

Exercise Set 5

1. Which of the following option(s) limits market efficiency?
	1. Many competing active and profit-seeking investors
	2. Random arrival of new information that causes changes in future cash flows and/or discount rates.
	3. Limits to arbitrage such as transaction costs, short-selling constraints, and leverage.
	4. Behavioral biases that affect a large portion of the stock market
2. A “random walk” occurs when:
	1. Stock price changes are random but predictable.
	2. Stock prices respond slowly to both new and old information.
	3. Future price changes are uncorrelated with past price changes.
	4. Past information is useful in predicting future prices.
3. The semi-strong form of the efficient market hypothesis asserts that stock prices:
	1. Fully reflect all historical price information.
	2. Fully reflect all relevant information, including insider information.
	3. May be predictable.
	4. Fully reflect all publicly available information.
4. Which one of the following would provide evidence against the semi-strong form of the efficient market theory?
	1. About 50% of pension funds outperform the market in any year.
	2. All investors have learned to exploit signals about future performance.
	3. Trend analysis is worthless in determining stock prices.
	4. Low P/E stocks tend to have positive abnormal returns over the long run.
5. Consider the following information:

|  |  |  |
| --- | --- | --- |
|  | **Expected Return** | **Beta(MKT)=**$$β\_{i,M}$$ |
| **Portfolio X** | 15% | 1.2 |
| **Portfolio Y** | 2% | -0.1 |
| **Market** | 14% | 1 |
| **Rf** | 3% | 0 |

* 1. According to this one-factor APT model, are Portfolio X and Portfolio Y correctly priced? If not, please explain how you would take advantage of this arbitrage opportunity
	2. If you found a riskless profit in point a), do you think that such an opportunity will be available to investors for a long time? Explain why.
1. If markets are perfectly efficient, what should be the correlation coefficient between stock returns for two nonoverlapping time periods?
2. A successful firm like Microsoft has consistently generated large profits for years. Is this a violation of the EMH?
3. The semi-strong form of the efficient market hypothesis asserts that all publicly available information is rapidly and correctly reflected in securities prices. This implies that investors cannot expect to derive above-average profits from purchases made after information has become public because security prices already reflect the information’s full effects.
	1. Identify and explain two examples of empirical evidence that tend to support the EMH implication stated above.
	2. Identify and explain two examples of empirical evidence that tend to refute the EMH implication stated above.
4. The Book-to-Market (BM) effect suggests an investor can earn abnormal returns by buying high BM stocks and selling low BM stocks. Is this statement true in a world where the Fama-French three factor model holds?
5. Growth and value can be defined in several ways. “Growth” usually conveys the idea of a portfolio emphasizing or including only issues believed to possess above-average future rates of per-share earnings growth. Low current yield, high price-to-book ratios, and high price-to earnings ratios are typical characteristics of such portfolios. “Value” usually conveys the idea of portfolios emphasizing or including only issues currently showing low price-to-book ratios, low price-to-earnings ratios, above-average levels of dividend yield, and market prices believed to be below the issues’ intrinsic values.
	1. Identify and provide reasons why, over an extended period of time, value-stock investing might outperform growth-stock investing.
	2. Explain why the outcome suggested in a) should not be possible in a market widely regarded as being highly efficient.
6. Even if behavioral biases do not affect equilibrium asset prices, why might it still be important for investors to be aware of them?
7. Even if prices follow a random walk, they still may not be informationally efficient. Explain why this may be true, and why it matters for the efficient allocation of capital in our economy.
8. If markets are weak form efficient, standard technical analysis will yield abnormal trading profits that are:
	1. Negative.
	2. Positive.
	3. Equal to zero.
	4. It can be all the above
9. In an efficient market, the change in a company’s share price is most likely the result of:
	1. Insiders’ private information.
	2. The previous day’s change in stock price.
	3. Whether the company is a small cap or a large cap company
	4. New information coming into the market.