

Introduction to Finance (N11119)

Lecture I: Financial Statements, Taxes and Cash Flow

Key Concepts and Skills

The difference between book value and market value

The difference between accounting income and cash flow

The difference between average and marginal tax rates

How to determine a firm's cash flow from its financial statements

The Balance Sheet

A snapshot of the firm's assets and liabilities at a given point in time (i.e., “as of ... “)

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Assets

Left-hand side (or upper portion)

In order of decreasing liquidity

Liabilities and Owners' Equity

Right-hand side (or lower portion)

In ascending order of when due to be paid

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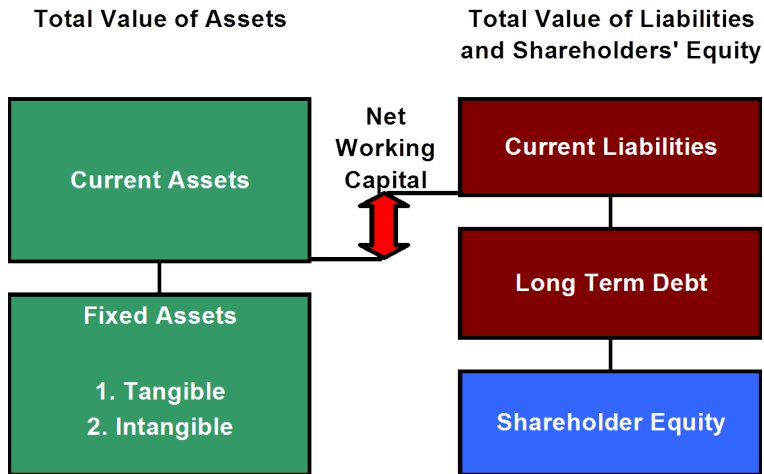
In ascending order of when due to be paid

Balance Sheet Identity

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

The Balance Sheet

(cont'd)



The Balance Sheet

(cont'd)

Net working capital

Current Assets minus Current Liabilities

Usually positive for a healthy firm

Liquidity

Speed and ease of conversion to cash without significant loss of value

Valuable in avoiding financial distress

Debt versus Equity

$$\text{Shareholders' Equity} = \text{Assets} - \text{Liabilities}$$

Market vs. Book Value

Book value = the balance sheet value of the assets, liabilities and equity

Market value = true value; the price at which the assets, liabilities or equity can actually be bought or sold

Market value and book value are often very different. Why?
Which is more important to the decision making process?

Income Statement

The income statement measures performance over a specified period of time (period, quarter, year).

Report revenues first and then deduct any expenses for the period.

End result = net income = “bottom line”

Dividends paid to shareholders

Addition to retained earnings

Income statement equation:

$$\text{Net income} = \text{revenue} - \text{expenses}$$

Financial Statements

GAAP matching principle

Recognise revenue when it is fully earned

Matched expenses required to generate revenue to the period of recognition

Noncash items

Expenses charged against revenue that do not affect cash flow

Depreciation = most important!

Financial Statements

(cont'd)

Time and costs

- Fixed and variable costs

- Not obvious on income statement

Earnings management

- Smoothing earnings

- GAAP leaves “wiggle room”

Marginal vs. average tax rates

Marginal = % tax paid on the next dollar earned

Average = total tax bill \div taxable income

If considering a project that will increase taxable income by \$1 million, which tax rate should you use in your analysis?

Marginal vs. Average Rates

Example

Suppose your firm earns \$4 million in taxable income.

What is the firm's tax liability?

What is the average tax rate?

What is the marginal tax rate?

The Concept of Cash Flow

Cash flow = one of the most important pieces of information that can be derived from financial statements

The accounting Statement of Cash Flows does **not** provide the same information that we are interested in here.

Our focus: how cash is generated from utilising assets and how it is paid to those who finance the asset purchase.

Cash Flow from Assets

$$\begin{aligned} \text{Cash Flow from Assets (CFFA)} &= \text{Operating Cash Flow (OCF)} \\ &\quad - \text{Net Capital Spending (NCS)} \\ &\quad - \text{Changes in NWC } (\Delta \text{NWC}) \end{aligned}$$

$$\begin{aligned} \text{Cash Flow from Assets (CFFA)} &= \text{Cash Flow to Creditors (CFCR)} \\ &\quad + \text{Cash Flow to Stockholders (CFSH)} \end{aligned}$$

U.S. Corporation

Example (cont'd)

$$\text{CFFA} = \text{OCF} - \text{NCS} - \Delta\text{NWC}$$

$$\text{OCF} = \text{EBIT} + \text{depreciation} - \text{taxes}$$

$$= \$694 + 65 - 212 = \$547$$

$$\text{NCS} = \text{ending net FA} - \text{beginning net FA} + \text{depreciation}$$

$$= \$1709 - 1644 + 65 = \$130$$

$$\Delta\text{NWC} = \text{ending NWC} - \text{beginning NWC}$$

$$= (\$1403 - 389) - (\$1112 - 428) = \$330$$

$$\text{CFFA} = \$547 - 130 - 330 = \$87$$

U.S. Corporation

Example (cont'd)

$$\text{CFFA} = \text{CFCR} + \text{CFSH}$$

$$\begin{aligned}\text{CFCR} &= \text{interest paid} - \text{net new borrowing} \\ &= \$70 - (\$454 - 408) = \$24\end{aligned}$$

$$\begin{aligned}\text{CFSH} &= \text{dividend paid} - \text{net new equity} \\ &= \$103 - (\$640 - 600) = \$63\end{aligned}$$

$$\text{CFFA} = \$24 + 63 = \$87$$

Dole Cola

Example (cont'd)

$$\text{CFFA} = \text{OCF} - \text{NCS} - \Delta\text{NWC}$$

$$\text{OCF} = \text{EBIT} + \text{depreciation} - \text{taxes}$$

$$= \$150 + 150 - 41 = \$259$$

$$\text{NCS} = \text{ending net FA} - \text{beginning net FA} + \text{depreciation}$$

$$= \$750 - 500 + 150 = \$400$$

$$\Delta\text{NWC} = \text{ending NWC} - \text{beginning NWC}$$

$$= (\$2,260 - 1,710) - (\$2,130 - 1,620) = \$40$$

$$\text{CFFA} = \$259 - 400 - 40 = -\$181$$

Dole Cola

Example (cont'd)

$$\text{CFFA} = \text{CFCR} + \text{CFSH}$$

$$\begin{aligned}\text{CFCR} &= \text{interest paid} - \text{net new borrowing} \\ &= \$30 - \text{net new borrowing}\end{aligned}$$

$$\begin{aligned}\text{CFSH} &= \text{dividend paid} - \text{net new equity} \\ &= \$30 - 0 = \$30\end{aligned}$$

$$-\$181 = \$30 - \text{net new borrowing} + 30$$

$$\text{Net new borrowing} = \$241$$

Summary

- The book value can be very different from the market values. The goal of financial management is to maximise the market value of the stock, not its book value.
- Net income is not cash flow. When net income is calculated, depreciation — a noncash expenditure — is deducted.
- Marginal tax rate \neq average tax rate. When making financial decisions, the marginal tax rate is what matters.
- The cash flow identity says that cash flow from assets equal cash flow to creditors and stockholders.