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:

$$\text{Opportunity cost} = (\text{S} - \sum S_j)(P_n - P_d)$$

$$= (120{,}000 - 90{,}000) \times (\$42.50 - \$40.00)$$

$$= \$75{,}000$$

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).

$$\text{Sortino ratio} = \frac{(\text{Average portfolio return} - \text{MAR})}{\text{Target semideviation}}$$

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

$$\text{Allocation} = (w_I - W_i)(B_i - B)$$
$$\text{North America} = (10.84\% - 7.67\%)(16.47\% - 22.67\%)$$
$$= -0.20\%$$
$$\text{Greater Europe} = (38.92\% - 42.35\%)(25.43\% - 22.67\%)$$
$$= -0.09\%$$
$$\text{Developed Asia and Australasia}$$
$$= (29.86\% - 31.16\%)(12.85\% - 22.67\%)$$
$$= 0.13\%$$

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

金程教育 GOLDEN FUTURE

➢ 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

金程教育 GOLDEN FUTURE

➢ **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

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