The Efficiency of the Market Portfolio.

Q: Can sophisticated institutional investors consistently profit @ the expense of individual investors?

Conditions:

1st The behavior of individual investors pushes the stock prices so that a non-zero alpha investment strategy appears.

2nd There happens to be limited competition for the investment above.

Trading Strategies.

which appear to create a positive (alpha).

- Criteria
  - Size
    - Market Capitalization
    - Book-to-Market Ratio
  - Momentum

Efficient Market Hypothesis.

Weak-form efficiency. One cannot make consistent gains by trading using the information is past prices.

Semi-strong-form efficiency. One cannot make consistent gains by trading using publicly available information.

Strong-form efficiency. One cannot make consistent gains by trading using privately available information.

19) Determine which of the following statements is most similar to the semi-strong version of the efficient markets hypothesis.

(A) It should not be possible to consistently profit by selling winners and hanging on to losers.

(B) It should not be possible to consistently profit by trading on information in past prices.

(C) It should not be possible to consistently profit by trading on any public information, such as that found on the Internet or in the financial press.

(D) It should not be possible to consistently profit by trading on private information, such as that obtained from a thorough analysis of the company and its industry.

(E) It should not be possible to consistently profit by trading on inside information.

24) The following four observations were made about prices and/or returns:

I. The annualized market return on perfectly sunny days in New York City is much higher than on perfectly cloudy days.

II. A company's stock price dropped sharply on the day it issued a warning that upcoming earnings would likely be lower than previously expected.

III. A company's stock price increased sharply on the day it was announced that they were a strong candidate to soon be taken over by a stronger company.

IV. Trader S consistently earned positive abnormal returns when using a momentum strategy that relied upon investing in stocks that had outperformed the S&P 500 index the previous year.

Determine which two of the four trends described above are consistent with the efficient markets hypothesis (EMH):

(A) I and II

(B) I and III

(C) II and III

(D) II and IV

(E) III and IV

21) Determine which version of the efficient markets hypotheses is contradicted by a momentum strategy whereby investors can use past stock returns to form a portfolio with positive alpha.

(A) Weak form only

(B) Weak form and semi-strong form only

(C) Weak form, semi-strong form, and strong form

(D) Strong form only

(E) It does not contradict any of the three forms of the efficient markets hypothesis.

Multifactor Models.

Even if the market portfolio is not efficient, that does not mean that an efficient portfolio does not exist (remember the tangent portfolio).

If an efficient portfolio exists, then

$$\mathbb{E}[R_S] = r_S = r_f + \beta_S^{eff} (\mathbb{E}[R_{eff}] - r_f)$$

Note: Any efficient portfolio should be well-diversified. We "construct" an efficient portfolio from a collection of well-diversified portfolios.

1st Assume that we have N portfolios from which we can "build" an efficient portfolio. We call them factor portfolios and denote them by $F1, F2, \dots, FN$.

2nd How do we express $\mathbb{E}[R_S]$ in terms of $R_{F1}, R_{F2}, \dots, R_{FN}$? (This will include the interactions between S and Fi.)

For two factors:

$$\mathbb{E}[R_S] = r_f + \beta_S^{F1} (\mathbb{E}[R_{F1}] - r_f) + \beta_S^{F2} (\mathbb{E}[R_{F2}] - r_f)$$