**SS13&14**

**The following information is related to Question 1-4**

Daniels Corporation wishes to allocate a portion of its pension portfolio to an active money manager with a value investment style. Sarkar has collected information on three active portfolio managers and will recommend one of them to Daniels. Selected information for the three managers is presented below in Exhibit 1.

| **Exhibit 1** | | | |
|---|---|---|---|
| **Investment Manager Data; December 31, 2009** | | | |
| | **Manage A** | **Manager B** | **Manager C** |
| Assets under management ($ millions) | 2,876 | 3,752 | 4,619 |
| P/E | 8.7 | 17.5 | 23.1 |
| Dividend yield | 3.50% | 1.70% | 1.00% |
| EPS growth (5-year projected) | 6.75% | 5.25% | 14.50% |
| Portfolio active return | 3.50% | 3.00% | 4.30% |
| Portfolio tracking risk | 5.00% | 1.50% | 6.00% |
| Style fit | 87.00% | 95.00% | 85.00% |

1. Based on the information presented in Exhibit 1, Sarkar should recommend to the Daniels Corporation Pension Fund that the most appropriate manager to meet its investment objective is:

   A. Manager A.

   B. Manager B.

   C. Manager C.

   Solution: A.

   A is correct. Manager A has a low PE, high dividend yield and a style fit of 87% which suggests that he is following an active value strategy.

2. Based on Exhibit 1, which of the following sub styles is most consistent with Manager C's investment style?

   A. Low P/E

   B. High yield

   C. Earnings momentum

   Solution: C.

   C is correct. Manager C follows a growth investment style. Earnings momentum is a growth investment sub-style.

3. Gatchell is given the task of reviewing three investment managers and selecting a manager that is most likely to adhere to Sonera's investment policy statement. Information about the investment managers is found in Exhibit 1.

**Exhibit 1**

**Investment Manager Data**

| | Investment Manager | | |
|---|---|---|---|
| | **A** | **B** | **C** |
| Assets under management ($ millions) | 1,325 | 3,912 | 524 |
| Information ratio | –0.27 | 0.50 | 0.75 |
| Small-cap value index– beta | 0.95 | 0.98 | 1.05 |
| Small-cap growth index– beta | 0.32 | 0.43 | 0.48 |
| Large-cap value index – beta | 1.05 | 1.10 | 0.96 |
| Large-cap growth index – beta | 0.47 | 0.39 | 0.37 |
| Manager stated style | Value | Value | Growth |
| Manager stated sub-style | Low P/E | High yield | Momentum |

4. Based on Exhibit 1, which investment manager most likely meets the criteria established in the endowment's investment policy statement?

A. Manager A

B. Manager B

C. Manager C

Solution: B.

B is correct because manager B has a positive information ratio, demonstrating that he has been able to deliver active returns relative to his level of tracking error. Manager B's investment style is consistent with a value investment style, with a higher beta for the two value indices, the small-cap value index and the large-cap value index.

**The following information is related to Question 5**

Ayanna Chen is a portfolio manager at Aycrig Fund, where she supervises assistant portfolio manager Mordechai Garcia. Aycrig Fund invests money for high-net-worth and institutional investors. Chen asks Garcia to analyze certain information relating to Aycrig Fund's three sub-managers, Managers A, B, and C.

Selected data on Manager C's portfolio, which contains three assets, is presented in Exhibit 1.

| Exhibit 1. Selected Data on Manager C's Portfolio | | | | | |
|---|---|---|---|---|---|
| | Portfolio Weight | Standard Deviation | Covariance | | |
| | | | Asset 1 | Asset 2 | Asset 3 |
| Asset 1 | 30% | 25.00% | 0.06250 | 0.01050 | 0.00800 |
| Asset 2 | 45% | 14.00% | 0.01050 | 0.01960 | 0.00224 |
| Asset 3 | 25% | 8.00% | 0.00800 | 0.00224 | 0.00640 |

5. Based on Exhibit 1, the proportion of Manager C's total portfolio variance contributed by Asset 2 is closest to:

A. 0.0025.

B. 0.0056.

C. 0.0088.

Solution: B.

B is correct. The contribution of an asset to total portfolio variance equals the summation of the multiplication between the weight of the asset whose contribution is being measured, the weight of each asset (xj), and the covariance between the asset being measured and each asset (Cij), as follows:

$$\text{Contribution of each asset to portfolio varianc} = CV_i = \sum_{j=1}^{n} x_i x_j C_{ij}$$

The contribution of Asset 2 to portfolio variance is computed as the sum of the following products:

| | |
|---|---|
| Weight of Asset 2 × Weight of Asset 1 × Covariance of asset 2 with Asset 1, plus | 0.45 × 0.30 × 0.01050 |
| Weight of Asset 2 × Weight of Asset 2 × Covariance of Asset 2 with Asset 2, plus | 0.45 × 0.45 × 0.01960 |
| Weight of Asset 2 × Weight of Asset 3 × Covariance of Asset 2 with Asset 3 | 0.45 × 0.25 × 0.00224 |
| = Asset 2's contribution to total portfolio variance | 0.005639 |

**The following information is related to Question 6-8**

Monongahela Ap is an equity fund analyst. His manager asks him to evaluate three actively managed equity funds from a single sponsor, Chiyodasenko Investment Corp. Ap's assessments of the funds based on assets under management (AUM), the three main building blocks of portfolio construction, and the funds' approaches to portfolio management are presented in Exhibit 1.

**Exhibit 1. Ap's Assessments of Funds 1, 2, and 3**

| Fund | Fund Category | Fund Size(AUM) | Number of Securities | Description |
|---|---|---|---|---|
| 1 | Small-cap stocks | Large | Small | Fund 1 focuses on skillfully timing exposures to factors, both rewarded and unrewarded, and to other asset classes. The fund's managers use timing skills to opportunistically shift their portfolio to capture returns from factors such as country, asset class, and sector. Fund 1 prefers to make large trades. |
| 2 | Large-cap stocks | Large | Large | Fund 2 holds a diversified portfolio and is concentrated in terms of factors. It targets individual securities that reflect the manager's view that growth firms will outperform value firms. Fund 2 builds up its positions slowly, using unlit venues when possible. |
| 3 | Small-cap stocks | Small | Large | Fund 3 holds a highly diversified portfolio. The fund's managers start by evaluating the risk and return characteristics of individual securities and then build their portfolio based on their stock-specific forecasts. Fund 3 prefers to make large trades. |

Ap reviews quarterly holdings reports for Fund 3. In comparing the two most recent quarterly reports, he notices differences in holdings that indicate that Fund 3 executed two trades, with each trade involving pairs of stocks. Initially, Fund 3 held active positions in two automobile stocks—one was overweight by 1 percentage point (pp), and the other was underweight by 1pp. Fund 3 traded back to benchmark weights on those two stocks. In the second trade, Fund 3 selected two different stocks that were held at benchmark weights, one energy stock and one financial stock. Fund 3 overweighted the energy stock by 1pp and underweighted the financial stock by 1pp.

6. Based on Exhibit 1, the main building block of portfolio construction on which Fund 1 focuses is *most* likely:

A. alpha skills.

B. position sizing.
C. rewarded factor weightings.

Solution: A.

A is correct. The three main building blocks of portfolio construction are alpha skills, position sizing, and rewarded factor weightings. Fund 1 generates active returns by skillfully timing exposures to factors, both rewarded and unrewarded, and to other asset classes, which constitute a manager's alpha skills.

7. As a result of Fund 3's two trades, the portfolio's active risk *most* likely:

A. decreased.
B. remained unchanged.
C. increased.

Solution: C.

C is correct. Active risk is affected by the degree of cross-correlation. The correlation of two stocks in different sectors is most likely lower than the correlation of two stocks in the same sector. Therefore, the correlation of the energy/financial pair is most likely lower than that of the automobile/automobile pair. Because both positions were implemented as an overweight and underweight, the lower correlation of the two stocks in the new position should contribute more to active risk than the two-stock position that it replaced.

8. What was the effect of Fund 3's two trades on its active share? Fund 3's *active* share:

A. decreased.
B. remained unchanged.
C. increased.

Solution: B.

B is correct. Active share changes only if the total of the absolute values of the portfolio's active weights changes. For the two trades in Fund 3, both the initial position and the new position involved two stocks such that one was 1pp underweighted and the other was 1pp overweighted. Although the active weights of particular securities did change between the initial position and the new position, the total absolute active weights did not change. Therefore, the portfolio's

active share did not change.