Chapter 7: Prospective Analysis: Valuation Theory and Concepts
Key Concepts in Chapter 7

• Forecasts (ch. 6) are converted into estimates of value.
• Discounted future dividends, cash flows, and abnormal earnings may be used to estimate value.
• Price-based multiples may also be used as value estimates.
• No method by itself dominates any of the others.
Discounted Dividends Valuation

• The present value of future cash flows to shareholders is the basis of the discounted dividends method.

• This method is the basis for most theoretical approaches to stock valuation, including the other methods discussed in this chapter.

\[
\text{Equity value} = \frac{DIV_1}{(1 + r_e)} + \frac{DIV_2}{(1 + r_e)^2} + \frac{DIV_3}{(1 + r_e)^3} + \ldots
\]

Where \( r_e \) is the cost of equity capital
Discounted Abnormal Earnings

• Abnormal earnings are those that differ from the expected return: \( NI_t - r_e \cdot BVE_0 \)

• The discounted dividends method can be modified to yield the following relationship:

\[
\text{Equity value} = BVE_0 + \text{PV expected future abnormal earnings}
\]

Equity value

\[
= BVE_0 + \frac{NI_1 - r_e \cdot BVE_0}{(1 + r_e)} + \frac{NI_2 - r_e \cdot BVE_1}{(1 + r_e)^2} + \frac{NI_3 - r_e \cdot BVE_2}{(1 + r_e)^3} + \ldots
\]
Accounting Methods and Discounted Abnormal Earnings

• Analysts must recognize the impact of different accounting methods on value estimates
  • Valuations are based on earnings and book values
  • Accounting choices affect earnings and book values
  • Double-entry bookkeeping is by nature self-correcting
• Strategic and accounting analyses are important steps to precede abnormal earnings valuation.
Price Multiples Valuation

• Price multiple valuation methods are popular because of their simplicity.

• Three steps are involved:
  1. Select base measure
  2. Calculate price multiples for comparable firms
  3. Apply comparable firm multiple to firm analyzed
Precautions in Using Price Multiples Valuation

• Selecting comparable firms
  — It may be difficult to identify comparable firms, even within an industry
  — Industry averages may be used instead

• Firms with poor performance
  — Marginal profitability or earnings shocks must be considered

• Adjustments for leverage
  — Take care to maintain consistency between numerator and denominator
Determinants of Value to Book/Earnings Multiples

- Value-to-book ratio is driven largely by:
  - Magnitude of future abnormal ROEs
  - Growth in book value

- Equity value-earnings can be derived from the value-to-book formula:

\[
\text{Equity value-to-earnings \ multiple} = \frac{\text{Equity value-to-book \ multiple}}{\text{ROE}} \times \frac{\text{Book value of equity \ multiple}}{\text{Earnings}}
\]
ROE, Equity Growth, Price-to-Book Ratio, and Price-Earnings Ratio

<table>
<thead>
<tr>
<th>Company</th>
<th>ROE</th>
<th>Book Equity Growth</th>
<th>Price-to-Book Ratio</th>
<th>Price-Earnings Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TJX Companies, Inc.</td>
<td>46.5%</td>
<td>10.5%</td>
<td>6.0</td>
<td>14.5</td>
</tr>
<tr>
<td>Nordstrom, Inc.</td>
<td>39.0%</td>
<td>28.6%</td>
<td>4.4</td>
<td>14.9</td>
</tr>
<tr>
<td>Sears Holding Corp.</td>
<td>1.5%</td>
<td>-1.2%</td>
<td>1.0</td>
<td>63.9</td>
</tr>
<tr>
<td>Target Corp.</td>
<td>19.0%</td>
<td>6.3%</td>
<td>2.5</td>
<td>13.6</td>
</tr>
</tbody>
</table>
Shortcut Forms of Earnings-Based Valuation

• Assumptions may be made to simplify abnormal earnings and equity value-to-book methods.

  – Abnormal earnings: random walk and autoregressive models
  – ROE and Growth: ROE mean reversion, other assumptions (e.g. decay)
Discounted Cash Flow Model

- Derived from the discounted dividends model

  Equity value = PV free cash flows to equity claim holders

  \[
  = \frac{NI_1 - \Delta BVA_1 + \Delta BVND_1}{(1 + r_e)} + \frac{NI - \Delta BVA_2 + \Delta BVND_2}{(1 + r_e)^2} + \ldots
  \]

Requires:

1. Forecasts of fee cash flows (usually 5 – 10 years)
2. Forecasts of fee cash flows beyond terminal year
3. Discounting free cash flows using the cost of equity
Comparing Valuation Methods

• No one method is superior to the others

• Using the same assumptions about firm fundamentals should yield the same value estimates from either of the three methods used.

• The three methods differ in the following aspects:
  Focus – earnings or cash flow
  Amount of analysis or structure required
  Terminal value implications
Concluding Comments

• The value of a stock is the present value of future dividends.

• Three methods are derived from this rule:
  1. Discounted dividends
  2. Abnormal earnings
  3. Discounted cash flows

• Each of these methods focuses the analyst’s attention on different issues and requires a different level of structure to develop forecasts of the underlying dividends.