The EFFICIENT MARKETS HYPOTHESIS

Market efficiency deals with information that is available in the financial markets and the ability to earn ***abnormal*** returns, which are returns in excess of what should be earned for the risk that is associated with the investment.

Random Walk

- Stock prices change due to random events/information, which suggests that these changes are not predictable. Random price changes would support the notion of an efficient market.
- If the financial markets are informationally efficient, then existing security prices should reflect all available information, and price movements should result when the markets receive new, unexpected information, which generally occurs randomly.
- Analyst/investor competition in the financial markets—both analysts and investors tend use available information to evaluate investments in an attempt to find mispriced investments.
    - If many users of information exist, the market will tend to be efficient, because the users will ensure the information is reflected in existing prices.
    - Information is "king" when determining market prices. Prices should reflect some, if not all, information that exists in the financial markets.
- Forms (degrees) of efficiency
    - Weak-form—current prices reflect information about historical prices and past trading behavior.
        - If correct, technical analysis cannot be used to earn abnormal returns.
    - Semistrong-form—current prices reflect all publicly available information, including information contained in historical prices and past trading behavior.
        - If correct, fundamental analysis cannot be used to earn abnormal returns.
    - Strong-form—current prices reflect ***all*** information, regardless of whether the information is public or private.
        - If correct, even insiders cannot earn abnormal returns.
    - Investment strategies in efficient markets
        - A passive, rather than active, investment strategy should be followed—but and hold a well-diversified portfolio of investments.
            - Index fund—a mutual fund the mimics a market index, such as the S&P 500, in terms of its makeup and its performance
            - ETF—exchange traded fund—diversified portfolio that is purchased like the S&P 500
        - Active portfolio management—investors might have specific needs that require active management of their portfolios, perhaps to attain certain levels of risk, to position themselves with respect to paying taxes on of their portfolios, or to avoid conflicts with company-sponsored pension plans.

Market Anomalies or Empirical Testing Issues?

- Can investors earn abnormal returns? Probably, but maybe not consistently or in sufficient amounts to warrant expensive analyses.
    - Magnitude—paying professionals to provide their analytical results/recommendations might help earn higher returns than without such information. However, the average investor does not invest sufficient amounts to make the cost worthwhile.
    - Selection bias—if you have a "winning" strategy that generates abnormal returns, would (should) you share it with other investors? If you do, you no longer have an advantage compared to other investors. As a result, perhaps the results we see in the real world represent strategies that either have not worked in the past or are no longer relevant.
    - Lucky event—every investor can earn an abnormal returns at some point if he or she invests long enough; this results from luck. This is similar to betting on the number 2 on a roulette wheel over and over again. Eventually the steel ball will fall in the 2 slot, and you will win 35 times your bet; but, you probably will lose money if you follow this strategy every time you play roulette.
- Empirical tests of weak-form efficiency
    - Momentum effect—in the short run, there is a tendency of stocks that perform well to continue to perform well, and vice versa.
    - Reversal effect—in the long run, there is a tendency for well-performing stocks to reverse their performances, and vice versa.
- Empirical tests of semistrong-form efficiency
    - Anomaly—a contradiction of the EMH
    - P/E effect—low P/E stocks outperform high P/E stocks.
    - Small-firm effect—small firms outperform large firms.
    - Neglected-firm effect—firms that are not followed by many professional analysts often earn abnormal returns.
    - Book-to-market ratios—firms with high book-to-market ratios perform better than firms with low book-to-market ratios.
    - Post-announcement drifts—at times, stock prices take time (lag) to fully adjust to newly released information, perhaps many days or even weeks, which permits investors to earn abnormal returns.
    - Bubbles in the markets—bubbles (when prices move their intrinsic value for extended periods) might occur due to "irrational exuberance;" such bubbles normally reverse themselves at some point.
- Empirical tests of strong-form efficiency—rules exist to prohibit trading on inside information.
- Are market anomalies really anomalies?
    - Reported anomalies could result because models that are used to measure risk (beta) are not specified correctly; that is, the models are not measuring risk correctly.
    - Anomalies tend to disappear over time.

EMH and Mutual Fund Performance

- Mutual fund managers normally do not "beat the market," which suggests their expertise does not earn returns higher than investors can earn for themselves.
- Mutual fund managers are able to develop certain "style" strategies to create funds that meet specific needs of investors (e.g., short-term, liquid investments, growth funds, and so forth).