for some or all of the equity allocation. In addition, the board is open to approaches that could generate returns in excess of the benchmark for part of the equity allocation. McMahon suggests that the board consider following a passive factor-based momentum strategy for the allocation to international stocks.
- McMahon observes that the benchmark used for the US large-cap equity component is a price-weighted index containing 150 stocks. The benchmark's Herfindahl–Hirschman Index (HHI) is 0.0286.
- McMahon performs a sector attribution analysis based on Exhibit 1 to explain the large-cap portfolio's underperformance relative to the benchmark.

Case: Mackenzie Education Foundation funds

Exhibit 1. Trailing 12-Month US Large-Cap Returns and Foundation/Benchmark Weights

Sector	Sector Returns	Foundation Sector Weights	Benchmark Sector Weights
Information technology	10.75%	18.71%	19.06%
Consumer staples	12.31%	16.52%	16.10%
Energy	8.63%	9.38%	9.53%
Utilities	–3.92%	8.76%	8.25%
Financials	7.05%	6.89%	6.62%

Case: Mackenzie Education Foundation funds

- The board decides to consider adding a mid-cap manager. McMahon presents candidates for the mid-cap portfolio. Exhibit 2 provides fees and cash holdings for three portfolios and an index fund.

Exhibit 2. Characteristics of US Mid-Cap Portfolios and Index Fund

	Portfolio 1	Portfolio 2	Portfolio 3	Index Fund
Fees	0.10%	0.09%	0.07%	0.03%
Cash holdings	6.95%	3.42%	2.13%	0.51%

Case: Mackenzie Education Foundation funds

- Compared with broad-market-cap weighting, the international equity strategy suggested by McMahon is *most* likely to:
  - A. concentrate risk exposure.
  - B. be based on the efficient market hypothesis.
  - C. overweight stocks that recently experienced large price decreases.

Case: Mackenzie Education Foundation funds

- **Solution: A.**

  A is correct. Compared with broad-market-cap weighting, passive factor-based strategies tend to concentrate risk exposure, leaving investors vulnerable during periods when the risk factor (e.g., momentum) is out of favor.

Case: Mackenzie Education Foundation funds

- The international strategy suggested by McMahon is *most* likely characterized as:
  - A. risk based.
  - B. return oriented.
  - C. diversification oriented.

Case: Mackenzie Education Foundation funds

- **Solution: B.**

  B is correct. McMahon suggests that the foundation follow a passive factor-based momentum strategy, which is generally defined by the amount of a stock's excess price return relative to the market during a specified period. Factor-based momentum strategies are classified as return oriented.

Case: Mackenzie Education Foundation funds

- The initial benchmark used for the US large-cap allocation:

  A. is unaffected by stocks splits.

  B. is essentially a liquidity-weighted index.

  C. holds the same number of shares in each component stock.

Case: Mackenzie Education Foundation funds

- **Solution: C.**

  C is correct. The initial benchmark used for the US large-cap allocation is a price-weighted index. In a price-weighted index, the weight of each stock is its price per share divided by the sum of all the share prices in the index. As a result, a price-weighted index can be interpreted as a portfolio composed of one share of each constituent security.

Case: Mackenzie Education Foundation funds

- Based on its HHI, the initial US large-cap benchmark *most* likely has:
  - A. a concentration level of 4.29.
  - B. an effective number of stocks of approximately 35.
  - C. individual stocks held in approximately equal weights.

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Case: Mackenzie Education Foundation funds

- **Solution: B.**

B is correct. The HHI measures stock concentration risk in a portfolio, calculated as the sum of the constituent weightings squared:

$$\text{HHI} = \sum_{i=1}^{n} w_i^2$$

Using the HHI, one can estimate the effective number of stocks, held in equal weights, that would mimic the concentration level of the respective index. The effective number of stocks for a portfolio is calculated as the reciprocal of the HHI. The HHI is 0.0286; the reciprocal (1/0.0286) is 34.97. Therefore, the effective number of stocks to mimic the US large-cap benchmark is approximately 35.

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Case: Mackenzie Education Foundation funds

- Using a sector attribution analysis based on Exhibit 1, which US large-cap sector is the *primary* contributor to the portfolio's underperformance relative to the benchmark?
  - A. Utilities
  - B. Consumer staples
  - C. Information technology

Case: Mackenzie Education Foundation funds

- **Solution: C.**

  C is correct. Below is the attribution analysis for selected sectors of the US large-cap portfolio.

Sector	Sector Return (A)	US Large-Cap Core Portfolio		Large-Cap Benchmark		Attribution Analysis
		Sector Weight (B)	Contribution To Return (C)=(A)×(B)	Sector Weight (D)	Contribution To Return (E)=(A)×(D)	Difference (F)=(C)-(E)
Information technology	10.75%	18.71%	2.01%	19.06%	2.05%	–0.04%
Consumer staples	12.31%	16.52%	2.03%	16.10%	1.98%	0.05%
Energy	8.63%	9.38%	0.81%	9.53%	0.82%	–0.01%
Utilities	–3.92%	8.76%	–0.34%	8.25%	–0.32%	–0.02%
Financials	7.05%	6.89%	0.49%	6.62%	0.47%	0.02%

Case: Mackenzie Education Foundation funds

Based on this analysis, the US large-cap portfolio's information technology sector is the primary contributor to the portfolio's disappointing equity returns because it provided the largest negative differential relative to the benchmark, with a differential of –0.04%. Although the information technology sector had a positive return, this sector was underweighted relative to the benchmark, resulting in a negative contribution to the portfolio's returns.

Case: Mackenzie Education Foundation funds

- Based on Exhibit 2, which portfolio will *most* likely have the *lowest* tracking error?

  A. Portfolio 1

  B. Portfolio 2

  C. Portfolio 3

Case: Mackenzie Education Foundation funds

- **Solution: C.**

  C is correct. Of the three portfolios, Portfolio 3 has the lowest cash holding and the lowest fees. As a result, Portfolio 3 has the potential for the lowest tracking error compared with the other proposed portfolios.

Reading 24

Active Equity Investing: Strategies

Case: James Leonard

- James Leonard is a fund-of-funds manager with Future Generation, a large sovereign fund. He is considering whether to pursue more in-depth due diligence processes with three large-cap long-only funds proposed by his analysts. Although the funds emphasize different financial metrics and use different implementation methodologies, they operate in the same market segment and are evaluated against the same benchmark. The analysts prepared a short description of each fund, presented in Exhibit 1.

Case: James Leonard

Exhibit 1. Description of Each Candidate Fund	
Fund	**Description**
Furlings	Furlings Investment Partners combines sector views and security selection. The firm's head manager uses several industry and economic indicators identified from his own experience during the last two decades, as well as his personal views on market flow dynamics, to determine how to position the fund on a sector basis. Sector deviations from the benchmark of 10% or more are common and are usually maintained for 12 to 24 months. At the same time, sector managers at Furlings use their expertise in dissecting financial statements and their understanding of the corporate branding and competitive landscape within sectors to build equally weighted baskets of securities within sectors. Each basket contains their 7 to 10 highest-conviction securities, favoring firms that have good governance, strong growth potential, competitive advantages such as branding, and attractive relative valuations. The Furlings master fund holds approximately 90 securities.

Case: James Leonard

Exhibit 1. Description of Each Candidate Fund	
Fund	**Description**
Asgard	Asgard Investment Partners is a very large asset manager. It believes in investing in firms that have a strong business model and governance, reasonable valuations, solid capital structures with limited financial leverage, and above-average expected earnings growth for the next three years. Although the Asgard master fund invests in fewer than 125 securities, each sector analyst builds financial models that track as many as 50 firms. To support them in their task, analysts benefit from software developed by the Asgard research and technology group that provides access to detailed market and accounting information on 5,000 global firms, allowing for the calculation of many valuation and growth metrics and precise modeling of sources of cash-flow strengths and weaknesses within each business. Asgard analysts can also use the application to back-test strategies and build their own models to rank securities' attractiveness according to their preferred characteristics. Security allocation is determined by a management team but depends heavily on a quantitative risk model developed by Asgard. Asgard has a low portfolio turnover.

Case: James Leonard

Exhibit 1. Description of Each Candidate Fund	
Fund	**Description**
Tokra	Tokra Capital uses a factor-based strategy to rank securities from most attractive to least attractive. Each security is scored based on three metrics: price to book value (P/B), 12-month increase in stock price, and return on assets. Tokra's managers have a strong risk management background. Their objective is to maximize their exposure to the most attractive securities using a total scoring approach subject to limiting single-security concentration below 2%, sector deviations below 3%, active risk below 4%, and annual turnover less than 40%, while having a market beta close to 1. The master fund holds approximately 400 positions out of a possible universe of more than 2,000 securities evaluated.

Case: James Leonard

- When Leonard's analysts met with Asgard, they inquired whether its managers engage in activist investing because Asgard's portfolio frequently holds significant positions, because of their large asset size, and because of their emphasis on strong governance and their ability to model sources of cash-flow strengths and weaknesses within each business. The manager indicated that Asgard engages with companies from a long-term shareholder's perspective, which is consistent with the firm's low portfolio turnover, and uses its voice, and its vote, on matters that can influence companies' long-term value.
- Leonard wants to confirm that each manager's portfolios are consistent with its declared style. To this end, Exhibit 2 presents key financial information associated with each manager's portfolio and also with the index that all three managers use.

Case: James Leonard

Exhibit 2. Key Financial Data

Fund	Index	Furlings	Asgard	Tokra
Dividend/price (trailing 12-month)	2.3%	2.2%	2.2%	2.6%
P/E (trailing 12-month)	26.5	24.7	26.6	27.3
Price/cash flows (12-month forward)	12.5	13.8	12.5	11.6
P/B	4.8	4.30	4.35	5.4
Average EPS growth (three to five years forward)	11.9%	11.0%	13.1%	10.8%
Net income/assets	2.8%	4.5%	4.3%	3.2%
Average price momentum (trailing 12 months)	10.5%	14.0%	10.0%	12.0%

Case: James Leonard

- Which fund manager's investing approach is *most* consistent with fundamental management?
  A. Furlings
  B. Asgard
  C. Tokra

Case: James Leonard

- **Solution: A.**

  A is correct. Furlings combines a top-down and bottom-up approach, but in both cases, the allocation process is significantly determined according to the managers' discretion and judgement. There is a strong emphasis on understanding financial reporting, and the sector managers focus on a relatively small number for firms. They also extend their analysis to other areas associated with fundamental management, such as valuation, competitive advantages, and governance. Finally, Furlings's top-down process depends largely on the views and experience of its head manager.

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Case: James Leonard

B is incorrect. Asgard has many of the attributes associated with a fundamental manager. It invests in a relatively small number of securities and focuses on the companies' business model, valuations, and future growth prospects. Because of the scope of the securities coverage by each manager, however, Asgard depends heavily on technology and tools to support screening and ranking of securities attractiveness. Each manager can use his judgement to build his own quantitative models. Furthermore, the allocation process, although overlaid by a management team, also depends heavily on technology. Asgard has characteristics of both fundamental and quantitative managers.

C is incorrect. Tokra exhibits the characteristics of a quantitative manager. The firm uses quantitative metrics to rank securities based on valuation, profitability, and momentum criteria and uses portfolio optimization to determine the final allocation. Tokra holds many positions typical of quantitative approaches.

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Case: James Leonard

- Which of the following statements about the approaches and styles of either Furlings, Asgard, or Tokra is *incorrect*?

  A. Furlings is a top-down sector rotator with a value orientation within sectors.

  B. Asgard is a bottom-up manager with a GARP (growth at a reasonable price) style.

  C. Tokra is a factor-based manager using value, growth, and profitability metrics.

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Case: James Leonard

- **Solution: C.**

  C is an incorrect statement. Although Tokra is a factor manager, and although it uses a value proxy such as P/B and a profitability proxy such as return on assets, it does not use a growth proxy such as earnings growth over the last 12 or 36 months but rather a price momentum proxy.

  A is a correct statement. Furlings is a top-down manager. It makes significant sector bets based on industry and economic indicators derived from the head manager's experience, and it does select its securities within sectors while considering relative valuation.

  B is a correct statement. Asgard favors securities that have reasonable valuations and above-average growth prospects. It has a bottom-up approach and builds its portfolio starting at the security level.

Case: James Leonard

- Which manager is *most* likely to get caught in a value trap?

  A. Furlings

  B. Asgard

  C. Tokra

Case: James Leonard

- **Solution: C.**

  C is the correct answer. A value trap occurs when a stock that appears to have an attractive valuation because of a low P/E and/or P/B multiple (or other relevant value proxies) appears cheap only because of its worsening growth prospects. Although a pitfall such as value trap is more common in fundamental investing, a quantitative process that relies on historical information and does not integrate future expectations about cash flows or profitability may be unable to detect a value trap.

Case: James Leonard

A is an incorrect answer. Although Furlings is a top-down manager, its sector portfolios are built through investing in a small number of high-conviction securities after its analysts have dissected the financial statements and analyzed the competitive landscape and growth prospects. Managers at Furlings are more likely than managers at Tokra to be aware of the significant deteriorating prospects of a security they are considering for investment.

B is an incorrect answer. One of Asgard's investment criteria is identifying firms that have good potential cash flow growth over the next three years. The firm has access to database and support tools, allowing its analysts to evaluate many potential growth metrics. Managers at Asgard are more likely than managers at Tokra to be aware of the significant deteriorating prospects of a security they are considering for investment.

Case: James Leonard

- Which activist investing tactic is Asgard *least* likely to use?
  A. Engaging with management by writing letters to management, calling for and explaining suggested changes, and participating in management discussions with analysts or meeting the management team privately
  B. Launching legal proceedings against existing management for breach of fiduciary duties
  C. Proposing restructuring of the balance sheet to better utilize capital and potentially initiate share buybacks or increase dividends

Case: James Leonard

- **Solution: B.**

B is the correct answer. Asgard invests in firms that have strong business models and good governance. Also, it approaches investing as a long-term investor looking to use its voice to improve the company's asset management. Asgard is unlikely to use an aggressive posturing or to invest or stay invested in companies with weak governance or where managers may be in breach of fiduciary duties.

A is an incorrect answer. Engaging in positive conversations with management of companies with which Asgard has invested reflects a use of its voice to improve these companies' long-term value.

C is an incorrect answer. Because Asgard is strong at modeling sources of cash flows and is known for investing in companies with a strong capital structure, it would be consistent for Asgard to propose ways to optimize the capital structure and shareholders' compensation.

Case: James Leonard

➢ Based on the information provided in Exhibits 1 and 2, which manager's portfolio characteristics is *most* likely at odds with its declared style?

A. Furlings

B. Asgard

C. Tokra

Case: James Leonard

➢ **Solution: C.**

C is the correct answer. Tokra indicates that it emphasizes three metrics: P/B, 12-month price momentum, and return on assets. Although the portfolio consists of securities that have stronger momentum than those of the index on average, and although the ratio of net income to assets is also favorable, the average P/B is somehow higher than that of the index. Although this scenario could normally be explained by an emphasis on specific sectors with a higher P/B than other sectors, the low level of sector deviation tolerated within the strategy weakens that explanation. This should be explored with Tokra's managers.

Case: James Leonard

A is an incorrect answer. Furlings is a top-down sector rotator with a value orientation within sectors. The lower P/B and P/E and higher net income over assets are consistent with a relative value orientation. Because Furlings can take significant positions in specific sectors, however, there could be other circumstances in which the portfolio would have a higher P/B and/or P/E and or a lower net income /assets than the index if the fund were to emphasize sectors having such characteristics. Yet, this would not necessarily imply that the firm does not favor the most attractive relative valuations within sectors.

Case: James Leonard

B is an incorrect answer. Asgard invests in firms that offer reasonable valuations and above-average expected cash flow growth during the next three years. The data, such as P/B and average expected three-year profit growth, are consistent with its declared style. Again, it is not necessarily inconsistent to emphasize these aspects while investing in a portfolio that has a lower dividend yield, slightly higher P/E, and lower price momentum.

Case: James Leonard

- Leonard is looking at the style classification from Asgard as reported by Morningstar and Thomson Reuters Lipper. He is surprised to find that Asgard is classified as a blend fund by Morningstar and a value fund by Lipper. Which of the following statements is *correct*?
  A. Although the Morningstar methodology classifies securities as either value, growth, or core, the Lipper methodology assumes a stock can have the characteristics of many styles. This approach can result in a different classification for the same portfolio.
  B. The Lipper methodology can only lead to a value or growth classification. It does not offer a core/blend component.
  C. The Morningstar methodology classifies securities as either value, growth, or core by looking at the difference between their respective growth and value scores. It is possible that the Asgard funds hold a balanced exposure to both value and growth and/or core stocks.

Case: James Leonard

- **Solution: C.**

C is a correct answer. Morningstar calculates a score for value and growth on a scale of 0 to 100 using five proxy measures for each. The value score is subtracted from the growth score. A strongly positive net score leads to a growth classification, and a strongly negative score leads to a value classification. A score relatively close to zero indicates a core classification. To achieve a blend classification, the portfolio must have a balanced exposure to stocks classified as value and growth, a dominant exposure to stocks classified as core, or a combination of both.

Case: James Leonard

A is an incorrect answer. Both Morningstar and Lipper classify individual stocks in a specific style category. Neither assumes a security can belong to several styles in specific proportion.

B is an incorrect answer. The Lipper methodology does have a core classification. It sums the Z-score of six portfolio characteristics over several years to determine an overall Z-score that determines either a value, core, or growth classification.

Case: Aleksy Nowacki

- Aleksy Nowacki is a new portfolio manager at Heydon Investments. The firm currently offers a single equity fund, which uses a top-down investment strategy based on fundamentals. Vicky Knight, a junior analyst at Heydon, assists with managing the fund.
- Nowacki has been hired to start a second fund, the Heydon Quant Fund, which will use quantitative active equity strategies. Nowacki and Knight meet to discuss distinct characteristics of the quantitative approach to active management, and Knight suggests three such characteristics:

Case: Aleksy Nowacki

Characteristic 1 The focus is on factors across a potentially large group of stocks.

Characteristic 2 The decision-making process is systematic and non-discretionary.

Characteristic 3 The approach places an emphasis on forecasting the future prospects of underlying companies.

- Nowacki states that quantitative investing generally follows a structured and well-defined process. Knight asks Nowacki:

Case: Aleksy Nowacki

- "What is the starting point for the quantitative investment process?"
- The new Heydon Quant Fund will use a factor-based strategy. Nowacki assembles a large dataset with monthly standardized scores and monthly returns for the strategy to back-test a new investment strategy and calculates the information coefficient. FS(t) is the factor score for the current month, and FS(t + 1) is the score for the next month. SR(t) is the strategy's holding period return for the current month, and SR(t + 1) is the strategy's holding period return for the next month.

Case: Aleksy Nowacki

- As an additional step in back-testing of the strategy, Nowacki computes historical price/book ratios (P/Bs) and price/earnings ratios (P/Es) using calendar year-end (31 December) stock prices and companies' financial statement data for the same calendar year. He notes that the financial statement data for a given calendar year are not typically published until weeks after the end of that year.
- Because the Heydon Quant Fund occasionally performs pairs trading using statistical arbitrage, Nowacki creates three examples of pairs trading candidates, presented in Exhibit 1. Nowacki asks Knight to recommend a suitable pair trade.

Case: Aleksy Nowacki

Exhibit 1 Possible Pairs Trades Based on Statistical Arbitrage

Stock Pair	Current Price Ratio Compared with Long-Term Average	Historical Price Ratio Relationship	Historical Correlation between Returns
1 and 2	Not significantly different	Mean reverting	High
3 and 4	Significantly different	Mean reverting	High
5 and 6	Significantly different	Not mean reverting	Low

Case: Aleksy Nowacki

- Knight foresees a possible scenario in which the investment universe for the Heydon Quant Fund is unchanged but a new factor is added to its multifactor model. Knight asks Nowacki whether this scenario could affect the fund's investment-style classifications using either the returns-based or holdings-based approaches.

Case: Aleksy Nowacki

- Which of the following asset allocation methods would not likely be used by Nowacki and Knight to select investments for the existing equity fund?
  - A. Sector and industry rotation
  - B. Growth at a reasonable price
  - C. Country and geographic allocation

Case: Aleksy Nowacki

- **Solution: B.**

  The firm currently offers a single equity fund, which uses a top-down investment strategy. Country and geographic allocation and sector and industry rotation are both top-down strategies that begin at the top or macro level and are consistent with the fund's top-down investment strategy. Growth at a reasonable price (GARP), however—a growth-based approach—is a bottom-up asset selection strategy that begins with data at the company level. Therefore, Nowacki and Knight likely would not use the GARP approach to select investments for the existing equity fund, which uses a top-down investment strategy. A is incorrect because sector and industry rotation is a top-down strategy, consistent with the fund's top-down approach. C is incorrect because country and geography selection is a top-down strategy, consistent with the fund's top-down approach.

Case: Aleksy Nowacki

- Relative to Heydon's existing fund, the new fund will most likely:

  A. hold a smaller number of stocks.

  B. rebalance at more regular intervals.

  C. see risk at the company level rather than the portfolio level.

Case: Aleksy Nowacki

- **Solution: B.**

  Portfolios managed using a quantitative approach are usually rebalanced at regular intervals, such as monthly or quarterly. In contrast, portfolios managed using a fundamental approach usually monitor the portfolio's holdings continuously and may increase, decrease, or eliminate positions at any time.

  Also, the focus of a quantitative approach is on factors across a potentially large group of stocks, whereas fundamental strategies focus on a relatively small group of stocks. Consequently, Heydon's new quantitative fund will likely hold a larger number of stocks than the existing equity fund.

Case: Aleksy Nowacki

Finally, managers following a fundamental approach typically select stocks by performing extensive research on individual companies; thus, fundamental investors see risk at the company level. In contrast, with a quantitative approach, the risk is that factor returns will not perform as expected. Because the quantitative approach invests in baskets of stocks, the risks lie at the portfolio level rather than at the level of specific stocks (company level). Consequently, Nowacki's new quantitative fund will likely see risk at the portfolio level, rather than the company level as the existing equity fund does.

Case: Aleksy Nowacki

- Which characteristic suggested by Knight to describe the quantitative approach to active management is incorrect?
  A. Characteristic 1
  B. Characteristic 2
  C. Characteristic 3

Case: Aleksy Nowacki

- **Solution: C.**
  Quantitative analysis uses a company's history to arrive at investment decisions. The quantitative decision-making process is systematic and non-discretionary (whereas the fundamental decision-making process is more discretionary), and the focus of the quantitative approach is on factors across a potentially large group of stocks (whereas fundamental strategies focus on a relatively small group of stocks). In contrast, fundamental analysis (not quantitative analysis) emphasizes forecasting future prospects, including the future earnings and cash flows of a company.

Case: Aleksy Nowacki

- Nowacki's most appropriate response to Knight's question about the quantitative investment process is to:
  A. back-test the new strategy.
  B. define the market opportunity.
  C. identify the factors to include and their weights.

Case: Aleksy Nowacki

- **Solution: B.**

  The first step in creating a quantitative, active strategy is to define the market opportunity or investment thesis. Then, relevant data is acquired, processed, and transformed into a usable format. This step is followed by back-testing the strategy, which involves identifying the factors to include as well as their weights. Finally, the strategy performance should be evaluated using an out-of-sample back-test.

Case: Aleksy Nowacki

- In Nowacki's back-testing of the factor-based strategy for the new fund, the calculated information coefficient should be based on:

  A. FS(t) and SR(t).

  B. FS(t) and SR(t +1).

  C. SR(t) and FS(t + 1).

Case: Aleksy Nowacki

- **Solution: B.**

  The purpose of back-testing is to identify correlations between the current period's factor scores, FS(t), and the next period's holding period strategy returns, SR(t + 1).

Case: Aleksy Nowacki

- Nowacki's calculated price/book ratios (P/Bs) and price/earnings ratios (P/Es), in his back-testing of the new strategy, are a problem because of:

  A. data mining.

  B. look-ahead bias.

  C. survivorship bias.

Case: Aleksy Nowacki

- **Solution: B.**

  Look-ahead bias results from using information that was unknown or unavailable at the time the investment decision was made. An example of this bias is using financial accounting data for a company at a point before the data were actually released by the company. Nowacki computed historical P/Bs and P/Es using calendar year-end (31 December) stock prices and companies' financial statement data for the same calendar year, even though the financial statement data for that calendar year were likely unavailable at year-end.

  Data mining refers to automated computational procedures for discovering patterns in large datasets, which can introduce a bias known as overfitting. Survivorship bias occurs when back-testing uses companies that are in business today but ignores companies that have left the investment universe.

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Case: Aleksy Nowacki

- Based on Exhibit 1, which stock pair should Knight recommend as the best candidate for statistical arbitrage?

  A. Stock 1 and Stock 2

  B. Stock 3 and Stock 4

  C. Stock 5 and Stock 6

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Case: Aleksy Nowacki

- **Solution: B.**

  Knight should recommend the Stock 3 and Stock 4 pair trade. Two stocks make for an ideal pairs trade if (1) the current price ratio differs from its long-term average and shows historical mean reversion and (2) the two stocks' returns are highly correlated. The relationship between Stock 3 and Stock 4 meets these conditions.

Case: Aleksy Nowacki

- The most appropriate response to Knight's question regarding the potential future scenario for the Heydon Quant Fund is:

  A. only the returns-based approach.

  B. only the holdings-based approach.

  C. both the returns-based approach and the holdings-based approach.

Case: Aleksy Nowacki

- **Solution: C.**

  Because the Heydon Quant Fund would be changing its factor model by adding a new factor, the correlations of the fund's returns with the factors would likely change and the returns-based style would change. Even though the investment universe is unchanged, the portfolio holdings would likely change and the holdings-based style classification would also will be affected.

Case: Jack Dewey

- Jack Dewey is managing partner of DC&H, an investment management firm, and Supriya Sardar is an equity analyst with the firm. Dewey recently took over management of the firm's Purity Fund. He is developing a fundamental active investment process for managing this fund that emphasizes financial strength and demonstrated profitability of portfolio companies. At his previous employer, Dewey managed a fund for which his investment process involved taking active exposures in sectors based on the macroeconomic environment and demographic trends.

Case: Jack Dewey

- Dewey and Sardar meet to discuss developing a fundamental active investment process for the Purity Fund. They start by defining the investment universe and market opportunity for the fund, and then they pre-screen the universe to obtain a manageable set of securities for further, more detailed analysis. Next, Dewey notes that industry and competitive analysis of the list of securities must be performed. He then asks Sardar to recommend the next step in development of the fundamental active management process.

Case: Jack Dewey

- During the next few months, Dewey rebalances the Purity Fund to reflect his fundamental active investment process. Dewey and Sardar meet again to discuss potential new investment opportunities for the fund. Sardar recommends the purchase of AZ Industrial, which she believes is trading below its intrinsic value, despite its high price-to-book value (P/B) relative to the industry average.
- Dewey asks Sardar to perform a bottom-up style analysis of the Purity Fund based on the aggregation of attributes from individual stocks in the portfolio. Dewey plans to include the results of this style analysis in a profile he is preparing for the fund.

Case: Jack Dewey

- In managing the fund at his previous employer, Dewey's investment process can be best described as:

  A. an activist strategy.

  B. a top-down strategy.

  C. a bottom-up strategy.

Case: Jack Dewey

- **Solution: B.**

  At his previous firm, Dewey managed a fund for which his investment process involved taking active exposures in sectors based on the macroeconomic environment and demographic trends. An investment process that begins at a top, or macro level, is a top-down strategy. Top-down portfolio strategies study variables affecting many companies or whole sectors, such as the macroeconomic environment, demographic trends, and government policies. This approach differs from bottom-up strategies, which focus on individual company variables in making investment decisions. It also differs from activist strategies, which take stakes in listed companies and advocate changes for the purpose of producing a gain on the investment.

Case: Jack Dewey

- Sardar's recommendation for the next step should be to:

  A. review results from back-testing the strategy.

  B. make recommendations for rebalancing the portfolio.

  C. forecast companies' performances and convert those forecasts into valuations.

Case: Jack Dewey

- **Solution: C.**

The steps to developing a fundamental active investment process are as follows:

1 Define the investment universe and the market opportunity—the perceived opportunity to earn a positive risk-adjusted return to active investing, net of costs—in accordance with the investment mandate. The market opportunity is also known as the investment thesis.

2 Prescreen the investment universe to obtain a manageable set of securities for further, more detailed analysis.

Case: Jack Dewey

3 Understand the industry and business for this screened set by performing industry and competitive analysis and analyzing financial reports.

4 Forecast company performance, most commonly in terms of cash flows or earnings.

5 Convert forecasts to valuations and identify ex ante profitable investments.

6 Construct a portfolio of these investments with the desired risk profile.

Case: Jack Dewey

7 Rebalance the portfolio with buy and sell disciplines.

So, Sardar should recommend that the next step in the development of the fundamental active management process be forecasting companies' performances and converting those forecasts into valuations.

Case: Jack Dewey

- Based upon Dewey's chosen investment process for the management of the Purity Fund, rebalancing of the fund will most likely occur:
  A. at regular intervals.
  B. in response to changes in company-specific information.
  C. in response to updated output from optimization models.

Case: Jack Dewey

- **Solution: B.**
  Managers using an active fundamental investment process, like Dewey's, usually monitor the portfolio's holdings continuously and may rebalance at any time. In contrast, portfolios using a quantitative approach are usually rebalanced at regular intervals, such as monthly or quarterly, or in response to updated output from optimization models. A is incorrect because portfolios using a quantitative (not fundamental) active approach are usually rebalanced at regular intervals, such as monthly or quarterly. C is incorrect because construction of a quantitative portfolio (not a fundamental portfolio) typically involves using a portfolio optimizer, which controls for risk at the portfolio level in arriving at individual stock weights and leads to rebalancing decisions.

Case: Jack Dewey

- Which investment approach is the most likely basis for Sardar's buy recommendation for AZ Industrial?
  A. Relative value
  B. High-quality value
  C. Deep-value investing

➢ **Solution: B.**

Dewey has developed a fundamental active investment process for the Purity Fund that emphasizes financial strength and demonstrated profitability. High-quality value investors focus on companies' intrinsic values that are supported by attractive valuation metrics, with an emphasis on financial strength and demonstrated profitability. In their view, investors sometimes behave irrationally, making stocks trade at prices very different from intrinsic value based on company fundamentals. A is incorrect because investors who pursue a relative value strategy evaluate companies by comparing their value indicators (e.g., P/E or P/B multiples) with the average valuation of companies in the same industry sector, in an effort to identify stocks that offer value relative to their sector peers.

AZ Industrial is trading at a high P/B relative to the industry average, which is contrary to relative value and suggests that the relative value approach was not the basis for Sardar's buy recommendation. C is incorrect because a deep-value investing approach focuses on undervalued companies that are available at extremely low valuation relative to their assets. Such companies are often those in financial distress, which is not reflective of financial strength or demonstrated profitability. Therefore, Sardar's buy recommendation was not based on a deep-value investing orientation.

➢ The analysis performed by Sardar on the Purity Fund can be best described as being based on:

A. a holdings-based approach.

B. manager self-identification.

C. a returns-based style analysis.

Case: Jack Dewey

- **Solution: A.**

  Dewey asks Sardar to perform a bottom-up style analysis of the Purity Fund based on the aggregation of attributes from individual stocks in the portfolio, which describes a holdings-based approach to style analysis. The overall equity investment style is an aggregation of attributes from individual stocks in the portfolio, weighted by their positions.

Reading 25

Active Equity Investing：Portfolio Construction

Case: 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.

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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.

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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 covariances with the market factor return	0.00109	0.00053	0.00022	–0.00025
Portfolio's monthly standard deviation of returns				3.74%

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- 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.

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- 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.

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- 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.

Case: Monongahela Ap

- 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.

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- **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.

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- Which fund in Exhibit 1 *most* likely follows a bottom-up approach?

  A. Fund 1

  B. Fund 2

  C. Fund 3

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- **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.

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➢ 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

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➢ **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.

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➢ 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%.

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- **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:

$$\text{CVmarket factor} = \sum_{j=1}^{n} x_{\text{market factor}} x_j C_{mf,j} = x_{\text{market factor}} \sum_{j=1}^{n} x_j C_{mf,j}$$

Where:

- CVmarket 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

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The variance attributed to the market factor is as follows:

- CVmarket 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)
- CVmarket 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%

Case: Monongahela Ap

- Relative to Fund 1, Chiyodasenko's new equity fund will *most* likely exhibit a lower:

  A. information ratio.

  B. idiosyncratic risk.

  C. collateral requirement.

Case: Monongahela Ap

- **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.

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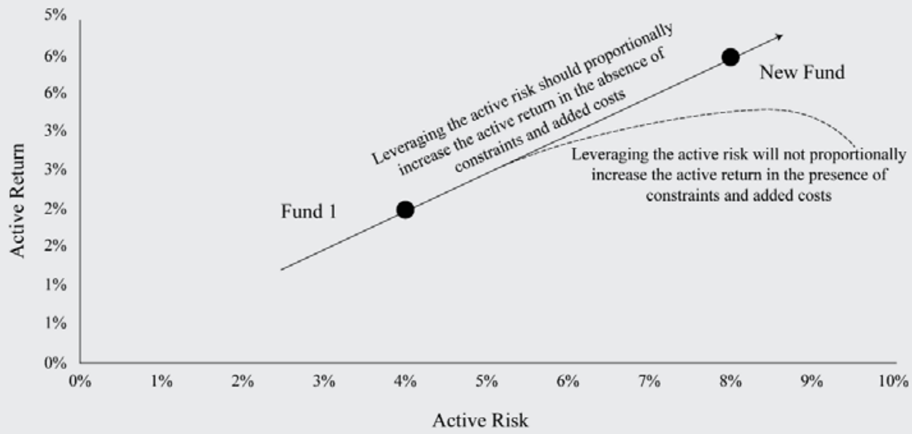

Case: Monongahela Ap

- As a result of Fund 3's two trades, the portfolio's active risk *most* likely:

  A. decreased.

  B. remained unchanged.

  C. increased.

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- **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.

Case: Monongahela Ap

- 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.

Case: Monongahela Ap

- **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.

Case: Monongahela Ap

- Which risk measure does Fund 3's new risk control *explicitly* constrain?
  A. Volatility
  B. Skewness
  C. Drawdown

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- **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: Ayanna Chen

- Ayanna Chen is a portfolio manager at Aycrig Fund, where she supervises assistant portfolio manager Mordechai Garcia. Aycrig Fund invests money for high-net-worth and institutional investors. Chen asks Garcia to analyze certain information relating to Aycrig Fund's three sub-managers, Managers A, B, and C.
- Manager A has $250 million in assets under management (AUM), an active risk of 5%, an information coefficient of 0.15, and a transfer coefficient of 0.40. Manager A's portfolio has a 2.5% expected active return this year.
- Chen directs Garcia to determine the maximum position size that Manager A can hold in shares of Pasliant Corporation, which has a market capitalization of $3.0 billion, an index weight of 0.20%, and an average daily trading volume (ADV) of 1% of its market capitalization.

Case: Ayanna Chen

- Manager A has the following position size policy constraints:
  - **Allocation:** No investment in any security may represent more than 3% of total AUM.
  - **Liquidity:** No position size may represent more than 10% of the dollar value of the security's ADV.
  - **Index weight:** The maximum position weight must be less than or equal to 10 times the security's weight in the index.
- Manager B holds a highly diversified portfolio that has balanced exposures to rewarded risk factors, high active share, and a relatively low active risk target.
- Selected data on Manager C's portfolio, which contains three assets, is presented in Exhibit 1.

Case: Ayanna Chen

Exhibit 1. Selected Data on Manager C's Portfolio

	Portfolio Weight	Standard Deviation	Covariance		
			Asset 1	Asset 2	Asset 3
Asset 1	30%	25.00%	0.06250	0.01050	0.00800
Asset 2	45%	14.00%	0.01050	0.01960	0.00224
Asset 3	25%	8.00%	0.00800	0.00224	0.00640

Case: Ayanna Chen

- Chen considers adding a fourth sub-manager and evaluates three managers' portfolios, Portfolios X, Y, and Z. The managers for Portfolios X, Y, and Z all have similar costs, fees, and alpha skills, and their factor exposures align with both Aycrig's and investors' expectations and constraints. The portfolio factor exposures, risk contributions, and risk characteristics are presented in Exhibits 2 and 3.

Case: Ayanna Chen

Exhibit 2. Portfolio Factor Exposures and Factor Risk Contribution

	Factor Exposure			Factor Risk Contribution		
	Portfolio X	Portfolio Y	Portfolio Z	Portfolio X	Portfolio Y	Portfolio Z
Market	1.07	0.84	1.08	103%	82%	104%
Size	–0.13	0.15	–0.12	–2%	7%	-3%
Value	0.04	0.30	0.05	–5%	18%	-6%
Momentum	0.08	0.02	0.07	7%	–3%	7%
Quality	0.10	0.35	0.11	–4%	–21%	–5%
Unexplained	—	—	—	1%	17%	3%
Total	n/a	n/a	n/a	100%	100%	100%

Case: Ayanna Chen

Exhibit 3. Portfolio Risk Characteristics

	Portfolio X	Portfolio Y	Portfolio Z
Annualized volatility	10.50%	13.15%	15.20%
Annualized active risk	2.90%	8.40%	4.20%
Active share	0.71	0.74	0.63

Case: Ayanna Chen

- Chen and Garcia next discuss characteristics of long–short and long-only investing. Garcia makes the following statements about investing with long–short and long-only managers:
  - **Statement 1:** A long–short portfolio allows for a gross exposure of 100%.
  - **Statement 2:** A long-only portfolio generally allows for greater investment capacity than other approaches, particularly when using strategies that focus on large-cap stocks.
- Chen and Garcia then turn their attention to portfolio management approaches. Chen prefers an approach that emphasizes security-specific factors, engages in factor timing, and typically leads to portfolios that are generally more concentrated than those built using a systematic approach.

Case: Ayanna Chen

- The number of truly independent decisions Manager A would need to make in order to earn her expected active portfolio return this year is *closest* to:
  - A. 8.
  - B. 11.
  - C. 69.

Case: Ayanna Chen

- **Solution: C.**

  C is correct. The breadth (number of truly independent decisions made each year by the manager) required to earn the expected portfolio active return of 2.5% per year is approximately 69 decisions, calculated as follows:

  $\mathrm{E}(R_A) = IC \times \sqrt{BR} \times \sigma_{R_A} \times TC$

  $\mathrm{E}(R_A) = 0.15 \times \sqrt{BR} \times 5\% \times 0.40 = 2.5\%$

  $2.5\% = 0.15 \times \sqrt{BR} \times 5\% \times 0.40$

  $\sqrt{BR} = \dfrac{2.5\%}{0.3\%} = 8.33$

  $\mathrm{BR} = 69.44$

Case: Ayanna Chen

- Which of the following position size policy constraints is the *most* restrictive in setting Manager A's maximum position size in shares of Pasliant Corporation?
  - A. Liquidity
  - B. Allocation
  - C. Index weight

Case: Ayanna Chen

➢ **Solution: A.**

A is correct. The maximum position size in shares of Pasliant Corporation (PC) is determined by the constraint with the lowest dollar amount. The maximum position size for PC under each constraint is calculated as follows:

Liquidity Constraint

Dollar value of PC traded daily = PC market cap × Average daily trading volume

Dollar value of PC traded daily = \$3 billion × 1.0% = \$30 million

Liquidity constraint = Dollar value of PC traded daily × Liquidity % threshold

Liquidity constraint = \$30 million × 10% = \$3 million

Allocation Constraint

Allocation constraint = AUM × Maximum position size threshold

Allocation constraint = \$250 million × 3.0% = \$7.5 million

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Index Weight Constraint

Index weight constraint = AUM × (Index weight × 10)

Index weight constraint = \$250 million × (0.20% × 10) = \$5.0 million

The liquidity constraint of \$3.0 million is less than both the \$5.0 million index weight constraint and the \$7.5 million allocation constraint. Therefore, the maximum allowable position size that Manager A may take in PC is \$3.0 million.

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➢ Manager B's portfolio is *most* likely consistent with the characteristics of a:

A. pure indexer.

B. sector rotator.

C. multi-factor manager.

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Case: Ayanna Chen

- **Solution: C.**

  C is correct. Most multi-factor products are diversified across factors and securities and typically have high active share but have reasonably low active risk (tracking error), often in the range of 3%. Most multi-factor products have a low concentration among securities in order to achieve a balanced exposure to risk factors and minimize idiosyncratic risks. Manager B holds a highly diversified portfolio that has balanced exposures to rewarded risk factors, a high active share, and a relatively low target active risk—consistent with the characteristics of a multi-factor manager.

Case: Ayanna Chen

- Based on Exhibit 1, the contribution of Asset 2 to Manager C's portfolio variance is closest to

  A. 0.0025.

  B. 0.0056.

  C. 0.0088.

Case: Ayanna Chen

- **Solution: B.**

  B is correct. The contribution of an asset to total portfolio variance equals the summation of the multiplication between the weight of the asset whose contribution is being measured, the weight of each asset (x_j), and the covariance between the asset being measured and each asset (C_{ij}), as follows:

  $$\text{Contribution of each asset to portfolio varianc} = CV_i = \sum_{j=1}^{n} x_i x_j C_{ij}$$

  The contribution of Asset 2 to portfolio variance is computed as the sum of the following products:

Weight of Asset 2 × Weight of Asset 1 × Covariance of asset 2 with Asset 1, plus	0.45 × 0.30 × 0.01050
Weight of Asset 2 × Weight of Asset 2 × Covariance of Asset 2 with Asset 2, plus	0.45 × 0.45 × 0.01960
Weight of Asset 2 × Weight of Asset 3 × Covariance of Asset 2 with Asset 3	0.45 × 0.25 × 0.00224
= Asset 2's contribution to total portfolio variance	0.005639

Case: Ayanna Chen

➢ Based on Exhibits 2 and 3, which portfolio *best* exhibits the risk characteristics of a well-constructed portfolio?

A. Portfolio X

B. Portfolio Y

C. Portfolio Z

Case: Ayanna Chen

➢ **Solution: A.**

A is correct. Well-constructed portfolios should have low idiosyncratic (unexplained) risk relative to total risk. Portfolio Y exhibits extremely high unexplained risk relative to total risk, and Portfolios X and Z have low unexplained risk relative to total risk. Therefore, Portfolio Y may be eliminated.

Portfolios X and Z have comparable factor exposures. In comparing portfolios with comparable factor exposures, the portfolio with lower absolute volatility and lower active risk will likely be preferred, assuming similar costs. Portfolio X has lower absolute volatility and lower active risk than Portfolio Z, although both have similar costs.

Finally, for managers with similar costs, fees, and alpha skills, if two products have similar active and absolute risks, the portfolio having a higher active share is preferred. Portfolio X has lower absolute volatility, lower active risk, and higher active share than Portfolio Z. As a result, Portfolio X best exhibits the risk characteristics of a well-constructed portfolio.

Case: Ayanna Chen

➢ Which of Garcia's statements regarding investing with long–short and long-only managers is *correct*?

A. Only Statement 1

B. Only Statement 2

C. Both Statement 1 and Statement 2

Case: Ayanna Chen

- **Solution: C.**

  C is correct. Both Statement 1 and Statement 2 are correct.

  Statement 1 is correct because, similar to a long-only portfolio, a long–short portfolio can be structured to have a gross exposure of 100%. Gross exposure of the portfolio is calculated as the sum of the long positions and the absolute value of the short positions, expressed as percentages of the portfolio's capital.

  Gross exposure = Long positions + |Short positions|

  Gross exposure long-only portfolio = 100% (Long positions) + 0% (Short positions) = 100%

  Gross exposure long–short portfolio = 50% (Long positions) + |–50%| (Short positions) = 100%

  Statement 2 is correct because long-only investing generally offers greater investment capacity than other approaches, particularly when using strategies that focus on large-cap stocks. For large institutional investors such as pension plans, there are no effective capacity constraints in terms of the total market cap available for long-only investing.

Case: Ayanna Chen

- Chen's preferred portfolio management approach would be best described as:

  A. top down.

  B. systematic.

  C. discretionary.

Case: Ayanna Chen

- **Solution: C.**

  C is correct. Chen prefers an approach that emphasizes security-specific factors, engages in factor timing, and typically leads to portfolios that are generally more concentrated than those built using a systematic approach

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Alternative Investments for Portfolio Management

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讲师：

Reading 27

Asset Allocation to Alternative Investments

Case: Kevin Kroll

- Kevin Kroll is the chair of the investment committee responsible for the governance of the Shire Manufacturing Corporation (SMC) defined benefit pension plan. The pension fund is currently fully funded and has followed an asset mix of 60% public equities and 40% bonds since Kroll has been chair. Kroll meets with Mary Park, an actuarial and pension consultant, to discuss issues raised at the last committee meeting.
- Kroll notes that the investment committee would like to explore the benefits of adding alternative investments to the pension plan's strategic asset allocation. Kroll states:
- **Statement 1** The committee would like to know which alternative asset would best mitigate the risks to the portfolio due to unexpected inflation and also have a relatively low correlation with public equities to provide diversification benefits.

Case: Kevin Kroll

- The SMC pension plan has been able to fund the annual pension payments without any corporate contributions for a number of years. The committee is interested in potential changes to the asset mix that could increase the probability of achieving the long-term investment target return of 5.5% while maintaining the funded status of the plan. Park notes that fixed-income yields are expected to remain low for the foreseeable future. Kroll asks:
- **Statement 2** If the public equity allocation remains at 60%, is there a single asset class that could be used for the balance of the portfolio to achieve the greatest probability of maintaining the pension funding status over a long time horizon? Under this hypothetical scenario, the balance of the portfolio can be allocated to either bonds, hedge funds, or private equities.

Case: Kevin Kroll

- Park confirms with Kroll that the committee has historically used a traditional approach to define the opportunity set based on distinct macroeconomic regimes, and she proposes that a risk-based approach might be a better method. Although the traditional approach is relatively powerful for its ability to handle liquidity and manager selection issues compared to a risk-based approach, they both acknowledge that a number of limitations are associated with the existing approach.

Case: Kevin Kroll

- Park presents a report (Exhibit 1) that proposes a new strategic asset allocation for the pension plan. Kroll states that one of the concerns that the investment committee will have regarding the new allocation is that the pension fund needs to be able to fund an upcoming early retirement incentive program (ERIP) that SMC will be offering to its employees within the next two years. Employees who have reached the age of 55 and whose age added to the number of years of company service sum to 75 or more can retire 10 years early and receive the defined benefit pension normally payable at age 65.

Case: Kevin Kroll

Exhibit 1 Proposed Asset Allocation of SMC Defined Benefit Pension Plan						
Asset Class	**Public Equities**	**Broad Fixed Income**	**Private Equities**	**Hedge Funds**	**Public Real Estate**	**Total**
Target	45%	25%	10%	10%	10%	100%
Range	35%–55%	15%–35%	0%–12%	0%–12%	0%–12%	–

Case: Kevin Kroll

- Kroll and Park then discuss suitability considerations related to the allocation in Exhibit 1. Kroll understands that one of the drawbacks of including the proposed alternative asset classes is that daily reporting will no longer be available. Investment reports for alternatives will likely be received after monthly or quarter-end deadlines used for the plan's traditional investments. Park emphasizes that in a typical private equity structure, the pension fund makes a commitment of capital to a blind pool as part of the private investment partnership.
- In order to explain the new strategic asset allocation to the investment committee, Kroll asks Park why a risk factor-based approach should be used rather than a mean–variance-optimization technique. Park makes the following statements:

Case: Kevin Kroll

- **Statement 3** Risk factor-based approaches to asset allocation produce more robust asset allocation proposals.
- **Statement 4** A mean–variance optimization typically overallocates to the private alternative asset classes due to stale pricing.
- Park notes that the current macroeconomic environment could lead to a bear market within a few years. Kroll asks Park to discuss the potential impact on liquidity planning associated with the actions of the fund's general partners in the forecasted environment.

Case: Kevin Kroll

- Kroll concludes the meeting by reviewing the information in Exhibit 2 pertaining to three potential private equity funds analyzed by Park. Park discloses the following due diligence findings from a recent manager search: Fund A retains administrators, custodians, and auditors with impeccable reputations; Fund B has achieved its performance in a manner that appears to conflict with its reported investment philosophy; and Fund C has recently experienced the loss of three key persons.

Exhibit 2 Potential Private Equity Funds, Internal Rate of Return (IRR)			
Private Equity Fund	**Fund A**	**Fund B**	**Fund C**
5-year IRR	12.9%	13.2%	13.1%

Case: Kevin Kroll

- Based on Statement 1, Park should recommend:
  A. hedge funds.
  B. private equities.
  C. commodity futures.

Case: Kevin Kroll

- **Solution: C.**

  Real assets (which include energy, infrastructure, timber, commodities, and farmland) are generally believed to mitigate the risks to the portfolio arising from unexpected inflation. Commodities act as a hedge against a core constituent of inflation measures. Rather than investing directly in the actual commodities, commodity futures may be incorporated using a managed futures strategy. In addition, the committee is looking for an asset class that has a low correlation with public equities, which will provide diversification benefits. Commodities are regarded as having much lower correlation coefficients with public equities than with private equities and hedge funds. Therefore, commodities will provide the greatest potential to fulfill the indicated role and to diversify public equities.

Case: Kevin Kroll

- In answering the question raised in Statement 2, Park would most likely recommend:
  - A. bonds.
  - B. hedge funds.
  - C. private equities.

Case: Kevin Kroll

- **Solution: C.**

  When projecting expected returns, the order of returns from highest to lowest is typically regarded as private equities, hedge funds, bonds. Therefore, the probability of achieving the highest portfolio return while maintaining the funded status of the plan would require the use of private equities in conjunction with public equities. In addition, private equities have a high/strong potential to fulfill the role of capital growth. Fixed-income investments are expected to have a high/strong potential to fulfill the role of safety.

Case: Kevin Kroll

- A limitation of the existing approach used by the committee to define the opportunity set is that it:
  - A. is difficult to communicate.
  - B. overestimates the portfolio diversification.
  - C. is sensitive to the historical look-back period.

Case: Kevin Kroll

➢ **Solution: B.**

A traditional approach has been used to define the opportunity set based on different macroeconomic conditions. The primary limitations of traditional approaches are that they overestimate the portfolio diversification and obscure the primary drivers of risk.

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Case: Kevin Kroll

➢ Based on Exhibit 1 and the proposed asset allocation, the greatest risk associated with the ERIP is:

A. liability.

B. leverage.

C. liquidity.

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Case: Kevin Kroll

➢ **Solution: C.**

With the introduction of the early retirement incentive plan (ERIP), the defined benefit pension plan will likely be called upon to make pension payments earlier than originally scheduled. As a result, the near term liquidity of the plan is the greatest risk arising from the addition of the alternative asset classes (e.g., private equities, hedge funds, and real estate). Investments in alternatives, such as private equities, can take upwards of five years to reach a full commitment and potentially another decade to unwind.

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Case: Kevin Kroll

- The suitability concern discussed by Kroll and Park most likely deals with:
  A. governance.
  B. transparency.
  C. investment horizon.

Case: Kevin Kroll

- **Solution: B.**

  The pension plan's investment in private equities via a blind pool presents the prospect that less than perfect transparency will be associated with the underlying holdings of the alternative asset manager. Capital is committed for an investment in a portfolio of assets that are not specified in advance. In addition, reporting for alternative funds is often less transparent than investors are accustomed to seeing on their stock and bond portfolios.

Case: Kevin Kroll

- Which of Park's statements regarding the asset allocation approaches is correct?
  A. Only Statement 3
  B. Only Statement 4
  C. Both Statement 3 and Statement 4

Case: Kevin Kroll

- **Solution: C.**

  Statement 3 is correct because risk factor-based approaches to asset allocation can be applied to develop more robust asset allocations. Statement 4 is correct because a mean–variance optimization typically overallocates to the private alternative asset classes, partly because of underestimated risk due to stale pricing and the assumption that returns are normally distributed.

Case: Kevin Kroll

- Based on the forecasted environment, liquidity planning should take into account that general partners may:

  A. call capital at a slower pace.

  B. make distributions at a faster pace.

  C. exercise an option to extend the life of the fund.

Case: Kevin Kroll

- **Solution: C.**

  Park notes that the current macroeconomic environment could lead to a bear market within a few years. Liquidity planning should take into account that under a scenario in which public equities and fixed-income investments are expected to perform poorly, general partners may exercise an option to extend the life of the fund.

Case: Kevin Kroll

- Based on Exhibit 2 and Park's due diligence, the pension committee should consider investing in:
  A. Fund A.
  B. Fund B.
  C. Fund C.

Case: Kevin Kroll

- **Solution: A.**
  Fund A should be selected based on both quantitative and qualitative factors. Fund A has a five-year IRR (12.9%) that is slightly lower than, but comparable to, both Fund B (13.2%) and Fund C (13.1%). Given the sensitivity to the timing of cash flows into and out of a fund associated with the IRR calculation, however, the final decision should not be based merely on quantitative returns. It is also important to monitor the investment process and the investment management firm itself, particularly in alternative investment structures. Considering the qualitative factors identified by Park, Fund A is the only fund with a strong, positive factor: It benefits from service providers (administrators, custodians, and auditors) with impeccable reputations. Fund B seems to be experiencing style drift, which suggests that the returns are not consistent with the manager's advertised investment edge (hence, a negative factor). Fund C has experienced the departure of key persons, which puts future fund returns in jeopardy (hence, a negative factor).

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Private Wealth Management

CFA三级培训项目

讲师：

Reading 28

Overview of Private Wealth Management

Case: Noèmie Açor

- Noèmie Açor works for an international bank as a private wealth adviser. Açor speaks several regional languages in addition to her native language. She prepares for two client meetings next week. First, Açor will meet with Winifred Njau, who has recently retired. Njau has made a charitable pledge to a non-profit university endowment, the Udhamini Fund. Açor prepares a draft of the investment objectives section of an investment policy statement (IPS) for Njau using selected client information, which is presented in Exhibit 1.

Exhibit 1 Selected Client Information Items for Njau	
Liquidity needs	$500,000 charitable pledge to Udhamini payable in 15 years
Risk tolerance	Moderate
Asset allocation	40% equities and 60% fixed income

Case: Noèmie Açor

- Açor's notes from her previous meeting with Njau indicate the following behavioral considerations related to Njau's retirement planning:
  - Njau would like to increase her level of spending if supported by investment projections.
  - Although Njau could pay a lump sum and receive a series of fixed payments, she prefers not to lose control over her assets.
  - Njau understands the risk–return relationship and is willing to accept some short-term losses to achieve long-term growth.

Case: Noèmie Açor

- Next, Açor reviews a recent risk tolerance questionnaire completed by Njau, which relates to overall portfolio risk. Açor focuses on the type of capital sufficiency analysis to perform for Njau. To determine the optimal allocation, Açor seeks to ensure that Njau's charitable pledge can be met and implements a goal-based investing approach. Açor runs a Monte Carlo simulation to determine the probability of success, which is the likelihood that Njau can meet her charitable pledge objective. The simulation results are presented in Exhibit 2.

Exhibit 2 Monte Carlo Simulation Results for Charitable Pledge (adjusted for inflation)

	Year 10 Portfolio Value ($)	Year 15 Portfolio Value ($)	Year 20 Portfolio Value ($)
25th %	501,288	729,230	1,035,373
50th %	405,927	553,803	767,448
75th %	331,056	422,746	563,039

Case: Noèmie Açor

- One week after this meeting, the bank sends a client satisfaction survey to Njau. In response to questions about Açor's soft skills and technical skills, Njau responds with the following comments:

  Comment 1 Açor constructed a portfolio that is appropriate for my unique situation.

  Comment 2 Açor spoke to me in my own regional language throughout the meeting.

  Comment 3 Açor educated me about how my investments perform and affect my portfolio.

Case: Noèmie Açor

- Açor's second meeting will be with Thanh Bañuq. Bañuq is Njau's nephew and serves on the board of directors of Udhamini. Açor obtained the essential facts about Bañuq when she opened his account, including his risk and return objectives and the origin of his wealth. In preparation for the meeting, Açor considers the high level of taxes that Bañuq pays. Açor will recommend changing the asset location of high-dividend-paying equities that Bañuq owns from a taxable account to a retirement account with tax-free earnings and withdrawals.

Case: Noèmie Açor

- During their meeting, Açor and Bañuq discuss charitable pledges that Udhamini has recently received and the likelihood that Njau will meet her charitable pledge. Bañuq then asks Açor the following question:
- "How might my investment objectives and constraints differ from those of a typical university endowment, such as Udhamini?
- The day after Açor's meeting with Bañuq, Açor realizes that her actions in the meeting may have raised an ethical concern.

Case: Noèmie Açor

- Based on Exhibit 1, which of the following items is Açor most likely to include in the section of the IPS she is drafting for Njau?

  A. Moderate risk tolerance

  B. 40% allocation to equities

  C. $500,000 charitable pledge in 15 years

Case: Noèmie Açor

➢ **Solution: C**

Açor is preparing a draft of the investment objectives section of an IPS for Njau. Investment objectives include identifying funding needs and goals for the portfolio. So, Açor should include the $500,000 charitable pledge to Udhamini in 15 years in the investment objectives section of the IPS. Njau's goal is specific and is an important part of the investment objectives that will drive the preparation of the remainder of the IPS and the execution of the investment strategy.

Case: Noèmie Açor

➢ Based on Açor's notes from her previous meeting with Njau, the behavioral consideration exhibited by Njau is most likely:

A. a consumption gap.

B. the "annuity puzzle."

C. heightened loss aversion.

Case: Noèmie Açor

➢ **Solution: B**

The "annuity puzzle" describes the phenomenon that retirees tend to avoid annuity investments, which may be appropriate to best help them reach their financial goals. An annuity provides a series of fixed payments, either for life or for a specified period, in exchange for a lump sum payment. Njau's reluctance to lose control over her assets by paying the lump sum in exchange for the fixed payments is one explanation for her reluctance, and she may also believe that an annuity would minimize the chance of a substantial improvement in her lifestyle.

Case: Noèmie Açor

- Açor's portfolio allocation for Njau is most likely optimized on the basis of:

  A. a stated maximum level of volatility.

  B. total portfolio mean–variance efficiency.

  C. the results of the risk tolerance questionnaire.

Case: Noèmie Açor

- **Solution: A**

  Açor uses the goal-based investing approach by allocating with a focus on Njau's charitable pledge to Udhamini. With this method, she seeks to optimize Njau's portfolio so that the pledge goal has a high probability of being met. Açor will set aside a required amount of funds to invest, and a mean–variance optimization will be run specifically for that portion of Njau's portfolio. The funds will be invested to a stated maximum level of volatility to meet the charitable need.

Case: Noèmie Açor

- Based on Exhibits 1 and 2, the probability that Njau will be able to meet her charitable goal is closest to:

  A. 25%.

  B. 50%.

  C. 75%.

Case: Noèmie Açor

➢ **Solution:B**

The Monte Carlo simulation shows that Njau has a 50% probability of having an amount exceeding $553,803 in Year 15. Since Njau's charitable pledge goal to Udhamini is $500,000, she has a slightly greater than 50% probability of meeting or exceeding her charitable pledge goal in Year 15.

Case: Noèmie Açor

➢ Which comment in Njau's response to the client satisfaction survey best describes a soft skill exhibited by Açor?

A. Comment 1

B. Comment 2

C. Comment 3

Case: Noèmie Açor

➢ **Solution: C**

Açor's ability to effectively educate Njau by showing Njau how her investments perform and affect her portfolio is a soft skill. Soft skills involve interpersonal relationships and include communication skills, social skills, education and coaching skills, and business development and sales skills.

Case: Noèmie Açor

- Açor’s recommendation regarding asset location in Bañuq’s portfolio is most likely an example of tax:
  A. deferral.
  B. reduction.
  C. avoidance.

Case: Noèmie Açor

- **Solution:C**

  Changing the location of high-dividend-paying equities away from Bañuq’s taxable account to a retirement account with tax-free earnings and future liquidity events is an example of a tax avoidance strategy. Implementing this asset location change will eliminate the taxes that Bañuq would have been required to pay on investment income and gains in this account.

Case: Noèmie Açor

- The most appropriate response to Bañuq’s question is that he has:
  A. a shorter time horizon.
  B. less significant tax considerations.
  C. less diverse investment objectives.

Case: Noèmie Açor

- **Solution: A**

  As a private client, Bañuq is more likely to have a shorter time horizon than that of Udhamini. Thus, Bañuq is likely to be more constrained with respect to risk taking and liquidity. A typical university endowment has a long time horizon, which can theoretically be infinite.

Case: Noèmie Açor

- The ethical concern that Açor most likely raised is:

  A. KYC.

  B. suitability.

  C. confidentiality.

Case: Noèmie Açor

- **Solution: C**

  The confidentiality standard is likely a concern because Açor may have shared confidential private information about Njau and her finances when she discussed Njau's charitable pledge with her nephew, Bañuq. Standard III(E): Preservation of Confidentiality obliges wealth managers who possess highly personal and sensitive client information to maintain confidentiality. Keeping confidential information private may be challenging for Açor since she manages the portfolios of both family members.

Reading 29

Taxes and Private Wealth Management in a Global Context

Case: Alan Jackson

➢ Alan Jackson has a new client, Aldo Motelli, who expects taxable ordinary income (excluding investments) of €200,000 this tax year. Motelli currently has €250,000 in a taxable investment account for which his main objective is retirement in 15 years. He is considering making the maximum investment of €10,000 in a new type of tax deferred account permitted in his country of residence. The contribution would be deductible and distributions are expected to be taxed at a 20 percent rate when withdrawn. The income tax structure of his country is:

Taxes on Investment Income	
Interest	10% flat rate
Dividends	10% flat rate
Realized capital gains	10% flat rate

Case: Alan Jackson

Taxes on Ordinary Income			
Taxable Income (€)		Tax on Column 1 (€)	Percentage on Excess Over Column 1
Over	Up to		
0	20,000	—	10
20,000	40,000	2,000	15
40,000	60,000	5,000	20
60,000	80,000	9,000	25
80,000	100,000	14,000	30
100,000		20,000	35

Case: Alan Jackson

- What is Motelli's average tax rate on ordinary income?
  A. 22.5%.
  B. 27.5%.
  C. 35.0%.

- **Solution: B**

  Motelli's tax liability on ordinary income is €20,000 (on the first €100,000, third column of table, last row) + (€200,000 − €100,000) × 0.35, or €55,000. The average tax rate on ordinary income is €55,000/€200,000, or 27.5 percent.

Case: Alan Jackson

- If Motelli's current investment account of €250,000 is invested in an asset which is expected to earn annual interest of 6.5 percent and no capital gains, what is his expected after tax accumulation in 15 years?
  A. €578,664.
  B. €586,547.
  C. €642,960.

- **Solution: B**

  The after tax wealth accumulation for annually taxable income is

  $FVIF_i = [1 + r(1 - t_i)]^n$

  FV = €250,000 × $FVIF_i$ = €250,000 × $[1 + 0.065(1 - 0.10)]^{15}$= €586,547

Case: Alan Jackson

- What is the accrual equivalent return assuming the facts in Question 2?
  A. 5.85%.
  B. 6.50%.
  C. 7.22%.

- **Solution: A**

  The accrual equivalent return is found by the following equation:

  €250,000$(1 + R_{AE})^{15}$ = €586,547

  R_{AE} = 5.85%

Case: Alan Jackson

- If Motelli's current investment account of €250,000 is invested in an investment which is expected to earn a return of 7.5 percent, all of which are deferred capital gains, what is his expected after-tax accumulation in 15 years? The account's market value is equal to its cost basis.

  A. €640,747.

  B. €665,747.

  C. €690,747.

Case: Alan Jackson

- **Solution: C**

  The after tax wealth accumulation for deferred capital gains is

  $FVIF_{cg}$ = (1 + r)n(1 – t_{cg}) + t_{cg}

  $FVIF_{cg}$ = €250,000 × [(1 + 0.075)15(1 – 0.1) + 0.1] = €690,747

Case: Alan Jackson

- If Motelli's current investment account of €250,000, has a cost basis of €175,000, and is invested in an investment which is expected to earn a return of 7.5 percent, all of which are deferred capital gains, what is his expected after tax accumulation in 15 years?

  A. €673,247.

  B. €683,247.

  C. €690,747.

Case: Alan Jackson

- **Solution: B**

  The after tax wealth accumulation for deferred capital gains is

  $FVIF_{cg}$ = (1 + r)n(1 – t_{cg}) + t_{cg} – (1 – B)t_{cg}

  $FVIF_{cg}$ = €250,000 × [(1 + 0.075)15(1 – 0.1) + 0.1 – (1 – 0.70)(0.10)] = €683,247

Case: Alan Jackson

- How much after-tax wealth would Motelli accumulate assuming the same facts as in Question 4 except that 50 percent of all capital gains are recognized each year?
  A. €640,747.
  B. €665,747.
  C. €678,158.

- **Solution: C**

  $r^* = r(1 - p_{cg}t_{cg})$ = 0.075(1 – (0.5)(0.10)) = 0.075(1 – 0.05) = 0.07125
  $T^* = t_{cg}(1 - p_{cg})/(1 - p_{cg}t_{cg})$ = 0.10[(1 – 0.5)/(1 – 0.5 × 0.10)] = 0.052632
  $FVIF_{Taxable} = (1 + r^*)^n(1 - T^*) + T^* - (1 - B)t_{cg}$, $B = 1$
  FV = €250,000 × $[(1 + 0.07125)^{15}(1 - 0.052632) + 0.052632]$ = €678,158

Case: Alan Jackson

- Assuming an annual return of 7.5 percent, what would be the after-tax wealth accumulated in 15 years for a single current contribution to the TDA? Assume the contribution would be deductible but taxed at the end of 15 years at a 20 percent tax rate.
  A. €23,671.
  B. €23,965.
  C. €29,589.

- **Solution: A**

  $FVIF_{TDA} = (1 + r)^n(1 - T_n)$
  $FVIF$ = €10,000$[(1 + 0.075)^{15}(1 - 0.20)]$ = €23,671

Reading 32

Risk Management for Individuals

Case: Richard Lansky

- Richard Lansky is an insurance and wealth adviser for individuals. Lansky's first meeting of the day is with Gregory Zavris, age 27, a new client who works as a journalist. Gregory's only asset is $5,000 in savings; he has $67,000 in liabilities. During the conversation, Lansky describes the concepts of financial capital and human capital, as well as the components of economic and traditional balance sheets. Gregory asks Lansky:
  - On which balance sheet are my future earnings reflected?
- Gregory does not have medical insurance. He asks Lansky for advice regarding a policy that potentially would allow him to avoid paying for office visits related to minor medical problems.

Case: Richard Lansky

- In the afternoon, Lansky meets with Gregory's parents, Molly and Kirk, ages 53 and 60. Molly is a tenured university professor and provides consulting services to local businesses. Kirk is a senior manager for an investment bank. Lansky determines that Molly's income is more stable than Kirk's.
- Kirk and Molly discuss estate planning, and Lansky recommends a whole life insurance policy on Kirk's life, with Molly responsible for paying the premiums. In the event of Kirk's death, Gregory would be entitled to the proceeds from the policy. Lansky explains that one feature of the policy provides for a portion of the benefits to be paid even if a premium payment is late or missed.

Case: Richard Lansky

- Molly tells Lansky that she has recently been reading about annuities and would like to clarify her understanding. Molly makes the following statements.
  - Statement 1: Both deferred and immediate annuities provide the same flexibility concerning access to invested funds.
  - Statement 2: The income yield for a given amount invested in a life-only immediate annuity is higher for an older person than for a younger person.

Case: Richard Lansky

- At the end of the consultation, Molly asks Lansky for advice regarding her retired aunt, Rose Gabriel, age 69. Molly believes that Gabriel's life annuity and pension benefits will provide enough income to meet her customary lifestyle needs. Gabriel lives in her mortgage-free home; her medical insurance plan covers basic health care expenses. Women in Gabriel's family generally have long life spans but often experience chronic health problems requiring extended nursing at home. Therefore, Molly is concerned that medical expenses might exceed Gabriel's net worth during her final years.

Case: Richard Lansky

- Gregory's human capital is:
  A. lower than his financial capital.
  B. equal to his financial capital.
  C. higher than his financial capital.

- **Solution: C**
  Gregory is in the early career stage of life, and human capital represents a large proportion of his total wealth. Gregory is relatively young; therefore, the present value of his expected earnings implies positive human capital. Furthermore, Gregory's savings are rather low, so his financial capital is small. Consequently, his human capital is greater than his financial capital.

Case: Richard Lansky

- The *most* appropriate response to Gregory's balance sheet question is:

  A. the economic balance sheet only.

  B. the traditional balance sheet only.

  C. both the economic and the traditional balance sheets.

- **Solution: A**

  The present value of expected future earnings is reflected on an economic balance sheet but not on a traditional balance sheet.

Case: Richard Lansky

- Given Gregory's policy preference, which type of medical insurance should Lansky recommend?

  A. Indemnity plan

  B. Preferred provider plan

  C. Health maintenance organization plan

- **Solution: C**

  A health maintenance organization plan is a type of medical insurance that allows office visits at no, or very little, cost. Gregory would like to avoid paying for office visits related to minor medical problems; hence this alternative is the most appropriate.

Case: Richard Lansky

- In estimating Molly's human capital value, Lansky should apply an income volatility adjustment that is:

  A. less than Kirk's.

  B. the same as Kirk's.

  C. greater than Kirk's.

Case: Richard Lansky

- **Solution: A**

  The income volatility adjustment reflects the fact that income from different professions can vary significantly. Molly works in an industry that has low correlation with the capital markets; she also earns income from an additional source. Kirk works in an industry that has high correlation with capital markets, and so he might experience higher income variability than Molly. Consequently, in estimating Molly's human capital, the income volatility adjustment for Molly should be lower than Kirk's.

Case: Richard Lansky

- Regarding the whole life insurance policy recommended by Lansky, Kirk would be the:

  A. owner.

  B. insured.

  C. beneficiary.

- **Solution: B**

  The policy would be on Kirk's life; his death would trigger the insurance payment. Therefore, Kirk would be the insured.

Case: Richard Lansky

- The whole life insurance policy feature described by Lansky is a:

  A. non-forfeiture clause.

  B. waiver-of-premium rider.

  C. guaranteed insurability rider.

- **Solution: A**

  The whole life insurance policy feature described is a non-forfeiture clause, whereby there is the option to receive some portion of the benefits if premium payments are missed (i.e., before the policy lapses).

- Which of Molly's statements about annuities is/are correct?
  A. Statement 1 only
  B. Statement 2 only
  C. Both Statement 1 and Statement 2

- **Solution: B**

  Statement 2 is correct because, all else equal, the income yield is higher when expected longevity is shorter; therefore, the income yield will be higher for an older person.

Case: Richard Lansky

- The type of insurance that will *best* address Molly's concern about Gabriel is:
  A. disability insurance.
  B. longevity insurance.
  C. long-term care insurance.

Case: Richard Lansky

- **Solution: C**

  Molly is concerned about a potential late-life medical condition that may require extended home care for Gabriel. Long-term care insurance is designed to cover a portion of the cost of home care, assisted living facilities, and/or nursing home expense. Gabriel has enough resources to cover her living expenditures, but her medical insurance might be insufficient to cover the costs of extended home care, medicine, or hospital stays. Consequently, long-term care insurance is the most appropriate insurance choice given Gabriel's situation.

Case: Henri Blanc

- Henri Blanc is a financial adviser serving high-net-worth individuals in the United States. Alphonse Perrin, age 55, meets with Blanc for advice about coordinating his employee benefits with his investment and retirement planning strategies.
- Perrin has adopted a life-cycle portfolio strategy and plans to retire in 10 years. Recently, he received a promotion and $50,000 salary increase to manage a regional distribution center for a national retail firm. Perrin's spending needs are currently less than his annual income, and he has no debt. His investment assets consist of $2,000,000 in marketable securities (90% equity/10% fixed income) and a vineyard with winery valued at $1,500,000.

Case: Henri Blanc

- Blanc leads Perrin through a discussion of the differences between his financial capital and his human capital, as well as between his traditional balance sheet and his economic balance sheet. Perrin is vested in a defined benefit pension plan based on years of service and prior salary levels. Future benefits will vest annually based on his new salary. Perrin makes the following statements regarding his understanding of pension benefits.
  - Statement 1: Unvested pension benefits should be classified as human capital.
  - Statement 2: Vested pension benefits should not be classified as financial capital until payments begin.

Case: Henri Blanc

- Perrin asks Blanc to compare his traditional and economic balance sheets. Blanc calculates that the sum of the present values of Perrin's consumption goals and bequests exceeds that of his unvested pension benefits and future earnings.
- Perrin tells Blanc that he expects a slower rate of growth in the US economy. Perrin expresses the following concerns to Blanc.
  - Concern 1: Holding all else equal, I wonder what the effect will be on my human capital if the nominal risk-free rate declines?
  - Concern 2: My employer projects a slower rate of sales growth in my region; therefore, I am anxious about losing my job.

Case: Henri Blanc

- Perrin is a widower with three adult children who live independently. Perrin's oldest son wishes to inherit the vineyard; the two other children do not want to be involved. Perrin would like to accommodate his children's wishes; however, he wants each child to inherit equal value from his estate. Blanc explains potential uses of life insurance to Perrin and suggests that one of these uses best meets Perrin's immediate needs.

Case: Henri Blanc

- Perrin expresses a preference for a life insurance policy that provides a range of investment options. Perrin selects a policy and asks Blanc to calculate the net payment cost index (per $1,000 of face value, per year), using a life expectancy of 20 years and a discount rate of 5%. Table 1 provides information about Perrin's policy.

Table 1. Perrin's Life Insurance Policy	
Face value	$500,000
Annual premium (paid at beginning of the year)	$12,000
Policy dividends anticipated per year (paid at end of the year)	$2,000
Cash value projected at the end of 20 years	$47,000

Case: Henri Blanc

- Which of Perrin's statements regarding his pension is/are correct?
  A. Statement 1 only
  B. Statement 2 only
  C. Both Statement 1 and Statement 2

- **Solution: A**

  Unvested pension benefits are typically contingent on future work and are thus considered to be part of human capital. Statement #2 is incorrect: vested pension benefits can be considered components of financial capital.

Case: Henri Blanc

- Blanc's calculations show that Perrin's economic net worth is:

  A. less than his net worth.

  B. equal to his net worth.

  C. greater than his net worth.

Case: Henri Blanc

- **Solution: A**

  Economic net worth is calculated as follows:

  Economic net worth = Net worth from the traditional balance sheet + (Present value of future earnings + Present value of unvested pension benefits) – (Present value of consumption goals + Present value of bequests)

  Perrin's economic net worth is less than his net worth because the sum of the present values of consumption and bequests is greater than the sum of the present values of future earnings and unvested pensions.

Case: Henri Blanc

- In response to Perrin's Concern #1, human capital will *most likely*:

  A. decrease.

  B. remain the same.

  C. increase.

- **Solution: C**

  Human capital, HC_0, is calculated as follows:

  $$HC_0 = \sum_{t=1}^{N} \frac{p(s_t) w_{t-1}(1+g_t)}{(1+r_f+y)^t}$$

  Holding all else equal as Perrin directs, a reduction in the nominal risk-free rate, r_f, would decrease the total discount rate, thus increasing the present value of human capital.

Case: Henri Blanc

- Perrin's Concern #2 identifies a risk related to:
  A. human capital only.
  B. financial capital only.
  C. both human and financial capital.

- **Solution: C**
  The projected slowdown in his employer's sales growth may result in Perrin's unemployment, indicating that he may be subject to earnings risk. Human capital would be reduced by the loss of future earnings and halt accrual of pension benefits at Perrin's present employer. Financial capital could also be affected because assets may need to be sold to make up for any loss of income.

Case: Henri Blanc

- Which of the following uses of life insurance *best* meets Perrin's immediate needs?
  A. Provides estate liquidity
  B. Acts as a tax-sheltered savings instrument
  C. Replaces lost earning power for dependents

Case: Henri Blanc

- **Solution: A**
  Life insurance best meets Perrin's immediate need for estate liquidity. A life insurance policy can provide liquidity without the delay involved in the legal process of settling the estate. This liquidity can be particularly valuable if the estate contains illiquid assets or assets that are difficult to separate and distribute equitably among heirs. Currently, it would be difficult to separate and equitably distribute Perrin's financial assets to his three children such that the oldest son inherits the vineyard and winery while keeping the other two children uninvolved because the business is worth more than one-third of Perrin's investment assets. The problem of separating and equitably distributing the estate exists presently regardless of the value of Perrin's personal property.

Case: Henri Blanc

- The type of life insurance *most appropriate* for Perrin is:
  A. term.
  B. universal.
  C. whole life.

- **Solution: B**
  Perrin's estate distribution plan indicates a need for estate liquidity funded by permanent insurance that can remain in force until his death. Perrin prefers a policy that offers a range of investment options. Universal life is thus most appropriate because it is a form of permanent insurance that can remain in force until Perrin's death and typically has more options for investing the cash value than do whole life policies.

Case: Henri Blanc

- The net payment cost index that Blanc should calculate is *closest* to:
  A. $17.48.
  B. $20.00.
  C. $20.19.

- **Solution: C**
  The net payment cost index assumes that the insured will die at the end of a specified period—in this case, the given life expectancy of 20 years. Calculating the net payment cost index includes the following steps.

Case: Henri Blanc

Future value of premiums (annuity due, 5%, 20 years)	***$416,631.02***
Financial calculator operations: N = 20, I = 5, PV = 0, PMT = −12,000, mode = begin: FV → 416,631.02	
Future value of dividends (ordinary annuity, 5%, 20 years)	***($66,131.91)***
N = 20, I = 5, PV = 0, PMT = 2,000, mode = end: FV → −66,131.91	
20-Year insurance cost	***$350,499.11***
Annual payments for insurance cost (annuity due, 5%, 20 years)	***($10,095.24)***
N = 20, I = 5, PV = 0, FV = 350,499.11, mode = begin: PMT → −10,095.24	
Net payment cost index ($10,095.24/500)	***($20.19)***

Case: Adrian and Olivia Barksdale

- Adrian and Olivia Barksdale live in Australia with their 16-year-old twins. Adrian, 47, works in a highly cyclical industry as an engineering manager at a bauxite mine. Olivia, 46, is an accountant. The Barksdales are saving for their retirement and college funding for both children. Adrian's annual salary is A$190,000; Olivia's annual salary is A$85,000. The family's living expenses are currently A$95,000 per year.
- Both Adrian and Olivia plan to work 18 more years, and they depend on their combined income and savings to fund their goals. The Barksdales' new financial adviser, Duncan Smith, recommends an appropriate disability insurance policy to cover Adrian, given his large salary. Because he has a highly specialized job, Adrian is willing to pay for the most comprehensive policy available.

Case: Adrian and Olivia Barksdale

- Smith is also concerned about the Barksdales' existing life insurance coverage. Currently, the Barksdales have a term life policy insuring Adrian with a death benefit of A$100,000. Smith assesses the family's insurance needs in the event Adrian were to die this year. To do so, Smith uses the needs analysis method based on the financial data presented in Exhibit 1 and the following assumptions:
  - The discount rate is 6.0%, and the tax rate is 30%.
  - Salary and living expenses grow at 3.5% annually.
  - Salary and living expenses occur at the beginning of each year.

Case: Adrian and Olivia Barksdale

- The following assumptions apply in the event of Adrian's death:
  - ✓ Olivia will continue to work until retirement;
  - ✓ Family living expenses will decline by $30,000 per year;
  - ✓ Olivia's projected living expense will be $50,000 per year for 44 years; and
  - ✓ The children's projected living expenses will be $15,000 per year for 6 years.

Case: Adrian and Olivia Barksdale

Exhibit 1. Barksdale Family Financial Needs Worksheet	
Cash Needs	**AUD (A$)**
Final expenses and taxes payable	20,000
Mortgage retirement	400,000
Education fund	300,000
Emergency fund	30,000
Total cash needs	***750,000***
Capital Available	
Cash and investments	900,000
Adrian: Life insurance	100,000
Total capital available	***1,000,000***

Case: Adrian and Olivia Barksdale

- Next, Smith discusses the advantages and disadvantages of annuities. The Barksdales are interested in purchasing an annuity that offers the following characteristics:
  - a payout that begins at retirement,
  - the ability to invest in a menu of investment options, and
  - a payout that continues as long as either Olivia or Adrian is living.
- Olivia's mother, Sarah Brown, is also a client of Smith. She is age 75 and retired, and she needs a known income stream to assist her with current and future expenses. Brown's parents both lived longer than average, and she is concerned about outliving her assets. Smith recommends an annuity.

Case: Adrian and Olivia Barksdale

- The Barksdales also worry about longevity risk given their family history and healthy lifestyle. Both spouses want an annuity for their later years (beginning in 40 years) that will ensure the greatest supplemental, level income stream relative to the cost. The Barksdales are willing to forgo the right to cash out the policy.
- Smith turns to a discussion about the Barksdales' investment portfolio and how total economic wealth (human capital plus financial capital) might affect asset allocation decisions. The Barksdales' human capital is valued at $2.9 million and estimated to be 35% equity-like. Smith determines that an overall target allocation of 40% equity is appropriate for the Barksdales' total assets on the economic balance sheet.

Case: Adrian and Olivia Barksdale

- Smith makes two recommendations regarding the Barksdales' investment portfolio.
  - Recommendation 1: The portfolio should have lower risk than a portfolio for similar investors in the same lifestyle stage.
  - Recommendation 2: The portfolio should underweight securities having a high correlation with bauxite demand.

Case: Adrian and Olivia Barksdale

- Based on Adrian's job and salary, the *most appropriate* disability policy would define disability as the inability to perform duties of:
  A. any occupation.
  B. Adrian's regular occupation.
  C. any occupation for which Adrian is suited by education and experience.
- **Solution: B**
  The most comprehensive policy would define disability as the inability to perform Adrian's regular occupation. For professionals with specialized skills, policies that use regular occupation are generally preferred even though they are more expensive. Mr. Barksdale works in a specialized, high-paying occupation, and the family depends on his income.

Case: Adrian and Olivia Barksdale

- Based on the given assumptions and the data in Exhibit 1, the additional amount of life insurance coverage needed is *closest* to:
  A. A$0.
  B. A$331,267.
  C. A$2,078,101.
- **Solution: B**
  The additional amount of life insurance coverage needed is calculated as the difference between the family's total financial needs and total capital available.

Case: Adrian and Olivia Barksdale

Total financial needs are calculated as follows.

Cash Needs	AUD (A$)
Final expenses and taxes	20,000
Mortgage retirement	400,000
Education fund	300,000
Emergency fund	30,000
Total cash needs	***750,000***
Capital Needs	**Present Value**
Olivia's living expenses, 44 years	1,377,175
Children's living expenses, 6 years	84,848
(Olivia's income, 18 years)	–880,756
Total capital needs	581,267
Total financial needs	***1,331,267***

Case: Adrian and Olivia Barksdale

Capital needs are determined as the present value of an annuity due: growth rate = 3.5%, discount rate = 6.0%. Growth of payments is incorporated by adjusting the discount rate to account for the growth rate of earnings. As long as the discount rate is larger than the growth rate, the adjusted rate i can be calculated as follows: [(1 + Discount rate)/(1 + Growth rate)] – 1, or i = (1.06/1.035) – 1 = 2.42%.

The present value of Olivia's living expenses is calculated as follows:

PMT = –$50,000; i = 2.42%, n = 44. Set for payments at beginning of year. PV = $1,377,175.

Case: Adrian and Olivia Barksdale

The present value of the children's living expenses is calculated as follows:

PMT = –15,000; i = 2.42%, n = 6. Set for payments at beginning of year. PV = $84,848.

The present value of Olivia's income is calculated as follows:

PMT = –$85,000 × (1– Tax rate); PMT = $85,000 × 0.70 = 59,500; i = 2.42%, n = 18. Set for payments at beginning of year. PV = –$880,756.

Total capital needs are calculated as follows:

$1,377,175 + $84,848 – $880,756 = $581,267. Adding this amount to total cash needs of $750,000 results in total financial needs of $1,331,267.

Case: Adrian and Olivia Barksdale

The total capital available is calculated as follows.

Capital Available	AUD (A$)
Cash and investments	900,000
Current life insurance	100,000
Total capital available	***1,000,000***

The additional life insurance need is calculated as follows.

Total financial needs	1,331,267
Total capital available	1,000,000
Life insurance shortfall (excess)	***331,267***

Case: Adrian and Olivia Barksdale

- Based on the Barksdales' annuity preferences, which type of annuity should they purchase?
  A. Deferred fixed
  B. Deferred variable
  C. Immediate variable
- **Solution: B**
  The Barksdales want an annuity with a deferred payout (beginning at retirement) and an ability to invest in a diversified mix of securities. Most deferred variable annuities offer a diversified menu of potential investment options, whereas a fixed annuity locks the annuitant into a portfolio of bond-like assets at whatever rate of return exists at the time of purchase.

Case: Adrian and Olivia Barksdale

- Based on the Barksdales' annuity preferences, which annuity payout method should they choose?
  A. Joint life annuity
  B. Life annuity with refund
  C. Life annuity with period certain
- **Solution: A**
  A joint life annuity best addresses the Barksdales' goal of receiving a payout as long as either of them is alive. Under a joint life annuity, two or more individuals, such as a husband and a wife, receive payments until all beneficiaries die.

Case: Adrian and Olivia Barksdale

- Based on Brown's goals and concerns, which type of annuity should Smith recommend for her?
  A. Deferred fixed
  B. Immediate fixed
  C. Immediate variable

- **Solution: B**
  With immediate fixed annuities, Brown will trade a sum of money today for a promised income benefit for as long as she is alive. Brown is already age 75 and is concerned about longevity risk; she wants a known income stream currently and in the future. Therefore, an immediate fixed annuity is the most appropriate choice.

Case: Adrian and Olivia Barksdale

- Which type of annuity *best* satisfies the Barksdales' desire for supplemental income in their later years?
  A. Deferred fixed
  B. Deferred variable
  C. Advanced life deferred

Case: Adrian and Olivia Barksdale

- **Solution: C**
  In contrast to an immediate payout annuity, an advanced life deferred annuity's (ALDA's) payments begin later in life—for example, when the individual turns 80 or 85. An ALDA would provide the greatest supplemental level income relative to the cost because the payments are made far in the future, life expectancy is shorter when the payments begin, and some policyholders will die without receiving payments.

Case: Adrian and Olivia Barksdale

- Based on Exhibit 1, and meeting the Barksdales' target equity allocation for total economic wealth, the financial capital equity allocation should be *closest* to:

  A. 35.0%.

  B. 54.5%.

  C. 56.1%.

Case: Adrian and Olivia Barksdale

- **Solution: C**

  The equity allocation of the Barksdale's financial capital is calculated as follows:

  Total economic wealth = Human capital + Financial capital = $2,900,000 + $900,000 = $3,800,000.

  Target equity allocation of total economic wealth = $3,800,000 × 40% = $1,520,000

  Human capital equity allocation = $2,900,000 × 35% = $1,015,000

  Financial capital equity allocation = $1,520,000 – $1,015,000 = $505,000

  % Financial capital equity allocation = Financial equity allocation/Total financial capital = $505,000/$900,000 = 0.5611, or 56.1%

Case: Adrian and Olivia Barksdale

- Which of Smith's recommendations regarding the Barksdales' investment portfolio is/are correct?

  A. Recommendation 1 only

  B. Recommendation 2 only

  C. Both Recommendation 1 and Recommendation 2

Case: Adrian and Olivia Barksdale

- **Solution: C**

  People with higher risk and potential volatility in income (human capital) should take on lower risk in their investment portfolios. Adrian's income is more than two-thirds of the household total and is somewhat volatile because of cyclical demand for his employer's product. Additionally, because income is tied to a particular industry or sector, the Barksdales should underweight securities having a high correlation with bauxite demand.

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Portfolio Management for Institutional Investors

CFA三级培训项目

讲师：

Reading 33

Portfolio Management for Institutional Investors

Case: William Azarov

➢ William Azarov is a portfolio manager for Westcome Investments, an asset management firm. Azarov is preparing for meetings with two of Westcome's clients and obtains the help of Jason Boulder, a junior analyst. The first meeting is with Maglav Inc., a rapidly growing US-based technology firm with a young workforce and high employee turnover. Azarov directs Boulder to review the details of Maglav's defined benefit (DB) pension plan. The plan is overfunded and has assets under management of $25 million. Boulder makes the following two observations:

Observation 1 Maglav's shareholders benefit from the plan's overfunded status.

Observation 2 The funded ratio of Maglav's plan will decrease if employee turnover decreases.

Case: William Azarov

- Maglav outsources the management of the pension plan entirely to Westcome Investments. The fee structure requires Maglav to compensate Westcome with a high base fee regardless of performance. Boulder tells Azarov that outsourcing offers small institutional investors, such as Maglav's pension plan, the following three benefits:

  Benefit 1: Regulatory requirements are reduced.

  Benefit 2: Conflicts of interest are eliminated from principal–agent issues.

  Benefit 3: Investors have access to a wider range of investment strategies through scale benefits.

Case: William Azarov

- In the meeting with Maglav, Azarov describes the investment approach used by Westcome in managing the pension plan. The approach is characterized by a high allocation to alternative investments, significant active management, and a reliance on outsourcing assets to other external asset managers. Azarov also explains that Maglav's operating results have a low correlation with pension asset returns and that the investment strategy is affected by the fact that the pension fund assets are a small portion of Maglav's market capitalization. Azarov states that the plan is subject to the Employee Retirement Income Security Act of 1974 (ERISA) and follows generally accepted accounting principles, including Accounting Standards Codification (ASC) 715, Compensation—Retirement Benefits.

Case: William Azarov

- Azarov's second meeting is with John Spintop, chief investment officer of the Wolf University Endowment Fund (the Fund). Spintop hired Westcome to assist in developing a new investment policy to present to the Fund's board of directors. The Fund, which has assets under management of $200 million, has an overall objective of maintaining long-term purchasing power while providing needed financial support to Wolf University. During the meeting, Spintop states that the Fund has an annual spending policy of paying out 4% of the Fund's three-year rolling asset value to Wolf University, and the Fund's risk tolerance should consider the following three liability characteristics:

Characteristic 1 The Fund has easy access to debt markets.

Characteristic 2 The Fund supports 10% of Wolf University's annual budget.

Characteristic 3 The Fund receives significant annual inflows from gifts and donations.

- The Fund has a small investment staff with limited experience in managing alternative assets and currently uses the Norway model for its investment approach. Azarov suggests a change in investment approach by making an allocation to externally managed alternative assets—namely, hedge funds and private equity. Ten-year nominal expected return assumptions for various asset classes, as well as three proposed allocations that include some allocation to alternative assets, are presented in Exhibit 1.

Case: William Azarov

Exhibit 1 10-Year Nominal Expected Return Assumptions and Proposed Allocations

Asset Class	Expected Return	Allocation 1	Allocation 2	Allocation 3
US Treasuries	4.1%	45%	10%	13%
US Equities	6.3%	40%	15%	32%
Non-US Equities	7.5%	10%	15%	40%
Hedge Funds	5.0%	0%	30%	5%
Private Equity	9.1%	5%	30%	10%

- Expected inflation for the next 10 years is 2.5% annually.

Case: William Azarov

- Which of Boulder's observations regarding Maglav's pension plan is correct?

  A. Only Observation 1

  B. Only Observation 2

  C. Both Observation 1 and Observation 2

Case: William Azarov

➢ **Answer: C.**

Both observations are correct. For a corporate defined benefit plan, Maglav's shareholders are stakeholders. These stakeholders are interested in the sustainability of the pension plan, and the overfunded status is an asset on the balance sheet, potentially increasing the value of Maglav's stock. The overfunded status also allows management to potentially lower employer contributions to the plan and increase net income. It also lowers financial risk, which may reduce volatility in the stock price. In addition, decreasing employee turnover will increase plan liabilities and worsen the funded ratio. With high turnover, fewer workers will be vested and entitled to defined benefit payments. Conversely, if employee turnover decreases, expected vesting will increase, leading to higher plan liabilities and a lower funded ratio.

Case: William Azarov

➢ Which of the benefits of outsourcing the management of the pension plan suggested by Boulder is correct?

A. Benefit 1

B. Benefit 2

C. Benefit 3

Case: William Azarov

➢ **Answer: C.**

Scale (asset size) is a defining characteristic for institutional investors since it affects key aspects of the investment process. Maglav's pension plan is small, with $25 million in assets under management. Smaller institutions may be unable to access certain investments that have a high minimum investment, such as private equity and real estate assets. These smaller institutions may also have difficulty in hiring skilled investment professionals. As a result, small institutional investors, such as Maglav's pension plan, are more likely to outsource all or most of the investment operations to external asset managers or investment consultants.

Case: William Azarov

- Westcome's investment approach for Maglav's pension plan can be best characterized as the:
  A. Norway model.
  B. Canadian model.
  C. endowment model.

Case: William Azarov

- **Answer: C.**
  The endowment model operates in an asset-only context and is characterized by a high allocation to alternative investments, including private investments and hedge funds; significant active management; and outsourcing to external managers. These characteristics describe the investment approach used by Westcome. The skill in sourcing alternative investments is critically important given the large variation in performance among asset managers, especially for alternative investments.

Case: William Azarov

- The risk tolerance of Maglav's pension plan can be best characterized as being:
  A. below average.
  B. average.
  C. above average.

Case: William Azarov

- **Answer: C.**

  The risk tolerance for Maglav's defined benefit plan is high and thus above average. Several factors influence the plan sponsor's ability to assume risk. For Maglav, the overfunded status of the pension fund allows the plan to withstand more volatility, and its small size relative to the company size implies greater risk tolerance. The low correlation of Maglav's operating results with pension asset returns also results in greater risk tolerance. Finally, the workforce characteristics imply greater risk tolerance. The younger workforce increases the duration of the plan liabilities and enables the sponsor to take on more liquidity risk. The high turnover of the workforce means fewer employees may be vested, reducing the number of employees entitled to receive defined benefit payments. All these factors contribute to an above average risk tolerance for Maglav's defined benefit plan.

Case: William Azarov

- Based on Azarov's statement concerning ERISA and ASC 715, which of the following statements is correct?

  A. Maglav is not allowed to terminate the plan.

  B. Maglav can exclude the plan's service costs from net income.

  C. Maglav's plan must appear as an asset on Maglav's balance sheet.

Case: William Azarov

- **Answer: C.**

  ASC 715, Compensation—Retirement Benefits requires that an overfunded (underfunded) plan appear as an asset (liability) on the balance sheet of the corporate sponsor. Maglav's plan is overfunded, so it appears as an asset on Maglav's balance sheet.

Case: William Azarov

- The risk tolerance of the Wolf University Endowment Fund can be best characterized as:

  A. below average.

  B. average.

  C. above average.

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Case: William Azarov

- **Answer: C.**

  The risk tolerance of the Wolf University Endowment Fund is above average since endowments that support a small percentage of the university's operating budget (10% in this case) should be able to tolerate more market, credit, and liquidity risk. In addition, the Fund's ability to access debt markets, especially during periods of market stress, increases the level of risk the endowment can accept in its investments. Finally, because of the significant inflows from gifts and donations, the effective spending rate will be lower than the annual spending policy of paying out 4% of the Fund's three-year rolling asset value. Thus, the Fund can rely less on investment returns to generate the income stream needed to support the university and can accept higher-risk investments.

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Case: William Azarov

- Which proposed allocation in Exhibit 1 would be most appropriate for the Fund given its characteristics?

  A. Allocation 1

  B. Allocation 2

  C. Allocation 3

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Case: William Azarov

- **Answer: C.**

  Allocation 3 is the most appropriate allocation for the Fund. The annual expected returns for the three allocations are as follows:

  Allocation 1 exp. return = (0.45 × 4.1%) + (0.40 × 6.3%) + (0.10 × 7.5%) + (0.05 × 9.1%)= 5.57%.

  Allocation 2 exp. return = (0.10 × 4.1%) + (0.15 × 6.3%) + (0.15 × 7.5%) + (0.30 × 5.0%) + (0.30 × 9.1%)= 6.71%.

  Allocation 3 exp. return = (0.13 × 4.1%) + (0.32 × 6.3%) + (0.40 × 7.5%) + (0.05 × 5.0%) + (0.10 × 9.1%)= 6.71%.

  The real return for Allocation 1 is 3.07% (= 5.57% – 2.50%), and the real return for Allocation 2 and Allocation 3 is 4.21% (= 6.71% – 2.50%).

Case: William Azarov

Therefore, Allocation 1 is not appropriate because the expected real rate of return is less than the annual spending rate of 4%. With expected spending at 4%, the purchasing power of the Fund would be expected to decline over time with Allocation 1.

Allocations 2 and 3 both offer an expected real rate of return greater than the annual spending rate of 4%. Thus, the purchasing power of the Fund would be expected to grow over time with either allocation. However, Allocation 3 is more appropriate than Allocation 2 because of its lower allocation to alternative assets (hedge funds and private equity). The total 60% allocation to alternative assets in Allocation 2 is well above the 15% allocation in Allocation 3 and is likely too high considering the Fund's small investment staff and its limited experience with managing alternative investments. Also, given the Fund's relatively small size of assets under management ($200 million), access to top hedge funds and private equity managers is likely to be limited.

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Trading, Performance Evaluation, and Manager Selection

CFA三级原版书课后题

讲师：

Reading 34

Trade Strategy and Execution

Case: Robert Harding

- Robert Harding is a portfolio manager at ValleyRise, a hedge fund based in the United States. Harding monitors the portfolio alongside Andrea Yellow, a junior analyst. ValleyRise only invests in equities, but Harding is considering other asset classes to add to the portfolio, namely derivatives, fixed income, and currencies. Harding and Yellow meet to discuss their trading strategies and price benchmarks.
- Harding begins the meeting by asking Yellow about factors that affect the selection of an appropriate trading strategy. Yellow tells Harding:

Case: Robert Harding

Statement 1 Trading with greater urgency results in lower execution risk.

Statement 2 Trading larger size orders with higher trade urgency reduces market impact.

Statement 3 Securities with high rates of alpha decay require less aggressive trading to realize alpha.

- After further discussion about Yellow's statements, Harding provides Yellow a list of trades that he wants to execute. He asks Yellow to recommend a price benchmark. Harding wants to use a benchmark where the reference price for the benchmark is computed based on market prices that occur during the trading period, excluding trade outliers.

Case: Robert Harding

- Earlier that day before the meeting, Yellow believed that the market had underreacted during the pre-market trading session to a strong earnings announcement from ABC Corp., a company that Yellow and Harding have been thoroughly researching for several months. Their research suggested the stock's fair value was $90 per share, and the strong earnings announcement reinforced their belief in their fair value estimate.

Case: Robert Harding

- Right after the earnings announcement, the pre-market price of ABC was $75. Concerned that the underreaction would be short-lived, Harding directed Yellow to buy 30,000 shares of ABC stock. Yellow and Harding discussed a trading strategy, knowing that ABC shares are very liquid and the order would represent only about 1% of the expected daily volume. They agreed on trading a portion of the order at the opening auction and then filling the remainder of the order after the opening auction. The strategy for filling the remaining portion of the order was to execute trades at prices close to the market price at the time the order was received.

Case: Robert Harding

- Harding and Yellow then shift their conversation to XYZ Corp. Harding tells Yellow that, after extensive research, he would like to utilize an algorithm to purchase some shares that are relatively liquid. When building the portfolio's position in XYZ, Harding's priority is to minimize the trade's market impact to avoid conveying information to market participants. Additionally, Harding does not expect adverse price movements during the trade horizon.

Case: Robert Harding

- Harding and Yellow conclude their meeting by comparing trade implementation for equities with the trade implementation for the new fixed-income, exchange-traded derivatives, and currency investments under consideration. Yellow tells Harding:

  Statement 4 Small currency trades and small exchange-traded derivatives trades are typically implemented using the direct market access (DMA) approach.

  Statement 5 The high-touch agency approach is typically used to execute large, non-urgent trades in fixed-income and exchange-traded derivatives markets.

Case: Robert Harding

- The next day, Harding instructs Yellow to revisit their research on BYYP, Inc. Yellow's research leads her to believe that its shares are undervalued. She shares her research with Harding, and at 10 a.m. he instructs her to buy 120,000 shares when the price is $40.00 using a limit order of $42.00.
- The buy-side trader releases the order for market execution when the price is $40.50. The only fee is a commission of $0.02 per share. By the end of the trading day, 90,000 shares of the order had been purchased, and BYYP closes at $42.50. The trade was executed at an average price of $41.42. Details about the executed trades are presented in Exhibit 1.

Case: Robert Harding

Exhibit 1 BYYP Trade Execution Details		
Trades	**Execution Price**	**Shares Executed**
Trade 1	$40.75	10,000
Trade 2	$41.25	30,000
Trade 3	$41.50	20,000
Trade 4	$41.75	30,000
Total		90,000

Case: Robert Harding

- While the buy-side trader executes the BYYP trade, Harding and Yellow review ValleyRise's trade policy document. After reviewing the document, Yellow recommends several changes: 1) add a policy for the treatment of trade errors; 2) add a policy that ensures over-the-counter derivatives are traded on venues with rules that ensure minimum price transparency; and 3) alter the list of eligible brokers to include only those that provide execution at the lowest possible trading cost.

Case: Robert Harding

- Which of Yellow's statements regarding the factors affecting the selection of a trading strategy is correct?
  A. Statement 1
  B. Statement 2
  C. Statement 3

Case: Robert Harding

➤ **Solution: A.**

Greater trade urgency results in lower execution risk because the order is executed over a shorter period of time, which decreases the time the trade is exposed to price volatility and changing market conditions. In contrast, lower trade urgency results in higher execution risk because the order is executed over a longer period of time, which increases the time the trade is exposed to price volatility and changing market conditions.

Case: Robert Harding

➤ Given the parameters for the benchmark given by Harding, Yellow should recommend a benchmark that is based on the:

A. arrival price.

B. time-weighted average price.

C. volume-weighted average price.

Case: Robert Harding

➤ **Solution: B.**

Harding asked Yellow to execute a list of trades, and he wants to use a price benchmark where the reference price for the benchmark is computed based on market prices that occur during the trading period, excluding trade outliers. Portfolio managers often specify an intraday benchmark for funds that are trading passively over the day, seeking liquidity, and for funds that may be rebalancing, executing a buy/sell trade list, and minimizing risk. An intraday price benchmark is based on a price that occurs during the trading period. The most common intraday benchmarks used in trading are volume-weighted average price (VWAP) and time-weighted average price (TWAP). Portfolio managers choose TWAP when they wish to exclude potential trade outliers.

Case: Robert Harding

- To fill the remaining portion of the ABC order, Yellow is using:
  A. an arrival price trading strategy.
  B. a TWAP participation strategy.
  C. a VWAP participation strategy.

Case: Robert Harding

- **Solution: A.**

  Given the trade urgency of the order, the very liquid market for ABC shares, and the small order size relative to ABC's expected volume, Yellow is using an arrival price trading strategy that would attempt to execute the remaining shares close to market prices at the time the order is received.

Case: Robert Harding

- What type of algorithm should be used to purchase the XYZ shares given Harding's priority in building the XYZ position and his belief about potential price movements?
  A. Scheduled algorithm
  B. Arrival price algorithm
  C. Opportunistic algorithm

Case: Robert Harding

➢ **Solution: A.**

XYZ shares are relatively liquid, and Harding has prioritized minimizing the trade's market impact to avoid conveying information to market participants. Harding also does not expect adverse price movements during the trade horizon. Scheduled algorithms are appropriate for orders in which portfolio managers or traders do not have expectations for adverse price movement during the trade horizon. These algorithms are also used by portfolio managers and traders who have greater risk tolerance for longer execution time periods and are more concerned with minimizing market impact. Scheduled algorithms are often appropriate when the order size is relatively small (e.g., no more than 5%–10% of expected volume), the security is relatively liquid, or the orders are part of a risk-balanced basket and trading all orders at a similar pace will maintain the risk balance.

Case: Robert Harding

➢ Which of Yellow's statements regarding the trade implementation of non-equity investments is correct?

A. Only Statement 4

B. Only Statement 5

C. Both Statement 4 and Statement 5

Case: Robert Harding

➢ **Solution: A.**

Small currency trades are usually implemented using direct market access (DMA). Buy-side traders generally use DMA for exchange-traded derivatives, particularly for smaller trades.

Case: Robert Harding

- Based on Exhibit 1, the execution cost for purchasing the 90,000 shares of BYYP is:
  - A. $60,000.
  - B. $82,500.
  - C. $127,500.

Case: Robert Harding

- **Solution: C.**

  Execution cost is calculated as the difference between the cost of the real portfolio and the paper portfolio. It reflects the execution price(s) paid for the number of shares in the order that were actually filled or executed. The execution cost is calculated as:

$$\text{Execution cost } = \sum S_j P_j - \sum S_j P_d$$

$$= [(10{,}000 \text{ shares } \times \$40.75) + (30{,}000 \text{ shares } \times \$41.25) + (20{,}000 \text{ shares } \times \$41.50) + (30{,}000 \text{ shares } \times \$41.75)] - (90{,}000 \times \$40.00)$$

$$= \$3{,}727{,}500 - \$3{,}600{,}000$$

$$= \$127{,}500$$

Case: Robert Harding

- Based on Exhibit 1, the opportunity cost for purchasing the 90,000 shares of BYYP is:
  - A. $22,500.
  - B. $60,000.
  - C. $75,000.

Case: Robert Harding

➢ **Solution: C.**

Opportunity cost is based on the number of shares left unexecuted in the order and reflects the cost of not being able to execute all shares at the decision price. The opportunity cost is calculated as:

$$\text{Opportunity cost } = (S - \sum S_j)(P_n - P_d)$$

$$= (120{,}000 - 90{,}000) \times (\$42.50 - \$40.00)$$

$$= \$75{,}000$$

Case: Robert Harding

➢ The arrival cost for purchasing the 90,000 shares of BYYP is:

A. 164.4 bp.

B. 227.2 bp.

C. 355.0 bp.

Case: Robert Harding

➢ **Solution: B.**

The arrival cost is calculated as:

$$\text{Arrival cost (bp) } = \text{Side} \times \frac{(\overline{P} - P_0)}{P_0} \times 10^4 \text{bp}$$

$$= +1 \times \frac{(\$41.42 - \$40.50)}{\$40.50} \times 10^4 \text{bp} = 227.2 \text{ bp}$$

Case: Robert Harding

- As it relates to the trade policy document, ValleyRise should implement Yellow's recommendation related to:
  A. the list of eligible brokers.
  B. a policy for the treatment of trade errors.
  C. a policy for over-the-counter derivatives trades.

Case: Robert Harding

- **Solution: B.**

  Firms should have a policy in place for the treatment of trade errors. Errors from trading and any resulting gains/losses need to be disclosed to a firm's compliance department and documented in a trade error log. The trade error log should include any related documentation and evidence that trade errors are resolved in a way that avoids adverse impact to the client.

Reading 35

Portfolio Performance Evaluation

Case: Alexandra Jones

- Alexandra Jones, a senior adviser at Federalist Investors (FI), meets with Erin Bragg, a junior analyst. Bragg just completed a monthly performance evaluation for an FI fixed-income manager. Bragg's report addresses the three primary components of performance evaluation: measurement, attribution, and appraisal. Jones asks Bragg to describe an effective attribution process. Bragg responds as follows:

  Response 1: Performance attribution draws conclusions regarding the quality of a portfolio manager's investment decisions.

  Response 2: Performance attribution should help explain how performance was achieved by breaking apart the return or risk into different explanatory components.

Case: Alexandra Jones

- Bragg notes that the fixed-income portfolio manager has strong views about the effects of macroeconomic factors on credit markets and follows a top-down investment process.
- Jones reviews the monthly performance attribution and asks Bragg whether any risk-adjusted historical performance indicators are available. Bragg produces the following data:

Case: Alexandra Jones

Exhibit 1 10-Year Trailing Risk-Adjusted Performance	
Average annual return	8.20%
Minimum acceptable return (MAR)	5.00%
Sharpe ratio	0.95
Sortino ratio	0.87
Upside capture	0.66
Downside capture	0.50
Maximum drawdown	–24.00%
Drawdown duration	4 months

Case: Alexandra Jones

- Which of Bragg's responses regarding effective performance attribution is correct?
  - A. Only Response 1
  - B. Only Response 2
  - C. Both Response 1 and Response 2

Case: Alexandra Jones

- **Solution: B.**

  Performance attribution helps explain how performance was achieved; it breaks apart the return or risk into different explanatory components. Effective performance attribution must account for all of the portfolio's return or risk exposure, reflect the investment decision-making process, quantify the active decisions of the portfolio manager, and provide a complete understanding of the excess return/risk of the portfolio.

Case: Alexandra Jones

- The most appropriate risk attribution approach for the fixed-income manager is to:
  - A. decompose historical returns into a top-down factor framework.
  - B. evaluate the marginal contribution to total risk for each position.
  - C. attribute tracking risk to relative allocation and selection decisions.

Case: Alexandra Jones

- **Solution: C.**

  The portfolio is managed against a benchmark, which indicates a relative-risk type of risk attribution analysis. For a top-down investment approach, the analysis should attribute tracking risk to allocation and selection decisions relative to the benchmark.

Case: Alexandra Jones

- Based on Exhibit 1, the target semideviation for the portfolio is closest to:

  A. 2.78%.

  B. 3.68%.

  C. 4.35%.

Case: Alexandra Jones

- **Solution: B.**

  The target semi-standard deviation or target semideviation is the denominator of the Sortino ratio. The numerator of the Sortino ratio is the average portfolio return minus the target rate of return (minimum acceptable return, or MAR).

  $$\text{Sortino ratio} = \frac{(\text{Average portfolio returnMAR})}{\text{Target semideviation}}$$

  Substituting the values provided in Exhibit 3, the target semideviation is as follows:

  $$\text{Target semideviation} = \frac{8.20\% - 5.00\%}{0.87} = 3.678\% = 3.68\%$$

Case: Alexandra Jones

- Based on Exhibit 1, the capture ratios of the portfolio indicate:
  A. a concave return profile.
  B. positive asymmetry of returns.
  C. that the portfolio generates higher returns than the benchmark during all market conditions.

Case: Alexandra Jones

- **Solution: B.**

  The upside/downside capture, or simply the capture ratio (CR), is the upside capture ratio divided by the downside capture ratio.

  (Upside capture)/(Downside capture) = 0.66/0.50 = 1.32.

  A capture ratio greater than 1 indicates positive asymmetry of returns, or a convex return profile.

Case: Alexandra Jones

- The maximum drawdown and drawdown duration in Exhibit 1 indicate that:
  A. the portfolio recovered quickly from its maximum loss.
  B. over the 10-year period, the average maximum loss was –24.00%.
  C. a significant loss once persisted for four months before the portfolio began to recover.

Case: Alexandra Jones

➢ **Solution: A.**

Maximum drawdown is the cumulative peak-to-trough loss during a continuous period. Drawdown duration is the total time from the start of the drawdown until the cumulative drawdown recovers to zero, which can be segmented into the drawdown phase (start to trough) and the recovery phase (trough to zero cumulative return). The maximum drawdown was –24.00%, with a drawdown period of four months. Given the 10-year time frame, the portfolio recovered quickly from its maximum loss.

Case: Stephanie Tolmach

➢ Stephanie Tolmach is a consultant hired to create a performance attribution report on three funds held by a defined benefit pension plan (the Plan). Fund 1 is a domestic equity strategy, Fund 2 is a global equity strategy, and Fund 3 is a domestic fixed-income strategy.

➢ Tolmach uses three approaches to attribution analysis: the return-based, holdings-based, and transaction-based approaches. The Plan's investment committee asks Tolmach to (1) apply the attribution method that uses only each fund's total portfolio returns over the last 12 months to identify return-generating components of the investment process and (2) include the impact of specific active investment decisions and the attribution effects of allocation and security selection in the report.

Case: Stephanie Tolmach

➢ Tolmach first evaluates the performance of Fund 1 by constructing a Carhart factor model; the results are presented in Exhibit 1.

Exhibit 1 Fund 1 Factor Model Attribution

	Factor Sensitivity				Contribution to Active Return	
Factor *	**Portfolio (1)**	**Benchmark (2)**	**Difference (3)**	**Factor Return (4)**	**Absolute (3) × (4)**	**Proportion of Active Return**
RMRF	1.22	0.91	0.31	16.32%	5.06%	126.80%
SMB	0.59	0.68	–0.09	–3.25%	0.29%	7.33%
HML	–0.17	0.04	–0.21	–9.60%	2.02%	50.53%
WML	–0.05	0.07	–0.12	3.38%	–0.41%	–10.17%
			A. Factor Tilt Return:		6.96%	174.49%
			B. Security Selection:		–10.95%	–274.49%
			C. Active Return (A + B):		–3.99%	100.00%

* RMRF is the return on a value-weighted equity index in excess of the one-month T-bill rate, SMBis the small minus big market capitalization factor, HML is the high minus low factor, and WML is the winners minus losers factor.

Case: Stephanie Tolmach

- Tolmach turns her attention to Fund 2, constructing a region-based micro attribution analysis to evaluate the active decisions of the portfolio manager. The results are presented in Exhibit 2.

Exhibit 2 Fund 2 Performance—Allocation by Region				
Return Attribution (Region Level)	**Portfolio Weight**	**Benchmark Weight**	**Portfolio Return**	**Benchmark Return**
North America	10.84%	7.67%	16.50%	16.47%
Greater Europe	38.92%	42.35%	23.16%	25.43%
Developed Asia and Australasia	29.86%	31.16%	11.33%	12.85%
South America	20.38%	18.82%	20.00%	35.26%
Total	**100.00%**	**100.00%**	**18.26%**	**22.67%**

Case: Stephanie Tolmach

- Next, Tolmach evaluates Fund 3 and the appropriateness of its benchmark. The benchmark is a cap-weighted bond index with daily reported performance; the index is rebalanced frequently, making it difficult to replicate. The benchmark has a meaningful investment in foreign bonds, whereas Fund 3 invests only in domestic bonds.
- In the final section of the report, Tolmach reviews the entire Plan's characteristics, asset allocation, and benchmark. Tolmach observes that the Plan's benefits are no longer indexed to inflation and that the workforce is, on average, younger than it was when the current fund allocations were approved. Tolmach recommends a change in the Plan's asset allocation policy.

Case: Stephanie Tolmach

- Of the three attribution approaches referenced by Tolmach, the method requested by the committee:
  A. is the least accurate.
  B. uses the underlying holdings of the actual portfolio.
  C. is the most difficult and time consuming to implement.

Case: Stephanie Tolmach

➢ **Solution: A.**

The committee described a return-based attribution, which is the least accurate of the three approaches (the return-based, holdings-based, transaction-based approaches). Return-based attribution uses only the total portfolio returns over a period to identify the components of the investment process that have generated the returns.

Case: Stephanie Tolmach

➢ Based on Exhibit 1 and relative to the benchmark, the manager of Fund 1 most likely used a:

A. growth tilt.

B. greater tilt toward small cap.

C. momentum-based investing approach.

Case: Stephanie Tolmach

➢ **Solution: A.**

Based on the factor sensitivities in column 1 (negative sensitivity of –0.17 to HML) and the differences relative to the benchmark shown in column3, the manager likely had a growth tilt.

Case: Stephanie Tolmach

- Based on Exhibit 1, which of the following factors contributed the least to active return?
  A. HML
  B. SMB
  C. RMRF

Case: Stephanie Tolmach

- **Solution: B.**
  With an absolute return of 0.29% and with 7.33% of the contribution to return, SMB contributed far less than HML (2.02% and 50.53%, respectively) and RMRF (5.06% and 126.80%, respectively).

Case: Stephanie Tolmach

- Based on Exhibit 1, the manager could have delivered more value to the portfolio during the investment period by weighting more toward:
  A. value stocks.
  B. small-cap stocks.
  C. momentum stocks.

Case: Stephanie Tolmach

- **Solution: C.**

  Had the manager weighted more toward momentum stocks during the period, the momentum factor (WML) return of 3.38% would have contributed positively to the portfolio.

  A is incorrect because the HML factor return was –9.60%; thus, weighting more toward value stocks would have detracted from portfolio returns.

  B is incorrect because the SMB factor return was –3.25%; thus, weighting more toward small-cap stocks would have detracted from portfolio returns.

Case: Stephanie Tolmach

- Based on Exhibit 2, the allocation effect for South America is closest to:

  A. –0.04%.

  B. 0.03%.

  C. 0.20%.

Case: Stephanie Tolmach

- **Solution: C.**

  The allocation effect for South America is 0.20%.

$$\text{Allocation} = (w_I - W_i)(B_i - B)$$
$$= (20.38\% - 18.82\%)(35.26 - 22.67\%)$$
$$= 0.1964\% = 0.20\%$$

Case: Stephanie Tolmach

- Based on Exhibit 2, the decision to overweight or underweight which of the following regions contributed positively to performance at the overall fund level?
  A. North America
  B. Greater Europe
  C. Developed Asia and Australasia

Case: Stephanie Tolmach

- **Solution: C.**

  The decision to underweight developed Asia and Australasia was a good one because the benchmark for this region underperformed the total benchmark (12.85% versus 22.67%). Alternatively, the question can be answered by calculating the allocation effects for the three regions, as follows:

Case: Stephanie Tolmach

Allocation $= (w_I - W_i)(B_i - B)$

North America $= (10.84\% - 7.67\%)(16.47\% - 22.67\%)$

$= -0.20\%$

Greater Europe $= (38.92\% - 42.35\%)(25.43\% - 22.67\%)$

$= -0.09\%$

Developed Asia and Australasia

$= (29.86\% - 31.16\%)(12.85\% - 22.67\%)$

$= 0.13\%$

Developed Asia and Australasia is the only region of the three that had a positive allocation effect.

Case: Stephanie Tolmach

- Based on Exhibit 2, the underperformance at the overall fund level is predominantly the result of poor security selection decisions in:
  A. South America.
  B. greater Europe.
  C. developed Asia and Australasia.

Case: Stephanie Tolmach

- **Solution: A.**

  The total –441 bps of underperformance from security selection and interaction at the overall fund level is predominantly the result of poor South American security selection decisions (–311 bps = 3.11%).

Return Attribution (Segment Level)	Allocation	Selection + Interaction	Total
North America	–0.1966%	0.0033%	–0.1934%
Greater Europe	–0.0946%	–0.8835%	–0.9781%
Developed Asia and Australasia	0.1277%	–0.4539%	–0.3262%
South America	0.1964%	–3.1100%	–2.9136%
Total	0.0329%	–4.4441%	–4.4112%

Case: Stephanie Tolmach

$$\text{Allocation} = (w_I - W_i)(B_i - B)$$

$$\text{North America} = (10.84\% - 7.67\%)(16.47\% - 22.67\%)$$

$$= -0.20\%$$

$$\text{Greater Europe} = (38.92\% - 42.35\%)(25.43\% - 22.67\%)$$

$$= -0.09\%$$

$$\text{Developed Asia and Australasia}$$

$$= (29.86\% - 31.16\%)(12.85\% - 22.67\%)$$

$$= 0.13\%$$

$$\text{South America} = (20.38\% - 18.82\%)(35.26\% - 22.67\%)$$

$$= 0.20\%$$

Case: Stephanie Tolmach

Selection + Interaction = $W_i(R_i - B_i) + (w_i - W_i)(R_i - B_i)$

North America=7.67%(16.50% – 16.47%) + (10.84% – 7.67%)(16.50% – 16.47%)
=0.00%

Greater Europe=42.35%(23.16% – 25.43%) + (38.92% – 42.35%)(23.16% – 25.43%)
=–0.88%

Developed Asia and Australasia=31.16%(11.33% – 12.85%) + (29.86% – 31.16%)(11.33% – 12.85%)
=–0.45%

South America=18.82%(20.00% – 35.26%) + (20.38% – 18.82%)(20.00% – 35.26%)
=–3.11%

Case: Stephanie Tolmach

- The benchmark for Fund 3 has which of the following characteristics of a valid benchmark?
  A. Investable
  B. Measurable
  C. Appropriate

Case: Stephanie Tolmach

- **Solution: B.**

Daily reported performance is available for the benchmark; thus, it is possible to measure the benchmark's return on a reasonably frequent and timely basis.

A is incorrect because the benchmark is a cap-weighted bond index that is rebalanced frequently, making it difficult to replicate. For a benchmark to be investable, it must be possible to replicate and hold the benchmark to earn its return (at least gross of expenses). The sponsor should have the option of moving assets from active management to a passive benchmark. If the benchmark is not investable, it is not a viable investment alternative. Bond indexes are often not investable and are rebalanced frequently over time.

Case: Stephanie Tolmach

C is incorrect because the index has a meaningful investment in foreign bonds, whereas Fund 3 invests only in domestic bonds, making the benchmark inappropriate. The benchmark must be consistent with the manager's investment style or area of expertise.

Case: Stephanie Tolmach

- Based on the final section of Tolmach's report, the Plan should use:
  - A. a liability-based benchmark.
  - B. an absolute return benchmark.
  - C. a manager universe benchmark.

Case: Stephanie Tolmach

- **Solution: A.**

  Based on the Plan's type (defined benefit) and its characteristics as detailed in the final section of Tolmach's report, a liability-based benchmark is most appropriate. Liability-based benchmarks are used most frequently when assets are required to pay a specific future liability, as in a defined benefit pension plan.

Reading 36

Investment Manager Selection

Case: Tree Fallers Endowment

- The Tree Fallers Endowment plans to allocate part of its portfolio to alternative investment funds. The endowment has hired Kurt Summer, a consultant at Summer Brothers Consultants, to identify suitable alternative investment funds for its portfolio.
- Summer has identified three funds for potential investment and will present the performance of these investments to the endowment's board of directors at their next quarterly meeting.
- Summer is reviewing each of the fund's fee schedules and is concerned about the manager's incentive to take on excess risk in an attempt to generate a higher fee. Exhibit 1 presents the fee schedules of the three funds.

Case: Tree Fallers Endowment

Exhibit 1 Fee Schedules

Fund	Computed Fee	Base Fee	Sharing	Maximum Annual Fee
Red Grass Fund	Higher of either (1) base or (2) base plus sharing of positive performance; sharing is based on return net of the base fee.	1.00%	20%	na
Blue Water Fund	Higher of either (1) base or (2) base plus sharing of positive performance, up to a maximum annual fee of 2.50%; sharing is based on active return.	0.50%	20%	2.50%
Yellow Wood Fund	Base plus sharing of both positive and negative performance; sharing is based on return net of the base fee.	1.50%	20%	na

Case: Tree Fallers Endowment

- Exhibit 2 presents the annual gross returns for each fund and its respective benchmark for the period of 2016–2018. All funds have an inception date of 1 January 2016. Summer intends to include in his report an explanation of the impact of the fee structures of the three funds on returns.

Case: Tree Fallers Endowment

Exhibit 2 Fund and Benchmark Returns

Year	2016		2017		2018	
Fund	Gross Return (%)	Benchmark Return (%)	Gross Return (%)	Benchmark Return (%)	Gross Return (%)	Benchmark Return (%)
Red Grass Fund	8.00	8.00	–2.00	–10.00	5.00	4.50
Blue Water Fund	10.00	9.00	–4.00	–1.50	14.00	2.00
Yellow Wood Fund	15.00	14.00	–5.00	–6.50	7.00	9.50

Case: Tree Fallers Endowment

- The board of directors of the Tree Fallers Endowment asks Summer to recalculate the fees of the Red Grass Fund assuming a high-water mark feature whereby a sharing percentage could only be charged to the extent any losses had been recouped.

Case: Tree Fallers Endowment

- Based on Exhibit 1, which fund has a symmetrical fee structure?
  A. Red Grass
  B. Blue Water
  C. Yellow Wood

Case: Tree Fallers Endowment

- **Solution: C.**

  A symmetrical fee structure is one in which the fees are affected by both positive and negative performance. Of the three funds in Exhibit 1, only Yellow Wood has a symmetrical structure. Yellow Wood's profit sharing component will be negative if its return is negative and positive if it is positive.

Case: Tree Fallers Endowment

- Based on the fee schedules in Exhibit 1, the portfolio manager of which fund has the greatest incentive to assume additional risk to earn a higher investment management fee?
  A. Red Grass
  B. Blue Water
  C. Yellow Wood

Case: Tree Fallers Endowment

- **Solution: A.**

  Red Grass's fee arrangement allows for unlimited performance-based fees on the upside and no negative consequences on the downside.

Case: Tree Fallers Endowment

- Based on Exhibit 1 and Exhibit 2, the Yellow Wood Fund's 2016 investment management fee is:

  A. 3.00%.

  B. 4.20%.

  C. 4.50%.

Case: Tree Fallers Endowment

- **Solution: B.**

  The fund's fee schedule includes a base fee of 1.50% and a 20% performance-based fee. The performance-based fee is applied after the base fee is deducted. The total fee is calculated as follows:

  $$1.5\% + [20\% \times (15\% - 1.5\%)] = 4.20\%.$$

Case: Tree Fallers Endowment

- Based on Exhibit 1 and Exhibit 2, the Red Grass Fund's 2017 investment management fee is:

  A. 0.40%.

  B. 1.00%.

  C. 2.60%.

Case: Tree Fallers Endowment

- **Solution: B.**

  Red Grass Fund's fee schedule states that the fee will be the higher of either (1) the base fee or (2) the base fee plus the sharing of the positive performance. The 2017 return was negative and only the base fee should be applied.

Case: Tree Fallers Endowment

- Based on Exhibit 1 and Exhibit 2, the Blue Water Fund's 2018 investment management fee is:

  A. 2.40%

  B. 2.50%.

  C. 2.90%

Case: Tree Fallers Endowment

- **Solution: B.**

  The fee schedule states that the fee will be the higher of either (1) the base fee or (2) the base fee plus sharing of the positive performance, with a maximum fee of 2.50%. Furthermore, it states that the performance-based fee is assessed on the active return. Without an upper limit, the fee would be 0.5% + [20% × (14% – 2%)] = 2.90%, which is greater than 2.50%; so, the 2.50% fee is assessed.

Case: Tree Fallers Endowment

- In which year would the Red Grass Fund's investment management fee be affected by Summer's recalculation using the high-water mark?

  A. 2016

  B. 2017

  C. 2018

Case: Tree Fallers Endowment

- **Solution: C.**

  The 2016 fee calculation would not be affected by the high-water mark provision because it is the first year of operation of the fund and the return is positive (no prior losses to be offset). The investment management fee in 2016 is calculated as follows:

  Investment management fee = 1.00% + [20% × (8.0% – 1.00%)] = 2.4%.

  The 2017 fee calculation would also not be affected by the high-water mark provision because the profit sharing component of the fee is zero as a result of a negative return in that year. The investment management fee is calculated as follows:

  Investment management fee = 1.00% + 0.00% = 1.00%.

Case: Tree Fallers Endowment

The 2018 fee would be affected by the high-water mark provision because the sharing fee percentage would now be part of the 2018 gain and will need to offset the prior year losses, and only the remaining gains will generate a fee. The performance-based fee would be based on only the gains in excess of the high-water mark. The actual investment management fee charged (percentage and dollar value) will depend on the specific feature of the calculation, which is beyond the scope of this reading. Note that the correct answer can be identified by observing that 2018 is the only year in which a positive return follows a negative return in the prior year.

问题反馈

- 如果您认为金程**课程讲义/题库/视频**或其他资料中**存在错误，欢迎您告诉我们**，所有提交的内容我们会在最快时间内核查并给与答复。
- **如何告诉我们？**
  - 将您发现的问题通过电子邮件告知我们，具体的内容包含：
    - ✓ 您的姓名或网校账号
    - ✓ 所在班级（eg.1906CFA一级长线无忧班）
    - ✓ 问题所在科目（若未知科目，请提供章节、知识点）和页码
    - ✓ 您对问题的详细描述和您的见解
  - 请发送电子邮件至：academic.support@gfedu.net
- **非常感谢您对金程教育的支持，您的每一次反馈都是我们成长的动力**。后续我们也将开通其他问题反馈渠道（如微信等）。