

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

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

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

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

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

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

The new risk-based regulations also require accurate and complete performance presentations, with all discretionary accounts included in at least one composite. Bukenya believes Jacaranda's performance presentation policy meets these new requirements as well as the CFA Institute Standards of Professional Conduct because Jacaranda's single composite includes all current and terminated client accounts and presentations include the following statement: "Detailed information regarding the performance presentation is available on request." Although Jacaranda does not currently comply with GIPS standards, Bukenya encourages the firm to do so within the next few years.

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

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

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

- 1.) Which of the following CFA Institute Standards of Professional Conduct did Remmy *least likely* violate?
- A. Loyalty
 - B. Responsibilities of Supervisors
 - C. Misrepresentation

Answer = B

Guidance for Standards I–VII," CFA Institute Standard IV(C): Responsibilities of Supervisors; Standard I(C): Misrepresentation; Standard IV(A): Loyalty

There is no indication that Remmy violated his responsibility as a supervisor under Standard IV(C): Responsibilities of Supervisors. He did, however, violate Standard I(C): Misrepresentation and Standard IV(A): Loyalty by plagiarizing his former employer's compliance manual. Work performed for an employer remains the asset of the employer and cannot be taken to another firm without permission.

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

- B. Statement 1
- C. Statement 3

Answer = A

"Guidance for Standards I–VII," CFA Institute

Standard V(B): Communication with Clients and Prospective Clients

Standard V(B): Communication with Clients and Prospective Clients requires the firm to inform the clients about the specialization or diversification expertise provided by external adviser(s) when outside advisers are used to manage various portions of the clients' assets under management. This information allows clients to understand the strategies being applied that affect their investment objectives. Stating "These advisers have the necessary expertise to manage property assets" is not likely to provide enough information for the clients to understand the investment methodologies or strategies implemented by the outside advisers.

- 3.) Does Jacaranda's performance presentation policy *most likely* meet recommended procedures for complying with CFA Institute Standards of Professional Conduct?
- A. No, because of the structure of the composite
 - B. Yes
 - C. No, because it is not in compliance with GIPS standards

Answer = A

"Guidance for Standards I–VII," CFA Institute

Standard III(D): Performance Presentation

Standard III(D): Performance Presentation requires firms to provide credible performance information to clients and prospective clients as well as to avoid misstating or misleading clients and prospective clients about the investment performance of firms. A single composite that includes all client portfolios, regardless of investment objectives (which would likely be different for the retail and institutional clients) could be considered to be misleading. The standard does not require firms to be GIPS compliant. Firms not in compliance with the GIPS standards, however, should present the performance of a weighted composite of similar portfolios, rather than using a single representative account or all accounts with different non-similar portfolios.

- 4.) Jacaranda's record-keeping policy is *most likely* in violation of Standard V(C): Record Retention with regard to the:
- A. keeping of hard and electronic copies.
 - B. retention of personal notes and research models.
 - C. retention time frame.

Answer = B

"Guidance for Standards I–VII," CFA Institute
Standard V(C): Record Retention

Standard V(C): Record Retention requires the retention and maintenance of records to support the investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients. Because the independent research contractor provides research only for Jacaranda, he would not necessarily be considered a third-party research provider. Thus, he would be required to send his research reports to the firm along with his underlying supporting analysis and financial models. Therefore, Jacaranda does not meet the record retention requirements. The standard allows firms to keep hard copies and/or electronic copies of documents. In addition, although it recommends files be retained for a minimum of seven years, Jacaranda is still in compliance with the standard in that it meets local regulatory requirements.

- 5.) In response to Gatera's actions, Bukenya should *least likely* recommend which of the following actions to prevent violations of the CFA Institute Standards of Professional Conduct?
- A. Investigate further
 - B. Increase supervision of Gatera
 - C. Report Gatera to CFA Institute

Answer = C

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

As Gatera is not a covered person, it is not required for Bukenya to report him to CFA Institute. However, because Bukenya is a supervisor, she does have the responsibility under Standard IV(C) Responsibility of Supervisors to conduct a thorough investigation of the activities to determine the scope of the wrongdoing. In addition, the supervisor should respond promptly and increase (not maintain) supervision.

- 6.) Does Bukenya's confidentiality policy *most likely* violate Standard III(E): Preservation of Confidentiality?
- A. Yes, with regard to client status
 - B. Yes, with regard to type of information
 - C. No

Answer = A

"Guidance for Standards I–VII," CFA Institute
Standard III (E) Preservation of Confidentiality Guidance

Standard III(E): Preservation of Confidentiality requires information about former clients, as well as existing and prospective clients, to be kept confidential unless the law

requires the disclosure or permission has been given to disclose the information.
Jacaranda's policies cover only existing and prospective clients.

Athena

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

Six months into the first financial year, Wilson meets with all of the managers to assess each department's compliance. Wilson asks the compliance officer, Mark Zefferman, CFA, to make an opening statement to set the right tone for the meeting. Zefferman states,

At a minimum, we are responsible for implementing procedures addressing the general principles embedded in the six components of the Asset Manager Code. As stated below, we must:

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

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

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

Zefferman adds,

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

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

Mehta states,

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

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

Comment 1: On occasion, we are able to acquire securities we expect will be particularly strong performers, such as oversubscribed initial public offerings. In order to ensure that all clients are treated fairly, each client portfolio is given the same number of shares.

Comment 2: Any communication with clients is kept confidential and is only accessible by authorized personnel.

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

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

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

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

- A. Statement 1
- B. Statement 2
- C. Statement 3

Answer = B

"Asset Manager Code of Professional Conduct," Kurt Schacht, Jonathan J. Stokes, and Glenn Doggett
General Principles of Conduct

Zefferman states the firm is responsible for putting clients' interests above the firm's when appropriate. The General Principles of Conduct embedded in the six components of the Asset Manager Code state that managers have the responsibility of acting for the benefit of clients. The code does not stipulate that this responsibility is applicable only when appropriate.

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

- A. European
- B. Singaporean
- C. Local

Answer = A

“Guidance for Standards I–VII”, CFA Institute
Standard I(A): Knowledge of the Law

Zefferman, as a CFA charterholder, will be responsible for ensuring Athena complies with the stricter anti-money-laundering laws of Europe, where some of its clients reside, as per Standard I(A): Knowledge of the Law. Europe’s new laws, which encompass and exceed the local anti-money-laundering regulations, are already in place; therefore, these are the regulations that must be currently followed.

3.) Which of Mehta’s client service policies is consistent with the Asset Manager Code of Professional Conduct?

- A. Communication timing
- B. Marketing material reviews
- C. Types of disclosures

Answer = B

“Asset Manager Code of Professional Conduct,” Kurt Schacht, Jonathan J. Stokes, and Glenn Doggett
Section A, Loyalty to Clients; Section D, Risk Management, Compliance, and Support; Section F, Disclosures

Section D, Risk Management, Compliance, and Support, of the Asset Manager Code states that portfolio information provided to clients should be reviewed by an independent third party. The compliance department would be considered an independent third party because compliance is not involved with compiling or presenting the information to clients. According to Section F, Disclosures, disclosures should be truthful, accurate, complete, and understandable. It is unlikely that clients would easily understand complicated calculations. Section F, Disclosures, also calls for communications with clients to be on an ongoing and timely basis. Communication with clients only when they ask for it would not be consistent with the Asset Manager Code. It is recommended that communication be at least on a quarterly basis.

4.) Which of Peterson’s comments is inconsistent with the Asset Manager Code of Professional Conduct?

- A. Comment 3

- B. Comment 1
- C. Comment 2

Answer = B

“Asset Manager Code of Professional Conduct,” Kurt Schacht, Jonathan J. Stokes, and Glenn Doggett
Section A, Loyalty to Clients; Section B, Investment Process and Actions

Section B(6)(b), Investment Process and Actions, requires clients to be treated equitably, not equally. Clients have different investment objectives and risk tolerances, so treating clients equally would be inconsistent with the Asset Manager Code.

- 5.) Are Gilchrist’s comments regarding portfolio valuation consistent with the Asset Manager Code of Professional Conduct?
- A. No, with regard to the process used to price illiquid securities
 - B. No, with regard to third-party pricing services
 - C. Yes

Answer = C

“Asset Manager Code of Professional Conduct,” Kurt Schacht, Jonathan J. Stokes, and Glenn Doggett
Section E, Performance and Valuation; Section F, Disclosures

Section E, Performance and Valuation, of the Asset Manager Code calls for the use of fair market values sourced by third parties when available, and when such third-party prices are not available, the code calls for the use of “good faith” methods to determine fair value. Athena’s policy appears consistent with this requirement. In terms of client reporting, monthly valuation reports would be consistent with the call for timely reporting.

- 6.) Are Wilson’s closing remarks consistent with recommended practices and procedures designed to prevent violations of the Asset Manager Code of Professional Conduct?
- A. Yes
 - B. No, with regard to disclosure of the firm’s risk management process
 - C. No, with regard to the business continuity plan

Answer = C

“Asset Manager Code of Professional Conduct,” Kurt Schacht, Jonathan J. Stokes, and Glenn Doggett
Section D, Risk Management, Compliance, and Support; Appendix 6, Recommendations and Guidance

At a minimum, Section D, Risk Management, Compliance, and Support, of the Asset Manager Code recommends that a business continuity plan include plans for contacting and communicating with clients during a period of extended disruption. Wilson's continuity plan includes no such strategy. Wilson's recommendation for disclosing the firm's risk management process to both clients and regulators goes beyond the code recommendation, which is to disclose the risk management process only to clients.

REDD Partners specializes in forecasting and consulting in particular sectors of the equity market. Minglu Li is an analyst for REDD and specializes in the consumer credit industry. Last year (2012), Li and her team gathered data to determine the expected return for the industry, shown in Exhibit 1.

Exhibit 1: Returns & Premiums Data, 2012

Securities and Interest Rates	Expected Yield (%)
10-year US Treasury securities	3.8
Short-term real rate	2
Long-term real rate	2.3
10-year AA corporate bond yield	4.4
Type of Premium	Premium (%)
Inflation premium	0.8
Illiquidity premium	0.9
Equity risk premium	8.4

After considering a number of approaches, Li and her team decided to use the bond-yield-plus-risk-premium method. The method had worked well in 2012, but a new assignment presented to Li's team the previous week posed a new challenge.

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

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

The SCI risk premium, equal to the SCI return minus the risk-free rate, denoted as SCIRP, is used as the dependent variable in a two-factor regression in which the independent variables are index returns minus the risk-free rate for the consumer credit industry (CCIRP) and the telecommunications industry (TELIRP). The regression results are in Exhibit 2.

Exhibit 2: Data, Statistics, and Regression Results

Index	Mean	Variance
SCIRP	5.40%	0.2704
CCIRP	4.60%	0.0784
TELIRP	2.80%	0.1024

Regression Coefficient	a	b (CCIRP)	b (TELIRP)
Coefficient value	0.011	1.02	1.045

Note: CCIRP and TELIRP are uncorrelated.

Note: All coefficients are statistically significant at the 95% level.

Although volatility information is available from the SCI data and correspondingly for the SCIRP, Li's team wants to determine the statistical relationship between the SCIRP and both the CCIRP and the TELIRP because forecasting the CCIRP and TELIRP is much less difficult than forecasting the SCIRP. After some discussion, the team believes that the volatility measure for the SCIRP data based on the volatility of CCIRP and TELIRP through the regression should be adjusted to incorporate a correlation coefficient of 0.25 between the CCIRP and TELIRP. Although the two index risk premiums were uncorrelated in the past and within the regression, Li's team believes the two technologies will become more correlated in the future.

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

Given the effect of short-term interest rates on consumer credit, Li's team then decided to determine what the short-term interest rate is expected to be in the future. The central bank's last official statement identified 2.5% as the appropriate rate, assuming no other factors. Li's team then estimates potential factors that may make the central bank behave differently from the 2.5% rate in the statement, shown in Exhibit 3.

Exhibit 3: Estimated Central Bank Factors

GDP growth forecast	2.00%
GDP growth trend	1.00%
Inflation forecast	1.50%
Inflation target	3.50%
Earnings growth forecast	4.00%
Earnings growth trend	2.00%

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

For further insight, Li decides to consult an in-house expert on central banking, Randy Tolliver. Tolliver states that a flat yield curve is consistent with tight monetary policies and tight fiscal policies.

- 1.) Based on Exhibit 1 and the method used by Li's team, the expected return for the consumer credit industry in 2012 was *closest* to:
- A. 12.8%.
 - B. 12.2%.
 - C. 12.4%.

Answer = B

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 3.1.3.3

The bond-yield-plus-risk-premium method sets the expected return to the yield to maturity on a long-term government bond plus the equity risk premium ($12.2\% = 3.8\% + 8.4\%$).

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

Answer = A

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 2.2.2

The SCI data is an index that is not composed of the same number of firms each period because of firm failures and combinations through time, which is indicative of a survivorship bias.

- 3.) Based on the correlation that Li's team believes to exist between the CCIRP and TELIRP, the new volatility for the SCIRP is *closest* to:
- A. 56.4%.
 - B. 31.8%.
 - C. 49.1%.

Answer = A

“Capital Market Expectations,” John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 3.1.1.4

Begin with:

$$\text{Var}(M) = \text{Var}(F_1) \times (b_1)^2 + \text{Var}(F_2) \times (b_2)^2 + 2 \times b_1 \times b_2 \times \text{Cov}(F_1, F_2) + \text{Var}(\epsilon).$$

Find the variance of the error term using values from Exhibit 2:

$$0.2704 = 0.0784 \times (1.020)^2 + 0.1024 \times (1.045)^2 + 2 \times 1.020 \times 1.045 \times 0 +$$

$\text{Var}(\epsilon),$

$$\text{Var}(\epsilon) = 0.0770.$$

The adjustment is stated as being a correlation of 0.25.

Change the correlation into a covariance:

$$\text{Cov}(F_1, F_2) = \text{Corr}(F_1, F_2) \times \text{Std Dev}(F_1) \times \text{Std Dev}(F_2)$$

$$= 0.25 \times (0.0784)^{0.5} \times (0.1024)^{0.5} = 0.0224$$

The volatility of SCl after adjusting for the correlation is $\sqrt{0.3181} = \mathbf{56.4\%}$

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

Answer = B

“Capital Market Expectations,” John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 2.2.4

As stated, the projections in the survey data tended to be more volatile than the actual outcomes over the same time period. This result indicates that the ex-post risk (i.e., the volatility of the actual data) tends to have a downward bias relative to the ex ante risk displayed by the survey data. This tendency is evidence of ex post risk being a biased measure of ex ante risk.

- 5.) Based on how the Taylor rule is applied by Li's team, the central bank's estimated optimal short-term rate is *closest* to:
- A. 2.8%.
 - B. 1.5%.
 - C. 2.0%.

Answer = C

“Capital Market Expectations,” John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 4.1.5.3

The Taylor rule sets the optimal short-term rate as
Neutral rate + $0.5 \times (\text{GDP growth forecast} - \text{GDP growth trend}) + 0.5 \times (\text{Inflation forecast} - \text{Inflation target})$.

Applying numbers from Exhibit 3,

$$2.0\% = 2.5\% + 0.5 \times (2.0\% - 1.0\%) + 0.5 \times (1.5\% - 3.5\%).$$

6.) Tolliver's statement regarding the yield curve is *most likely*:

- A. incorrect with regard to fiscal policy.
- B. incorrect with regard to monetary policy.
- C. correct.

Answer = A

“Capital Market Expectations,” John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 4.1.5.4

A flat yield curve is consistent with tight monetary policy and loose fiscal policy, which means that Tolliver's statement is incorrect with regard to fiscal policy.

O'Reilly

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

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

Board member Arnold Brown asks O'Reilly about the use of high-frequency (daily) data in developing capital market expectations. O'Reilly answers, "Sometimes it is necessary to use daily data to obtain a dataserie of the desired length. High-frequency data are more sensitive to asynchronism across variables and, as a result, tend to produce higher correlation estimates."

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

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

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

Exhibit 1:
Factor Covariance Matrix

	<u>Global Equity</u>	<u>Global Bonds</u>
Global Equity	0.0225	0.0022
Global Bonds	0.0022	0.0025

Exhibit 2:
Market Factor Sensitivities and Residual Risk

	<u>Sensitivities</u>		<u>Residual Risk</u>
	<u>Global Equity</u>	<u>Global Bonds</u>	
Market 1	1.20	0.00	12.00%
Market 2	0.90	0.00	7.00%
Market 3	0.00	0.95	1.80%

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

- The dividend yield will be 1.95%.
- Shares outstanding will decline 1.00%.
- The long-term inflation rate will be 1.75% per year.
- An expansion rate for P/E multiples will be 0.15% per year.
- The long-term corporate earnings growth premium will be 1% above GDP growth.
- GDP growth will be 2.5% per year.
- The risk-free rate will be 2.5%.

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

- A. correct.
- B. incorrect, because survivorship bias results in an overly pessimistic view of expected returns.
- C. incorrect, because survivorship bias results in a downward bias to reported returns.

Answer = A

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 2.2.2

O'Reilly's explanation of survivorship bias is correct.

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

- A. correct.
- B. incorrect, because calculated correlations with other assets tend to be biased downward in absolute value.
- C. incorrect, because the true variance of the asset is biased upward.

Answer = B

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 2.2.2

O'Reilly's explanation of appraisal data bias is incorrect because calculated correlations with other assets tend to be smaller in absolute value compared with the true correlations. O'Reilly is correct in that appraisal values tend to be less volatile than market-determined values for identical assets, and the true variance (and standard deviation) of the asset is biased downward.

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

- A. incorrect, because high-frequency data tend to produce lower correlation estimates.
- B. incorrect, because high-frequency data are less sensitive to asynchronism.
- C. correct.

Answer = A

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 2.2.3

O'Reilly's answer is incorrect with respect to correlation estimates. High-frequency data are more sensitive to asynchronism across variables and, as a result, tend to produce lower correlation estimates.

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

- A. No, because the anchoring trap is the tendency for the mind to give a disproportionate weight to the first information it receives on a topic
- B. No, because the anchoring trap is the tendency to temper forecasts so that they do not appear extreme
- C. Yes

Answer = A

"The Behavioral Finance Perspective", Michael M. Pompian
Section 3.2.1

O'Reilly's explanation of the anchoring trap is incorrect. The anchoring trap is the tendency of the mind to give disproportionate weight to the first information it receives on a topic. Initial impressions, estimates, or data anchor subsequent thoughts and judgments.

- 5.) Given the data in Exhibits 1 and 2, the covariance between Market 1 and Market 2 is *closest* to:
- A. 0.0225.
 - B. 0.0243.
 - C. 0.0027.

Answer = B

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 3.1.1.4

The covariance between Market 1 and Market 2 is calculated as follows:

$$M_{12} = (1.20 \times 0.90 \times 0.0225) + (0 \times 0 \times 0.0025) + [(1.20 \times 0) + (0 \times 0.90)] \times 0.0022 = 0.0243.$$

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

Answer = B

"Capital Market Expectations," John P. Calverley, Alan M. Meder, Brian D. Singer, and Renato Staub
Section 3.1.2.1.

The Grinold–Kroner model estimates the expected return on equity as follows:

$$E[R_E] \approx \frac{D}{P} - \Delta S + i + g + \Delta PE,$$

where

$E[R_E]$ = expected rate of return on equity

D/P = expected dividend yield

ΔS = expected percent change in number of shares outstanding

i = expected inflation rate

g = expected real total earnings growth rate

$\Delta PE =$ per period percent change in the P/E multiplier

According to the Grinold-Kroner model, the expected long-term developed market equity return is equal to the sum of the:

- (1) expected income return (divident yield minus the percentage change in the number of shares outstanding),
- (2) expected nominal earnings growth return (long-term inflation rate plus long-term corporate earnings growth rate), and
- (3) repricing return (expansion rate for P/E multiples). In this case,

$$E(R_e) = [1.95 - (-1.0)] + [1.75 + 3.50] + 0.15 = 2.95 + 5.25 + 0.15 = \mathbf{8.35\%}.$$

Kapoor

Daksa Kapoor, CFA, lives in London, where she works as the fixed-income portfolio manager for Cray Investments pension fund. Kapoor's portfolio holds £60 million in UK sovereign bonds, £110 in UK corporate bonds, and £85 million in UK mortgage-backed securities. The duration of this £255 million portfolio is 6.25 years.

The board of directors has established a policy prohibiting investment in any security rated below A by any of the major rating agencies. Recently, a bond held in the portfolio was downgraded to A3 by Moody's. The A3 rating is Moody's lowest A rating. Kapoor is worried about the possibility of another downgrade (to Baa1), which would require an immediate sale with significant transaction costs because of poor liquidity.

Kapoor is considering adding leverage to the portfolio by borrowing £55 million in a two-month repurchase (repo) agreement involving physical delivery of the portfolio's holdings of AAA rated UK sovereign bonds. The duration of this liability is 0.17 years. The proceeds of the repo agreement would be invested in additional UK corporate bonds and the resulting £310 million portfolio would have a duration of 5.82 years.

If the repo agreement is not entered into, Kapoor intends to reduce the portfolio's duration to 4.00 years. She is considering using an interest rate futures contract. The futures contract is priced at £97,800, and the duration of the cheapest-to-deliver bond is 8.35 years. The conversion factor for the futures contract is 1.15.

The fixed-income portfolio is benchmarked against the UK total bond market index. Kapoor has proposed adding non-UK bonds to the portfolio. In a presentation to the board of directors, she explains that her goal is to seek excess returns from international bonds. To achieve this goal, she will seek bond markets

- 1) that have the lowest correlations with UK bonds and
- 2) whose currencies are expected to appreciate relative to the British pound.

Kapoor is evaluating a £25 million block of German euro-denominated bonds for possible inclusion in the portfolio. The duration of these bonds is 14.7 years. She has estimated the return correlation between German and UK bonds as 0.66 and the German country beta as 0.44.

-
- 1.) The credit derivative that would *best* mitigate Kapoor's concerns about the A3 rated bond is a:
 - A. credit forward.
 - B. binary credit option.
 - C. credit spread option.

Answer = B

"Fixed Income Portfolio Management—Part II," H. Gifford Fong and Larry D. Guin
Section 5.3.7

Kapoor is concerned about losses associated with a particular credit event; in this case, a downgrade. Binary credit options provide payoffs contingent on the occurrence of a specified negative credit event.

- 2.) The characteristic of the repurchase agreement considered by Kapoor that would *most likely* increase the repo rate is the:
- A. delivery equipment.
 - B. term.
 - C. collateral.

Answer = B

"Fixed Income Portfolio Management—Part II," H. Gifford Fong and Larry D. Guin
Section 5.2.2

Typically, the longer the maturity, the higher the rate. The very short end of the yield curve is typically upward sloping, leading to higher yields being required on longer-term repos.

- 3.) If Kapoor enters into the repo agreement and invests the proceeds as indicated, the duration of the portfolio's equity position will be *closest* to:
- A. 5.99 years.
 - B. 5.65 years.
 - C. 7.04 years.

Answer = C

"Fixed Income Portfolio Management—Part II," H. Gifford Fong and Larry D. Guin
Section 5.2.1

The duration of the equity position in a leveraged portfolio is

$$D_E = \frac{(D_A A) - (D_L L)}{E},$$

where A is the value of assets, L is the value of liabilities (debt), and $E = A - L$. In this case, the duration of the portfolio's equity would be

$$D_E = \frac{(5.82 \times 310) - (0.17 \times 55)}{255} = 7.04,$$

where $0.17 = 2/12 =$ the duration of the repo agreement.

- 4.) If the interest rate futures contract is used to reduce the interest rate exposure in Kapoor's portfolio, the number of futures contracts that should be sold is *closest* to:
- A. 808.

- B. 703.
- C. 611.

Answer = A

“Fixed Income Portfolio Management—Part II,” H. Gifford Fong and Larry D. Guin
Section 5.3.4

The approximate number of futures contracts needed to change a portfolio’s duration from its initial level (D_I) to a target level (D_T) is

$$\text{Number of contracts} = \frac{(D_T - D_I) \times P_I}{D_{CTD} \times P_{CTD}} \times \text{Conversion factor},$$

where P_I is the initial market value of the portfolio, and CTD refers to the cheapest-to-deliver bond. In this case, the number of contracts is

$$\frac{(4.00 - 6.25) \times 255,000,000}{8.35 \times 97,800} \times 1.15 = -807.97,$$

or short 808 contracts.

- 5.) Which of these statements is *most* accurate regarding Kapoor’s two-part approach to achieving excess returns from non-UK bonds?
- A. Part 1 is appropriate, but Part 2 is inappropriate.
 - B. Part 1 is inappropriate, but Part 2 is appropriate.
 - C. Both parts are appropriate.

Answer = B

“Fixed Income Portfolio Management—Part II,” H. Gifford Fong and Larry D. Guin
Section 6.1

Low correlations will reduce the overall risk of the portfolio but not produce higher expected returns. Currency selection can add value. Currency appreciation relative to the British pound, if achieved, will produce excess returns.

- 6.) If UK interest rates increase by 50 bps, the percentage change in the value of the German bonds that Kapoor is evaluating will be *closest* to:
- A. 3.23%.
 - B. 6.47%.
 - C. 4.85%.

Answer = A

“Fixed Income Portfolio Management—Part II,” H. Gifford Fong and Larry D. Guin
Section 6.2.2

The percentage change in value for a 100 bps change in UK interest rates is the duration of the bonds multiplied by the country beta, so the change for a 50 bps change will be half that, or $0.50 \times 0.44 \times 14.7 = 3.23$.

McMorris Asset Management (MCAM) is an investment adviser based in Atlanta, Georgia. Tom Morris manages the active equity portfolios. Dan McKeen manages the semiactive equity portfolios and the semiactive derivatives portfolios. They are preparing to meet with Maggie Smith, the chief investment officer of Philaburgh Capital, who is considering hiring MCAM to replace one of its current managers.

At the meeting, Morris and McKeen discuss MCAM's investment approaches with Smith and present her with the risk and return characteristics detailed in Exhibit 1.

Exhibit 1: Summary Information for MCAM's Investment Strategies

	Approaches		
	Active Equity	Semiactive Equity	Semiactive Derivatives
Tracking risk	4.90%	3.70%	3.30%
Information ratio	0.50%	0.60%	0.70%
Expected alpha	2.40%	2.20%	2.30%

Smith asks if MCAM's active equity strategy is long only. McKeen responds that MCAM uses market-neutral long–short strategies for several reasons. He indicates that long–short strategies:

- Reason 1: enhance portfolio performance by increasing the beta.
- Reason 2: generate alpha by identifying undervalued or overvalued securities.
- Reason 3: benefit from events that give rise to price changes, which are more prevalent on the short side than on the long side.

Smith considers each approach listed in Exhibit 1 but is uncertain about what would be an optimal investment strategy. She makes the following comments about market efficiency:

Comment 1: A firm's stock price does not reflect all publicly available company information, and good research can uncover sound investment opportunities.

Comment 2: Philaburgh's mandate is for managers to limit volatility around the benchmark return while providing incremental returns that exceed management costs.

Smith states, "In order to ensure investment discipline, Philaburgh uses two methods to evaluate an investment manager's style." She then reviews the current characteristics of MCAM's active equity approach using the first method, as presented in Exhibit 2.

Exhibit 2: Method 1—Portfolio Characteristics for MCAM Active Equity Strategy Based on Current-Period Data

	Active Equity	Benchmark
Number of stocks	50	1,000
Market value	\$180 billion	\$4,400 billion
Weighted average market capitalization	\$4.0 billion	\$4.1 billion
Dividend yield	3.00%	2.00%
Price/Earnings	8×	12×

Smith then selects three benchmarks—value, blend, and growth—in addition to the normal benchmark to assess the manager’s style using the second method, as presented in Exhibit 3.

Exhibit 3: Method 2—Return Correlations between MCAM’s Active Equity Approach and Benchmarks Based on 36 Months of Historical Data

	Value	Blend	Growth
Coefficient of determination	0.39	0.45	0.65

Smith indicates that Philaburgh’s performance measurement is compliant with the Global Investment Performance Standards. In considering investment performance, Morris identifies three risks that may prevent MCAM’s active equity approach from generating incremental returns:

- Risk 1: Overestimating a stock’s earnings per share growth.
- Risk 2: Deciding incorrectly that a stock’s earnings multiple would not contract.
- Risk 3: Misjudging whether a stock’s undervaluation will correct within the investor’s investment horizon.

Smith concludes by telling Morris that she is impressed by MCAM’s track record in adding alpha in the US stock market. However, she believes that the European equity markets are likely to outperform the US equity markets over the next five years. She asks whether MCAM can structure a portfolio to capture both opportunities. Morris offers to combine his long–short active equity strategy with a EURO STOXX 50 Index strategy.

-
- 1.) Based on Exhibit 1, the approach that is *least likely* efficient with respect to delivering active returns for a given level of tracking risk is:
- A. active equity.
 - B. semiactive derivatives.
 - C. semiactive equity.

Answer = A

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Section 3

The active equity strategy has the lowest information ratio and is thus least efficient in delivering active returns. Information ratio = Active return (Portfolio – Benchmark)/Tracking risk. The information ratio is 0.5%, which is the lowest of the three.

- 2.) McKeen's response to Smith's question about MCAM's active equity style is *least likely* correct with respect to:

- A. Reason 2.
- B. Reason 1.
- C. Reason 3.

Answer = B

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Section 5.3.1

A market-neutral strategy is constructed to have an overall zero beta and thus show a pattern of returns expected to be uncorrelated with equity market returns.

- 3.) Smith's Comment 1 and Comment 2, respectively, are *most likely* consistent with an investment style that is:
- A. Comment 1 active; Comment 2 semiactive
 - B. Comment 1 active; Comment 2 active
 - C. Comment 1 semiactive; Comment 2 active

Answer = A

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Section 3

Comment 1 describes the characteristics of an active approach, whereas Comment 2 describes the characteristics of a semiactive approach.

- 4.) Based on Exhibits 2 and 3, what can Smith *most likely* determine about MCAM's investment style over time? MCAM's style has:
- A. drifted from value to growth.
 - B. not drifted.
 - C. drifted from growth to value.

Answer = C

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Section 5.1.4

The active equity strategy was not value oriented because the returns-based style analysis indicates a growth orientation given a 0.65 coefficient of determination with respect to growth returns. The current holdings, however, depict a value orientation when compared with the manager's normal benchmark given the differences in dividend yield and P/E. MCAM's style has drifted over time from growth to value.

- 5.) Which of the risks Morris identifies with respect to MCAM's active equity strategy is *least likely* applicable to a growth-oriented investor?
- A. Risk 3
 - B. Risk 1
 - C. Risk 2

Answer = A

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Sections 5.1.1, 5.1.2

The main risk for a value-oriented investor rather than a growth-oriented investor is misinterpreting a stock's cheapness within the investor's time horizon.

- 6.) The type of portfolio that Morris recommends to Smith to take advantage of both US and European equity market opportunities is *most likely* a(n):
- A. completeness fund.
 - B. core satellite.
 - C. alpha and beta separation.

Answer = C

"Equity Portfolio Management," Gary L. Gastineau, Andrew R. Olma, and Robert G. Zielinski
Section 7.3

Alpha and beta separation involve combining an index strategy with a market-neutral active strategy in order to earn a desired beta + alpha outcome. Smith's objective is to realize returns from the European market (beta) + MCAM's active return (alpha). In this case, by using the EURO STOXX 50 index strategy, MCAM is able to offer both strategies combined into an alpha and beta separation strategy for Smith.

Monts

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

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

Exhibit 1 presents key characteristics of Lerida's portfolio for the current period compared with one year ago. Because rates have shifted over this period, Monts informs Lerida that an additional investment must be made to rebalance the portfolio and reestablish the original dollar duration. Monts plans to rebalance using the existing security proportions.

Exhibit 1: Fondo de Pension Lerida Portfolio Characteristics

Sector	Market Value (€ thousands)		Duration (years)	
	One Year Ago	Current	One Year Ago	Current
Treasuries	42,000	40,950	5.4	5
Mortgage-backed securities (MBS)	37,000	36,316	3.9	3.7
Corporate "bullet" bonds	71,000	69,403	4.7	4.5

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

Exhibit 2: Sector Weightings

	Portfolio			Benchmark		
Sector	Percent of Portfolio	Duration	Contribution to Spread Duration	Percent of Portfolio	Duration	Contribution to Spread Duration
Treasuries	27.92	5	0	30	3.8	0
MBS	24.76	3.7	0.92	22.9	4	0.92
Corporate "bullet" bonds	47.32	4.5	2.13	47.1	5	2.37
Total	100		3.05	100		3.29

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

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

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

Statement 3: Our research team anticipates that the credit fundamentals of most issuers will deteriorate over the coming months as the economy contracts. The market consensus is not in line with our view yet, and spreads do not reflect the proper valuation.

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

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

Answer = C

“Fixed-Income Portfolio Management—Part I,” H. Gifford Fong and Larry D. Guin
Sections 3.1, 4.1.2

An extension of classical immunization is to integrate immunization strategies with elements of active management strategies. The difference between the 6.75% yield to maturity and 6.25% required rate is the cushion spread. As long as there is a spread cushion, the manager can actively manage part of or the entire portfolio.

- 2.) Based on Exhibit 1, the cash required to rebalance the Lerida portfolio *is closest* to:
- A. €12,027,000.
 - B. €533,000.
 - C. €3,331,000.

Answer = A

“Fixed-Income Portfolio Management—Part I,” H. Gifford Fong and Larry D. Guin
Section 4.1.1.5

The portfolio has to be rebalanced to the initial level of dollar duration. The portfolio market value and dollar duration are provided for both periods. First calculate dollar duration as: Market value × Duration × 0.01.

(€ thousands)	One Year Ago			Current		
Sector	Market Value	Duration	Dollar Duration	Market Value	Duration	Dollar Duration
Treasuries	42,000	5.4	2,268	40,950	5	2,048
MBS	37,000	3.9	1,443	36,316	3.7	1,344
Corporate “bullets”	71,000	4.7	3,337	69,403	4.5	3,123
	150,000		7,048	146,669		6,515

$$\frac{7,048,000}{6,515,000} = 1.082$$

Next, calculate the rebalancing ratio: 6,515,000

Cash required = $0.082 \times (40,950 + 36,316 + 69,403) = \mathbf{12,026,858}$.

- 3.) Based on the data in Exhibit 2, Mont’s positioning of the portfolio would suggest that the sector that poses the *most* tracking error relative to the benchmark is:
- A. Treasuries.
 - B. corporate bullets.
 - C. MBS.

Answer = B

“Fixed-Income Portfolio Management—Part I,” H. Gifford Fong and Larry D. Guin
Sections 3.2.3, 4.1.1.6

Contribution to spread duration is the key measure that provides the relative sensitivity to movements in spreads for a particular sector. The portfolio has an overweight to Treasuries on a contribution to overall duration but it is not a spread sector; a neutral position in mortgages and an underweight in corporate bonds (2.13 years in the portfolio versus 2.37 years in the benchmark). The equal weight on a nominal basis in corporate bonds implies the duration of those bonds in the portfolio is shorter than the bonds in the index, which will be less sensitive to changes in spread movement.

- 4.) Is Monts’s Statement 2 *mostly likely* correct?
- A. No, she is incorrect about corporate bonds
 - B. No, she is incorrect about mortgage-backed securities
 - C. Yes

Answer = C

“Fixed-Income Portfolio Management—Part I,” H. Gifford Fong and Larry D. Guin
Section 4.1.2.2

When securities have a contingent claim provision, explicit or implicit, there is an associated risk. In a falling-rate scenario, the manager may have higher coupon payments halted and receive principal, as is the case with mortgage-backed securities. Mortgage-backed securities thus have contingent claims risk. Fixed-rate corporate bullet bonds do not have contingent claims risk.

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

Answer = C

“Relative-Value Methodologies for Global Credit Bond Portfolio Management,” Jack Malvey
Section 6

Curve-adjustment trades take place when the portfolio manager expects credit spreads will widen (either overall or in a particular sector). The specific strategy is to shift the portfolio’s exposure to shorten spread duration by selling longer maturity corporate

bonds and buying shorter maturity bonds, which lowers the contribution to spread duration.

6.) Is Monts's Statement 4 *most likely* correct?

- A. No, because callable bonds would underperform
- B. No, because putable bonds would not provide protection
- C. Yes

Answer = A

"Relative-Value Methodologies for Global Credit Bond Portfolio Management," Jack Malvey
Section 8

Callable bonds significantly underperform non-callable bonds when interest rates decline because of their negative convexity. When the bond market rallies, callable structures do not fully participate given the upper boundary imposed by call prices.

WM's current allocation to alternative investments is presented in Exhibit 1. Quest states the justification for the allocation: "I believe that the alternative investments we have provide good liquidity and strong portfolio diversification for the remainder of the portfolio, which consists of equities and fixed income."

Exhibit 1: Alternative Investments in WM Portfolio

Type	Allocation (Canadian dollars)	Description
Real estate	20,000,000	REITs
Private equity	10,000,000	Buyout fund
Hedge funds	10,000,000	Distressed securities fund
Managed futures (DPAM)	40,000,000	Commodities—outside manager

DPAM is the manager of a managed futures fund that seeks to achieve a positive absolute return. DPAM's chief investment officer, Randall Duke, CFA, is preparing a report for his first meeting with WM's investment committee. Knowing that WM's investment committee is less familiar with real assets than with equities and fixed income, he includes the following exhibits. Exhibit 2 shows information on DPAM's portfolio positions in Canadian dollars (C\$).

Exhibit 2: DPAM's Portfolio Positions

Position 1	Long	C\$5,000,000	GSCI Non-Energy Index futures
Position 2	Long	10,000,000	Global Energy Equity Index Fund
Position 3	Long	5,000,000	Wheat futures
Position 4	Short	5,000,000	Australian dollar futures
Position 5	Long	5,000,000	Crude oil futures
Position 6	Short	10,000,000	Gold futures

Exhibit 3 provides information on current delivery month prices of selected commodity contracts.

Exhibit 3: Selected Futures Contract Prices

Contract Maturity	Australian Dollars	Wheat	Crude Oil	Gold
Spot (March 2014)	C\$105.42	C\$945	C\$74.13	C\$1681.80
Apr-14			74.5	1683
May-14		932	75.03	
Jun-14	104.35		75.57	1684.9
Jul-14		887	76.08	
Aug-14			76.54	1686.4
Sep-14	103.31	872	76.95	
Oct-14			77.38	1688.1
Dec-14	102.31	871	77.45	1689.8
Feb-15			78.23	1691.6
Mar-15	101.34	858	78.87	

Duke calls Quest to ensure that his report addresses any questions the committee may have.

Quest tells him,

There are a few questions we would like you to address in your report:

Question 1. Could you explain why using managed futures is more beneficial to us than using an unleveraged exchange-listed commodity index fund?

Question 2. The endowment has to support WM's long-term operation, which has seen its costs rising steadily over the past decade. In view of that, would it not be better for our managed futures portfolio to have a larger weighting in energy commodities, such as the crude oil position, and to eliminate agricultural commodities, such as wheat?

Question 3. Some of the committee members are considering adding commodities and other alternative investments to their own personal portfolios. We know you are knowledgeable about the institutional investment due diligence process. From the perspective of private investors, what due diligence questions would our members have in common with the WM endowment?

Duke answers:

My report already answers your first question. In answer to Question 2, I believe the retention of agricultural commodities in the portfolio can be justified as follows:

Justification 1: Agricultural commodities can increase expected return relative to a portfolio composed of only traditional investments.

Justification 2: Agricultural commodities typically provide an expected offset to losses in such assets as conventional debt instruments in times of unexpected inflation.

Justification 3: Agricultural commodities are a natural source of return, reflecting economic fundamentals over the long term.

If the committee members want to personally invest in alternative investments, the following are due diligence considerations that must be evaluated by both institutional and private investors:

Consideration 1:	Market opportunity
Consideration 2:	Determine suitability
Consideration 3:	Potential for decision risk.

- 1.) Quest's justification for the alternative investments in the WM portfolio is *most likely* correct with respect to:

- A. private equity.
- B. real estate.
- C. hedge funds.

Answer = B

"Alternative Investments Portfolio Management," Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Sections 3.1.1, 3.3.2, 4.3.1, 4.3.2

The real estate investment is in REITs, which are publicly traded securities and liquid. REITs can also provide diversification benefits when included in a portfolio of traditional investments, such as stocks and bonds. Private equity investments have low liquidity and provide low diversification benefits. Hedge funds provide strong diversification benefits but have low liquidity.

- 2.) Based on Exhibit 2, which position *most likely* represents an indirect commodity investment?

- A. Position 1
- B. Position 2
- C. Position 3

Answer = B

"Alternative Investments Portfolio Management," by Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Section 5.1.1

Position 2 is an indirect commodity investment. The Global Energy Equity Index Fund, although correlated with commodity price movements, is not a direct exposure to commodities because it is made up of stocks.

- 3.) Based on Exhibits 2 and 3, assuming a 5% increase in prices for each underlying asset in the next 12 months, DPAM will *most likely* obtain the largest roll return from:

- A. Position 5.
- B. Position 3.
- C. Position 4.

Answer = B

"Alternative Investments Portfolio Management," Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Section 5.2.2

Position 3 would provide the largest roll return. A long position in backwardation will produce a greater roll return than a position in contango if the price increases. In backwardation, futures prices with a longer time to maturity are lower than the current spot price. In contango, the futures price is greater than the spot price. The backwardation in the wheat futures is greater than that in Australian dollars and thus has a greater roll return.

4.) Duke's response to Question 1 would *least likely* include that:

- A. managed futures have a low cost structure.
- B. the index fund only earns the risk-free rate minus costs in the long term.
- C. managed futures take advantage of rising and falling markets.

Answer = A

"Alternative Investments Portfolio Management," Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Sections 7, 7.3.1

Managed futures do not have a low cost structure. The compensation arrangement for managed futures is similar to hedge funds. Thus, it is not true to say that they have a low cost structure compared with index funds.

5.) When justifying the inclusion of agricultural commodities in the portfolio, Duke is *least likely* correct in:

- A. Justification 1.
- B. Justification 3.
- C. Justification 2.

Answer = A

"Alternative Investments Portfolio Management," Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Section 5.3

Agricultural commodities do not necessarily increase the expected portfolio return. Although somewhat less so for agricultural commodities than for energy, one of the

principal roles that have been suggested for commodities in portfolios is as an inflation hedge during times of unexpected inflation and as a source of natural return over the longer term. The ability of commodities to increase expected return relative to a portfolio of traditional and other alternative investments is ambiguous.

- 6.) Which of Duke's three due diligence items would *more likely* be evaluated by an individual investor rather than by an institutional investor?
- A. Consideration 1
 - B. Consideration 3
 - C. Consideration 2

Answer = B

"Alternative Investments Portfolio Management," Jot K. Yau, Thomas Schneeweis, Thomas R. Robinson, and Lisa R. Weiss
Section 2

Consideration 3 would be more likely to be evaluated by an individual investor. Decision risk is the risk of changing strategies at the point of maximum loss. Private clients can be acutely sensitive to positions of loss at stages prior to an investment policy statement's stated time horizon. Although the determination of suitability can be more complex for a private investor, it must be done for both, just as the market opportunity must also be determined.

Hackett

Laura Hackett is a risk management consultant who helps investment companies build and enhance their risk management process. Jardins Advisors, a financial services firm with equity, fixed-income, and commodity trading desks, recently hired her to evaluate and recommend improvements to their processes. Jardins' senior management outlines their current risk management process to Hackett as follows: "First, we establish policies and procedures for risk management. Next, we identify the types of risk we face. We then measure our exposures to those risks. Finally, we determine our risk tolerance and adjust levels of risk as appropriate." They ask her, "Is this process appropriate?"

Alpha Asset Management Inc., another of Hackett's clients, hired her to identify and separate its financial risk exposures into categories. Alpha was incorporated during the current year and focuses on one investment strategy to generate returns. Alpha issues debt with a maturity of less than one year and invests the proceeds in emerging market debt. Hackett creates a list of Alpha's financial risk categories.

Hackett asks Anthony Mackenzie, a recently hired associate, to apply the analytical method to estimate the value at risk (VaR) for Alpha's portfolio, which is valued at \$20 million. The portfolio has an expected annual return of 7.5% and a standard deviation of 22.4%.

Another one of Hackett's clients is Beta Investment Advisors. Beta invests in a variety of asset classes and international markets. It uses a historical simulation approach to measure the VaR of its portfolio, based on the previous 24 months of market data. Beta asks Hackett to evaluate its approach relative to other methods used for estimating portfolio VaR.

Sigma Investment Management Inc., is a potential new client that wants to measure the credit risk of an over-the-counter (OTC) American call option on a security. The call option has a strike price of \$65 and was purchased at a price of \$3.50 per option. The option's current value is \$8.50 per option.

In addition to measuring credit risk, Sigma asks Hackett to evaluate its OTC derivative positions and recommend ways to decrease credit risk associated with these positions. Sigma provides a thorough explanation of its current process. At least 20 counterparties are used; each is limited to 7% of Sigma's total derivatives positions, and each must meet a minimum credit rating threshold. The contracts have a typical term of two years, at which time they are marked to market and all payments under the contract are netted and gains or losses settled.

- 1.) What response would Hackett *most likely* give to Jardins' senior management regarding their risk management process? The firm should:
 - A. define its risk tolerance before identifying the risks it faces.
 - B. identify the risks it faces before setting policies and procedures.
 - C. measure its risk levels before defining its risk tolerance.

Answer = A

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Section 2

The risk management process is as follows: (1) set policies and procedures, (2) define risk tolerance, (3) identify risks, (4) measure risks, and (5) adjust the level of risk.

- 2.) Which of these risk categories is *least likely* to be on Hackett's list for Alpha?
- A. Interest rate risk
 - B. Liquidity risk
 - C. Political risk

Answer = C

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Sections 4.1, 4.11

Although the company is exposed to political risk via its investment in emerging market debt, this risk is not a type of financial risk. Financial risks include risks associated with interest rates, exchange rates, stock prices, and commodity prices.

- 3.) Assuming normally distributed returns, the 5% yearly VaR for Alpha's portfolio is *closest to*:
- A. \$8,052,000.
 - B. \$5,892,000.
 - C. \$2,980,000.

Answer = B

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Section 5.2.2

There is a 5% chance the portfolio will lose 29.46%:
 $0.075 - (1.65 \times 0.224) = 0.075 - 0.3696 = -0.2946$; thus the annual 5% VaR is
 $\$20,000,000 \times 0.2946 = \$5,892,000$. With a standard normal distribution, 5% of possible outcomes are likely to be smaller than -1.65 times the standard deviation of the distribution.

- 4.) Hackett's description of Beta's current approach to VaR estimation would *most likely* mention that it:
- A. produces a wide range of randomly generated potential outcomes.
 - B. often assumes a daily portfolio expected return of zero.
 - C. is a nonparametric method of estimating VaR.

Answer = C

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Section 5.2.3

The historical simulation approach to VaR measurement calculates what the change in the current portfolio's value would have been had it been held in the past, without making any assumptions about the distribution of asset returns.

- 5.) If the security held by Sigma trades at \$70, the credit risk is *closest to*:
- A. \$5.00.
 - B. \$3.35.
 - C. \$8.50.

Answer = C

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Section 5.6.4

The amount at risk is the current value of the option, \$8.50. Once the seller has sold the option, all the credit risk falls on the buyer. In this instance, the amount of credit risk is the value of the option because this amount is what the buyer stands to lose if the seller were to default immediately.

- 6.) Sigma can *most likely* reduce credit risk in its OTC derivatives positions by changing which of the following practices?
- A. Netting
 - B. Frequency of marking to market
 - C. Limiting counterparty exposure

Answer = B

"Risk Management," Don M. Chance, Kenneth Grant, and John Marsland
Section 6.2

Sigma typically enters two-year contracts and does not mark to market until expiration of the contract. Increasing the frequency of the marking to market will decrease credit risk. When a contract is marked to market, the party for whom the contract has a positive value receives payment from the counterparty, thus eliminating credit risk. Consequently, more frequent marking to market decreases credit risk.

Anton

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

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

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

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

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

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

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

Long Pond calculates composite returns by asset weighting the individual portfolio returns using beginning-of-period values. For periods beginning 1 January 2010, we calculate composite returns by asset weighting the individual portfolio returns quarterly. All actual fee-paying, discretionary portfolios are included in at least one composite. Non-fee-paying discretionary portfolios are also included in a composite, and appropriate disclosures are provided. Client portfolios that restrict the purchase of certain securities are excluded if this restriction hinders the portfolio manager's ability to execute the investment strategy. We consider a hierarchical structure of criteria for composite definition that promotes primary and secondary strategy characteristics, such as asset classes, styles, benchmarks, and risk/return characteristics. The composites are not always defined according to each level of the hierarchy.

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

Exhibit 1: Mid-Capitalization Equity Composite Benchmark, Russell Mid-Cap Index

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

Notes:

1. Long Pond is an independent investment firm founded in May 1998 and has a single office in Seattle, WA. The firm manages portfolios in various equity, fixed-income, and real estate strategies.
2. The composite has an inception date of 31 December 2001. A complete list and description of firm composites is available on request.
3. The composite includes all fee-paying discretionary, non-taxable portfolios that follow a mid-cap strategy. The composite does not include any non-fee-paying portfolios.
4. First quarter 2013 (1Q13) data are not annualized.
5. Valuations are computed and performance reported in US dollars.
6. Internal dispersion is calculated using the equal-weighted standard deviation of all portfolios that were included in the composite for the entire year.
7. Gross-of-fees performance returns are presented before management and custodial fees but after all trading expenses. The management fee schedule is as follows: 1.00% on first \$25 million; 0.60% thereafter. Net-of-fees performance returns are calculated by deducting the management fee of 0.25% from the monthly gross composite return.

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

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

- 1.) In her statement regarding input data, Basco is *least likely* correct with respect to:
- A. fair value.
 - B. settlement date accounting.
 - C. accrual accounting.

Answer = B

"Overview of the Global Investment Performance Standards," Phillip Lawton
Section 3.2

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

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

Answer = B

"Overview of the Global Investment Performance Standards," Phillip Lawton
Section 3.5

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

- 3.) With regard to Long Pond's procedures for composites, which of the following should *most likely* be modified in order to be compliant with the GIPS standards?
- A. The composite return calculations
 - B. The composite construction
 - C. The composite definition

Answer = A

"Overview of the Global Investment Performance Standards," Phillip Lawton
Section 3.6

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

- 4.) Based on Exhibit 1 and the notes following the table, Long Pond is *least likely* in compliance with GIPS standards with regard to the:
- A. measure of internal dispersion.
 - B. length of performance record.
 - C. presentation of 1Q13 performance.

Answer = B

"Overview of the Global Investment Performance Standards," Phillip Lawton
Sections 3.11, 3.12

Long Pond is required by the GIPS standards to present five years of performance because the composite has been in existence for that period. The mid-cap composite was started on 31 December 2001; therefore, performance for 2008 must be presented. After presenting 5 years of performance, the firm should present additional annual performance up to 10 years.

- 5.) Regarding the disclosures contained in Exhibit 1, the GIPS standards would *most likely*:
- A. require Columns 3 and 7 and recommend Column 6.
 - B. require Column 6 and recommend Columns 4 and 7.
 - C. require Columns 2 and 5 and recommend Column 1.

Answer = C

"Overview of the Global Investment Performance Standards," Phillip Lawton
Sections 3.11, 3.12, and 3.13

The presentation of firm assets (or percentage of firm assets represented by the composite) is required. Firms are required to present either net-of-fees performance or gross-of-fees performance. If one or the other is presented, then it is recommended that the remaining also be presented. For example, if net-of-fees performance is disclosed, then it is recommended that gross-of-fees performance also be disclosed.

- 6.) In order for the real estate composite to be GIPS compliant, at a minimum, which of Long Pond's practices would *most likely* need to be modified?
- A. Rate-of-return calculations
 - B. Frequency of valuations
 - C. The use of fair and market values

Answer = B

"Overview of the Global Investment Performance Standards," Phillip Lawton
Section 3.15

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

