

FINANCIAL STATEMENTS, TAXES, AND CASH FLOW

Chapter 2

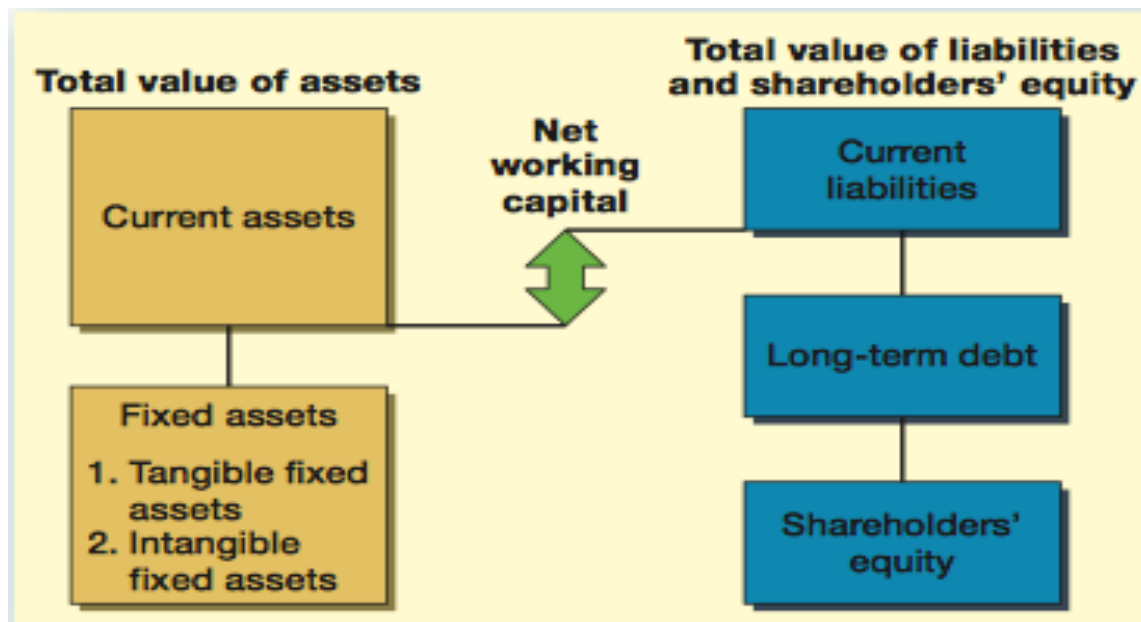
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The Balance Sheet

- Financial statement showing a firm's accounting value on a **particular date**.
- Is a **snapshot of the firm**. It is a convenient means of organizing and summarizing what a firm owns (its assets), what a firm owes (its liabilities), and the difference between the two (the firm's equity) at a given point in time.

The Balance Sheet

As shown, the left side lists the assets of the firm, and the right side lists the liabilities and equity.



ASSETS: THE LEFT SIDE

- Assets are classified as either *current* or *fixed*.
- A *fixed asset* : is one that has a relatively long life.
- *Fixed assets* can be either *tangible*, such as a truck or a computer, or *intangible*, such as a trademark or patent.
- A *current asset* has a life of less than one year. This means that the asset will convert to cash within 12 months.
- Ex: inventory would normally be purchased and sold within a year and is thus classified as a current asset. Obviously, cash itself is a current asset. Accounts receivable (money owed to the firm by its customers) are also current assets.

LIABILITIES AND OWNERS' EQUITY: THE RIGHT SIDE

- **1 . The firm's liabilities:** are the first thing listed on the right side of the balance sheet.
- These are classified as either *current* or *long-term*.
- **Current liabilities**, like current assets, have a life of less than one year (meaning they must be paid within the year) and are listed before long-term liabilities. Accounts payable (money the firm owes to its suppliers) are one example of a current liability.
- A debt that is not due in the coming year is classified as a **long-term liability**. A loan that the firm will pay off in five years is one such long-term debt. Firms borrow in the long term from a variety of sources. We will tend to use the terms *bond* and *bondholders* generically to refer to long-term debt and long-term creditors, respectively.

LIABILITIES AND OWNERS' EQUITY: THE RIGHT SIDE

- The **firm's liabilities** are the first thing listed on the right side of the balance sheet. These are classified as either *current* or *long-term*.
Current liabilities
- **Current assets** : have a life of less than one year (meaning they must be paid within the year) and are listed before long-term liabilities.
- Ex : Accounts payable (money the firm owes to its suppliers) are one example of a current liability.
- **Long-term liability** : A debt that is not due in the coming year
- A loan that the firm will pay off in five years is one such long-term debt. Firms borrow in the long term from a variety of sources. We will tend to use the terms *bond* and *bondholders* generically to refer to long-term debt and long-term creditors, respectively.

OWNERS' EQUITY

- *The shareholders' equity, also called common equity or owners' equity* : is the difference between the total value of the assets (current and fixed) and the total value of the liabilities (current and long-term)
- If the firm were to sell all its assets and use the money to pay off its debts, then whatever **residual value remained** would belong to the **shareholders**.
- The balance sheet “balances” because the value of the left side **always equals** the value of the right side.

The Balance Sheet Identity

$$\text{Assets} = \text{Liabilities} + \text{Shareholders}$$

This is the *balance sheet identity*, or equation, and it always holds because shareholders' equity is defined as the difference between assets and liabilities.

- That is, the value of the firm's assets is equal to the sum of its liabilities and shareholders' equity

NET WORKING CAPITAL (NWC)

$$\square \text{NWC} = \text{CA} - \text{CL}$$

- The difference between a firm's current assets and its current liabilities is called **net working capital**.
- NWC is **positive** when current assets exceed current liabilities. Based on the definitions of current assets and current liabilities, this means the cash that will become available over the next 12 months exceeds the cash that must be paid over the same period.
- For this reason, net working capital is usually positive in a healthy firm. $\text{CA} > \text{CL}$ in a healthy company.

Building the Balance Sheet

- A firm has current assets OF \$100
- Net fixed assets of \$500
- Short-term debt of \$70
- Long-term debt of \$200.

What does the balance sheet look like? What is shareholders' equity? What is net working capital?

Total assets = \$100 + 500 = \$600

Total liabilities = \$70 + 200 = \$270

Shareholders' equity = \$600 - 270 = \$330

Building the Balance Sheet

- The balance sheet would look like this:

Assets		Liabilities and Shareholders' Equity	
Current assets	\$100	Current liabilities	\$ 70
Net fixed assets	<u>500</u>	Long-term debt	200
		Shareholders' equity	<u>330</u>
Total assets	<u>\$600</u>	Total liabilities and shareholders' equity	<u>\$600</u>

- Net working capital is the difference between current assets and current liabilities
- $NWC = CA - CL = \$100 - 70 = \30 .

Balance sheets

- The assets on the balance sheet are listed in order of the length of time it takes for them to convert to cash in the normal course of business.
- Similarly, the liabilities are listed in the order in which they would normally be paid.
- The structure of the assets for a particular firm reflects the line of business the firm is in and also managerial decisions about how much cash and inventory to have and about credit policy, fixed asset acquisition, and so on.
- The liabilities side of the balance sheet primarily reflects managerial decisions about capital structure and the use of short-term debt.

Balance sheets

- There are three particularly important things to keep in mind when examining **a balance sheet**:
- **Liquidity**
- **Debt versus equity**
- **Market value versus book value.**

Liquidity

- *Liquidity* refers to the **speed** and **ease** with which an asset can be converted to cash.
- **Gold** is a relatively liquid asset; a custom manufacturing facility is not.
- Liquidity actually has **two dimensions**: **ease of conversion** versus **loss of value**.
- A **highly liquid asset** is therefore one that can be quickly sold without significant loss of value.
- An **illiquid asset** is one that cannot be quickly converted to cash without a substantial price reduction.

Liquidity

- Assets are normally listed on the balance sheet in order of decreasing liquidity, meaning that the most liquid assets are listed first.
- **Current assets:** are relatively liquid and include cash and assets we expect to convert to cash over the next 12 months.
- **Fixed assets:** are, for the most part, relatively illiquid.
- These consist of **tangible assets** such as buildings and equipment that don't convert to cash at all in normal business activity (they are, of course, used in the business to generate cash). **Intangible assets**, such as a trademark, have no physical existence but can be very valuable. Like tangible fixed assets, they won't ordinarily convert to cash and are generally considered illiquid.

Liquidity

- Liquidity is valuable. The more liquid a business is, the less likely it is to experience financial distress . Unfortunately, liquid assets are generally less profitable to hold.
- Ex : Cash holdings are the most liquid of all investments, but they sometimes earn no return at all they just sit there.

Debt versus equity

- To the extent that a firm borrows money, it usually gives first claim to the firm's cash flow to creditors. (Pay to the creditors/bondholders first)
- Equity holders are entitled to only the residual value, the portion left after creditors are paid. (Pay the rest to the equity holders /shareholders)
- The value of this residual portion is the shareholders' equity in the firm, which is just the value of the firm's assets less the value of the firm's liabilities:
- **Shareholders' equity = Assets – Liabilities**
- Shareholders' equity is defined as this residual portion.
- If the firm sells its assets and pays its debts, whatever cash is left belongs to the shareholders.

Debt versus equity

- The use of debt in a firm's capital structure is called *financial leverage*.
- The more debt a firm has (as a percentage of assets), the greater is its degree of financial leverage.
- **Financial leverage** increases the potential reward to shareholders, but it also increases the potential for financial distress and business failure.

Market value versus book value.

- The values shown on the balance sheet for the firm's assets are **book value** and generally are not what the assets are actually worth.
- Under (**GAAP**), audited **financial statements** in the United States generally show assets at *historical cost*.
- In other words, assets are “carried on the books” at **what the firm paid for them**, no matter how long ago they were purchased or how much they are worth today.

Market value versus book value.

- **Current assets:** market value and book value might be somewhat similar because current assets are bought and converted into cash over a relatively short span of time.
- **Fixed assets:** market value of an asset (what the asset could be sold for) not similar to its book value .
- **Ex :** a railroad might own enormous tracts of land purchased a century or more ago. What the railroad paid for that land could be hundreds or thousands of times less than what the land is worth today. The balance sheet would nonetheless show the historical cost.

Market value versus book value.

- The difference between **market value** and **book value** is important for understanding the impact of reported **gains and losses**.
- **The balance sheet is useful to many different parties:**
- A **supplier** might look at the size of **accounts payable** to see how promptly the firm pays its bills.
- A potential **creditor** would examine the **liquidity** and **degree of financial leverage**.
- **Managers** within the firm can track things like the amount of **cash** and the amount of **inventory** the firm keeps on hand
- Managers and investors will frequently be interested in knowing the value of the firm. This information is not on the balance sheet. The fact that balance sheet assets are listed at cost means that there is no necessary connection between the total assets shown and the value of the firm. Indeed, many of the most valuable assets a firm might have a good management, a good reputation, talented employees—don't appear on the balance sheet at all.

Income Statement

The **income statement**

- A financial statement summarizing a firm's performance **over a period of time**, usually a quarter or a year.
- The income statement equation is:
 - **Revenues** - **Expenses** = **Income**

Income Statement

- The first thing reported on an income statement would usually be revenue and expenses from the firm's principal operations. Subsequent parts include, among other things, **financing expenses** such as **interest paid**. **Taxes paid** are reported separately. The last item is *net income* (the so-called bottom line).

U.S. CORPORATION 2009 Income Statement (\$ in millions)	
Net sales	\$1,509
Cost of goods sold	750
Depreciation	<u>65</u>
Earnings before interest and taxes	\$ 694
Interest paid	<u>70</u>
Taxable income	\$ 624
Taxes (34%)	<u>212</u>
Net income	<u><u>\$ 412</u></u>
Dividends	\$103
Addition to retained earnings	309

Retained earnings

- Net income is often expressed on a per-share basis and called *earnings per share (EPS)*.
- As indicated, U.S. paid cash dividends of \$103.

Retained earnings = Net income - Cash dividends

- The difference between net income and cash dividends, \$309, is the addition to retained earnings for the year. This amount is added to the cumulative retained earnings account on the balance sheet

Calculating Earnings and Dividends per Share

- U.S. had 200 million shares outstanding at the end of 2009. Based on the income statement in Table 2.2, what was EPS? What were dividends per share?

Total shares = 200

Net income = \$412

Total dividends = \$103

Earnings per share (EPS) = Net income / Total shares

- $EPS = \$412 / 200 = \2.06 per share
- Dividends per share = Total dividends / Total shares
- Dividends per share = $\$103 / 200 = \$.515$ per share

Taxes

Taxes can be *one of the largest cash outflows* a firm experiences.

Ex : for the fiscal year 2007, ExxonMobil's Taxable income \$71.88 billion. Its tax bill, including all taxes paid worldwide, was a whopping \$29.86 billion, or about 41 percent of its pretax earnings.

Wal-Mart had a taxable income of \$6.88 billion, and the company paid \$2.14 billion in taxes, an average tax rate of 31 percent.

- The size of a company's tax bill is determined by the tax code, an often amended set of rules.

CORPORATE TAX RATES

- Corporate tax rates rise from 15 percent to 39 percent, but they drop back to 34 percent on income over \$335,000. They then rise to 38 percent and subsequently fall to 35 percent.

Taxable Income		Tax Rate
\$	0 – 50,000	15%
	50,001 – 75,000	25
	75,001 – 100,000	34
	100,001 – 335,000	39
	335,001 – 10,000,000	34
	10,000,001 – 15,000,000	35
	15,000,001 – 18,333,333	38
	18,333,334 +	35

AVERAGE VERSUS MARGINAL TAX RATES

- In making financial decisions, it is important to distinguish between **average** and **marginal tax rates**.
- Your **average tax rate** : Total taxes paid divided by total taxable income. $T/\text{Taxable income}$.
- The percentage of your income that goes to pay taxes.
- Your **marginal tax rate** : is the rate of the extra tax you would pay if you earned one more dollar.

Example 1

- Suppose our corporation has a taxable income of \$200,000.
- What is the tax bill? Using Table 2.3, we can figure our tax bill:

$$\begin{aligned} .15(\$ 50,000) &= \$ 7,500 \\ .25(\$ 75,000 - 50,000) &= 6,250 \\ .34(\$100,000 - 75,000) &= 8,500 \\ .39(\$200,000 - 100,000) &= \underline{39,000} \\ &= \underline{\underline{\$61,250}} \end{aligned}$$

Taxable Income		Tax Rate
\$	0 – 50,000	15%
	50,001 – 75,000	25
	75,001 – 100,000	34
	100,001 – 335,000	39
	335,001 – 10,000,000	34
	10,000,001 – 15,000,000	35
	15,000,001 – 18,333,333	38
	18,333,334 +	35

Example 1

- Our total tax = \$61,250.
What is the average tax rate?
- Taxable income = \$200,000
- Tax bill = \$61,250
- The average tax rate = $\$61,250 / 200,000 = 30.625\%$.
- What is the marginal tax rate? If we made one more dollar, the tax on that dollar would be 39 cents, so our marginal rate is 39 percent.

Example 2

- Algernon, Inc., has a taxable income of \$85,000. What is its tax bill? What is its average tax rate? Its marginal tax rate?

Taxable Income		Tax Rate
\$	0 – 50,000	15%
	50,001 – 75,000	25
	75,001 – 100,000	34
	100,001 – 335,000	39
	335,001 – 10,000,000	34
	10,000,001 – 15,000,000	35
	15,000,001 – 18,333,333	38
	18,333,334+	35

- Tax bill** = $.15 \times \$50,000 + .25 \times 25,000 + .34 \times (85,000 - 75,000) = \$17,150$.
- Average tax rate** = $\text{Tax bill} / \text{taxable income} = \$17,150 / 85,000 = 20.18\%$.
- The marginal rate** = **34 %** because Algernon's taxes would rise by 34 cents if it had another dollar in taxable income.

Cash Flow Identity

Cash flow from assets = **Cash flow to creditors** + **Cash flow to stockholders**

- A firm generates cash through its various activities , and that cash is either used to **pay creditors / Bondholders** or **paid out to the owners/stockholders** of the firm.

Cash Flow

- Is one of the most important pieces of financial information that can be gleaned from financial statements.
- **Ex :** if you have a business, you want to know how much cash you actually took out of your business in a given year.

Cash flow from assets involves three components:

1. Operating cash flow
2. Capital spending
3. Change in net working capital.

1. Operating cash flow(OCF)

- Cash generated from a firm's normal business activities.
- **HOW TO CALCULATE (OCF):** (revenues - costs) including tax , but we don't want to include depreciation and interest.

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

- Expenses associated with the firm's financing of its assets are not included because they are not operating expenses.
- **OCF** : tells us whether a firm's cash inflows from its business operations are sufficient to cover its everyday cash outflows. A negative operating cash flow is often a sign of trouble.

The income Statements

U.S. CORPORATION 2009 Income Statement (\$ in millions)		
Net sales		\$1,509
Cost of goods sold		750
Depreciation		<u>65</u>
Earnings before interest and taxes		\$ 694
Interest paid		<u>70</u>
Taxable income		\$ 624
Taxes (34%)		<u>212</u>
Net income		<u><u>\$ 412</u></u>
Dividends	\$103	
Addition to retained earnings	309	

Operating cash flow(OCF)

U.S. CORPORATION 2009 Operating Cash Flow	
Earnings before interest and taxes	\$694
+ Depreciation	65
– Taxes	<u>212</u>
Operating cash flow	<u><u>\$547</u></u>

The Balance Sheet

Assets			Liabilities and Owner's Equity		
	2008	2009		2008	2009
Current assets			Current liabilities		
Cash	\$ 104	\$ 160	Accounts payable	\$ 232	\$ 266
Accounts receivable	455	688	Notes payable	<u>196</u>	<u>123</u>
Inventory	<u>553</u>	<u>555</u>	Total	<u>\$ 428</u>	<u>\$ 389</u>
Total	<u>\$1,112</u>	<u>\$1,403</u>			
Fixed assets					
Net plant and equipment	<u>\$1,644</u>	<u>\$1,709</u>	Long-term debt	\$ 408	\$ 454
			Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	<u>1,320</u>	<u>1,629</u>
			Total	\$1,920	\$2,269

2. Capital Spending:

- Money spent on fixed assets less(-) money received from the sale of fixed assets.

Ending net fixed assets	\$1,709
– Beginning net fixed assets	1,644
+ Depreciation	<u>65</u>
Net capital spending	<u><u>\$ 130</u></u>

3 .Change in Net Working Capital (NWC)

- a firm will also invest in current assets. take the difference between the beginning and ending (NWC) figures.

Ending NWC	\$1,014
– Beginning NWC	<u>684</u>
Change in NWC	<u><u>\$ 330</u></u>

Cash Flow from Assets

U.S. CORPORATION 2009 Cash Flow from Assets	
Operating cash flow	\$547
– Net capital spending	130
– Change in NWC	<u>330</u>
Cash flow from assets	<u><u>\$ 87</u></u>

CASH FLOW TO CREDITORS AND STOCKHOLDERS

- Cash flow to creditors : A firm's interest payments to creditors less (-) net new borrowings.
- Cash flow to creditors is sometimes called cash flow to bondholders.

Cash Flow to Creditors

U.S. CORPORATION 2009 Cash Flow to Creditors	
Interest paid	\$70
– Net new borrowing	<u>46</u>
Cash flow to creditors	<u><u>\$24</u></u>

Cash flow to stockholders

- Dividends paid out by a firm less (-) net new equity raised.

U.S. CORPORATION 2009 Cash Flow to Stockholders	
Dividends paid	\$103
– Net new equity raised	<u>40</u>
Cash flow to stockholders	<u><u>\$ 63</u></u>

Example of CF From Dole Cola

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I. The cash flow identity

$$\begin{aligned}\text{Cash flow from assets} &= \text{Cash flow to creditors (bondholders)} \\ &+ \text{Cash flow to stockholders (owners)}\end{aligned}$$

II. Cash flow from assets

$$\begin{aligned}\text{Cash flow from assets} &= \text{Operating cash flow} \\ &- \text{Net capital spending} \\ &- \text{Change in net working capital (NWC)}\end{aligned}$$

where:

$$\begin{aligned}\text{Operating cash flow} &= \text{Earnings before interest and taxes (EBIT)} \\ &+ \text{Depreciation} - \text{Taxes}\end{aligned}$$

$$\begin{aligned}\text{Net capital spending} &= \text{Ending net fixed assets} - \text{Beginning net fixed assets} \\ &+ \text{Depreciation}\end{aligned}$$

$$\text{Change in NWC} = \text{Ending NWC} - \text{Beginning NWC}$$

III. Cash flow to creditors (bondholders)

$$\text{Cash flow to creditors} = \text{Interest paid} - \text{Net new borrowing}$$

IV. Cash flow to stockholders (owners)

$$\text{Cash flow to stockholders} = \text{Dividends paid} - \text{Net new equity raised}$$

Accounting Vs. Finance

- A different point of view
- The investments decisions focus on :

1-Expected return on the project

2-Cost of capital of the investor

Profitable project = $\text{Return} > \text{Cost of capital}$

Sets minimum expected return. Only investments above that rate will create value and lead to an increase in the company's share price.

Cost OF Capital

- Is simply the weighted average of its capital components
 1. Cost of equity
 2. Cost of debt
 3. The respective weight

Cost of debt

- Cost of debt :
- Indicated in the **income statement** in form of the **interest expense**, which reduces a company's taxable income.
- **Interest payment** lower the corporate **after tax cost of debt**.
- Tax saving are equal to the difference between EBIT and taxable income times the tax rate.
- Tax saving = (EBIT - Taxable income)X Tax rate
- $(694-624) \times 0.34 = 23.8$

Cost of Equity

- Can not be found in financial statements .
- Dividend payments does not constitute cost of equity , because shareholders can not claim a fixed dividend.
- **Accountant's** view the equity is **costless**.
- **Financial manger** sees equity **not to be costless** but more costly than debt for a variety of reasons :
- Equity is junior to debt in the event of bankruptcy.
- The level of cash flow uncertainty during the investment period is higher for equity (dividend size nor timing is known)

Cost of Equity

- Cost of Equity more costly than debt for a variety of reasons :
 1. Equity is junior to debt in the event of bankruptcy.
 2. The level of cash flow uncertainty during the investment period is higher for equity (dividend size nor timing is known)
 3. The price fluctuation of stock prices is more pronounced than that of bonds prices.

Cost of Equity $>$ Cost of debt

Timing of Cash Flows

- Bridging the time difference by making the funds available when needed is costly.

Cash Flow Vs. Net Profit

- Accountant point of view , company's success measure is the net income.
- **Financial manger** more interested in cash flow the size and timing of the cash flow
- Net income
- Non cash items
- Time value of money

Taxes Rates

- The tax rate applied to the cash flow of any new project will be determined by the level of taxable income.

Characterization of cost

- **Financial manger** : classify cost as being either fixed or variable in nature.
- **Fixed cost** : level of production (cost of equipment, rent facilities or employers salary).
- **Variable costs** :are the additional cost per unite of production process.

Assets Value

- **Financial managers** are focused on cash flow they make investments decisions based on market value.