QUESTION 9 HAS FOUR PARTS FOR A TOTAL OF 21 MINUTES

Keith Worthington and Jan Carlos are discussing various approaches to equity portfolio management and the tradeoff between active return versus tracking risk. Worthington states the tradeoff is that as active return increases, there will be an increase in tracking risk, resulting in no systematic change in the information ratio. Carlos states that tracking risk will be higher for enhanced indexing than for full-blown active management if the active manager is allowed to selectively hedge risk.

A.   **State** whether each comment is correct or incorrect. If it is incorrect, **explain** what is incorrect.

(4 minutes)

Worthington then brings up a recent analysis he has performed on a manager. He ran the following regression analysis on the manager's return (R_p). The factors in the analysis are small- and large-cap growth and small- and large-cap value, respectively.

$$R_P = 1.2\% - 0.61(SCG) - 0.85(LCG) + 1.23(SCV) + 1.45(LCV)$$

- Worthington goes on to state that because the largest weight is large-cap value, the best classification is that the manager is a large-cap value style manager.
- Carlos states that the analysis is consistent with a long-short portfolio, and a reasonable performance benchmark is money market return plus a spread.

B.   **Discuss** each comment and **state** what is correct and incorrect in each statement. There must be parts you agree and disagree with in each comment.
Answer Question 9-B in the template provided.

(6 minutes)

Template for Question 9-B

Statement by:	Discuss what is correct	Discuss what is incorrect
Worthington		
Carlos		

C.   Carlos is considering combinations of the three investment alternatives shown in Exhibit 2. **Compute** the expected active return, active risk, and information ratio of allocating 80% to alternative 1 and 20% to alternative 2. **Show** your work.

(6 minutes)

Exhibit 2

Alternative	Active Return	Active risk
1	−0.10%	0.01%
2	2.71%	4.55%
3	1.55%	2.77%

D.   **State** whether this allocation is most likely a completeness fund approach or a core-satellite approach. **Support** your decision with two reasons.

(5 minutes)

QUESTION 9

Source: Study Session 12 LOS 23.b, i, m, n, r

A.   Worthington is incorrect. As strategies move from passive to semiactive to full active, both active return and tracking risk tend to increase; however, the ratio of the two, the IR, tends to be maximized at semiactive.

Carlos is incorrect. Tracking risk is higher for full-blown active management. Selective hedging would only add value and reduce risk if the manager were always correct, which is an unreasonable assumption.

Candidate discussion:

1 point for each conclusion and 1 point for each discussion of what is incorrect.

B.

Statement by:	Discuss what is correct	Discuss what is incorrect
Worthington	Correct that LCV is the largest positive exposure	Both SCV and LCV have large positive weights, indicating this is a value manager more than LC. The regression also indicates negative weights to LCG and SCG, further suggesting the focus is on value and not market cap.
Carlos	Large positive (1.23 + 1.45) exposure to value offset by large negative (−0.61 − 0.85) exposure to growth, which is consistent with long value and short growth.	The data indicates net long exposure. Comparing to equity returns is more appropriate than money market. Note that if there were equal long and short positions, that would be more consistent with market neutral and comparison to money market returns plus a spread.

Candidate discussion:

1 point each for the two discussions of what is correct and 2 points each for what is incorrect.

C.   Active return is a simple weighted average: 0.8(−0.10%) + 0.2(2.71%) = 0.46%

Active risk uses the standard portfolio variance formula with the default assumption of 0 correlation:

$0.8^2(0.01^2) + 0.2^2(4.55^2) + 2(0.8)(0.2)(0)(0.01)(4.55)$ = variance = 0.8282

Active risk = $0.8282^{0.5}$ = 0.91%

IR = 0.46% / 0.91% = 0.51

Candidate discussion:

For each calculation, 1 point for a correct setup and 1 point for a correct calculation.

D.   This is core-satellite.
        • Alternative 1 is most likely an index fund given the small active return and risk.
        • Alternative 2 is a small allocation to an active management to add value given the positive active return of Alternative 2.
        • If it were a completeness fund approach, then the allocations should have offsetting active return and risk to achieve more index-like characteristics.

Candidate discussion:

1 point for core-satellite and 2 points each for two reasons.