Senior Finance Seminar (FIN 4385)

Market Efficiency
Why do we care about Market Efficiency?

• Market Efficiency is the extent to which prices reflect ________________.

• If markets are efficient, then what should we conclude about:
  – Stock Picking?
  – Active versus Passive Fund Management?
  – Asset Allocation?
Stock Price Changes

• Maurice Kendall (1953) found no __________ pattern in stock prices.

• Prices are as likely to go up as to go down on any particular day.

• How do we explain __________ stock price changes?
Efficient Market Hypothesis (EMH)

• EMH says stock prices already reflect ________
  ____________________________

• A forecast about favorable future performance leads to favorable current performance, as market participants rush to trade on ________
  ________________________.
  – Result: Prices change until expected returns are exactly commensurate with risk.
Efficient Market Hypothesis (EMH)

• ____________ is unpredictable; if it could be predicted, then the prediction would be part of today’s information.

• Stock prices that change in response to new (unpredictable) information also must move unpredictably.

• Stock price changes follow a ________________.
Random Walk

• Stock price changes are __________
  – Stock prices are the consequence of intelligent investors competing to discover relevant information
  – Expected return is positive over time
  – Positive trend and random movements around trend

• Why are price changes random?
  – Prices react to __________
  – Flow of information is __________
  – Results in random price changes
CARs Before Takeover Attempts

**Figure 11.1** Cumulative abnormal returns before takeover attempts: target companies

Figure 11.2 Stock Price Reaction to CNBC Reports. The figure shows the reaction of stock prices to on-air stock reports during the “Midday Call” segment on CNBC. The chart plots cumulative returns beginning 15 minutes before the stock report.

Versions of EMH – Fama (1970)

Strong From Efficiency
Market Prices reflect all information (public and private)

Semi-strong Efficiency
Market Prices reflect all publicly available information

Weak Form Efficiency
Market Prices reflect all past price information
EMH and Competition

• __________: The most precious commodity on Wall Street
  – Strong competition assures prices reflect information.
  – Information-gathering is motivated by desire for _________________.
  – The marginal return on research activity may be so small that only managers of the largest portfolios will find them worth pursuing.
Types of Stock Analysis

• _______________ - using prices and volume information to predict future prices
  – Success depends on a sluggish response of stock prices to fundamental supply-and-demand factors.
  – Weak form efficiency
    • Relative strength
    • Resistance levels
Types of Stock Analysis

- using economic and accounting information to predict stock prices
  - Try to find firms that are *better than* everyone else’s estimate.
  - Try to find poorly run firms that are not as bad as the market thinks.
  - Semi strong form efficiency and fundamental analysis
Resource Allocation

• If markets were ___________, resources would be systematically misallocated.
  – Firm with ___________ securities can raise capital too cheaply.
  – Firm with ___________ securities may have to pass up profitable opportunities because cost of capital is too high.
  – Efficient market ≠ perfect foresight market
Weak-Form Tests

• Returns over the Short Horizon
  – Momentum: Good or bad recent performance continues over short to intermediate time horizons

• Returns over Long Horizons
  – Episodes of overshooting followed by correction
Semistrong Tests: Anomalies

• Small Firm Effect
• January Effect
• Book-to-Market Ratios
• Post-Earnings Announcement Price Drift
Average Annual Return for 10 Size Portfolios

Figure 11.3 Average annual return for 10 size-based portfolios, 1926–2008

Source: Authors’ calculations, using data obtained from Professor Ken French’s data library at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.
Figure 11.4  Average return as a function of Book-to-market ratio, 1926–2008

Source: Authors' calculations, using data obtained from Professor Ken French's data library at [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).
CARs Around Earnings Announcements

Figure 11.5  Cumulative abnormal returns in response to earnings announcements

Interpreting the Anomalies

The most puzzling anomalies are price-earnings, small-firm, market-to-book, momentum, and long-term reversal.

– Fama and French argue that these effects can be explained by ____________.

– Lakonishok, Shleifer, and Vishney argue that these effects are evidence of ____________ ____________.
Mutual Fund Performance

• The standard performance benchmark today is a _______________, which includes:
  – the three Fama-French factors (the return on the market index, and returns to portfolios based on size and book-to-market ratio)
  – plus a momentum factor (a portfolio constructed based on prior-year stock return).
Figure 11.7 Mutual fund alphas computed using a four-factor model of expected return, 1993–2007. (The best and worst 2.5% of observations are excluded from this distribution.)

Source: Professor Richard Evans, University of Virginia, Darden School of Business.
Mutual Fund Performance

• Consistency, the __________ phenomenon
  – Carhart – weak evidence of persistency
  – Bollen and Busse – support for performance persistence over short time horizons
  – Berk and Green – skilled managers will attract new funds until the costs of managing those extra funds drive alphas down to zero.
Risk-adjusted performance Rankings

Figure 11.8  Risk-adjusted performance in ranking quarter and following quarter
So, Are Markets Efficient?

• The performance of professional managers is broadly consistent with ____________.
• Most managers do not do better than the ________________.
• There are, however, some notable superstars:
  – Peter Lynch, Warren Buffett, John Templeton, George Soros