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University of Toronto Engineering Finance Association Learning Session

September 26, 2019

Agenda

- Introduction to Accounting
- Enterprise vs Equity Value
- Financial Ratios

Introduction to Accounting

Accounting is the measurement, processing, and communication of financial and non-financial information about economic entities.

The aspect of accounting we'll focus on is the contents and linkage of the 3 main financial statements:

1. Income Statement
    - Statement that shows revenues and expenses during a particular period.
2. Balance Sheet
    - Statement of the financial position that lists the assets, liabilities and owner's equity at a particular point in time.
3. Cash Flow Statement
    - Statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents, and breaks the analysis down to operating, investing, and financing activities.

Income Statement

Revenue

- Cost of Goods Sold (COGS)

Gross Profit

Operating Expenses

- Selling, General & Admin. (SG&A)
- Research & Development (R&D)
- Depreciation & Amortization (D&A)

Operating Profit (EBIT)

- Interest Expense
- Taxes

Net Income

Direct costs attributable to the production of the goods sold in a company. Mainly the cost of materials and direct labour to create and produce the product.

Costs not directly involved in the production of the product such as office employee salaries, rent, utilities, office supplies, etc.

Cost of business assets that can be expensed each period over the life of the asset.

Interest payable on any borrowings – bonds, loans, convertible debt or lines of credit

Taxes owed to federal, state/provincial and municipal governments within a given period. Based on effective tax rate and taxable income.

Balance Sheet

The Balance sheet is made up of assets (what you own), liabilities (what you owe) and equity (your net worth).

Assets - Liabilities = Owner's Equity

Assets	**Liabilities**	**Owner's Equity**
Current Assets Cash & Cash Equivalents Marketable Securities Inventory Accounts Receivable Long Term Assets Property, Plant & Equipment Intangible Assets	Current Liabilities Interest Payable Accounts Payable Wages Payable Long Term Liabilities Bonds Payable	Common Stock Retained Earnings

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Cash Flow Statement

New Cash Balance = CFO + CFI + CFF + Beginning Cash Balance

Cash Flow from Operations (CFO) Net Income + Non-cash Items + Change in Working Capital
Cash Flow from Investing (CFI) Purchase/Sale of long-term assets (CapEx), other businesses (M&A), marketable securities.
Cash Flow from Financing (CFF) Issuance/Buyback of shares or debt and dividend payments.

Enterprise vs Equity Value

Enterprise Value = Equity Value + Debt - Cash

Enterprise value is the total value of the assets excluding cash, otherwise known as the purchase price. The DCF that we teach you, using unlevered free cash flow, actually calculates the enterprise value which you then adjust for cash and debt to arrive at our opinion of the true equity value.

Equity value is the value that remains for the shareholders after any debts have been paid off. The firm's market cap is what the stock markets opinion of the firm's equity value is, which is the share price x # of shares.

Financial Ratios

Financial ratios can be used to measure and evaluate a single company over time or be used to compare and contrast competitors.

Financial ratios are grouped into the following categories:

- **Liquidity ratios:** measure a company's ability to repay both short- and long-term obligations.
- **Leverage ratios:** measure the amount of capital that comes from debt.
- **Efficiency ratios:** measure how well a company is utilizing its assets and resources.
- **Profitability ratios:** measure a company's ability to generate income relative to revenue, balance sheet assets, operating costs, and equity.
- **Market value ratios:** evaluate the share price of a company's stock.

Financial Ratios (Continued)

<u>Liquidity ratios</u>
Current Ratio = Current Assets/Current Liabilities
Cash Ratio = Cash & Cash Equivalents/Current Liabilities
Operating Cash Flow Ratio = Operating Cash Flow/Current Liabilities

<u>Leverage ratios</u>
Debt Ratio = Total Liabilities/Total Assets
Debt to Equity = Total Liabilities/Shareholder's Equity
Interest Coverage Ratio = Operating Income/Interest Expense

<u>Efficiency ratios</u>
Asset Turnover Ratio = Revenue/Total Assets
Inventory Turnover Ratio = COGS/Average Inventory

Financial Ratios (Continued)

Profitability ratios
Gross Margin - Gross Profit/Revenue
Operating Margin = Operating Income/Revenue
Return on Equity = Net Income/Shareholder's Equity

Market value ratios
Book Value per Share = Shareholder's Equity/Total Shares Outstanding
Earnings per Share = Net Income/Total Shares Outstanding
Price-earnings ratio = Share Price/Earnings per Share

Questions?

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