

CHAPTER 3

MARKET EFFICIENCY

Presenter

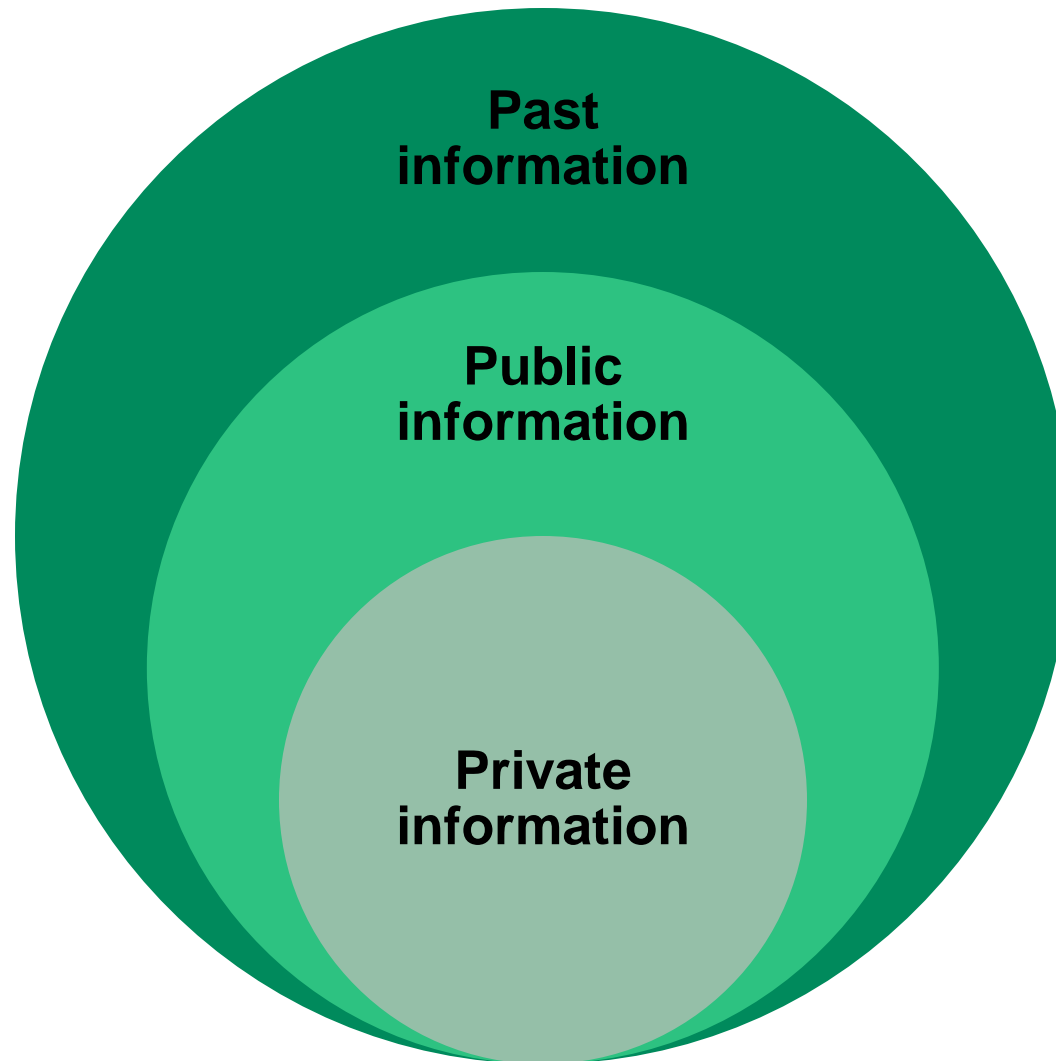
Venue

Date

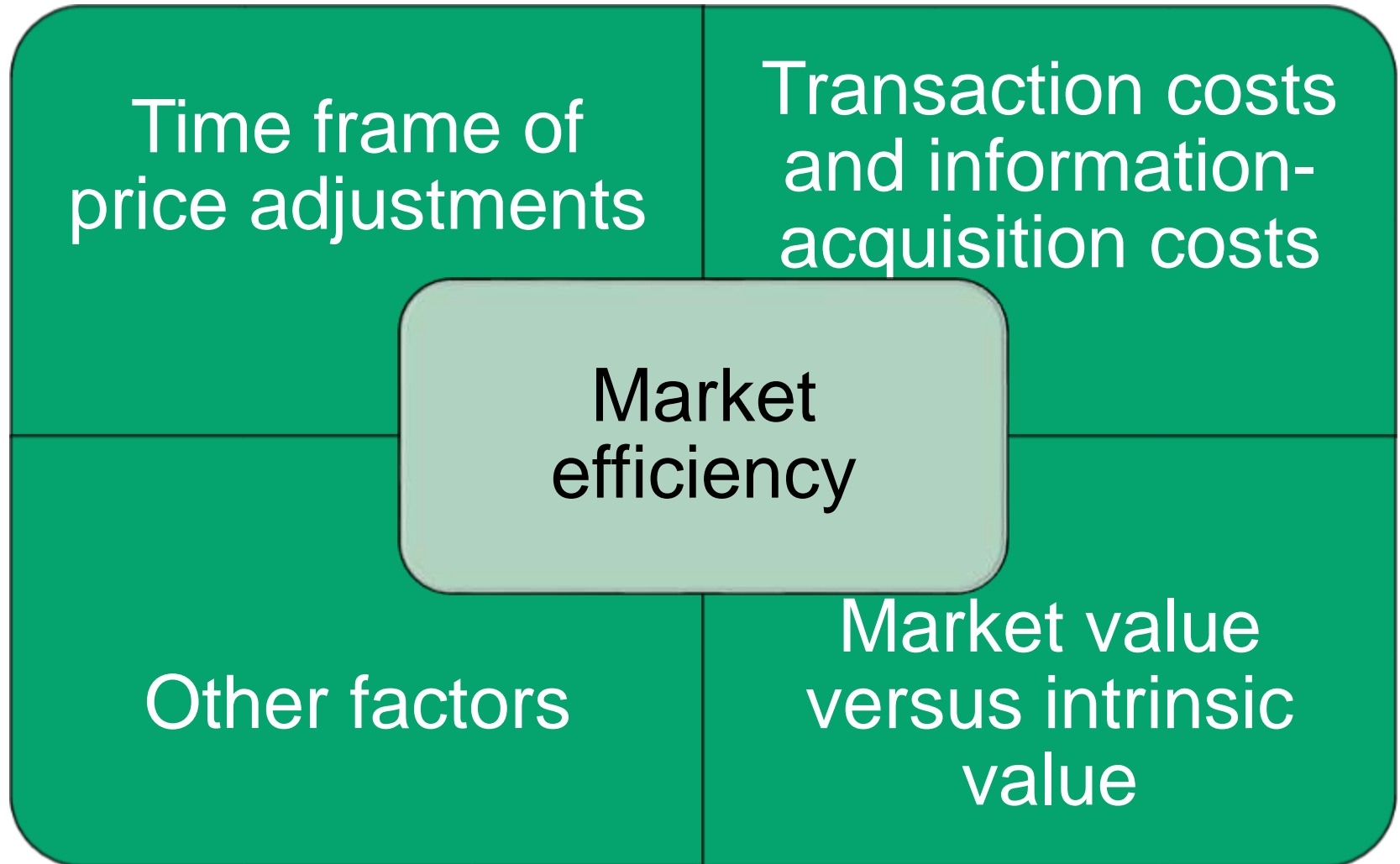


CFA Institute

DEFINITION OF AN EFFICIENT MARKET



FACTORS AFFECTING MARKET EFFICIENCY



ACTIVE VERSUS PASSIVE INVESTMENT STRATEGIES



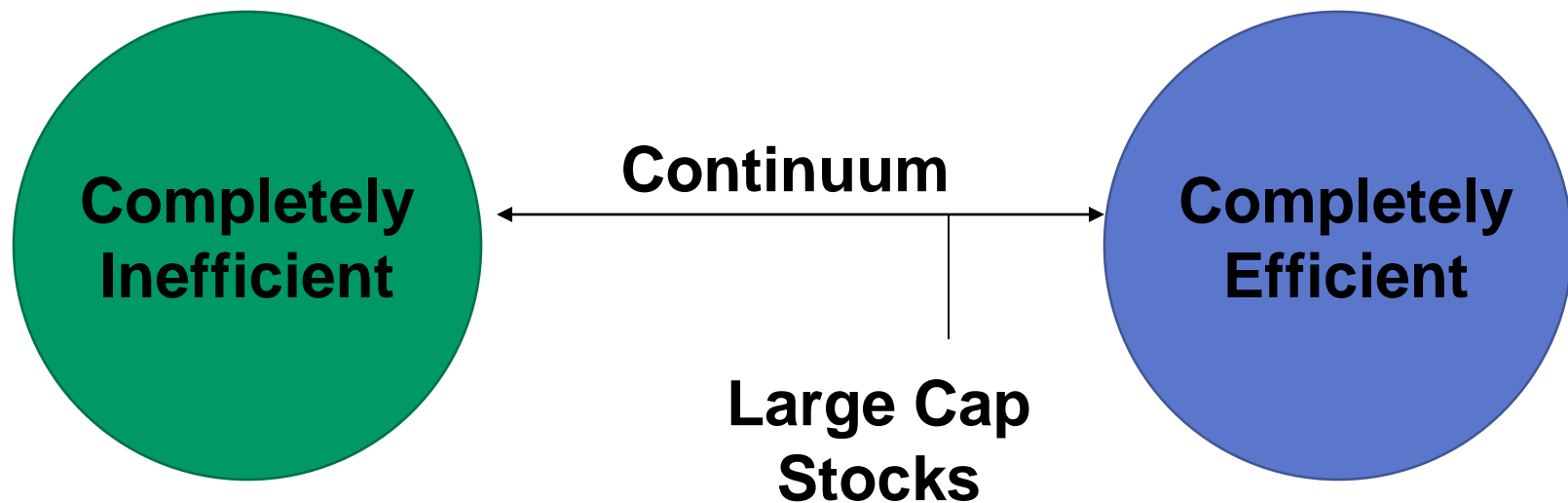
**Market
efficiency**



**Active
investment
strategies**

FACTORS AFFECTING A MARKET'S EFFICIENCY

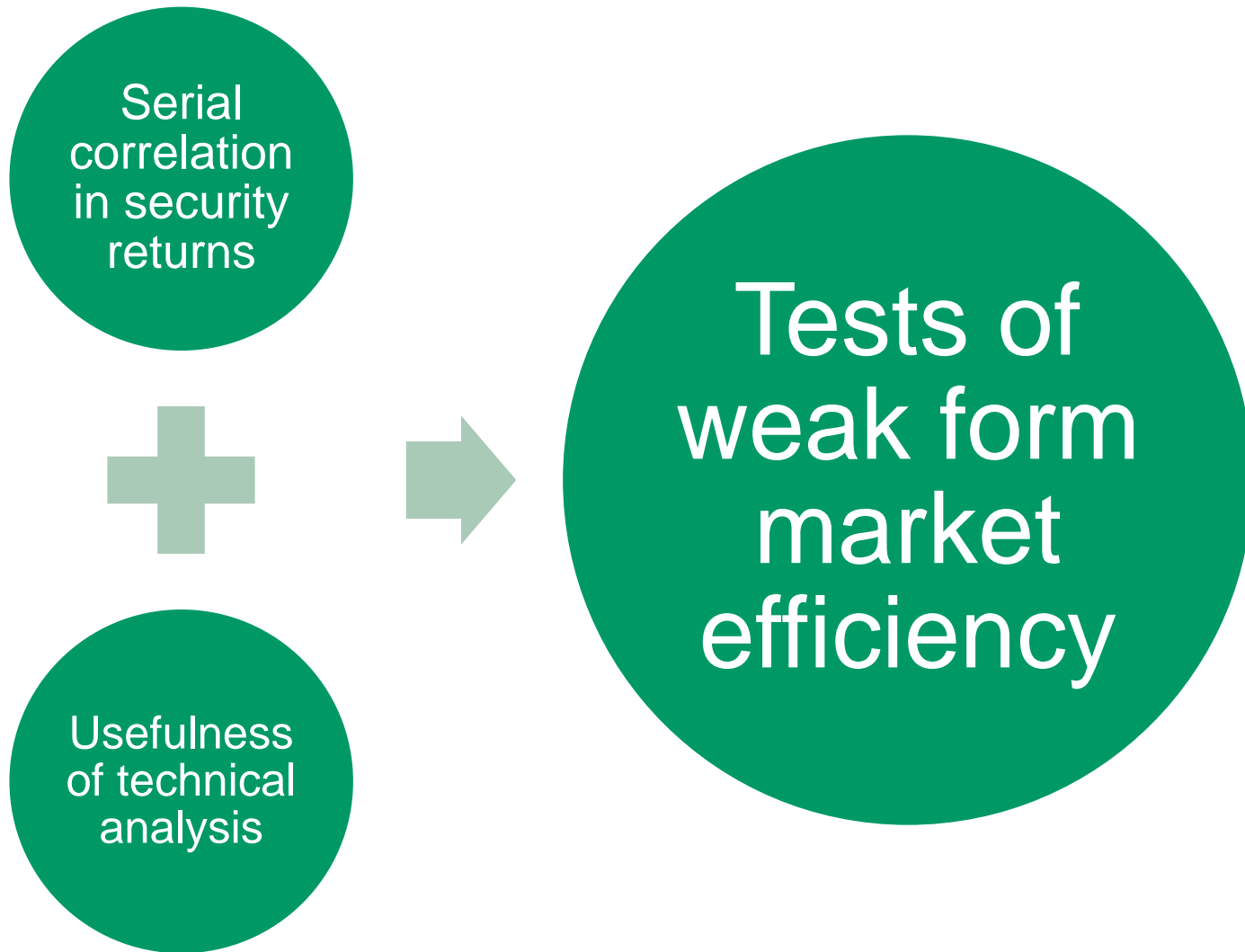
A market should be viewed as falling on a continuum between two extremes:



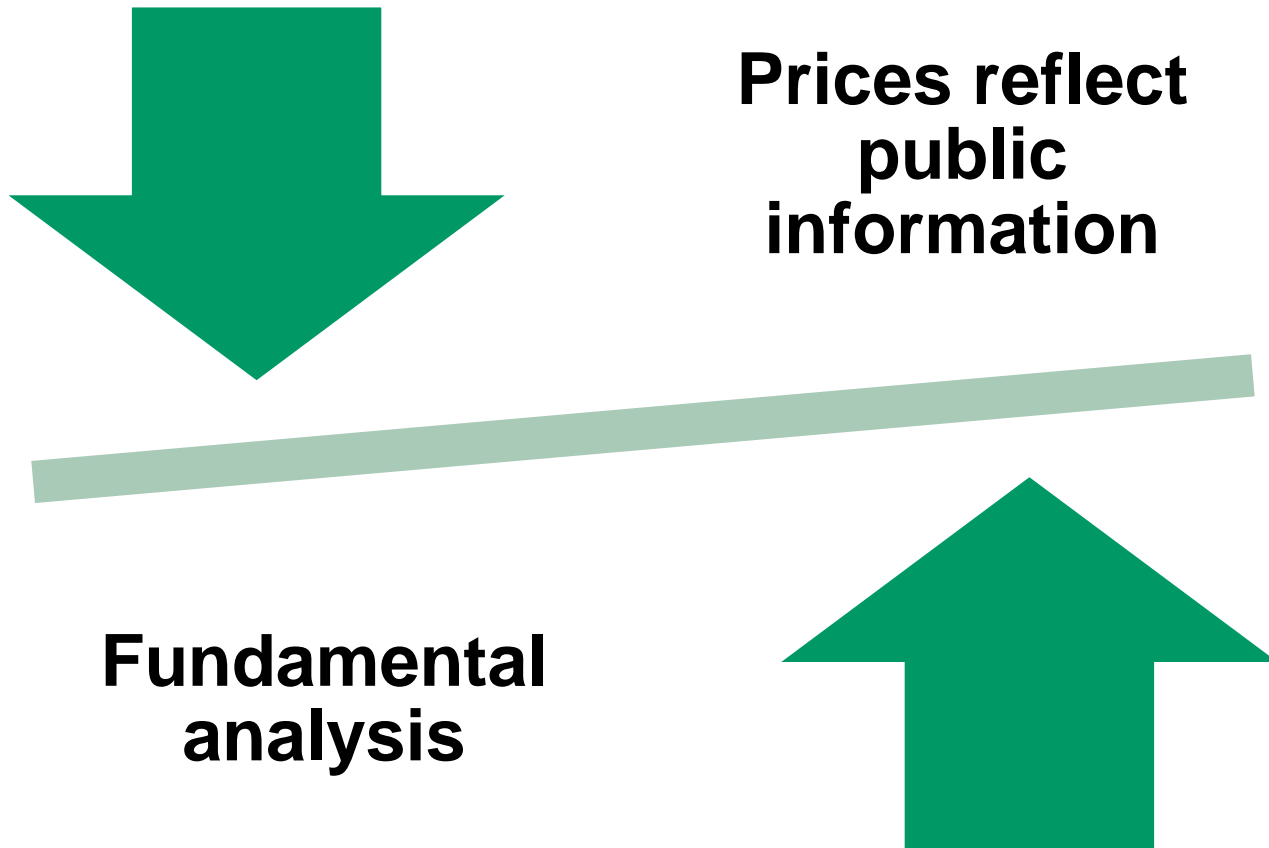
FORMS OF MARKET EFFICIENCY (FAMA 1970)

	Market prices reflect:		
Forms of market efficiency	Past market data	Public information	Private information
Weak form of market efficiency	✓		
Semi-strong form of market efficiency	✓	✓	
Strong form of market efficiency	✓	✓	✓

WEAK FORM OF MARKET EFFICIENCY



SEMISTRONG FORM OF MARKET EFFICIENCY



THE EVENT STUDY PROCESS

Identify the period of study



Identify the stocks associated with the event within the study period



Estimate the expected return for each company for the announcement date

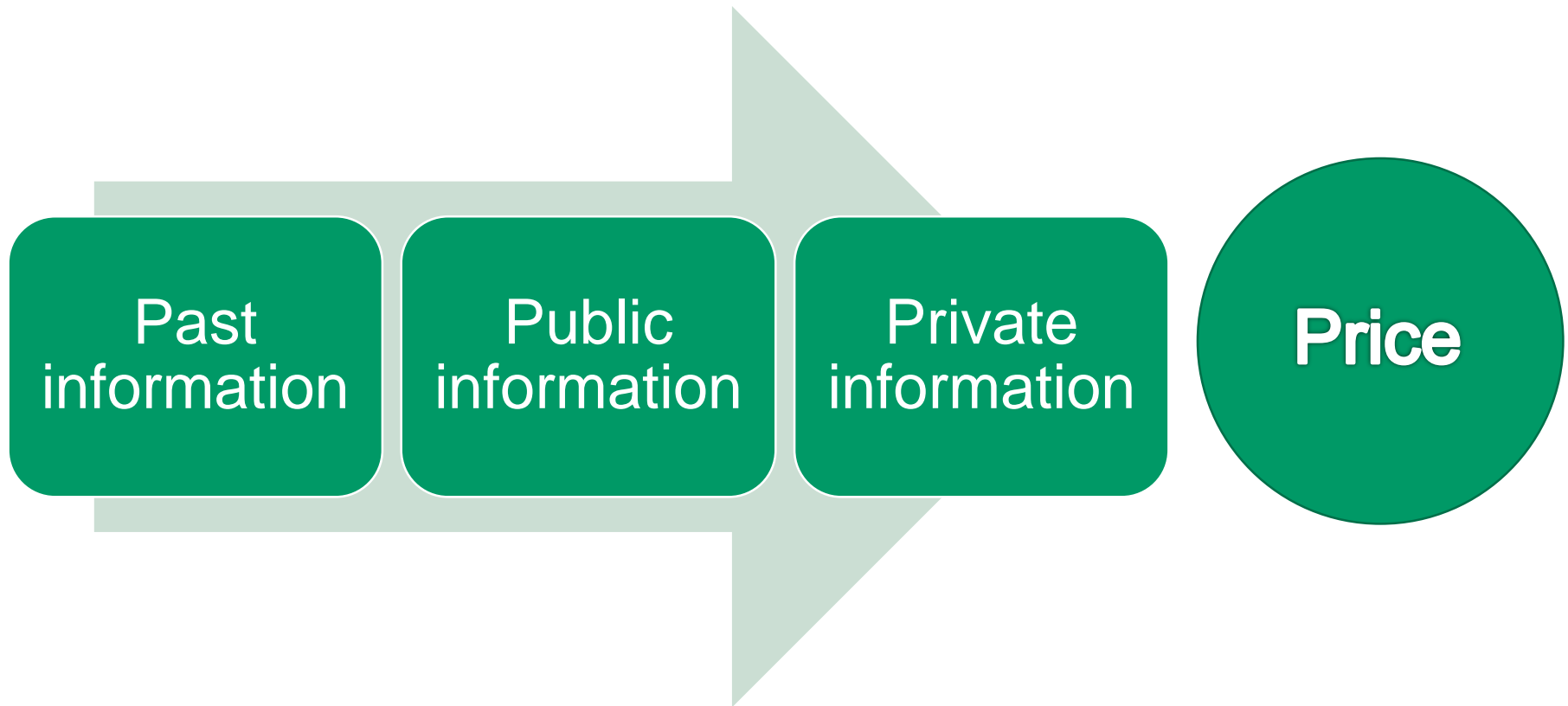


Calculate the excess return for each company in the sample as the actual return on the announcement date, less the expected return

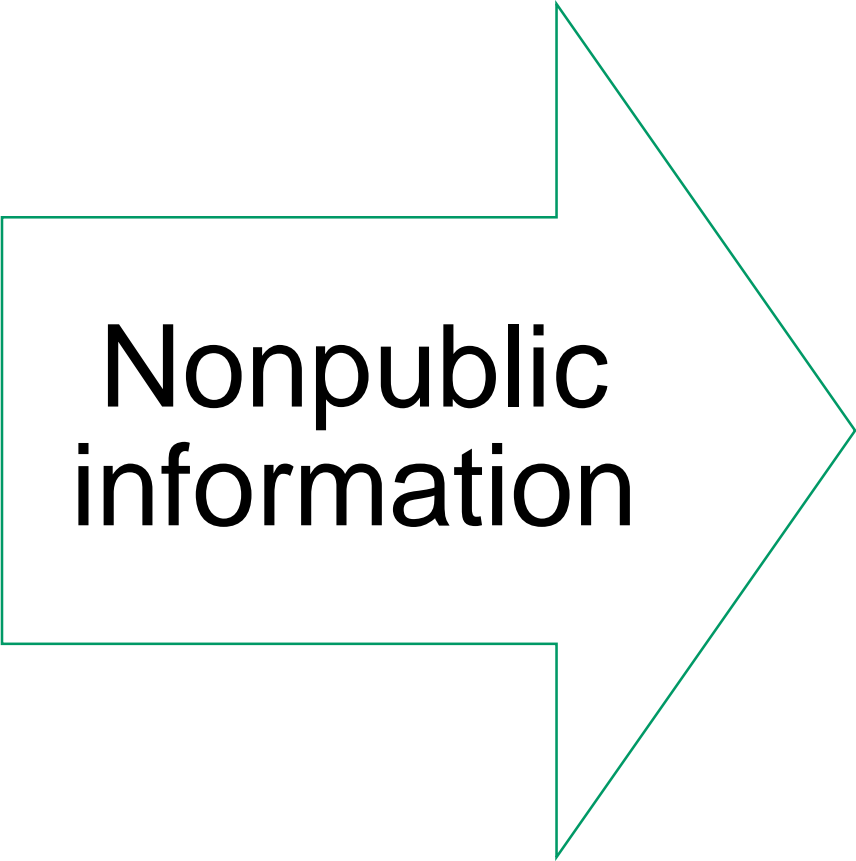


Perform statistical analyses on the excess returns in the sample to see whether these returns are different from zero

STRONG FORM OF MARKET EFFICIENCY



WHAT FORM OF MARKET EFFICIENCY EXISTS?



**Nonpublic
information**

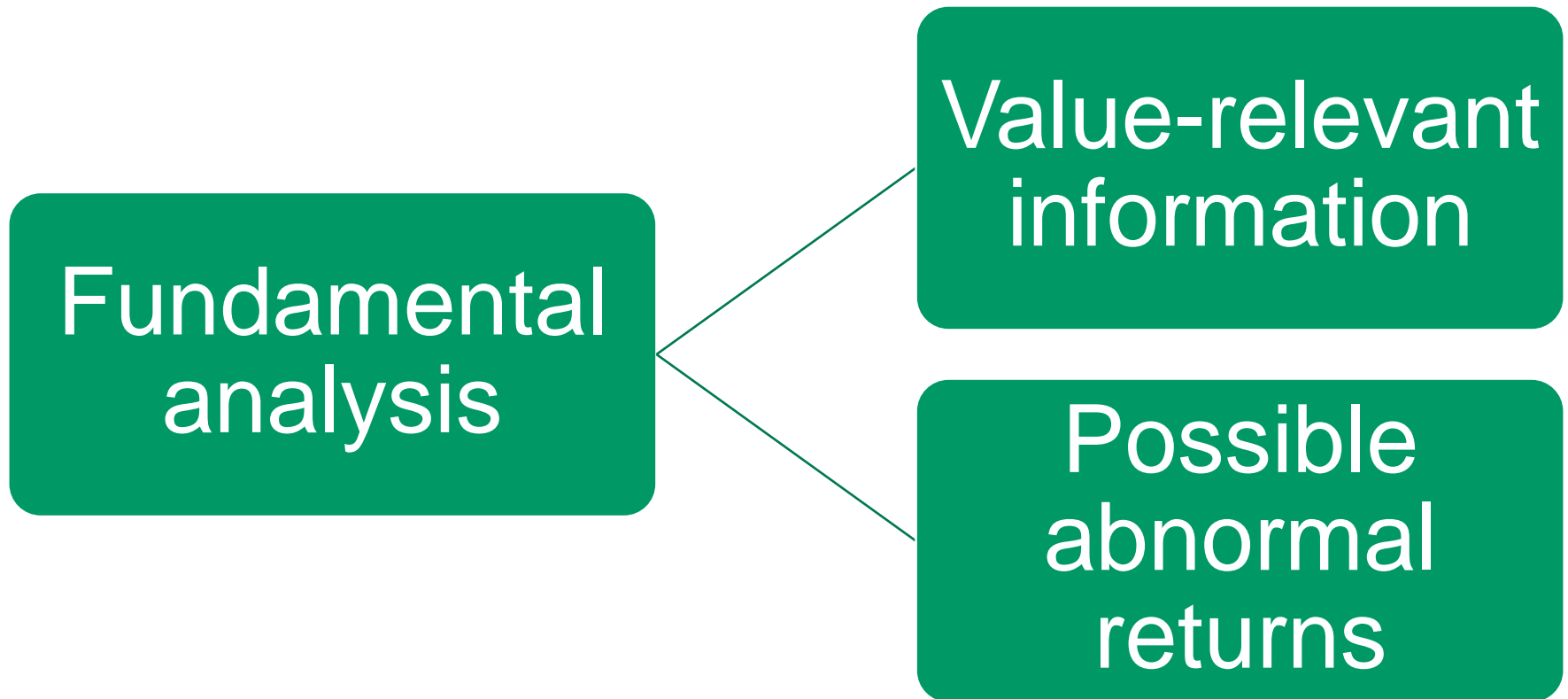


**Abnormal
profits**

QUESTIONS

- 1) Is the expected return for stocks equal to zero in an efficient market?
- 2) Which hypothesis is being tested if a researcher examines stock price performance following earnings announcements?
- 3) Which hypothesis is being tested if a researcher examines stock price performance based on a 50-day and 200-day moving average of prices?
- 4) Why might a stock's price not reflect everything management knows about their company?

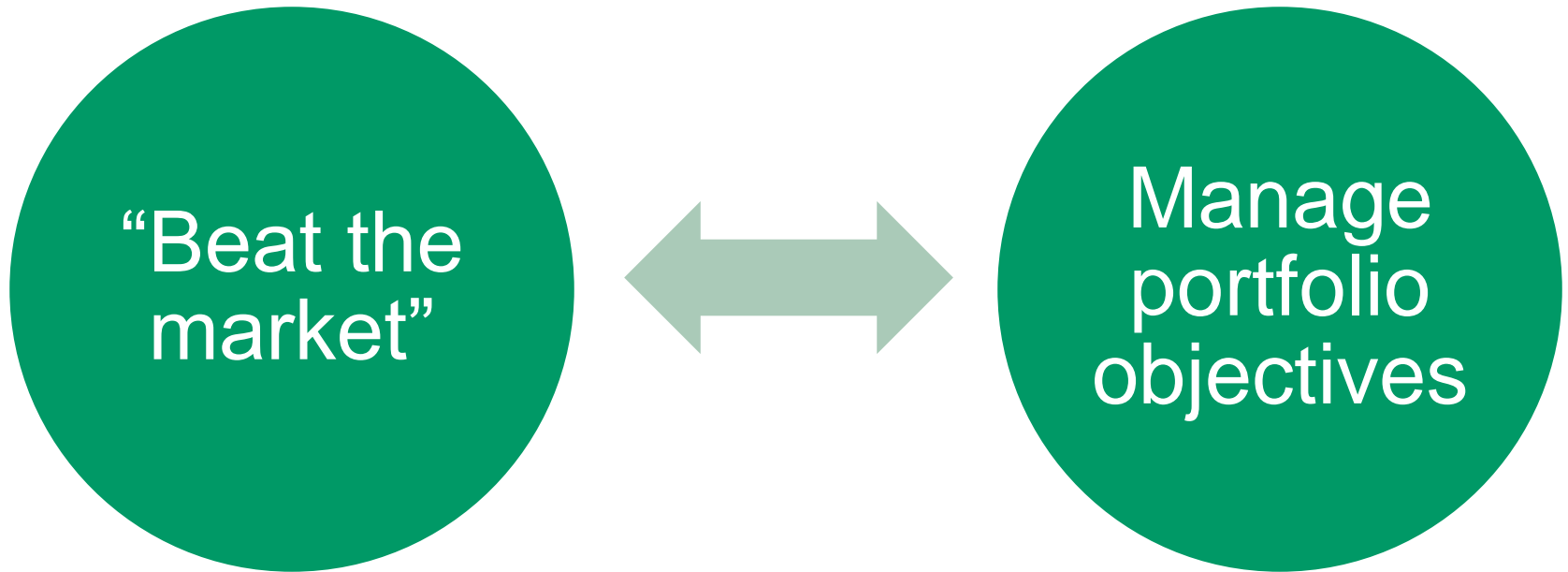
WHAT GOOD IS FUNDAMENTAL ANALYSIS?



WHAT GOOD IS TECHNICAL ANALYSIS?



WHAT GOOD ARE PORTFOLIO MANAGERS?



MARKET PRICING ANOMALIES

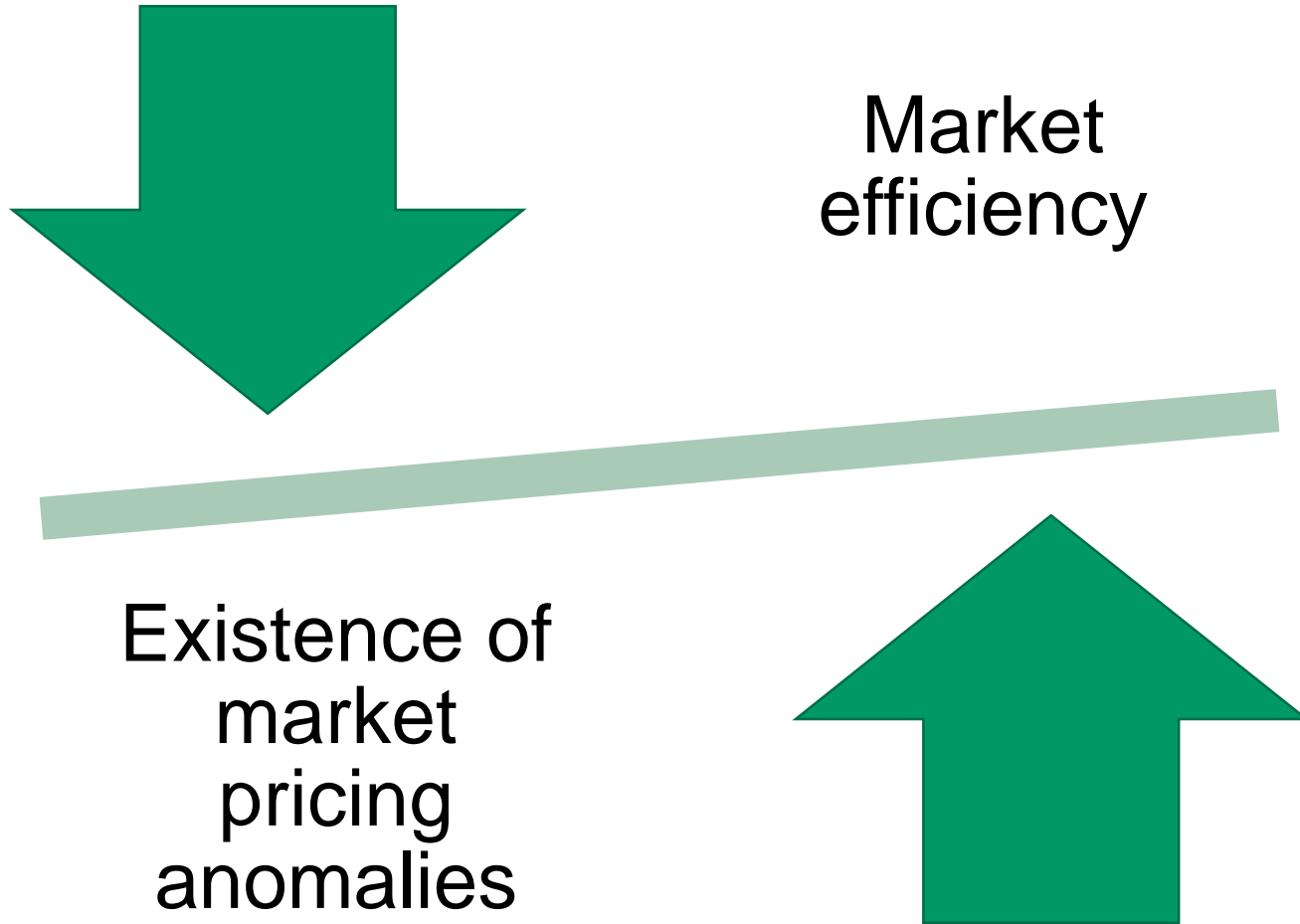


EXHIBIT 3-3 SAMPLING OF OBSERVED PRICING ANOMALIES

Time series	Cross-sectional	Other
January effect	Size effect	Closed-end fund discount
Day-of-the-week effect	Value effect	Earnings surprise
Weekend effect	Book-to-market ratios	Initial public offerings
Turn-of-the-month effect	P/E ratio effect	Distressed securities effect
Holiday effect	Value Line enigma	Stock splits
Time-of-day effect		Super Bowl
Momentum		
Overreaction		

JANUARY (TURN-OF-THE-YEAR) EFFECT

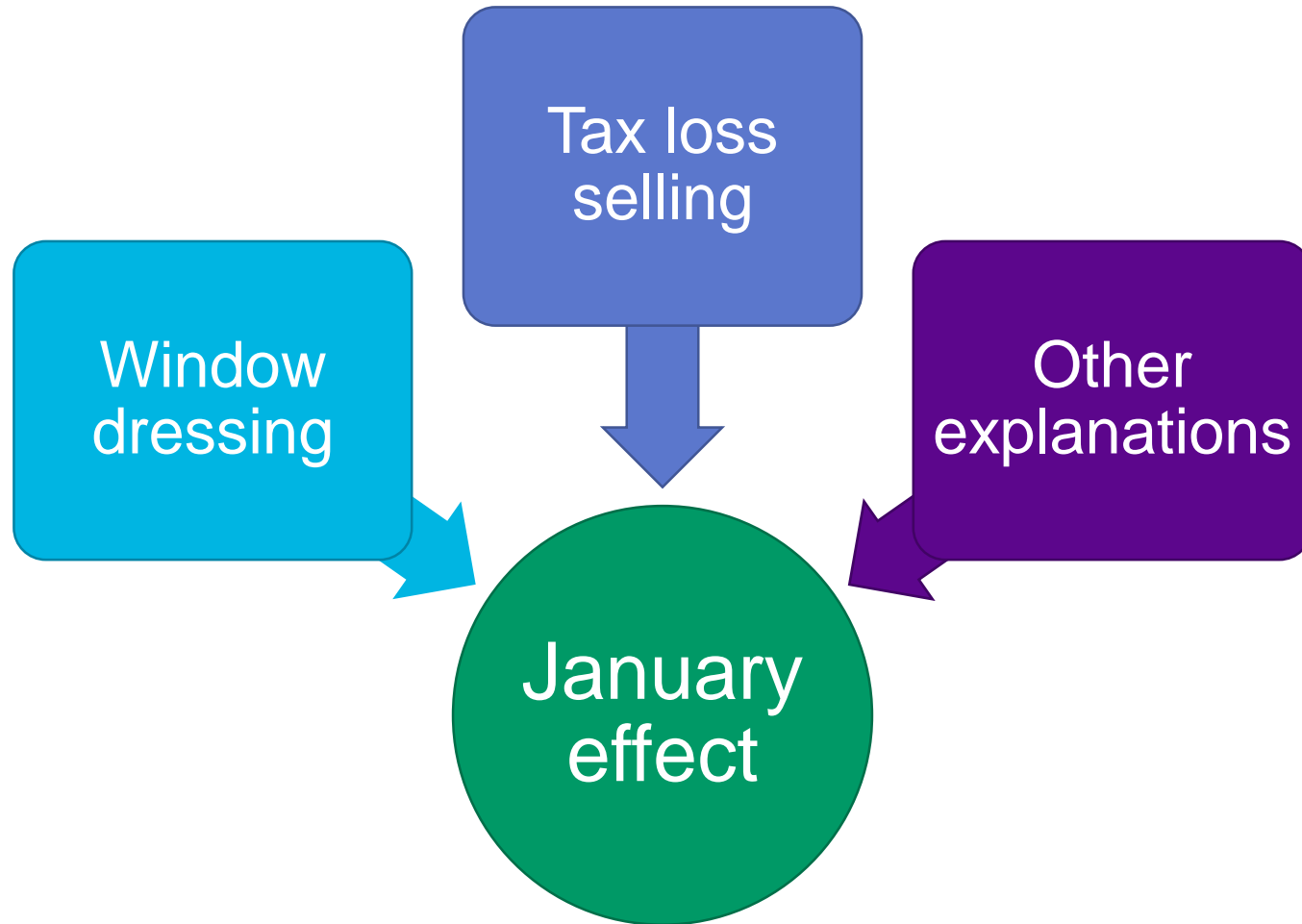


EXHIBIT 3-4 OTHER CALENDAR-BASED ANOMALIES

Anomaly	Observation
Turn-of-the-month effect	Returns tend to be higher on the last trading day of the month and the first three trading days of the next month.
Day-of-the-week effect	The average Monday return is negative and lower than the average returns for the other four days, which are all positive.
Weekend effect	Returns on weekends tend to be lower than returns on weekdays.
Holiday effect	Returns on stocks in the day prior to market holidays tend to be higher than other days.

OVERREACTION AND MOMENTUM ANOMALIES

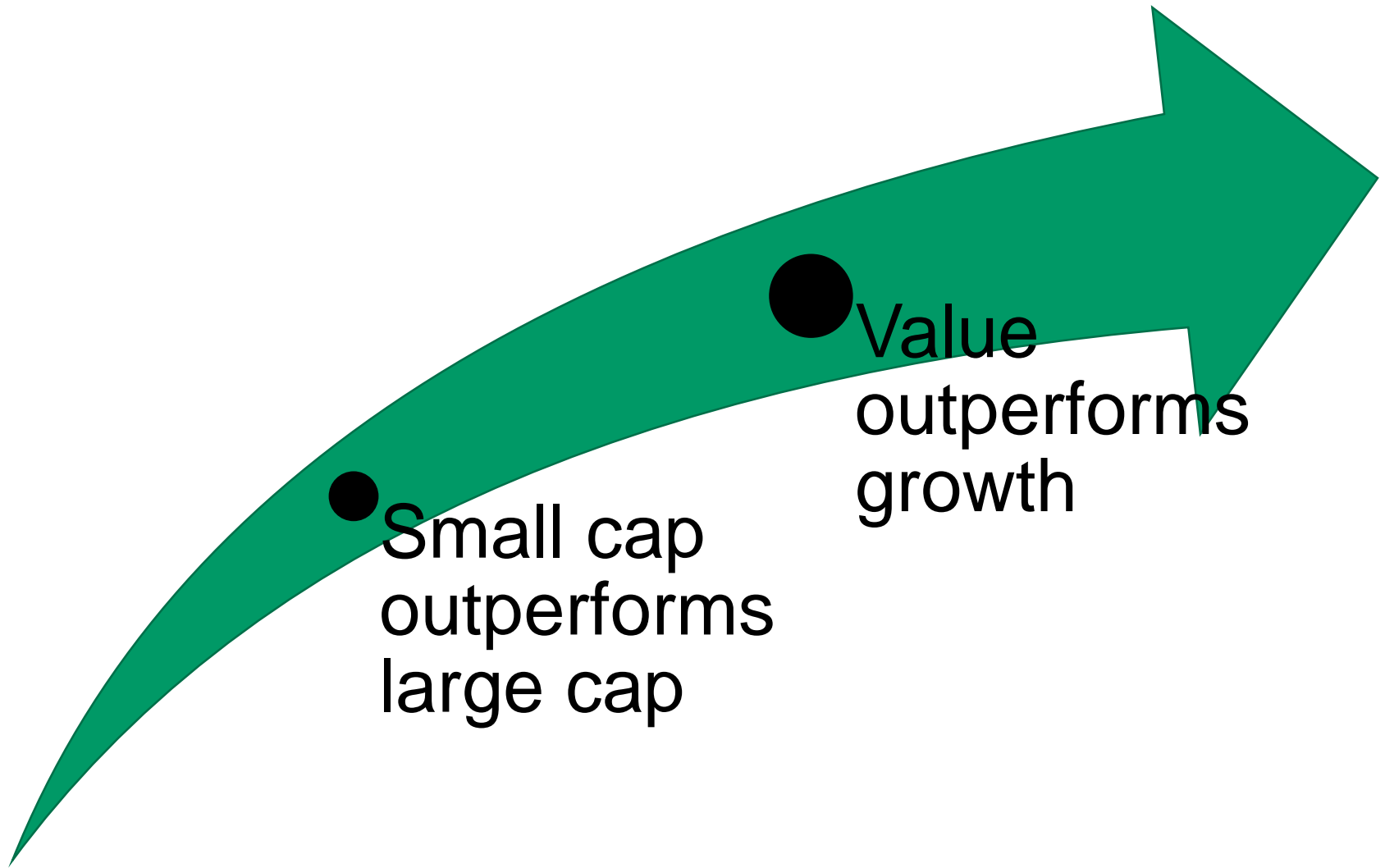
Overreaction anomaly

- Stock prices become inflated (depressed) for those companies releasing good (bad) news.

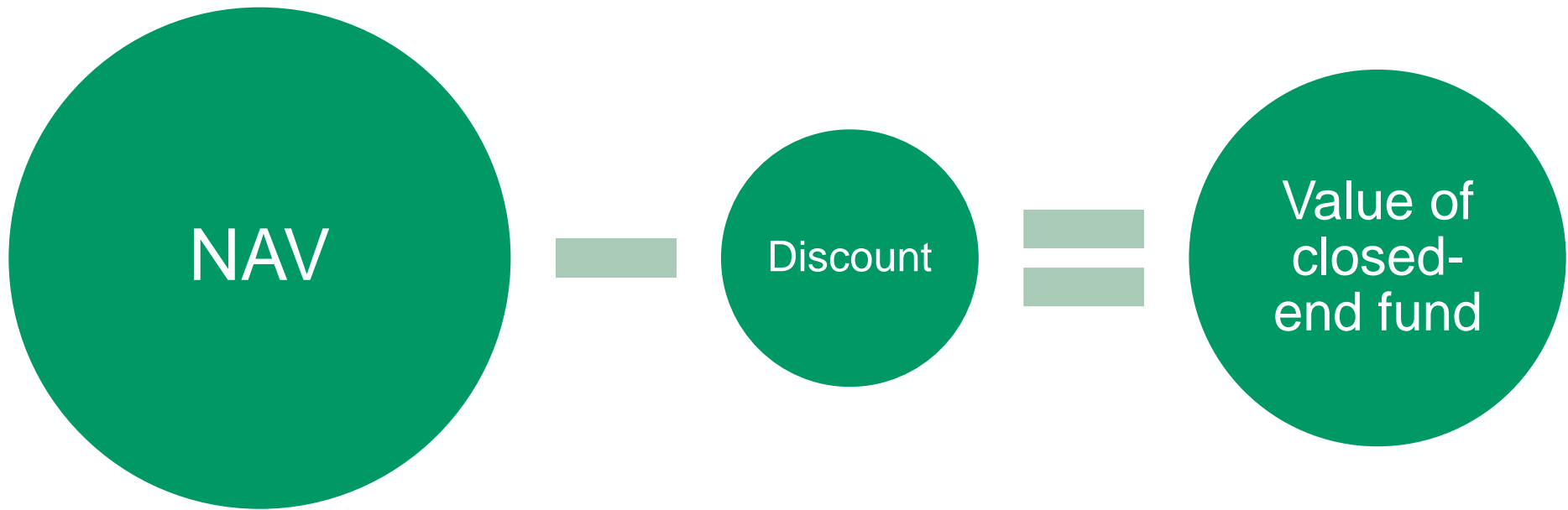
Momentum anomaly

- Securities that have experienced high returns in the short term tend to continue to generate higher returns in subsequent periods.

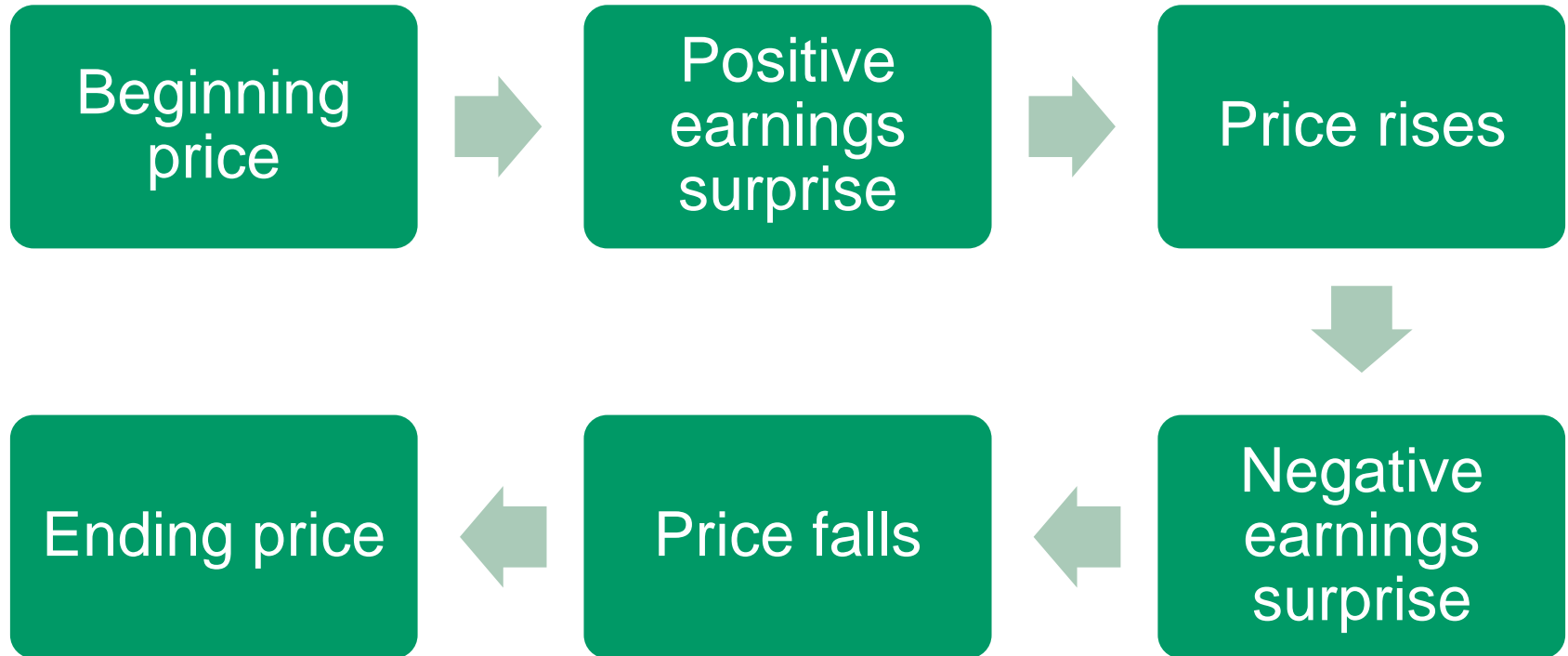
CROSS-SECTIONAL ANOMALIES



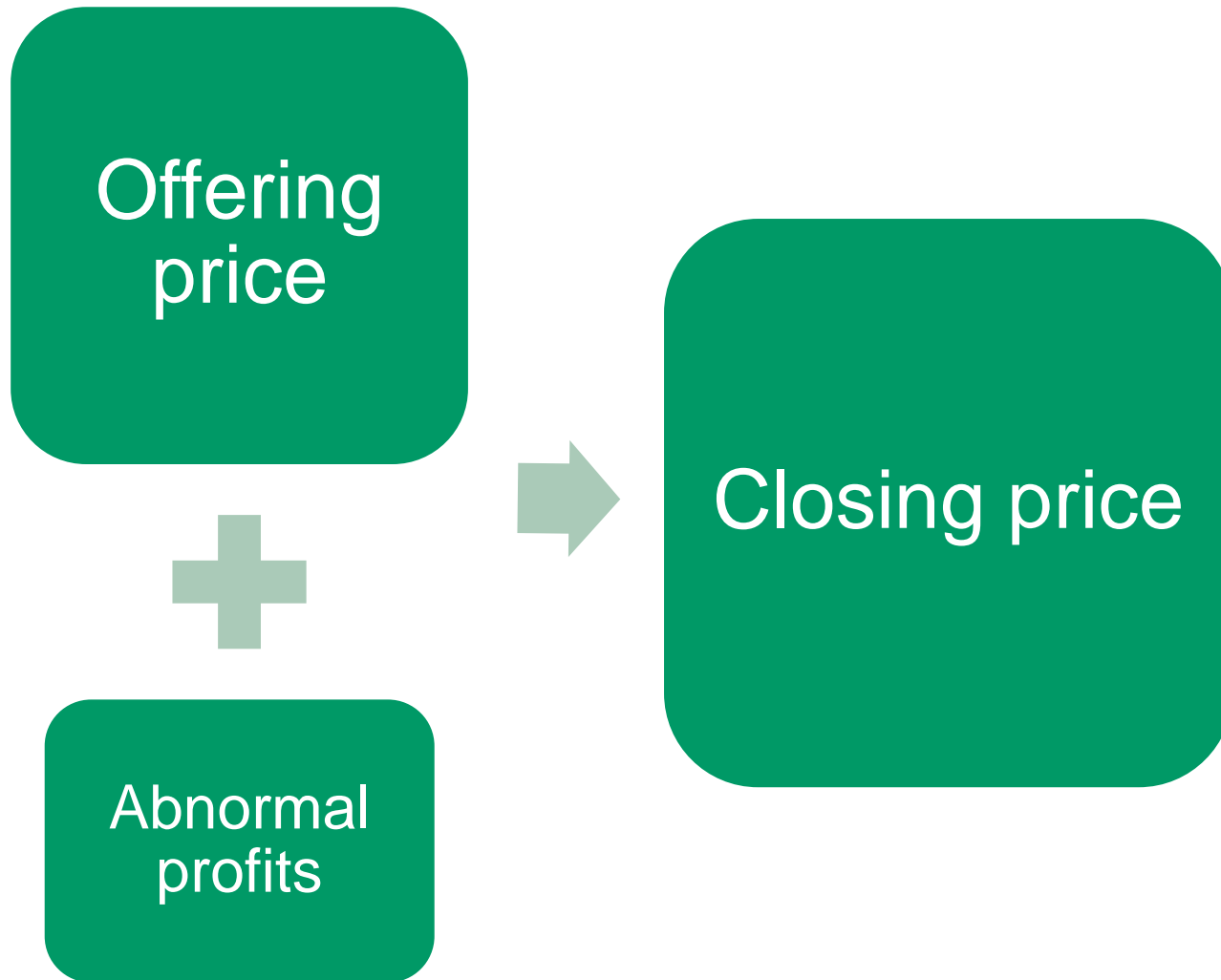
CLOSED-END INVESTMENT FUNDS



EARNINGS SURPRISE



INITIAL PUBLIC OFFERINGS (IPOS)



“FRONTIERS OF FINANCE SURVEY”

THE ECONOMIST (9 OCTOBER 1993)

Many (anomalies) can be explained away. When transactions costs are taken into account, the fact that stock prices tend to over-react to news, falling back the day after good news and bouncing up the day after bad news, proves unexploitable: price reversals are always within the bid-ask spread. Others such as the small-firm effect, work for a few years and then fail for a few years. Others prove to be merely proxies for the reward for risk taking. Many have disappeared since (and because) attention has been drawn to them.

BEHAVIORAL FINANCE VERSUS TRADITIONAL FINANCE

Behavioral Finance

Assumes:

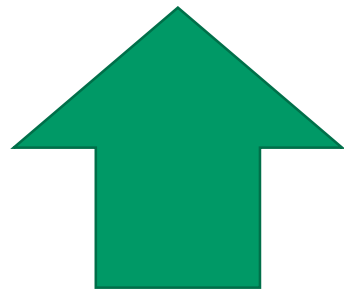
- Investors suffer from cognitive biases that may lead to irrational decision making.
- Investors may overreact or under-react to new information.

Traditional Finance

Assumes:

- Investors behave rationally.
- Investors process new information quickly and correctly.

LOSS AVERSION

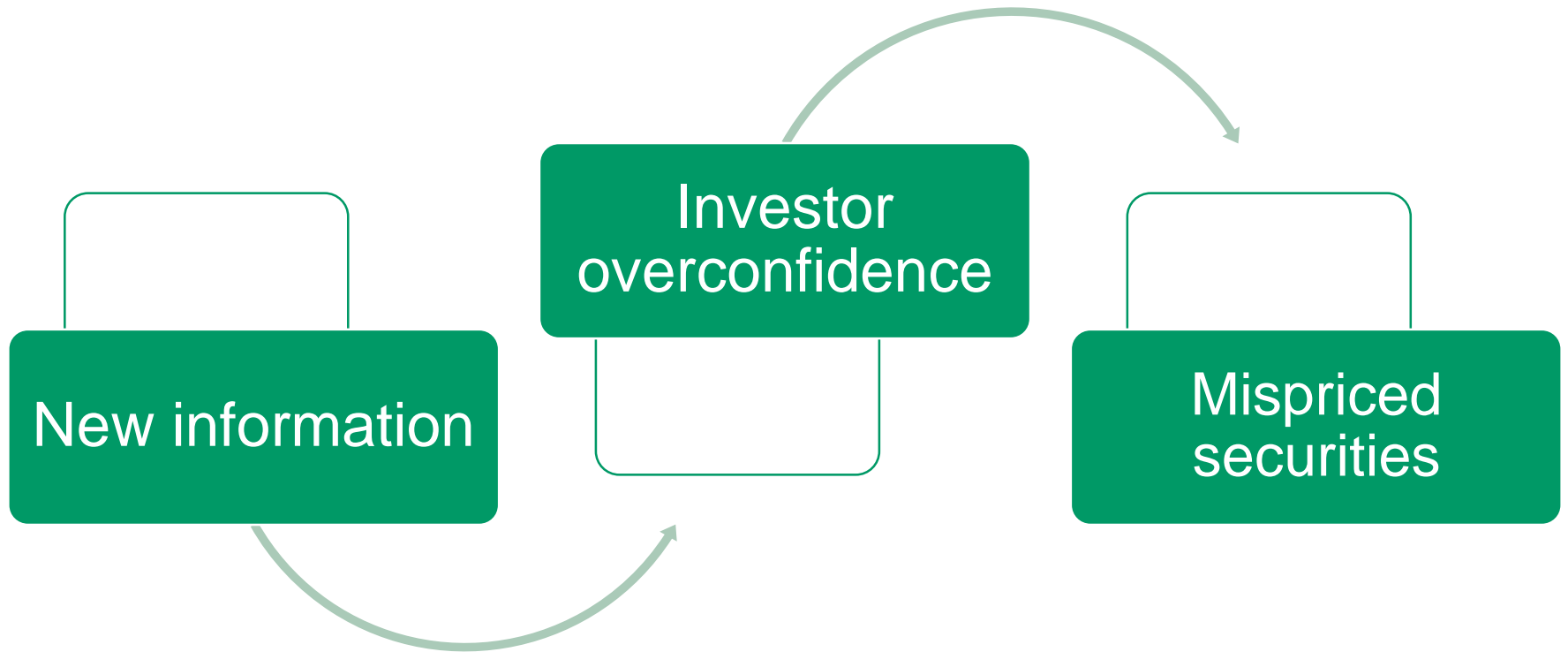


Like gains



Dislike losses

OVERCONFIDENCE



OTHER BEHAVIORAL BIASES

Representativeness

Gambler's fallacy

Mental accounting

Conservatism

Disposition effect

Narrow framing

INFORMATION CASCADES



IF INVESTORS SUFFER FROM COGNITIVE BIASES, MUST MARKETS BE INEFFICIENT?

Theory suggests “Yes!”

If investors must be rational for efficient markets to exist, then all the foibles of human investors suggest that markets cannot be efficient.

Evidence suggests “No!”

If all that is required for markets to be efficient is that investors cannot consistently beat the market on a risk-adjusted basis, then the evidence supports market efficiency.

SUMMARY

- Definition of efficient markets
- Different forms of market efficiency
- Evidence regarding market efficiency
- Implications for fundamental analysis, technical analysis, and portfolio management
- Market pricing anomalies
- Behavioral finance