Chapter 6

Financial Structure & Ratios
The financial structure of a beverage company is as follows:

Item	Amount (€)
Common stock (€2 par per share)	5,000
Paid in premium	20,000
Retained earnings	25,000
Long term loans (6% interest)	30,000
Total	**80,000**

A. Determine the number of shares
B. Calculate the book value per share

Suppose the company reports earnings before interest & tax (EBIT) of €9,600.

C. Calculate the return on total investment (ROI).
D. Calculate the return on equity (ROE).
E. Explain why the ROI and ROE are different.

Suppose the P/E ratio is 12.

F. What is the market price per share?

G. Show what items would change and for what amounts if the company were to issue 100 shares for 25 euro each.

Solutions Financial Structure & Ratios
A. €5,000/€2 = 2,500.
B. €50,000/2,500 = €20.
C. €9,600/€80,000 = 12%
D. Profit is EBIT – Interest = €9,600 – 6%*€30,000 = €7,800. ROE = €7,800)/€50,000 = 15.6%
E. Leverage effect, borrowing money costs less (6%) than ROI (12%) yields.
F. EPS = €7,800/2,500 = €3.12
Market price = 12*€3.12 = €37.44.
G. Common stock = + 200 Paid premium = + 2,300.

Profitability Ratios / Bonds
A company has a debt ratio of 0.60. The interest on debt is 8%. The Return on total Investment (ROI) is 12%. Total equity is $900,000.

A. Calculate the return on equity (ROE).

Suppose that some of the debts are convertible bonds with a par value of $1,000 each.

B. Describe the nature of a convertible bond.

C. What would happen to ROE if 200 convertible bonds are exercised? Use calculations to prove your answer.

Solutions Ratios & Bonds
A. Debt is 60% of the total investment so equity must be 40% (0.40). Total investment = $900,000/0.4 = $2,250,000.
Debt = $2,250,000*0.6 = $1,350,000.
Ebit = $2,250,000*0.12 = $270,000
Interest = $1,350,000*8% = $108,000
Profit = $270,000 – $108,000 = $162,000
ROE = $162,000/$900,000 = 18%.

B. Convertibles can be changed in shares under certain conditions.

C. There is a positive leverage effect so less debt means a lower ROE.
Debt will become $1,150,000 equity will become $1,100,000.
Interest = $1,150,000*8% = $92,000.
Profit = $270,000 – $92,000 = $178,000.
ROE = $178,000/$1,100,000 = 16.18%.

Sale and Lease Back
A company's total assets are €2,000. Fixed assets (offices and other buildings) are 40% of the total. The debt ratio is 30% and the interest on the debt is 6%. The ROI is 10%. Some of the operating costs are the maintenance and depreciation of fixed assets. They are €50 per year. Total sales are €3,000 per year.

Required:
The ROE.

The company can sell (at current book value) all buildings to a real estate management company and lease them back for €10 per month. This fee would include maintenance, insurance and all other costs of using the building.

Required:
- The new ROI.
- An explanation of why the ROI has changed.

Solutions Sale and lease back
Debt = €2,000 * 0.3 = €600.

Equity = €2,000*0.7 = €1,400.

EBIT = 0.10 * €2,000 =	€200
Interest: €600*6% =	(€36)
Income	€164

ROE = €164/€1,400 = 11.71%.

EBIT becomes €200 + €50 – €120 = €130.

Total assets will go down by €800 (40% of €2,000).
ROI = 130/1,200 = 10.83%.

Hotel Ratios

The following information is given for a major hotel company:

- The balance sheet total is $8,000,000.
- Fixed assets make up 80% of the total.
- The debt ratio is 0.6.
- Short term liablities are 40% of the total debt and bear no interest.
- Interest rate on long term debt is 5%.
- Total annual sales revenue is $12,000,000.
- Total operating cost is $10,000,000 per year of which $4,000,000 is fixed.

A. Calculate the return on investment (ROI)?
B. Calculate the return on equity (ROE)?
C. Explain verbally what happens to your answers of questions A and B in the interest would have been 6%.
D. Calculate the current ratio?
E. Calculate the margin on sales?
F. Calculate the asset turnover rate?

Solutions Hotel Ratios

A. EBIT = $12,000,000 – $10,000,000 = $2,000,000.
ROI = $2,000,000/$8,000,000 = 0.25 = 25%.

B. Long debt = $8,000,000*0.6*0.6 = $2,880,000.
Interest = $2,880,000*5% = $144,000. Owners income = $2,000,000 – $144,000 = $1,856,000. ROE = $1,856,000/$3,200,000 = 0.58 = 58%

C. ROI stays the same, ROE goes down

D. $1,600,000/$1,920,000 = 0.83

E. $2,000,000/$12,000,000 = 16.67%

F. $12,000,000/$8,000,000 = 1.5