

FIN221: Lecture 6

Chapter 12

Market Efficiency

Chapter 12
Charles P. Jones, *Investments: Analysis and Management*,
Eighth Edition, John Wiley & Sons
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Efficient Markets

- How well do markets respond to new information?
- Should it be possible to decide between a profitable and unprofitable investment given current information?
- Efficient Markets
 - The prices of all securities quickly and fully reflect all available information

Conditions for an Efficient Market

- Large number of rational, profit-maximizing investors
 - Actively participate in the market
 - Individuals cannot affect market prices
- Information is costless, widely available, generated in a random fashion
- Investors react quickly and fully to new information

Consequences of Efficient Market

- Quick price adjustment in response to the arrival of random information makes the reward for analysis low
- Prices reflect all available information
- Price changes are independent of one another and move in a random fashion
 - New information is independent of past

Market Efficiency Forms

- Efficient market hypothesis
 - To what extent do securities markets quickly and fully reflect different available information?
- Three levels of Market Efficiency
 - Weak form - market level data
 - Semistrong form - public information
 - Strong form - all (nonpublic) information

Weak Form

- Prices reflect all past price and volume data
- Technical analysis, which relies on the past history of prices, is of little or no value in assessing future changes in price
- Market adjusts or incorporates this information quickly and fully

Semistrong Form

- Prices reflect all publicly available information
- Investors cannot act on new public information after its announcement and expect to earn above-average, risk-adjusted returns
- Encompasses weak form as a subset

Strong Form

- Prices reflect all information, public and private
- No group of investors should be able to earn abnormal rates of return by using publicly and privately available information
- Encompasses weak and semistrong forms as subsets

Evidence on Market Efficiency

- Keys:
 - Consistency of returns in excess of risk
 - Length of time over which returns are earned
- Economically efficient markets
 - Assets are priced so that investors cannot exploit any discrepancies and earn unusual returns
 - Transaction costs matter

Weak Form Evidence

- Test for independence (randomness) of stock price changes
 - If independent, trends in price changes do not exist
 - Overreaction hypothesis and evidence
- Test for profitability of trading rules after brokerage costs
 - Simple buy-and-hold better

Semistrong Form Evidence

- Event studies
 - Empirical analysis of stock price behavior surrounding a particular event
 - Examine company unique returns
 - The residual error between the security's actual return and that given by the index model
 - Abnormal return $(Ar_{it}) = R_{it} - E(R_{it})$
 - Cumulative when a sum of Ar_{it}

Semistrong Form Evidence

- Stock splits
 - Implications of split reflected in price immediately following the announcement
- Accounting changes
 - Quick reaction to real change in value
- Initial public offerings
 - Only issues purchased at offer price yield abnormal returns
- Announcements and news
 - Little impact on price after release

Strong Form Evidence

- Test performance of groups which have access to nonpublic information
 - Corporate insiders have valuable private information
 - Evidence that many have consistently earned abnormal returns on their stock transactions
- Insider transactions must be publicly reported

Implications of Efficient Market Hypothesis

- What should investors do if markets efficient?
- Technical analysis
 - Not valuable if weak form holds
- Fundamental analysis of intrinsic value
 - Not valuable if semistrong form holds
 - Experience average results

Implications of Efficient Market Hypothesis

- For professional money managers
 - Less time spent on individual securities
 - Passive investing favored
 - Otherwise must believe in superior insight
 - Tasks if markets informationally efficient
 - Maintain correct diversification
 - Achieve and maintain desired portfolio risk
 - Manage tax burden
 - Control transaction costs

Market Anomalies

- Exceptions that appear to be contrary to market efficiency
- Earnings announcements affect stock prices
 - Adjustment occurs before announcement but significant amount after
 - Contrary to efficient market because the lag should not exist

Market Anomalies

- Low P/E ratio stocks tend to outperform high P/E ratio stocks
 - Low P/E stocks generally have higher risk-adjusted returns
 - But P/E ratio is public information
- Should portfolio be based on P/E ratios?
 - Could result in an undiversified portfolio

Market Anomalies

- Size effect
 - Tendency for small firms to have higher risk-adjusted returns than large firms
- January effect
 - Tendency for small firm stock returns to be higher in January
 - Of 30.5% size premium, half of the effect occurs in January

Market Anomalies

- Value Line Ranking System
 - Advisory service that ranks 1700 stocks from best (1) to worst (5)
 - Probable price performance in next 12 months
 - 1980-1993, Group 1 stocks had annualized return of 19.3%
 - Best investment letter performance overall
 - Transaction costs may offset returns

Conclusions About Market Efficiency

- Support for market efficiency is persuasive
 - Much research using different methods
 - Also many anomalies that cannot be explained satisfactorily
- Markets very efficient but not totally
 - To outperform the market, fundamental analysis beyond the norm must be done

Conclusions About Market Efficiency

- If markets operationally efficient, some investors with the skill to detect a divergence between price and semistrong value earn profits
 - Excludes the majority of investors
 - Anomalies offer opportunities
- Controversy about the degree of market efficiency still remains