**CHAPTER**

4. (Question 4 is composed of two parts.) The DuPont formula defines the net return on shareholder’s equity as a function of the following components:

* Operating margin
* Asset turnover
* Interest burden
* Financial leverage
* Income tax rate

Using *only* the data in the following table shown below:

1. Calculate *each* of the five components listed above for 2010 and 2014, and calculate the return on equity (ROE) for 2010 *and* 2014, using all of the *five* components. Show calculations.
2. Briefly discuss the impact of the changes in asset turnover *and* financial leverage on the change in ROE from 2010 to 2014.

**Income Statement Data 2010 2014**

Revenues $542 $979

Operating income 38 76

Depreciation and amortization 3 9

Interest expense 3 0

Pretax income 32 67

Income taxes 13 37

Net income after tax 1 9 30

**Balance Sheet Data 2010 2014**

Fixed assets $41 $70

Total assets 245 291

Working capital 123 157

Total debt 16 0

Total shareholder’s equity 159 220

5. David Wright, CFA, an analyst with Blue River Investments, is considering buying a Montrose Cable Company corporate bond. He has collected the following balance sheet and income statement information for Montrose as shown in Exhibit 10.10. He has also calculated the three ratios shown in Exhibit 10.11, which indicate the bond that is currently rated “A” according to the firm’s internal bond-rating criteria shown in Exhibit 10.13. Wright has decided to consider some off-balance sheet items in his credit analysis, as the off-balance sheet items on each of the ratios found in Exhibit 10.11.

1. Calculate the combined effect of the *three* off-balance sheet items in Exhibit 10.12 on *each* of the following *three* financial ratios shown in Exhibit 10.11.

i. EBITDA/interest expense

ii. Long/term debt/equity

iii. Current assets/current liabilities

The bond is currently trading at a credit premium off 55 basis points. Using the internal credit yield premium incorporates the effect of the off-balance sheet items.

1. State and justify whether or not the current credit yield premium compensates Wright for the credit risk of the bond based on the internal-bond rating criteria found in Exhibit 10.13.

|  |
| --- |
| Exhibit 10.10 Montrose Cable Company Year Ended March 31, 2011 |
| (US$ Thousands) |

**Balance Sheet**

Current assets $4,735

Fixed assets 43,225

 Total assets $47,960

Current liabilities $4,500

Long-term debt 10,000

 Total liabilities $14,500

Shareholder’s equity 33,460

 Total liabilities and shareholder’s equity $47,960

**Income Statement**

Revenue $18,500

Operating and administrative expenses 14,050

Operating income $4,450

Depreciation and amortization 1,675

Interest expense 942

Income before income taxes $1,833

Taxes 641

 Net Income $1,192

|  |
| --- |
| Exhibit 10.11 Selected Ratios and Credit Yield Premium Data for Montrose |

EBITDA/interest expense 4.72

Long-term debt/equity 0.30

Current assets/current liabilities 1.05

Credit yield premium over U.S. Treasuries 55 basis points

|  |  |  |
| --- | --- | --- |
| Exhibit 10.12 Montrose Off | Balance | Sheet Items |

* Montrose has guaranteed the long-term debt (principal only) of an unconsolidated affiliate. This obligation has a present value of $995,000.
* Montrose has sold $500,000 of accounts receivable with recourse at a yield of 8 percent
* Montrose is a lessee in a new noncancelable operating leasing agreement to finance transmission equipment. The discounted present value of the lease payments is $6,144,000 using an interest rate of 10 percent. The annual payment will be 1,000,000.

|  |  |
| --- | --- |
| Exhibit 10.13 Blue River Investments: Internal Bond | Rating Criteria and Credit Yield Premium Data |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Bond Rating**  | **Interest Coverage** **(EBITDA/interest expense)** | **Leverage** | **Current Ratio (Current assets/current liabilities)** | **Credit Yield Premium** **over U.S. Treasuries****(in basis points)** |

AA 5.00 to 6.00 0.25 to 0.30 1.15 to 1.25 30 bps

A 4.00 to 5.00 0.30 to 0.40 1.00 to 1.15 50bps

BBB 3.00 to 4.00 0.40 to 0.50 0.90 to 1.00 100bps

BB 2.00 to 3.00 0.50 to 0.60 0.75 to 0.90 125bps

**Chapter**

6. Over the long run, you expect dividends for BBC in Problem 4 to grow at 8 percent and you require 11 percent on the stock. Using the infinite period DDM, how much would you pay for this stock?

8. The Shamrock Dogfood Company (SDC) has consistently paid out 40 percent of its earnings in dividends. The company’s return on equity is 16 percent. What would you estimate as itsi dividend growth rate?

10. What *P/E* ratio would you apply if you learned that SDC had decided to increase its payout to 50 percent? (Hint: This change in payout has multiple effects.)

**DISCUSSION**

•Determine whether a steel company or a retail food chain would have a greater business risk. Provide support for your rationale.

•Select one of the limitations of ratio analysis and indicate why you believe it is a major concern when predicting future financial performance.

•Discuss why you would not expect all industries to have a similar relationship trend to the economy. Provide an example of two industries that have a different relationship to

•Assess how the required rate of return on investment for a U.S. investor in common stocks may differ from the required rate of return on investment for a Japanese investor. Explain the factors that would determine the required rate of return for stocks in the U.S. versus Japan, and which you believe is the most significant.