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# Class #15

# Accounting Trading Strategies

## Do Investors Understand Accounting?

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# Road Map: Where do things fit?

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- Risk Analysis:
  - CAPM
  - 3 Factor Model: Size and B/M Matter
  - Combine with Cash Flow Analysis
- Where Now?
  - Recall discussion in first class about market efficiency edbate
    - Application of Fundamental Analysis ... Can we use financial accounting numbers to identify mis-priced stocks?

# Does the market set stock prices correctly all the time?

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- EMPHASIZE: Mkts are very competitive!
- But .. Evidence that markets may not be perfectly efficient → Possible (risky) arbitrage opportunities.
- Question: Can we use current (historical) financial accounting information and fundamental analysis to “pick” which stocks will do better/worse in the upcoming months/years?
  - Answer: There is growing evidence that this appears to be possible!

# What is the correct benchmark for “Beating the Market”?

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- A high stock return (relative to other stocks) does not immediately imply you are getting a “free lunch” or an arbitrage opportunity exists!
- Asset pricing models: There is a trade-off between risk and return.
  - Higher risk stocks should have higher returns.
- What is the expected return on stock? ... It depends on the stock’s systematic risk!
- Simple case – CAPM:  $E(R) = R_f + \beta^*(R_m - R_f)$ 
  - Expected return is increasing in systematic risk!

# Abnormal Stock Returns:

## Getting the benchmark correct

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- Abnormal stock performance must be calculated relative to the stock return predicted by CAPM (or other model):
  - $\alpha = \text{Abnormal return} = \text{Actual return} - \{ R_f + \beta^*(R_m - R_f) \}$
  - Abnormal return is known as the “alpha”.
  - A positive (negative) alpha means that the stock provided a higher (lower) return than predicted for a given level of systematic risk.
  - Strategy: Attempt to go “long” in stocks that will have future positive alphas and “short” in stocks that will have negative alphas.

# How might we predict alpha's?

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- Keys to fundamental analysis:
  - First, get the benchmark correct for determining abnormal returns.
  - Next, find a technique for “picking” stocks that will systematically overperform (underperform) the benchmark.
  - Involves historical analysis ... Hope that past strategies will work in future. Why might a successful strategy from the past disappear?
- What is an alternative interpretation that we can systematically identify firms with high/low alphas?

# Valuation & “Beating the Market”

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- Valuation implicitly assumes market “inefficiency” ... basis for active management.
- Quantitative Models:
  - There should be a direct link between current stock price and:
    - Current earnings (proxy for future earnings and CF’s)
    - Current book value of equity (proxy for liquidating value)
  - If this link is absent, then there may be an (risky) arbitrage opportunity. (Go back to DCF!)
  - “Value” Models: Find companies that are “cheap” relative to others in terms of fundamentals derived from income statements and balance sheets.

# Value Strategies

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- Quantitative Models – “Value Strategies”:
  - Assumption: Investors do not understand fundamentals today, but stock prices will adjust once investors see realized accounting performance.
  - Examples: Strategies based on Book-to-price (B/M), Earnings-to-Price (E/P)
  - What does high B/M mean? Low B/M?
  - What does high E/P mean? Low E/P?
  - Key assumption .... earnings and book equity are comparable across firms. Get the accounting right!

# Misunderstanding information events and “Drift Strategies”

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- Drift Models:
  - Does the market immediately (and correctly) react to an information release that affects company risk or future cash flows?
  - Post earnings announcement drift
    - Company announces higher than expected earnings (lower than expected earnings) .... Stock price increases (decreases) on announcement
    - But stock price continues to go up (down) in the subsequent weeks and months.
    - Appears to be a profitable trading strategy

# Other “Drift” Strategies

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- In general, there appears to be “momentum” in stock returns:
  - GENERAL MOMENTUM: Firm with highest (lowest) stock returns over past 6-12 months are likely to experience high (low) stock returns in next 6-12 months.
  - Post earnings announcement drift is one example of underreaction to earnings news → momentum.
  - Other examples: Underreaction to bond-rating changes (which are positively autocorrelated).
  - Evidence that momentum may be attributable to industry effects vs firm-specific effects.

# Quality of Earnings Trading Strategy (Accruals Anomaly)

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- Managers often have incentives to “fool the market” by using their financial reporting discretion to report high earnings. (Why?)
- Example: Accruals
  - Aggressively book sales before they are justified.
  - Underreport expenses (or defer current expenses).
- Key Question: Do investors and analysts understand that managers may be misreporting earnings? Do they know how to back out the accounting distortions?

# Some Red Flags

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- Managers that use different accounting methods/estimates compared to other firms in the industry.
- Unexplained changes in accounting methods/estimates.
- Large gap between reported income and cash flow from operations.
- Unusual transactions that boost earnings.
- Significant related party transactions.

# The Quality of Earnings Ratio

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$$\frac{(\text{Earnings}) - (\text{Cash From Operations})}{\text{Average Total Assets}}$$

- Annual ratio low  $\Rightarrow$  'Low Quality'
- Annual ratio high  $\Rightarrow$  'High Quality'

# “Widely-Accepted” Evidence on Fundamental Trading Strategies

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Strategy	Claimed Direction of Effect
E/P ratio	High E/P leads to high future abnormal stock returns
B/M ratio	High B/M leads to high future abnormal stock returns
CF/P ratio	High CF/P leads to high future abnormal stock returns
var(CF)/P ratio	High var(CF)/P leads to low future abnormal stock returns
V/P ratio	Use predicted firm value from abnormal earnings model and compare to stock price: High V/P leads to low returns.
Short term reversal	High stock return this month leads to low stock return next month. Short-term <i>overreaction</i> to information.
Medium term momentum	High stock return in past 6-12 months leads to high stock return in next 6-12 months. <i>Underreaction</i> to information.
Accrual anomaly	High accounting accruals this quarter lead to low stock returns in next quarter (and beyond).

# Assignment #2 and Readings

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- Assignment #2:
  - Assignment is also posted on class server (with links to necessary data).
  - Hand in completed homework in class on Tuesday, April 15<sup>th</sup>. Be prepared to discuss your answers in class!
- Readings for Next Class: Risk II – Contracts & Bankruptcy Detection
  - Skim Section G of Course Reader “The Role of Financial Information in Contracting” (pages 295-304).
  - Skim Section H of Course Reader “Credit Analysis and Distress Prediction” (pages 14-11 through 14-17).