Efficient Capital Markets

Do security prices reflect the effect of all information?
What is meant by efficiency?

Efficient Capital Markets:
- security prices adjust rapidly to the arrival of new information
  - Efficient Markets Hypothesis (EMH)
Market Efficiency-- Continued

Why should we expect mkts. to be efficient?

- There are a large # of profit-maximizing participants that analyze & value securities
- New information comes to the mkt. randomly
- Prices adjust rapidly to reflect the new information

Price adjustments are imperfect, yet unbiased.
Reaction of S.P. to New Info. in Efficient and Inefficient Markets

Stock Price

Overreaction to “good news” with reversion

Efficient market response to “good news”

Delayed response to “good news”

Days before (-) and after (+) announcement
Reaction of S.P. to New Info. in Efficient and Inefficient Markets

Efficient market response to “bad news”

Overreaction to “bad news” with reversion

Delayed response to “bad news”

Days before (-) and after (+) announcement
Three Forms of Efficient-Market Hypothesis (EMH)

- **Weak Form Efficient Market**
  - Prices reflect information set of past prices
  - Random Walk

- **Semi-strong Form Efficient Market**
  - Prices reflect publicly available information

- **Strong Form Efficient Market**
  - Prices reflect all information relevant to a stock
Efficient-market hypothesis (EMH)-- weak-form

Current S.P. fully reflect all security-market information. e.g.,
- historical prices, odd-lot trading.....
- rates of returns are independent over time
- past stock price patterns cannot be used to make extraordinary profits

Technical Analysis is contrary to weak form of EMH
Why Technical Analysis Fails

Investor behavior tends to eliminate any profit opportunity associated with stock price patterns.

If it were possible to make big money simply by finding “the pattern” in the stock price movements, everyone would do it and the profits would be competed away.
What Pattern Do You See?

Random Stock Price Changes (Random Walk) Support Weak Form Efficiency
Efficient-market hypothesis (EMH)-- semi-strong Form

- Current S.P. fully reflect all *public* information. *e.g.*, earnings/dividends information, div. yield....
- encompasses the weak-form EMH
- trading decisions made based on new info. *after it is public* should not derive *extraordinary* profits
Efficient-market hypothesis (EMH)-- strong Form

- Current S.P. fully reflect all *private or public* information. e.g.,
  - insider information
  - encompasses semi-strong form EMH
  - trading decisions based on any information, *private or public*, should not derive *extraordinary* profits!
Relationship among Three Different Information Sets

All information relevant to a stock

Information set of publicly available information

Information set of past prices
Tests & results of alternative EMH

Weak-form: filter rules
- Small filters yield above-average profits--BEFORE taking account of trading commissions.
- SUPPORT weak-form EMH

Semi-strong form
- most studies support the semi-strong form of EMH
Implications for Corporate Finance

- Accounting choices should not affect stock prices
  - unless, of course, it affected firm’s cash flows
- In efficient markets, firm’s decision to issue new stock should not affect current S.P.
  - Reality: some temporary price-pressure
What the EMH Does and Does NOT Say

Investors can throw darts to select stocks.
- This is almost, but not quite, true.
- An investor must still decide how risky a portfolio he wants based on risk aversion and the level of expected return.

Prices are random or uncaused.
- Prices reflect information.
- The price CHANGE is driven by new information, which by definition arrives randomly-- thus, the “Random Walk.”
- Therefore, financial managers cannot “time” stock and bond sales.