CHAPTER 2 – SOLUTIONS TO EXERCISES DONE IN CLASS

Example 1:
Suppose the company has 200 million shares outstanding. What is EPS? What is the dividends per share?

$$Earnings\ per\ Share = \frac{Net\ Income}{Total\ Shares\ Outstanding} = \frac{\$412}{200} = \$2.06\ per\ share$$

$$Dividends\ per\ Share = \frac{Total\ Dividend}{Total\ Shares\ Outstanding} = \frac{\$103}{200} = \$0.515\ per\ share$$

Example 2:
Suppose your taxable income is $200,000

(1) What is the tax bill?

(0.15) x ($50,000) = $7,500
(0.25) x ($75,000 - $50,000) = $6,250
(0.34) x ($100,000 - $75,000) = $8,500
(0.39) x ($200,000 - $100,000) = $39,000
$61,250 = Tax Bill

(2) What is the Average Tax Rate?

$61,250 / $200,000 = 30.625%

(3) What is the Marginal Tax Rate?

If we made one more dollar, the tax on that dollar would be 39 cents, so the marginal rate is 39%.

Example 3:
➔ If Taxable Income is $85,000

(1) What is the tax bill?

(0.15) x ($50,000) = $7,500
(0.25) x ($75,000 - $50,000) = $6,250
(0.34) x ($85,000 - $75,000) = $3,400
$17,150

(2) What is the Average Tax Rate?

$17,150 / $85,000 = 20.18%

(3) What is the Marginal Tax Rate?

If we made one more dollar, the tax on that dollar would be 34 cents, so the marginal rate is 34%.

Example 4:

Assuming that your taxable income was $200,000, if you are considering a project that will increase the firm's taxable income by $500,000, what tax rate should you use in your analysis?

→ The taxable income was $200,000.

→ With new cash flow, the taxable income will be $700,000 (=$200,000 + $500,000)

→ Marginal tax rate will be 34%.

Example 5:

Balance Sheet

Assets			Liabilities and Owners' Equity		
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 fixed assets	$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

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	

- OCF (I/S) = EBIT + depreciation – taxes
  = 694 + 65 – 212
  = $547

- NCS (B/S and I/S) = ending net fixed assets – beginning net fixed assets
  + depreciation
  = 1,709 – 1,644 + 65
  = $130

- Changes in NWC (B/S) = ending NWC – beginning NWC
  Ending NWC = 1,403 – 389 = 1,014
  Beginning NWC = 1,112 – 428 = 684
  Changes in NWC = 1,014 – 684 = $330

➔CFFA = 547 – 130 – 330 = $87

- CF to Creditors (B/S and I/S) = interest paid – net new borrowing
  Net New Borrowing = ending LT debt – beginning LT debt = 454 – 408 = 46
  CF to creditors = 70 – 46 = $24

- CF to Stockholders (B/S and I/S) = dividends paid – net new equity raised = $63
  Net New Equity = 640 – 600 = 40
  (Be sure to point out that here we want to determine the amount of equity raised in the capital markets, not retained earnings.
  CF to Stockholders = 103 – 40 = $63

➔ CFFA = CFTC + CFTS
$87 = $24 + $63