FORECASTING

Professor Brian Bushee

Wharton University of Pennsylvania ONLINE

Common Size Financial Statements

- **Benefits of common size financial statements**
  - Remove effects of growth to help spot trends in the financial statements
    - Growth in Assets and Sales drive trends in all of the line items
    - Are certain line items growing more or less than would be expected given the growth in assets or sales?
  - Facilitate preparation of forecasted future financial statements
    - Combine historical common size statements with growth forecasts to get future statements
- **Common Size Balance Sheet**
  - Express all numbers as a percent of Total Assets
- **Common Size Income Statement**
  - Express all numbers as a percent of Sales
- **Cash Flow Statement**
  - Typically not common sized

Forecasting Financial Statements

- **Pro forma statements are projected future financial statements**
- **Step one: forecast future sales**
  - **All of the other line items are a function of future sales forecasts**
- **Step two: use forecasted sales to construct pro forma income statements**
  - **Multiply the forecasted sales for the period times the forecasted common size ratio for each line item on the income statement**
  - **For example, forecasted SG&A Expense = forecasted sales x forecasted SG&A-to-Sales ratio**
- **Step three: use forecasted sales to construct pro forma balance sheet**
  - **See next slides**
- **Step four: use the pro forma income statements and balance sheets to construct the pro forma statement of cash flows**

Projecting The Balance Sheet

- **Use forecasted sales and the Total Asset Turnover Ratio (TATR) to forecast future total assets at the end of the period**
  - **TATR = $Sales_t$ / .5*(Total $Assets_t$ + Total $Assets_{t-1}$)**
  - **Forecasted Total $Assets_t$ = (2*Forecasted $Sales_t$ / TATR) – Total $Assets_{t-1}$**
- **Multiply the forecasted total assets at the end of the period times the forecasted common size ratio for each asset and liability line item**
  - **For example, forecasted Inventory = forecasted Total Assets x forecasted Inventory-to-Assets ratio**
- **Forecast Stockholders' Equity as forecasted Assets – forecasted Liabilities**
- **Technical refinement**
  - **Smooth forecasted total assets to eliminate the "saw-tooth" effect**
  - **Forecast "unsmoothed" total assets as above**
  - **Calculate the projected average growth rate in assets**
  - **Use the average growth rate to project a "smoothed" asset growth series**

Other Refinements

- **Decompose the Net Increase in PP&E into purchases vs. retirements**
  - **Use historical depreciation rate to forecast reduction in accumulated depreciation due to retirements**
  - **Assume no salvage value and remove same retirement amount from change in gross PP&E**
  - **Rest of change in gross PP&E represents new capital expenditures**
- **Decompose the change in shareholders' equity into net income vs. dividends and net share repurchases**
  - **Assume any change in stockholder's equity that is not due to net income represents Dividends + Share repurchases – Share issuances**

Wharton

UNIVERSITY of PENNSYLVANIA