BA/ECO 361A: Finance
Spring-2018
TEST-01 ACS REVIEW

Problem-1:

Ross Company has a pretax operating earnings of $500,000 It has just sold for $150,000 an asset that was purchased for $125,000. The company also received $30,000 in income from interest on bonds it held in Zig Manufacturing and received $20,000 in income from dividends on its 25% common stock holding in Tank Industries, Inc. Ross Company paid $20,000 in Interest Expenses to its bond holders and $15,000 Dividends to its Common Stock Holders. Calculate (a) the tax liability, (b) average tax rate and (c) marginal tax rate of Ross Company.

Solution:

Income/Expense Items	Amount
Pre-tax operating Earning	$500,000
Capital Gain $150,000-$125,000	$25,000
Interest Income	$30,000
Dividend Income[1] $20,000 x (1-0.80)	$4,000
Total Reported Income (500,000+25,000+30,000+4,000)	$559,000
Interest Expenses	-$20,000
Dividend Payment Dividend is paid from after tax earnings. So it does not come into calculation of taxes	-$0
Taxable Income	539,000

Tax Liability[2]= $113,900 + (0.34 x ($539,000-$335,000) = $190,060

Average Tax Rate = Tax Liability/Taxable Income = $190,060/$539,000 = 0.3526 = 35.26%

Marginal Tax Rate = 34%

Note:

1. Dividend income is tax exempt to a certain extent, depending on the ownership level in the company from which the dividend was received. If ownership is less than 20%, then dividend income is 70% tax-exempt. If ownership level is between 20% and 80%, then dividend income is 80% tax-exempt. If ownership level is more than 80% then dividend income is 100% tax-exempt. In the above question, Ross Company held 25% ownership in Tank Industries, Inc. So the dividend income from Chandler Inc. will be 80% tax-exempt. That is, Ross Company will have to pay taxes on remaining 20% of the dividend income.
2. Calculated using Corporate Income Tax Schedule

Problem-2:

Wilkins Manufacturing has annual sales of $4,000,000. The company's gross profit margin is 80% and inventory turnover ratio is 2.5.

(a) Calculate amount of inventory reported on the company's balance sheet.
(b) If Cost of Goods Sold amount decreases, how will it impact Gross Profit Margin and Inventory turnover ratio

Solution:

Gross Profit Margin = (Sales-Cost of Goods Sold)/Sales
0.80= ($4,000,000-Cost of Goods Sold)/$4,000,000
$4,000,000-Cost of Goods Sold = $4,000,000 x 0.80
$4,000,000-Cost of Goods Sold = $3,200,000
Cost of Goods Sold = $4,000,000-$3,200,000
Cost of Goods Sold = $800,000

Inventory Turnover Ratio = Cost of Goods Sold/Inventory
2.5= $800,000/Inventory
2.5 x Inventory = $800,000
Inventory = $800,000/2.5
Inventory = $320,000

Gross Profit Margin = (Sales-Cost of Goods Sold)/Sales. If Cost of Goods sold amount decreases, the numerator of the ratio will increase and the denominator will stay the same. As a result, Gross profit margin will increase.

Inventory Turnover Ratio = Cost of Goods Sold/Inventory. If Cost of Goods sold amount decreases, the numerator of the ratio will decrease and the denominator will stay the same. As a result, inventory turnover ratio will decrease.

Problem-3:

Income Statement
Dana Dairy Products
For the Year Ended December 31, 2013

Sales revenue	$100,000
Less: Cost of goods sold	87,000
Gross profits	$ 13,000
Less: Operating expenses	11,000
Operating profits	$ 2,000
Less: Interest expense	500
Net profits before taxes	$ 1,500
Less: Taxes (40%)	600
Net profits after taxes	$ 900

Balance Sheet
Dana Dairy Products
December 31, 2013

Assets		
Cash		$ 1,000
Accounts receivable		8,900
Inventories		4,350
Total current assets		$14,250
Gross fixed assets	$35,000	
Less: Accumulated depreciation	13,250	
Net fixed assets		21,750
Total assets		$36,000

Liabilities & Stockholders' Equity	
Accounts payable	$ 9,000
Accruals	6,675
Total current liabilities	$15,675
Long-term debt	4,125
Total liabilities	$19,800
Common stock	1,000
Retained earnings	15,200
Total stockholders' equity	$16,200
Total liabilities & stockholders equity	$36,000

Compute the following ratios:

a) Current ratio
b) Inventory turnover
c) Debt ratio
d) Gross profit margin
e) Return on total assets
f) Return on equity

Solution:

Current Ratio = 14250/15675 = 0.9091

Inventory turnover= 87000/4350 = 20

Debt Ratio = 19800/36000= 0.55

Gross profit margin = 13000/100000= 0.13

Return on total assets = 900/36000 = 0.025

Return on equity = 900/16200 = 0.056

Problem-4:

Data Stream Inc. has sales revenue of $100,000,000 net profit of $2,500,000, and total asset turnover ratio of 3.50. Compute Return on Assets (ROA).

Solution:

Using DuPont Analysis,

ROA = Net Profit Margin X Total asset turnover

ROA = (2,500,000/100,000,000) * 3.50 = 0.0875