Chapter 2

- Financial Statements, Taxes, and Cash Flows

Key Concepts and Skills

- Review the *Balance Sheet* and the *Income Statement*
- Know
  - the difference between *book value* and *market value*
  - the difference between *average* and *marginal tax rates*
- *Prepare a firm's Cash Flow Statement* from it's financial statements

Balance Sheet

- The balance sheet is a picture of the firm's assets and liabilities, and the differences between the two gives us the firms equity at a given point in time
- Balance Sheet Identity
  - Assets = Liabilities + Stockholders' Equity
  - Owners Equity = Assets - Liabilities

Balance Sheet

ASSETS	LIABILITIES
Current Assets	***Current Liabilities***
Cash .	Accounts payable
Marketable Securities	Notes Payable
Accounts receivable	
Inventories	***Long-Term Liabilities***
Fixed Assets	**EQUITY**
Tangible Fixed Assets (Land, building and equipment)	Preferred Stock
	Common Stock
	Paid-in-capital
Intangible Fixed Assets (patent, trademark, copyrights, goodwill, franchises)	Retained Earnings
Less: Accumulated dep.	
TOTAL ASSETS	***TOTAL LIABILITIES &***

Working Capital

Working Capital

Financing Decisions

Investment Decisions

- **Net Working Capital**
  - S-T financing decision
    - = Current Assets – Current Liabilities
  - Usually positive in a healthy firm
  - Managing cash, inventories and S-T borrowing and lending (Eg. Credit terms extended to customers)
- **Investment Decision**
  - Whether to purchase or sale of any assets
- **Financing Decision**
  - Choice of whether to borrow money or to issue new ownership share

US Corporation Balance Sheet

U.S. CORPORATION
2004 and 2005 Balance Sheets
($ in millions)

Assets	2004	2005	Liabilities and Owners' Equity	2004	2005
Current assets			Current liabilities		
Cash	$ 104	$ 160	Accounts payable	$ 232	$ 266
Accounts receivable	455	688	Notes payable	196	123
Inventory	553	555	Total	$ 428	$ 389
Total	$1,112	$1,403			
Fixed assets					
Net plant and equipment	$1,644	$1,709	Long-term debt	$ 408	$ 454
			Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	1,320	1,629
			Total	$1,920	$2,269
Total assets	$2,756	$3,112	Total liabilities and owners' equity	$2,756	$3,112

Income Statement

- Measures performance over some period of time.
  - Report revenues first and then deduct any expenses for the period

Income Statement

- Sales
  -COGS
- Gross Profit
  -Operating Expenses (selling exp., general & administrative exp., lease exp., depreciation exp.)
- Operating Profits (EBIT)
  -Interest Expense
- Net Profit Before Taxes
  -Taxes (rate:25%)
- Net Profit After Taxes (Net Income)
  -Preferred stock dividends
- Earning available for common stockholders

US Corporation Income Statement

U.S. CORPORATION
2005 Income Statement
($ in millions)

Net sales		$1,509
Cost of goods sold		750
Depreciation		65
Earnings before interest and taxes		$ 694
Interest paid		70
Taxable income		$ 624
Taxes		212
Net income		$ 412
Dividends	$103	
Addition to retained earnings	309	

Net Income

- NI belongs to the owners, which can either be paid out in dividends or reinvested in the firm.
  - When NI is reinvested in the firm it become additional equity investment and showed up in the retained earning account.
- NI is expressed on /share basis is called earning per share (EPS).
  - EPS : Net Income / Total shares outstanding

Corporate Taxes

- Both individuals and businesses must pay taxes on income.
- The income of sole proprietorships and partnerships is taxed as the income of the individual owners, whereas corporate income is subject to corporate taxes. (See Table of tax rate schedule in effect of 2004)

TABLE 1.4 Corporate Tax Rate Schedule

Range of taxable income	Base tax	+	(Marginal rate × amount over base bracket)
$ 0 to $ 50,000	$ 0	+	(15% × amount over $ 0)
50,000 to 75,000	7,500	+	(25 × amount over 50,000)
75,000 to 100,000	13,750	+	(34 × amount over 75,000)
100,000 to 335,000[a]	22,250	+	(39 × amount over 100,000)
335,000 to 10,000,000	113,900	+	(34 × amount over 335,000)
Over $10,000,000	3,400,000	+	(35 × amount over 10,000,000)

[a]Because corporations with taxable income in excess of $100,000 must increase their tax by the lesser of $11,750 or 5% of the taxable income in excess of $100,000, they will end up paying a 39% tax on taxable income between $100,000 and $335,000. The 5% surtax that raises the tax rate from 34% to 39% causes all corporations with taxable income between $335,000 and $10,000,000 to have an *average tax rate* of 34%.

Corporate Taxes: Example

Calculate federal income taxes due if taxable income is $80,000.

Average and Marginal Taxes

- A firm's *marginal tax rate* represents the rate at which additional income is taxed.
- The *average tax rate* is the firm's taxes divided by taxable income.

Example

What is the marginal and average tax rate for the previous example?

Debt versus Equity

- Companies gain and losses are changes as the company increases the amount of debt in the capital structure.
- *In calculating taxes, corporations may deduct operating expenses and interest expense but not dividends paid.*
  - The tax deductibility of interest and other certain expenses reduces their actual (after-tax) cost to the profitable firm.
  - It is the non-deductibility of dividends paid that results in double taxation under the corporate form of organization.

Example 2.1

- **Two companies, Debt Co. and No Debt Co., both expect in the coming year to have EBIT of $200,000 and tax rate is 40%. During the year, Debt Co. will have to pay $30,000 in interest expenses. No Debt Co. has no debt and will not pay interest expenses.**

Debt versus Equity Financing

	Debt Co.	No Debt Co.
Earnings before interest and taxes	$200,000	$200,000
Less: Interest expense	30,000	0
Earnings before taxes	$170,000	$200,000
Less: Taxes (40%)	68,000	80,000
Earnings after taxes	$102,000	$120,000
Difference in earnings after taxes	$18,000	

- *Tax Advantage:*

Market vs. Book Value

- **Book Value**
  - The b/sheet provides the BV of the assets, liabilities and equity.
  - Can be precisely measured
- **Market Value**
  - MV is the price at which the assets, liabilities or equity can actually be bought or sold.
  - Can be difficult to estimate and different analyst would come with different number
- **Which is more important to the decision-making process?**

Example 2.2 Klingon Corporation

KLINGON CORPORATION

Balance Sheets

Market Value versus Book Value

	Book	Market		Book	Market
Assets			Liabilities and Shareholders' Equity		
NWC	$ 400	$ 600	LTD	$ 500	$ 500
NFA	700	1,000	SE	600	1,100
	1,100	1,600		1,100	1,600

Statement of CF

- Financial manager can derive CF statement from ***financial statements***.
- Statement of CF shows the firm's ***cash receipt*** and ***cash payment*** over a period of time.
- ***Handling non-cash expense is important.***
  - ***Depreciation is a non cash expense.***
  - Depreciation reduced in B/Sheet : reflects adjustment made in asset BV.
  - However, it is not a cash outflow, therefore it is important to handle it in the CF statement.

CF Statement – shows the firm's ***cash inflows*** and ***outflows***

- ***CF Identity***

THE FIRM REQUIRES CASH WHEN.......

CF from ASSET (OCF-NWC-NCS)

When it buy new asset (eg. plant and equipment)….

CF to Creditor (Interest-NNB)

CF to Stockholder (Dividend-NNE)

When it pay interest to the bank …

When it pay dividend to the shareholders

Cash Flow Summary Table

I. The cash flow identity

Cash flow from assets = Cash flow to creditors (bondholders)
+ Cash flow to stockholders (owners)

II. Cash flow from assets

Cash flow from assets = Operating cash flow
− Net capital spending
− Change in net working capital (NWC)

where:

Operating cash flow = Earnings before interest and taxes (EBIT)
+ Depreciation − Taxes

Net capital spending = Ending net fixed assets − Beginning net fixed assets
+ Depreciation

Change in NWC = Ending NWC − Beginning NWC

III. Cash flow to creditors (bondholders)

Cash flow to creditors = Interest paid − Net new borrowing

IV. Cash flow to stockholders (owners)

Cash flow to stockholders = Dividends paid − Net new equity raised

Self-Test Problem, Q.2.1, p/39

Mara Corp., 2004 & 2005 Balance Sheet ($)

	2004	2005		2004	2005
c/a's	2,205	2,429	c/l's	1,003	1,255
Net FA's	7,344	7,650	L-T debt	3,106	2,085
			Equity	5,440	6,739
TA	**9,549**	**10,079**	Tot.Liab.&o/e	**9,549**	**10,079**

Mara Corp. 2005 Income Statement ($)

Sales		4,507
- COGS		2,633
- Depr.		952
EBIT		922
- Int. Paid		196
Taxable Income		726
- Taxes (35%)		254
NI		472
Dividends	250	
Addition to retained earnings	222	

Suggested Problems

- 1-14, 16,18, 21, 22, 25, 26