CHAPTER 3 : UNDERSTANDING FINANCIAL STATEMENT AND CASH FLOWS

KEY CONCEPTS AND SKILLS

- Know the difference between book value and market value
- Know the difference between accounting income and cash flow
- Know how to determine a firm's cash flow from its financial statements

CHAPTER OUTLINE

- The Balance Sheet
- The Income Statement
- Cash Flow

THE BALANCE SHEET

- The balance sheet is a snapshot of the firm's assets

and liabilities at a given point in time

- Assets are listed in order of liquidity
    - Ease of conversion to cash
    - Without significant loss of value
- Balance Sheet Identity
    - Assets = Liabilities + Shareholders' Equity

THE BALANCE SHEET

OZ COMPANY BALANCE SHEET

MARKET VS BOOK VALUE

- The balance sheet provides the book value of the assets, liabilities, and equity
- Market value is the price at which the assets, liabilities or equity can be bought or sold
- Market value and book value are often very different. Why?
- Which is more important to the decision-making process?

BATTLER COMPANY

INCOME STATEMENT

- The income statement is more like a video of the firm's operations for a specified period.
- You generally report revenues first and then deduct an expense for the period.
- Matching principle – AAS say to show revenue when it accrues and match the expenses required to generate the revenue

INCOME STATEMENT

THE CONCEPT OF CASH FLOW

- Cash flow is one of the most important pieces of information that a financial manager can derive from financial statements
- The statement of cash flows does not provide us with the same information that we are looking at here
- We will look at how cash is generated from utilizing assets and how it is paid to those that finance the purchase of the assets

CASH FLOW FROM ASSETS

- Cash Flow from Assets (CFFA) = Cash Flow to Creditors + Cash Flow to Shareholders
- Cash Flow from Assets = Operating Cash Flow – Net Capital Spending – Changes in NWC

CASH FLOW - FORMULA

EXAMPLE: OZ COMPANY

- OCF (I/S) = EBIT + depreciation – taxes = $547
- NCS (B/S and I/S) = ending net fixed assets – beginning net fixed assets + depreciation = $130
- Changes in NWC (B/S) = ending NWC – beginning NWC = $330
- CFFA = 547 – 130 – 330 = $87
- CF to Creditors (B/S and I/S) = interest paid – net new borrowing = $24
- CF to Stockholders (B/S and I/S) = dividends paid – net new equity raised = $63
- CFFA = 24 + 63 = $87

RATIO

KEY CONCEPTS AND SKILLS

Know:

- How to standardize financial statements for comparison purposes
- How to compute and interpret important financial ratios
- The determinants of a firm's profitability and growth

Understand the problems and pitfalls in financial statement analysis

CHAPTER OUTLINE

- Standardized Financial Statements
- Ratio Analysis
- The Du Pont Identity
- Internal and Sustainable Growth
- Using Financial Statement Information

STANDARDIZED FINANCIAL STATEMENTS

Common-Size Balance Sheets

- All accounts = percent of total assets (%TA)

Common-Size Income Statements

- All line items = percent of sales or revenue (%SLS)

Standardized statements are useful for:

- Comparing financial information year-to-year
- Comparing companies of different sizes, particularly within the same industry

RATIO ANALYSIS

- Allow for better comparison through time or between companies
- Used both internally and externally
- For each ratio, ask yourself:
    1. What the ratio is trying to measure
    2. Why that information is important

CATEGORIES OF FINANCIAL RATIO

LIQUIDITY RATIOS

- **Current Ratio** = CA / CL
    - 708 / 540 = 1.31 times
- **Quick Ratio** = (CA – Inventory) / CL
    - "Acid Test"
    - (708-422) / 540 = 0.53 times
- **Cash Ratio** = Cash / CL
    - 98/ 540 = .18 times

FINANCIAL LEVERAGE RATIOS

- **Total Debt Ratio** = (TA – TE) / TA
    - (3588-2,591) / 3588 = 0.28 times

- **Debt/Equity** = TD / TE
  - (0.28/0.72) = 0.39 times
- **Equity Multiplier** = TA/TE = 1 + D/E
  - ($1 /0.72) = 1.39
  - **FINANCIAL LEVERAGE RATIOS**
- **Times Interest Earned** = EBIT / Interest
  - 691/141 = 4.9 times
- **Cash Coverage** = (EBIT + Deprec) / Interest
  - (691 + 276) / 141 = 6.9 times
  - **ASSET MANAGEMENT: INVENTORY RATIOS**
- **Inventory Turnover** = COGS / Inventory
  - 1344/422 = 3.2 times
- **Days' Sales in Inventory** = 365 / Inventory Turnover
  - 365 / 3.2= 114 days

ASSET MANAGEMENT: RECEIVABLES RATIOS

- **Receivables Turnover** = Sales / AR
  - 2311/188 = 12.3 times
- **Days' Sales in Receivables** = 365 / Receivables Turnover
  - 365 / 12.3 = 30 days

ASSET MANAGEMENT: ASSET TURNOVER RATIOS

- **Total Asset Turnover** = Sales / Total Assets
  - 2311/3588 = 0.64 times
- **Capital Intensity Ratio** = 1/TAT
  - 1/0.64 = 1.56

PROFITABILITY MEASURES

- **Profit Margin** = NI / Sales
  - 363/2311 = 15.7%
- **Return on Assets (ROA)** = NI / TA
  - 363/3588 = 10.12%
- **Return on Equity (ROE)** = NI / TE
  - 363 / 2591 = 14.01%

MARKET VALUE MEASURES

- Market Price = $88 per share = PPS
- Shares outstanding = 33 million
- **Earnings per Share** = EPS = 363/33 = $11
- **PE Ratio** = PPS / EPS
  - $88 / $11 = 8 times
- **Price/Sales Ratio** = PPS/Sales per share
  - $88/($2,311/33) = 1.26
- **Market-to-book ratio** = PPS / Book value per share
  - Book value per share = Total Equity/shares outstanding
  - = $2,591/33 = $78.52
  - Market-to-Book = $88/78.52 = 1.12 times

PRUFROCK RATIOS

THE DUPONT IDENTITY

- **ROE = NI / TE** = Basic Formula
- **ROE = PM * TAT * EM** = Dupont Identity
  - PM = Net Income / Sales
  - TAT = Sales / Total Assets
  - EM = Total Assets / Total Equity
  - **USING THE DU PONT IDENTITY**
- **ROE = PM * TAT * EM**
  - **Profit margin**
    - Measures firm's operating efficiency
    - How well does it control costs
  - **Total asset turnover**
    - Measures the firm's asset use efficiency
    - How well does it manage its assets
  - **Equity multiplier**
    - Measures the firm's financial leverage
    - EM = TA/TE = 1+D/E ratio

PRUFROCK'S DUPONT IDENTITY

- **ROE = PM * TAT * EM**
  - PM = 15.7%
  - TAT = .64
  - EM = 1.39
- ROE = .157 x .64 x 1.39

= .139667 = 14%

INTERNAL AND SUSTAINABLE GROWTH PAYOUT AND RETENTION RATIOS

- Dividend payout ratio ("b") = DPS/EPS
  - = Cash dividends / Net income
  - Retention ratio ("1 – b") = (EPS-DPS)/EPS
  - = (Addition to Retained Earnings) / Net income

INTERNAL AND SUSTAINABLE GROWTH PAYOUT AND RETENTION RATIOS

- Dividend payout ratio ("b") =
  - Cash dividends / Net income (DIV / NI)
  - 121/363 = 33.3%

INTERNAL AND SUSTAINABLE GROWTH PAYOUT AND RETENTION RATIOS

- Retention ratio ("1 – b") = (NI - DIV)/ NI
  - Addition to Retained Earnings / Net income
  - $242/363 = 66.7%

THE INTERNAL GROWTH RATE

- How much the firm can grow assets using retained earnings as the only source of financing.

THE SUSTAINABLE GROWTH RATE

- How much the firm can grow by using internally generated funds and issuing debt to maintain a constant debt ratio.

DETERMINANTS OF GROWTH

- Profit margin – operating efficiency
- Total asset turnover – asset use efficiency
- Financial leverage – choice of optimal debt ratio
- Dividend policy – choice of how much to pay to shareholders versus reinvesting in the firm

DU PONT ANALYSIS

WHY EVALUATE FINANCIAL STATEMENTS?

- **Internal uses**
  - Performance evaluation – compensation and comparison between divisions
  - Planning – guide in estimating future cash flows
- **External uses**
  - Creditors
  - Suppliers
  - Customers
  - Stockholders

BENCHMARKING

- Ratios need to be compared to something
- **Time-Trend Analysis**
  - How the firm's performance is changing through time
  - Internal and external uses
- **Peer Group Analysis**
  - Compare to similar companies or within industries
  - SIC and NAICS codes

PROBLEMS WITH FINANCIAL ANALYSIS

- Conglomerates
  - No readily available comparable
- Global competitors
- Different accounting procedures
- Different fiscal year ends
- Differences in capital structure
- Seasonal variations and one-time events