# Efficient Markets Hypothesis (EMH)

Concept

Asset price reflects all relevant information about that asset

Therefore, the asset is fairly priced (price = value, i.e., equilibrium prevails)

Implications for Investors

You can't beat the market (unless you know something no one else does)
- You can't pick stocks
- You can't time the market
- Security analysis is useless
- There are no magic trading strategies
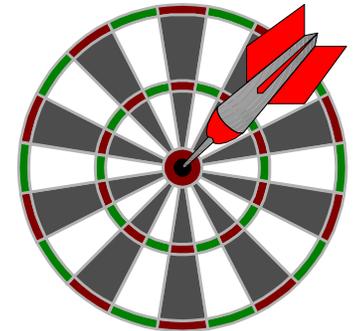
EMH does not mean you can't get lucky; it does mean you shouldn't plan on it

Recommendation: buy and hold a globally-diversified no-load index fund

Implications for Corporate Managers
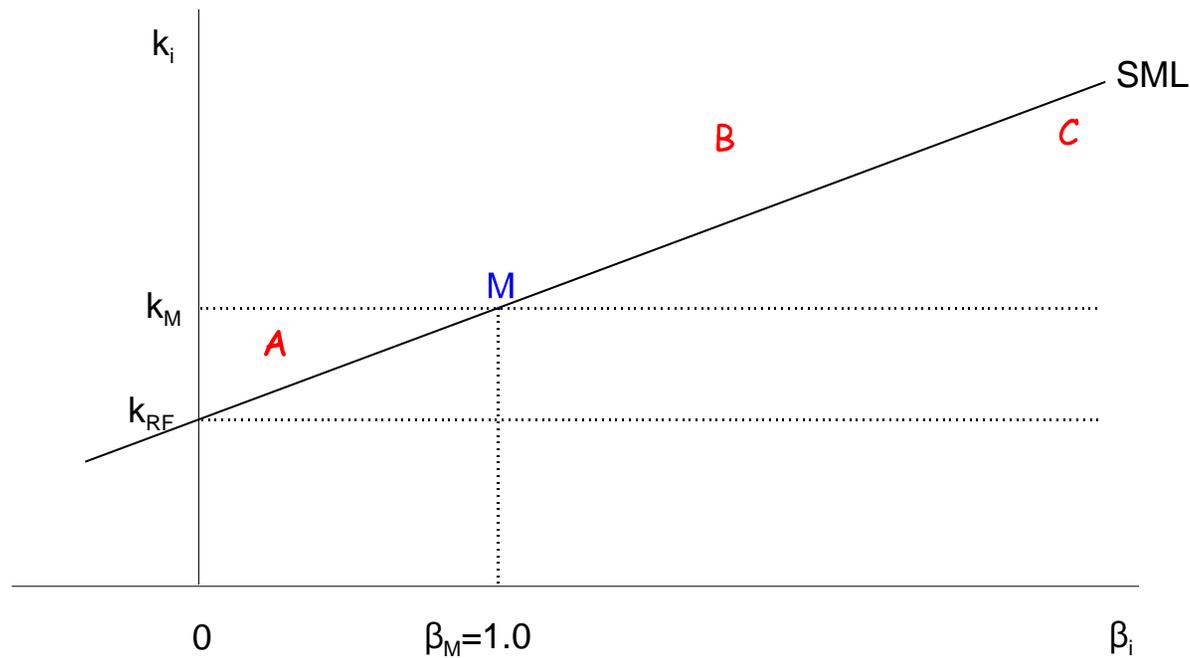
Window-dressing is useless

You can't time the market

Mis-pricing rare: shouldn't whine (unless they really do know something)

Beating the Market

Definition

Consistently earning abnormal returns (above asset's required return, along SML)
It is not enough to earn more than the market portfolio (the average stock)

Degrees of Market Efficiency

Information

How efficient a market is depends on how much information is incorporated into prices

Degree	Information Set Incorporated into Prices
Strong	all (including insider information)
Semi-strong	public: annual reports, analysts reports, press stories
Weak	historical

Both info and efficiency are "nested":
strong-form efficiency (incorporating all info), also
implies semi-strong efficiency (incorporating public
info); semi-strong implies weak form efficiency

All
Strong
Public
Semi-Strong

Historical
Weak
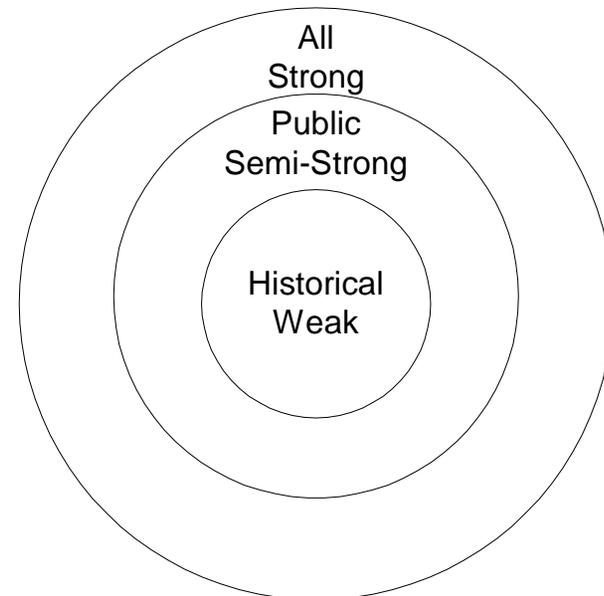
Implications for Security Analysis

Weak	technical analysis is useless
Semi-strong	fundamental analysis is useless

The Incorporation of Information

Process

Since being systematically wrong about investments is expensive, investors will
1. use any relevant information in estimating an asset's value
2. compare value and current price
3. deal

$$If\ Value \begin{Bmatrix} > \\ < \end{Bmatrix} Price,\ then \begin{Bmatrix} Buy \\ Sell \end{Bmatrix}$$

As a result, prices change until they reflect values (and the underlying information)

$$Info \rightarrow Value \rightarrow Buy/Sell \rightarrow \Delta Price$$

What kind of information?

Anything bearing on the size, timing, or risk of the asset's cash flows
    for example, changes in g, β, CF, $\hat{k}$, k_{RF}

The Impact of Information

Surprise

Only News affects prices (by changing values)

Information is not News unless it is unexpected (and could not be predicted)

      e.g., the dividend growth rate can rise, and the stock price still fall, if the increase was less than expected

True News arrives randomly

Asset prices change randomly (cannot be predicted)

      Malkiel's *A Random Walk Down Wall Street*

Caution

This does *not* imply prices are random and senseless

- Prices reflect fundamental values
- Price changes reflect changes in fundamental values, driven by random news