PROBLEM SET: Efficiency

Exercise 1.

Efficiency

Which of the following statements is true if the efficient market hypothesis holds?

(a) It implies perfect forecasting ability.

(b) It implies that prices reflect all available information.

(c) It implies that the market is irrational.

(d) It implies that prices do not fluctuate.

(e) I choose not to answer.

Exercise 2.

Firm XYZ is 100%-equity financed and has 1 million shares outstanding. Its net income is 5 million per year and its cost of capital is 10%. It announces it will undertake a new project and finance this with an issue of new shares. The new project will be initiated a year from now at a cost of 7 million whereafter it will generate annual cash flows of 3 million. Assume efficient financial markets and no taxes.

What is change in the price of XYZ's stock **upon announcement**?

1. $0
2. $15
3. $21
4. $23
5. I choose not to answer.

Exercise 3.

Market efficiency

If the following statements indicate some type of market inefficiency, indicate which form the efficient markets hypothesis is violated (i.e., weak, semi-strong or strong). Otherwise, explain why the statement is consistent with the efficient markets hypothesis.

1. If you had bought stocks ten years ago which subsequently paid high dividends, you would have gotten an extremely high return.
2. If you have bought stocks ten years ago which had previously paid high dividends, you would have gotten an above average pre-tax return.
3. Tax-free municipal bonds have lower returns than similar taxed corporate bonds.
4. Small, highly levered firms promise higher interest rates on their bonds than do large, all equity firms.
5. My uncle made a bundle in the stock market last year.
6. "Elliot Wave Theory," a form of chartism, or technical analysis, would have helped you make above average returns over the past 2 years.
7. Ivan Boesky, currently in jail for insider trading, earned above average returns on his portfolio.

8. Stocks which have had above average returns in the past (in the statistical sense) tend to have above average returns in the future.

   Hint: remember the CAPM.

9. Small firms stocks give higher returns, on average, than large firm stocks.

Exercise 4.

efficiency (BM 13.3)

Which of the following observations *appear* to indicate market inefficiency? Explain whether the inefficiency is weak, semistrong, or strong. (*Note*: If the market is not weak-form-efficient, it is said to be *weak*-form-inefficient; if it is not semistrong-form-efficient, it is *semistrong*-form-inefficient, and so on.)

1. Tax-exempt municipal bonds offer lower pretax returns than taxable government bonds.
2. Managers make superior returns on their purchases of their company's stock.
3. There is a positive relationship between the return on the market in one quarter and the change in aggregate corporate profits in the next quarter.
4. There is disputed evidence that stocks which have appreciated unusually in the recent past continue to do so in the future.
5. The stock of an acquired firm tends to appreciate in the period before the merger announcement.
6. Stocks of companies with unexpectedly high earnings *appear* to offer high returns for several months after the earnings announcement.
7. Very risky stocks on the average give higher returns than safe stocks.