Class #15
Accounting Trading Strategies
Do Investors Understand Accounting?
Road Map: Where do things fit?

• 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 debate
    • 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?

• 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”? 

• 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

• 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?

• 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”

• 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

• 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”

- 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

• 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)

- 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

- 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

\[
\frac{(Earnings) - (Cash \_\_From\_\_Operations)}{Average \_\_Total\_\_Assets}
\]

- Annual ratio low => ‘Low Quality’
- Annual ratio high => ‘High Quality’
### “Widely-Accepted” Evidence on Fundamental Trading Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Claimed Direction of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>E/P ratio</td>
<td>High E/P leads to high future abnormal stock returns</td>
</tr>
<tr>
<td>B/M ratio</td>
<td>High B/M leads to high future abnormal stock returns</td>
</tr>
<tr>
<td>CF/P ratio</td>
<td>High CF/P leads to high future abnormal stock returns</td>
</tr>
<tr>
<td>var(CF)/P ratio</td>
<td>High var(CF)/P leads to low future abnormal stock returns</td>
</tr>
<tr>
<td>V/P ratio</td>
<td>Use predicted firm value from abnormal earnings model and compare to stock price: High V/P leads to low returns.</td>
</tr>
<tr>
<td>Short term reversal</td>
<td>High stock return this month leads to low stock return next month. Short-term <em>overreaction</em> to information.</td>
</tr>
<tr>
<td>Medium term momentum</td>
<td>High stock return in past 6-12 months leads to high stock return in next 6-12 months. <em>Underreaction</em> to information.</td>
</tr>
<tr>
<td>Accrual anomaly</td>
<td>High accounting accruals this quarter lead to low stock returns in next quarter (and beyond).</td>
</tr>
</tbody>
</table>
Assignment #2 and Readings

• Assignment #2:
  – Assignment is also posted on class server (with links to necessary data).
  – Hand in completed homework in class on Tuesday, April 15th. 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).