Accounting Part 1

Spring 2024

AGENDA

- Importance of accounting
- Financial statements
- Balance sheet
- Income statement
- Cash flow statement
- Concept check
- Example problem

KEY UNDERSTANDING

- Math is to Physics as Accounting is to Finance
  - Accounting – the language of all business
  - Finance – applied accounting
- Finance is a data driven field and accounting ensures the accuracy and structure of the underlying data
- Double entry accounting
  - When one account changes, it impacts another (e.g. when you buy a house: Cash ↓, House ↑)
- Goal of financial modeling (next workshop) – to replicate how changes in the business impact every accounting statement

Financial Statements

- Balance sheet
  - Snapshot of what a company owns and how they paid for it
  - Unveils liquidity, solvency, and leverage
- Income statement
  - Shows how much "profit" a company generates over time
  - Unveils how a company records revenues and demonstrates how profitable they are on paper
- Cash flow statement
  - Demonstrates how changes in accounts affect the company's cash balance
  - Cash generation does not equal profitability, this statement reconciles the differences

BALANCE SHEET

- The Balance Sheet shows what a company owns and how it pays for it
- The three sections of the Balance Sheet:
  - Assets — what the company owns and uses to generate revenue
    - Ex. cash, inventory, land, property, plant and equipment
  - Liabilities — what the company owes
    - Ex. long term debt, accounts payable
  - Equity — owners’ stake in the business
- Businesses use Liabilities and Equity to pay for the Assets that generate revenue

BALANCE SHEET (CONT'D)

- This statement balances using the following equation:
  - Assets = Liabilities + Equity
- **Capital structure** – combination of debt and equity used to fund a firm's assets, reveals <u>leverage</u>
- Accounts are ordered by liquidity
  - Current assets (inventory) vs. fixed assets (factories)
  - Current liabilities (accounts payable) vs. long term liabilities (long term debt)
- Net working capital = current assets[1] - current liabilities[1]
  - "Operational working capital"

[1] *Excluding interest bearing current assets and current liabilities*

INCOME STATEMENT

- **Revenue recognition principle** – revenue is recorded in the same period that it is earned
  - If you pay a lump sum for Fortune Magazine, Fortune will not recognize that whole amount as revenue today
- **Matching principle** – expenses are recorded in the same period as the revenue it is used to generate
  - If Fortune Magazine bought a year's worth of paper today, they will not recognize that whole amount as an expense today

INCOME STATEMENT (CONT'D)

- Depreciation and amortization
  - **Depreciation and amortization** – the reduction in the value of an asset with the passage of time
- Depreciation and amortization allow us to smooth out expenses on tangible and intangible assets
  - When Tesla builds a $2bn factory, they don't list the whole $2bn as an expense on their income statement
- Depreciation is a non-cash expense so we will see it again in our cash flow statement

INCOME STATEMENT

Income statement ($mm)	
Revenue	$500
Less: Cost of goods sold (COGS)	(250)
Gross margin	**$250**
Less: Selling, general and administrative expenses (SG&A)	(100)
Operating income (EBIT)	**$150**
Less: Interest expense	(50)
Taxable income	**$100**
Less: Taxes	40
Net income	**$60**

Cash flow statement

- Three sections
  - Cash flow from operating activities (ex. selling candy bars)
  - Cash flow from investing activities (ex. buying factories)
  - Cash flow from financing activities (ex. issuing debt)
- Goal is to determine exactly how much cash is generated by the business, not just from earnings
- Most important statement for a lender to a company
  - Profit does not equal cash generation
  - **<u>A company can still go bankrupt even if it has positive net income</u>**
  - **<u>A company can still generate cash even if it has negative net income</u>**

Cash flow statement

Cash flow statement build	
Net income	$60
Plus: Non-cash expenses	30
Less: Increase in current assets	(20)
Plus: Increase in current liabilities	20
Cash flows from operating activities	**$90**
Capital expenditures	(50)
Cash flows from investing activities	**(50)**
Cash flows from financing activities	**30**
Total change in cash	**$70**

Concept Check

- What are some examples of how the balance sheet and income statement fit together?
- What are some examples of how the income statement and cash flow statement fit together (i.e shared line items)?
- Is a company that generated negative cash flow for 2017 considered bankrupt?
- Can a firm that has generated positive cash flow for the last ten years still go out of business?

Example Problem

- Firm XYZ has net income of $100. On their income statement, they listed $30 in D&A. On the balance sheet, current assets increased $20 and current liabilities increased $10. In addition, they raised $50 by issuing debt and used $70 to build a new factory. Did Firm XYZ generate positive cash flow from operations? Were they cash flow positive or negative for the year?

QUESTIONS?

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