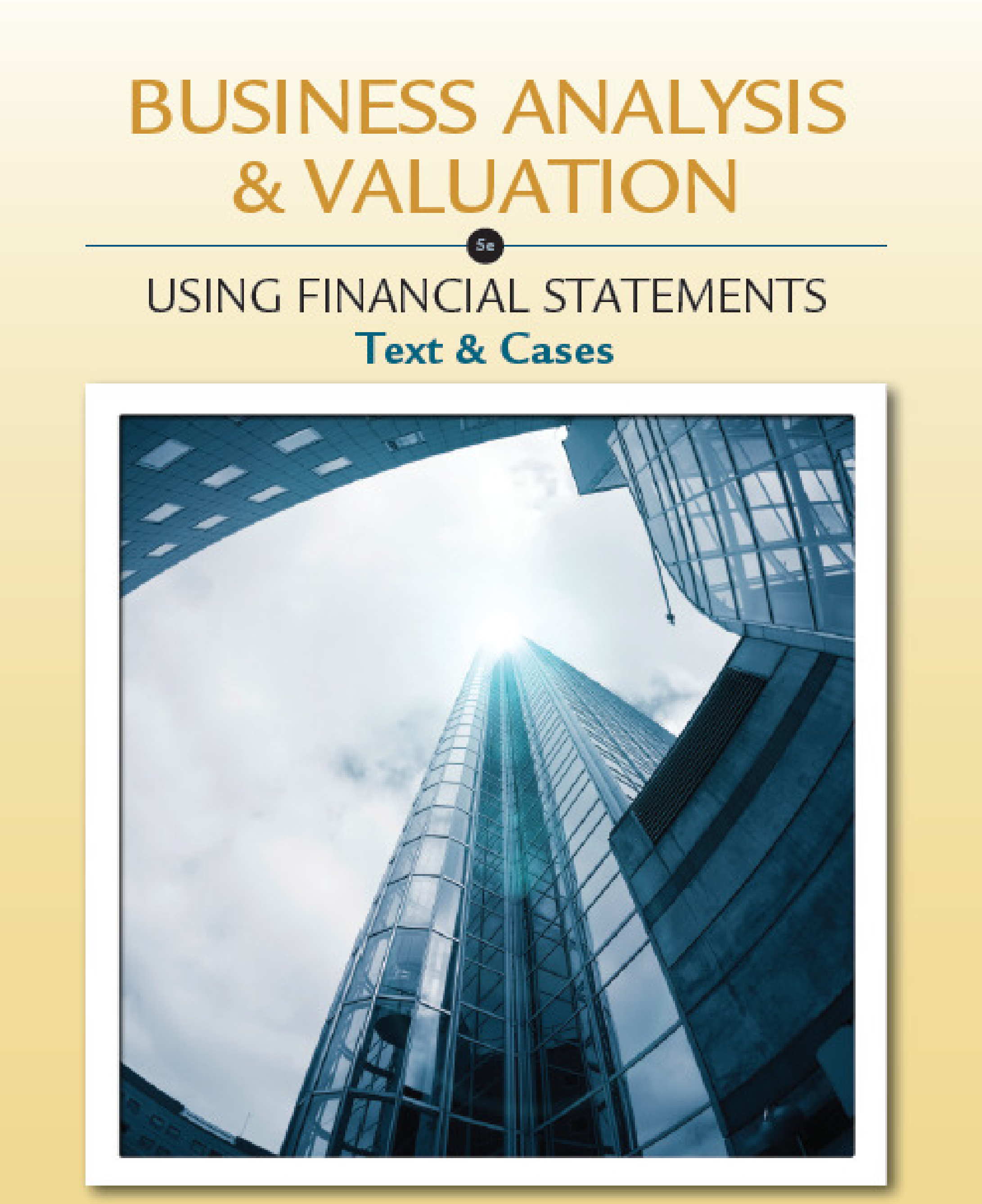

Chapter 7: Prospective Analysis: Valuation Theory and Concepts

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: $NI_t - r_e * BVE_0$
- The discounted dividends method can be modified to yield the following relationship:

Equity value = BVE_0 + 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:

$$\begin{aligned}\text{Equity value-to-earnings multiple} &= \text{Equity value-to-book multiple} \times \frac{\text{Book value of equity}}{\text{Earnings}} \\ &= \frac{\text{Equity value-to-book multiple}}{\text{ROE}}\end{aligned}$$

ROE, Equity Growth, Price-to-Book Ratio, and Price-Earnings Ratio

Company	ROE	Book Equity Growth	Price-to-Book Ratio	Price-Earnings Ratio
TJX Companies, Inc.	46.5%	10.5%	6.0	14.5
Nordstrom, Inc.	39.0%	28.6%	4.4	14.9
Sears Holding Corp.	1.5%	−1.2%	1.0	63.9
Target Corp.	19.0%	6.3%	2.5	13.6

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