

Index-Based Equity Strategies - Answers

Reading 1

Q1.1–Q1.4

The Mackenzie Education Foundation funds educational projects in a four-state region of the United States. Because of the investment portfolio's poor benchmark-relative returns, the foundation's board of directors hired a consultant, Stacy McMahon, to analyze performance and provide recommendations.

McMahon meets with Autumn Laubach, the foundation's executive director, to review the existing asset allocation strategy. Laubach believes the portfolio's underperformance is attributable to the equity holdings, which are allocated 55% to a US large-capitalization index fund, 30% to an actively managed US small-cap fund, and 15% to an actively managed developed international fund.

Laubach states that the board is interested in following a passive approach for some or all of the equity allocation. In addition, the board is open to approaches that could generate returns in excess of the benchmark for part of the equity allocation. McMahon suggests that the board consider following a passive factor-based momentum strategy for the allocation to international stocks.

McMahon performs a sector attribution analysis based on Exhibit 1 to explain the large-cap portfolio's underperformance relative to the benchmark.

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

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

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

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

	Portfolio 1	Portfolio 2	Portfolio3	Index Fund
Fees	0.10%	0.09%	0.07%	0.03%
Cash holdings	6.95%	3.42%	2.13%	0.51%

Question 1.1

Compared with broad-market-cap weighting, the international equity strategy suggested by McMahon is *most likely* to:

- A.** concentrate risk exposure. ✓
- B.** be based on the efficient market hypothesis.
- C.** overweight stocks that recently experienced large price decreases.

Correct Answer: A

EXPLANATION

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

Question 1.2

The international strategy suggested by McMahon is *most likely* characterized as:

A. risk based.

B. return oriented. ✓

C. diversification oriented.

Correct Answer: B

EXPLANATION

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

Question 1.3

Using a sector attribution analysis based on Exhibit 1, which US large-cap sector is the primary contributor to the portfolio's underperformance relative to the benchmark?

A. Utilities

B. Consumer staples

C. Information technology



Correct Answer: C

EXPLANATION

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

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

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

Question 1.4

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

A. Portfolio 1

B. Portfolio 2

C. Portfolio 3



Correct Answer: C

EXPLANATION

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

Equity Portfolio Management (2)

This study session takes an in-depth look at active equity portfolio management. It begins with a discussion of quantitative and fundamental equity strategies, including the underlying rationale for the investment approach and how they are created, whether top-down or bottom-up. Factor-based investing, as well as key specialized equity strategies such as activist investing and statistical arbitrage, are explored. The study session concludes with a discussion of issues important in active equity portfolio construction, including active share, active risk, risk budgeting, and constraints on portfolio construction.