

The Efficient Market Hypothesis

Efficient Market Hypothesis (EMH)

- Any information that could be used to predict stock performance should already be reflected in stock prices.
 - Random walk
 - Random and unpredictable
- Do security prices reflect information ?
- Why look at market efficiency?
 - Implications for business and corporate finance
 - Implications for investment

Figure 11.1 Cumulative Abnormal Returns before Takeover Attempts:

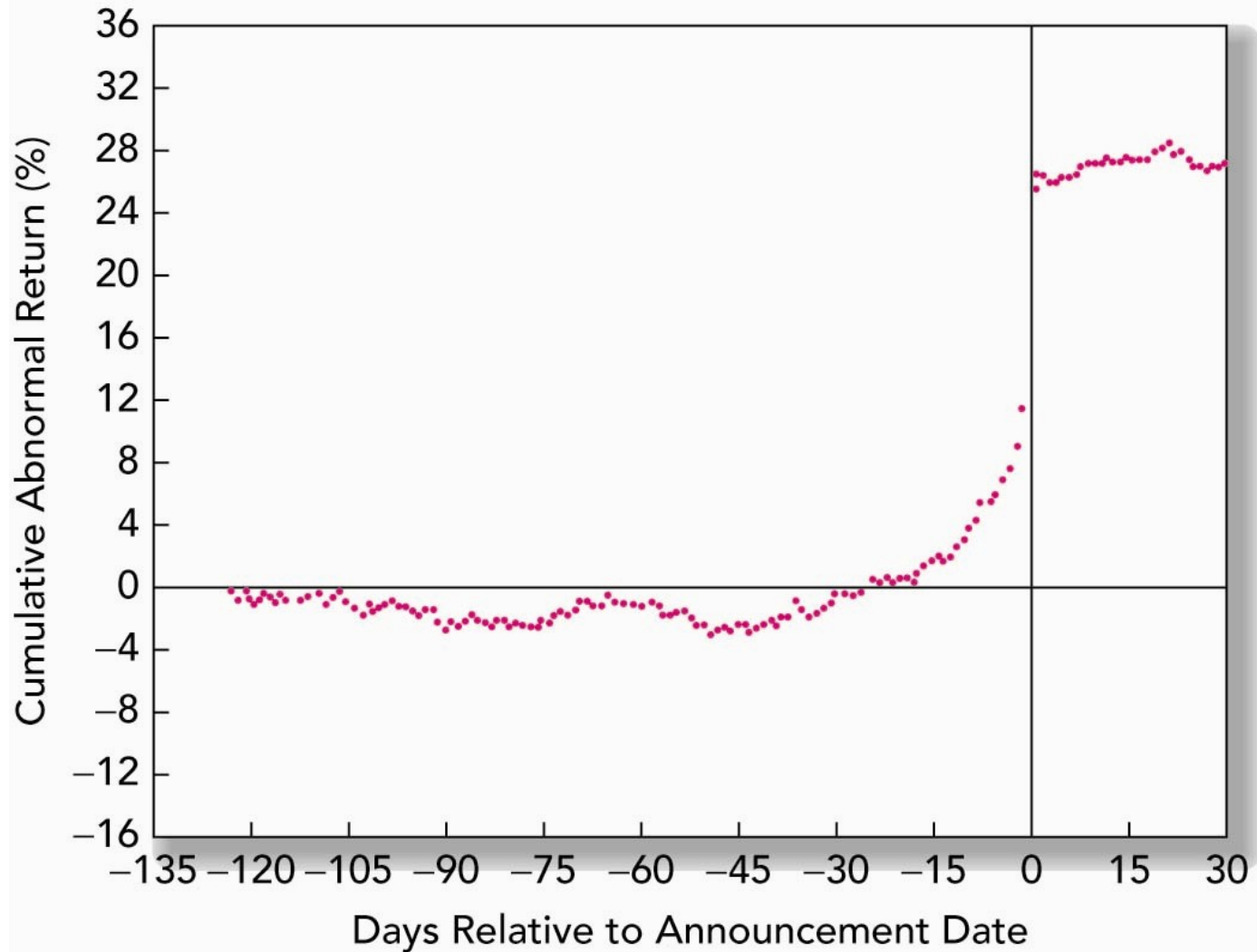
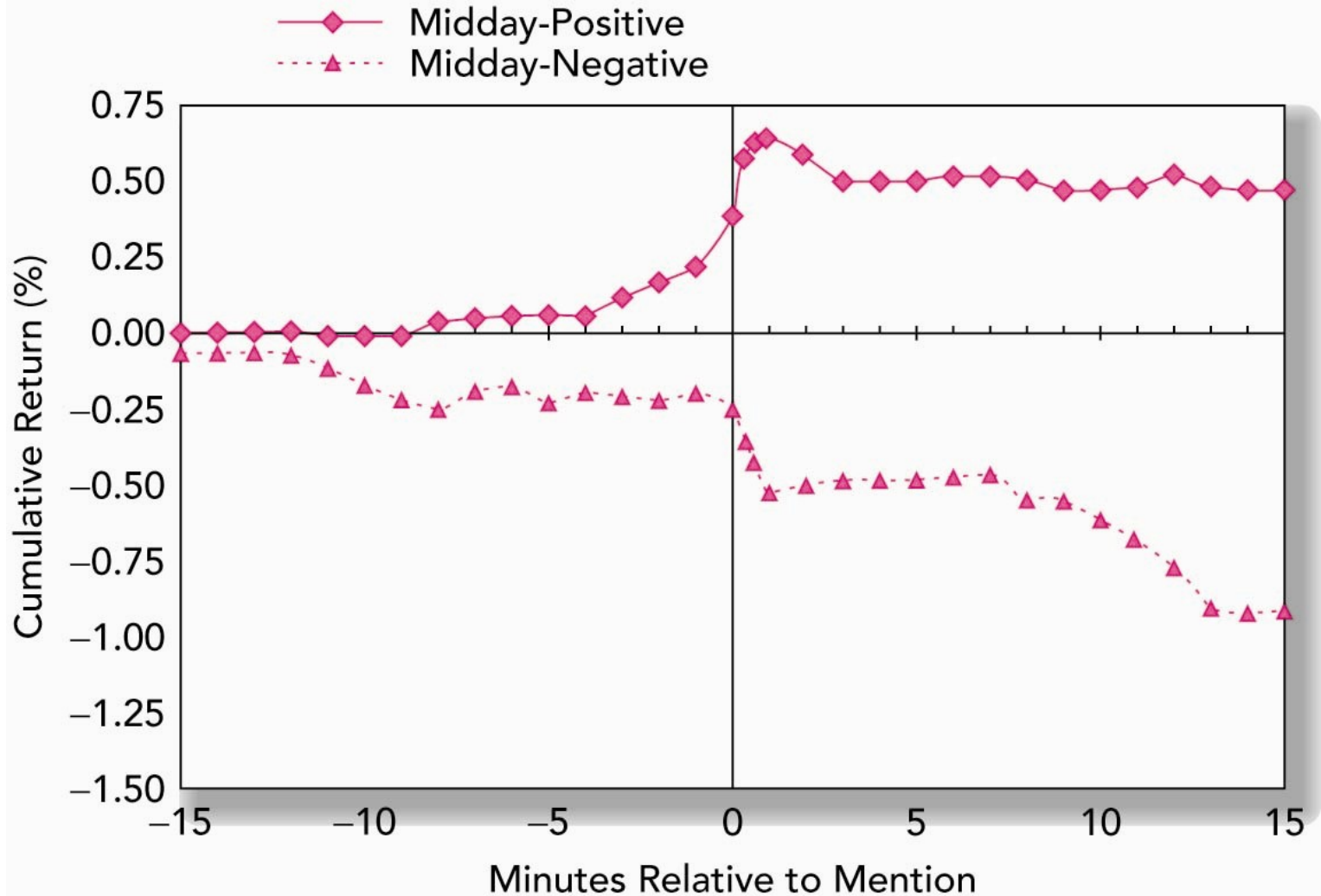


Figure 11.2 Stock Price Reaction to CNBC Reports



EMH and Competition

- Stock prices fully and accurately reflect publicly available information.
- Once information becomes available, market participants analyze it.
- Competition assures prices reflect information.

Forms of the EMH

- Weak
- Semi-strong
- Strong

Types of Stock Analysis

- Technical Analysis - using prices and volume information to predict future prices.
 - Weak form efficiency & technical analysis
- Fundamental Analysis - using economic and accounting information to predict stock prices.
 - Semi strong form efficiency & fundamental analysis

Active or Passive Management

- Active Management
 - Security analysis
 - Timing
- Passive Management
 - Buy and Hold
 - Index Funds

Market Efficiency & Portfolio Management

Even if the market is efficient a role exists for portfolio management:

- Appropriate risk level
- Tax considerations
- Other considerations

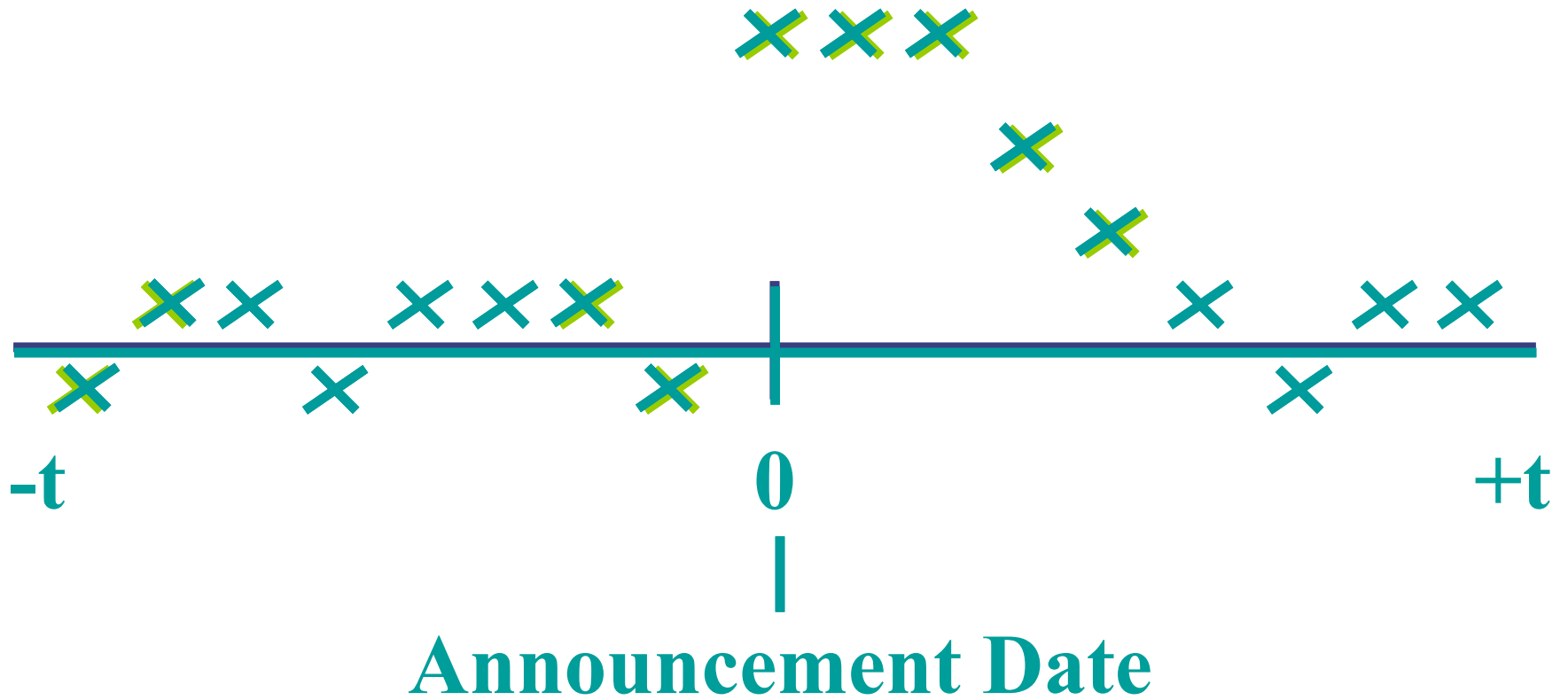
Empirical Tests of Market Efficiency

- Event studies
- Assessing performance of professional managers
- Testing some trading rule

How Tests Are Structured

1. Examine prices and returns over time

Returns Over Time



How Tests Are Structured

(cont'd)

2. Returns are adjusted to determine if they are abnormal.

Market Model approach

- a. $R_t = a_t + b_t R_{mt} + e_t$
(Expected Return)

- b. Excess Return =
(Actual - Expected)

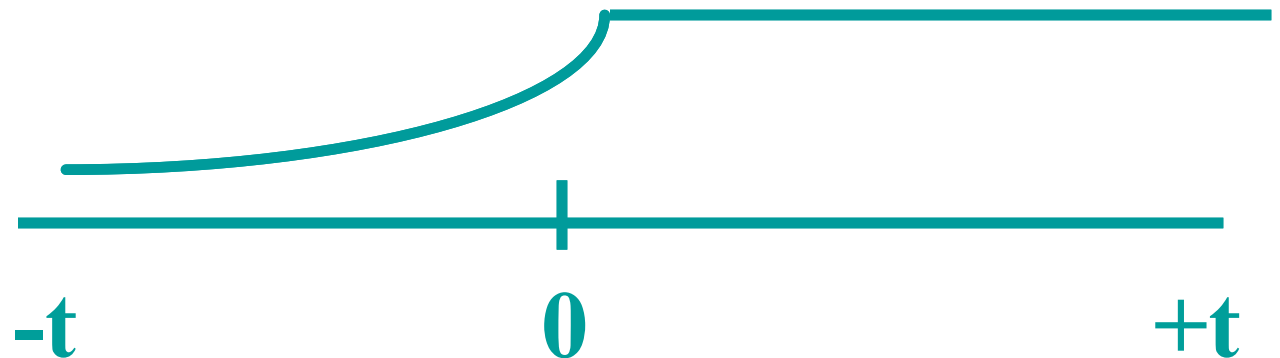
$$e_t = \text{Actual} - (a_t + b_t R_{mt})$$

How Tests Are Structured (cont'd)

2. Returns are adjusted to determine if they are abnormal.

Market Model approach

c. Cumulate the excess returns over time:



Issues in Examining the Results

- Magnitude Issue
- Selection Bias Issue
- Lucky Event Issue

Weak-Form Tests

- Serial Correlation
- Momentum
- Returns over Long Horizons

Predictors of Broad Market Returns

- Fama and French
 - Aggregate returns are higher with higher dividend ratios
- Campbell and Shiller
 - Earnings yield can predict market returns
- Keim and Stambaugh
 - Bond spreads can predict market returns

Anomalies

- P/E Effect
- Small Firm Effect (January Effect)
- Neglected Firm
- Book-to-Market Effects
- Post-Earnings Announcement Drift

Figure 11.3 Returns in Excess of Risk-Free Rate and in excess of the Security Market Line for 10 Size-Based Portfolios, 1926 – 2005

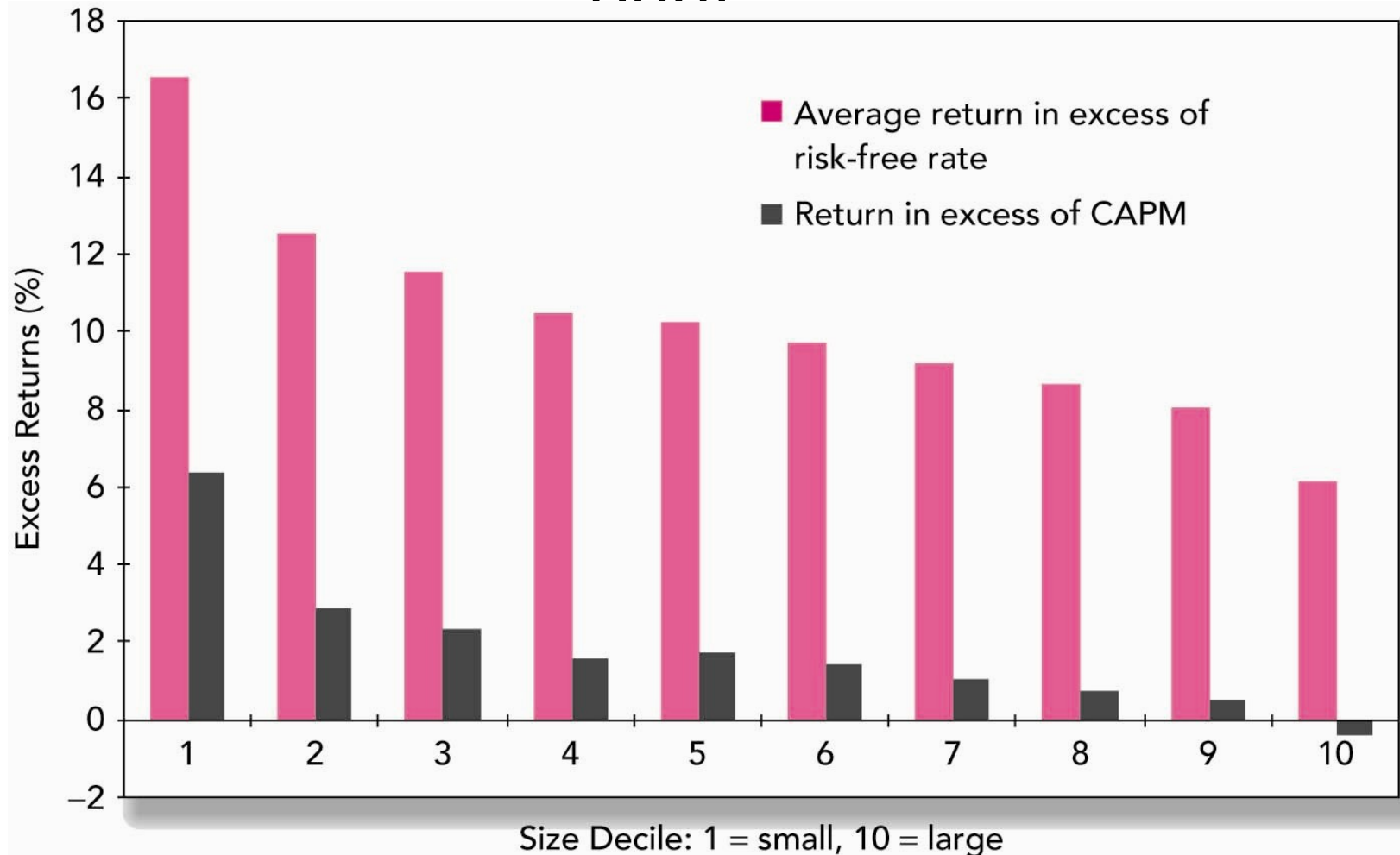
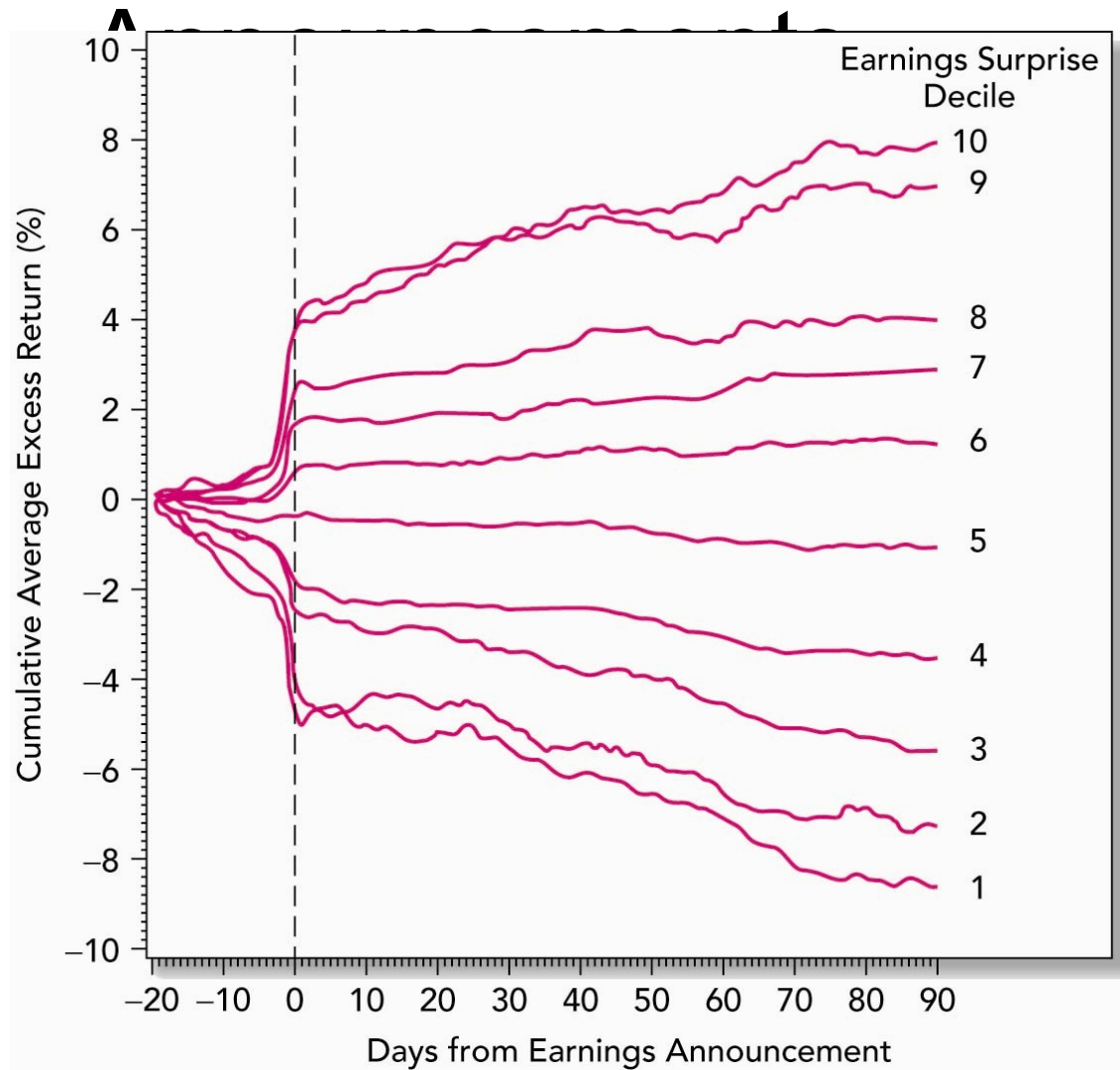


Figure 11.4 Average Monthly Returns as a Function of the Book-To Market Ratio, 1963 – 2004



Figure 11.5 Cumulative Abnormal Returns in Response to Earnings



Interpreting the Evidence

- Risk Premiums or Inefficiencies
 - Disagreement here
- Data Mining or Anomalies