Solutions for Analysis for Financial Management 12th Edition by Higgins

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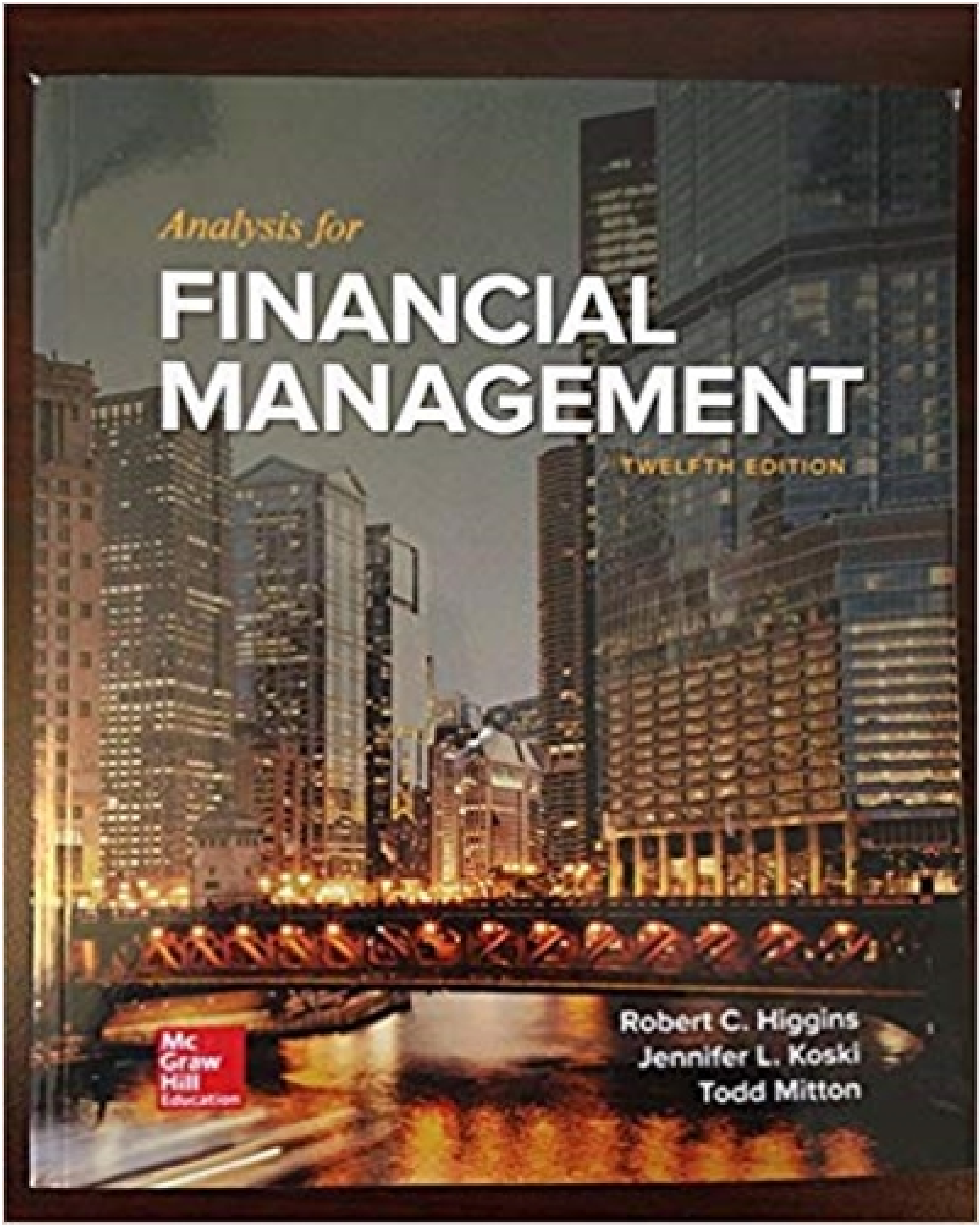

Solutions

Chapter 2

2. a. Price-to-earnings ratios are highly dependent on future growth expectations. I would thus expect high-growth Alphabet to have the higher ratio than low-growth Union Pacific.
   b. The financial institution should have the higher debt-to-equity ratio because the liquid, relatively safe nature of its assets enables it to borrow more money at attractive rates. And in the case of banks, deposit insurance enables the institution to collect low cost deposits. The principal asset of financial institutions tends to be relatively safe loans that generate relatively predictable income streams. The uncertain income stream of the high-tech company makes it less creditworthy.
   c. The appliance manufacturer should have the higher profit margin because it adds more value to its product than a grocer does and hence can charge a higher markup over cost.
   d. The jewelry store should have the higher current ratio. Jewelry stores typically need to have a lot of expensive display inventory on hand and often offer time payment plans to customers. Online bookstores, on the other hand, typically carry little inventory and rely on credit card sales involving little accounts receivable.

4. a. ROE will most likely fall. The numerator of the ratio, net income, will decline because the acquired company is losing money. Unless the acquiring firm's equity declines due to the acquisition, a highly unlikely event, ROE will decline.
   b. This, however, is not important to the decision. This is another example of the *timing* problem. If the technology company has great promise, it may make complete sense to acquire the business even though it is currently losing money. The proper way to evaluate the acquisition is by estimating the target's fair market value and acquiring it at a lower price. This is the topic of Chapter 9.

6. Your colleague's argument has a couple of holes in it. First, he has forgotten the *timing* problem. The investment has consequences over many years, and it is inappropriate to base the decision on only one year's results. As will be discussed beginning in Chapter 7, the appropriate rate of return for evaluating investment opportunities is not the division's accounting ROI but a rate that specifically incorporates the time value of money.

   Second, your company's performance appraisal system is faulty. Investment return should be judged against a minimum acceptable return, not the division's historical return. An irrational implication of the performance system used by your company is that divisions with very low returns will want to make lots of investments because many will promise returns higher than the division's ROI. Conversely, high return divisions, such as yours, will find few opportunities beating the division's ROI. We will look at this issue again in Chapter 8 as part of our discussion of Economic Value Added.

8. a. R&E Supplies, Inc. ratio analysis:

	2014	*2015*	*2016*	*2017*
Profitability ratios:				
Return on equity (%)	30.9	28.6	24.2	16.8
Return on assets (%)	11.3	10.3	7.7	5.0
Return on invested capital (%)	18.7	18.9	17.4	12.9
Profit margin (%)	3.3	2.9	2.4	1.4
Gross margin (%)	16.0	15.0	15.0	14.0
Turnover-control ratios:				
Asset turnover (X)	3.4	3.6	3.2	3.5
Fixed-asset turnover (X)	87.4	111.0	54.6	71.8
Inventory turnover (X)	8.4	8.5	7.1	7.8
Collection period (days)	43.8	47.4	47.5	51.1
Days' sales in cash (days)	21.9	14.6	14.6	7.3
Payables period (days)	39.1	45.0	64.7	66.1
Leverage and liquidity ratios:				
Assets to equity (%)	274.5	276.7	314.4	339.3
Total liabilities to assets (%)	63.6	63.9	68.2	70.5
Total liabilities to equity (%)	174.5	176.7	214.4	239.3
Long-term debt to equity (%)	80.5	65.4	54.3	43.9
Times interest earned (X)	7.7	8.0	7.3	6.9
Times burden covered (X)	*	3.9	4.0	3.4
Current ratio (X)	2.8	2.4	1.8	1.7
Acid test (X)	1.8	1.5	1.1	1.0

* Would require current portion long-term debt from 2013 in order to calculate.

b. Insights:

- All of the profitability ratios are down. ROE, while still respectable, has fallen by almost half, and the profit margin is down by more than half. This suggests problems on the income statement.

- Leverage is up and liquidity is down. Liabilities now constitute over 70 percent of assets, and the current ratio has fallen almost 40 percent.
- Asset turnover has been reasonably steady, although the collection period has risen over 15 percent. The payables period has almost doubled, and at 66 days, appears quite long.
- R&E Supplies's rapid growth causes a continuing need for external financing. Falling operating margins have exacerbated this need. The company appears to have met this need by reducing liquidity (days sales in cash is down from 21.9 days to 7.3) and by increasing trade financing. At the same time, long-term debt to equity has fallen. The company would probably be advised to replace some of its trade financing with a bank loan, part of which is longer-term. It also should rethink its pricing-growth strategy. One might argue that R&E has been "buying growth" by underpricing its product.

10. a. i. Liabilities-to-equity ratio = 200/300 = 0.67

ii. Times interest earned = EBIT/interest expense = 120/28 = 4.29

iii. Times burden covered = EBIT/[interest + principal repayment/(1 – tax rate)] = 120/[28 + 24/(1 – 0.40)] = 1.76

b. i. To fail to cover the existing interest payments, the times interest earned ratio has to fall below one. (4.29 – 1)/4.29 = 76.7%, or (120 – 28)/120 = 76.7%

ii. To fail to cover the interest and sinking fund payment, the times burden covered ratio has to fall to below one. (1.76 – 1)/1.76 = 43.2%, or
[120 – (28+24/(1 – 0.4))]/120 = 43.3% (The difference is due to rounding.)

iii. To fail to cover interest, principal, and dividend payments we must further subtract the impact of dividends on the EBIT.
[120 – (28 + ((24 + 0.30 × 20)/(1 – 0.4))]/120 = (120 – 78)/120 = 35%

12. A = Walmart. The low profit margin is characteristic of supermarkets or discount retailers. The collection period is low because as a retailer Walmart does not offer credit terms to its customers. Also, the large difference between the current ratio and the acid test is indicative of the large amounts of inventory that Walmart carries.

B = Boeing. The biggest giveaway is that the inventory turnover is very low, indicative of Boeing's long production process and relatively infrequent sales.

C = Facebook. The high price-to-earnings ratio is characteristic of a company that hasn't reached its potential on profits but for which investors have high expectations. Also, the current ratio and the acid test are almost the same (and inventory turnover is not applicable), reflecting the fact that Facebook has little or no inventory.

D = Citigroup. The high debt ratio and low times interest earned are characteristic of financial firms. Also, as a financial firm, some of the typical ratios are not applicable.

E = McDonald's. The very high inventory turnover is the clearest indicator of a fast-food restaurant. You can't leave that food sitting around for too long.

F = Apple. There isn't one clear giveaway here, but the high profit margin is indicative of Apple's premium product, and the high inventory turnover reflects the high demand for Apple's products.

14. See suggested solutions to Excel problems at McGraw-Hill's *Connect* or at www.mhhe.com/Higgins12e.