A Three - Statement Financial Model

A Three statement financial Model is the foundation of financial modelling where the 3 important and core financial statements that are the Income statement, Cash flow statement and the balance sheet are linked together to forecast the future performance of the Business.

Components of a 3 Statement Model

1) The Income Statement - Shows the Company's performance over a period of time. It breaks down the revenue and cost driving factors associated with a company's operation and hence gives an idea of the Net income. Net income is the earnings that the company is left with after meeting all its costs such as COGS, tax expenses, Interest expenses etc.

Breaking down the components of Income statement for a financial model

a) **Revenue/ Sales -** This is the amount the company earns from its core business operations. In a 3 statement model, to forecast revenue, we use certain assumptions that flow from the Revenue schedule such as - Expected sales growth, Days in period, volume of goods sold, pricing etc. We build these assumptions in the revenue schedule where we calculate the "Gross" or "Net" revenue which directly flows into the top line of the income statement.

b) **Cost of Goods Sold (COGS) -** This item in the income statement represents what is the cost incurred for the company to sell a particular good or a service. COGS includes direct costs such as labour, raw materials and other direct expenses. In my approach, I have broken down the "COGS" in the Cost schedule under the **"Supporting schedules"**. Gross Profit is defined as the difference between the Sales and COGS.

c) **Operating Expenses -** This represents the core business expenses such as selling, distribution and administration expenses, marketing costs etc. These are not directly tied to the production of the goods and services and hence are referred to as **"Indirect Costs".** Even depreciation and amortization is a part of **"OpEx"** but is a part of non - cash expenses.

d) **Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) -** This is a crucial valuation metric which is calculated as operating income (EBIT) + Depreciation and amortization. "EBITDA" is capital structure neutral which means it does not take into account the interest expenses incurred by different companies and hence can be used to compare companies with different capital structures.

e) **Net income -** The final profit figure on the income statement, representing the company's profitability after all expenses, including interest and taxes, have been deducted.

<u>Linking of Income Statement</u>

- Revenue/ Sales is linked from the **Revenue schedule.** Revenue schedule is calculated by taking assumptions in Sales growth, Pricing increases, Number of products sold, Days in the period etc.

- COGS is obtained from the **Cost schedule**, wherein there is a detailed breakdown of each cost associated in the business's operations. We make assumptions about the inflation in order to increase the cost from one year to another. We assume what are the Variable costs and Fixed costs associated with the business.

- SG&A and Other expenses are just adjusted to the **Inflation** by taking last year's cost and increasing it by the % increase in price (Inflation).

- Depreciation expense is linked to the **Depreciation schedule** in the supporting schedules. Depreciation is calculated for the existing assets and the new assets purchased by the business. We have to make assumptions about the Useful life of the assets, ending PPE balance of the "Actuals" period. We also need to assume the first year accounting depreciation for calculating depreciation on the new assets purchased.

- **Deprecation schedule is a waterfall schedule** where we need to know how much of depreciation is attributed to the new assets purchased. I understood how to calculate this by taking the first year depreciation rate to be 50% as we assume that the asset was purchased in the mid of the year.

- Interest Expense is linked to the **Revolving credit line or a revolver.** It is the sum of the interest expense from long term **debt and revolver.** Make sure we add the interest income to find the net interest expenses.

- Total Tax is the sum of **current taxes and deferred taxes**. Current taxes are paid on Taxable income after adjusting for **tax losses.** We need to adjust the EBT by adding accounting Depreciation and subtracting Tax depreciation.

- **Deferred taxes** is calculated by subtracting current taxes from the Total taxes. Total taxes are paid directly on the EBT amount linked from the income statement directly.

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2) The Balance Sheet - The balance sheet shows the financial position of a business at a specific point in time. It follows the accounting equation, Assets = Liabilities + Equity.

<u>Key Components:</u>

a) **<u>Assets</u>**

Current assets : The current assets are expected to be converted into cash within one year. Current assets are - Accounts Receivables, Cash, inventory etc.

Fixed/ Non current Assets : These represent those assets of the business that are termed as "Capex" and are bought in order to run the operations of a business. Fixed assets are assets such as, PPE, land, building etc. They are important in financial models as the business has to analyse how much investment has it made in the current year in Capex. Capex schedules are based on a "corkscrew calculation" which requires the previous year closing balance, new additions in capex, depreciation, and then the final balance flowing into next year's opening balance.

b) **<u>Liabilities</u>**

Current Liabilities : These represent the short term obligations of a business and are usually paid off within a year. Short term debt and accounts payables are few examples.

Non current Liabilities : Obligations due beyond one year. We understand the changes in non current liabilities from the cash flow statement under financing activities.

c) **<u>Shareholders Equity</u>**

Common stock - This represents the funds raised from the shareholders.

Retained Earnings - The cumulative total of a company's profits that have been reinvested in the business rather than paid out as dividends.

<u>Linking of Balance Sheet</u>

- Cash acts as a check, and is used to balance the balance sheet in the end which flows from the **cash flow statement.**

- **Working capital schedule** has A/R, A/P and Inventory which is linked to Current Assets.

- Fixed assets flow from the **Asset schedule** which shows the ending balance of PPE.

- Deferred taxes flow from the **cash flow statement**, which is then added to the last year's deferred taxes in the balance sheet.

- Long term debt is linked to the **Debt schedule** which is again a **corkscrew** calculation where we take the last year's debt, add or subtract current year's debt from the model **inputs tab** and then find the closing balance of debt.

- Common equity is linked to the **Equity schedule** wherein we can find the ending balance of the equity, which is calculated by taking the beginning balance of equity and adding or subtracting net equity added or bought back.

- Retained earnings is linked to the **Retained earnings schedule** which is calculated by taking the previous years retained earnings, adding current year's net income, subtracting current year's dividends paid and hence arriving at the closing balance of current year's retained earnings.

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1) <u>The Cash Flow Statement</u> - Explains the movement of cash in the business and also reconciles the net income to actual changes in cash.

<u>Categories of the Cash flow statement</u>

<u>Operating activities -</u> This section starts with the net income (From the Income Statement) and adds back non cash charges such as depreciation and changes in Working capital.

Linking
- Link Net income from Income statement.
- Deferred taxes from Income statement.
- A/R, A/P, Inventory from Working Capital Schedule.
- Depreciation from Income Statement.

<u>Investing Activities -</u> This section depicts the CapEx made by the business during the year. It is linked from the asset schedule which is the current year's Capex.

<u>Financing Activities -</u> This section details cash flows related to a company's capital structure, including issuing or repaying debt and equity, and paying dividends.

Linking
- Change in long term debt by seeing if the company issued debt or paid debt and linking it to the **Debt schedule.**
- Change in revolving credit line by calculating the cash available for revolving credit line.
- Link the Issuance or buyback of equity to the **Equity schedule.**
- Link the Dividends paid from the **Retained earnings schedule.**
- Beginning cash balance would be linked to **previous years cash balance.**
