

### Question 1

L2FR-PQ2107-1502

LOS: LOS-7290

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Which of the following balance sheet items would *least* likely support the case for making an investment in Infotech stock?

- ☐ The company has a low level of leverage.
- ☒ The company's operating cash flows have consistently met operating earnings.
- ☐ The company has sufficient cash flows to finance future operating and investment expenditures.

#### Rationale

##### This Answer is Correct

In order to make the case for supporting an investment in Infotech stock, an analyst would want to see operating cash flows exceeding operating earnings to give confidence in the quality of its earnings.

## Question 2

L2FR-TB0031-1412

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Which of the following steps is *most likely* to be the initial step in a financial statement analysis framework?

- ☒ Defining the purpose and the context of the analysis.
- ☐ Collecting input data.
- ☐ Discussion with management, suppliers, customers, and competitors.

### Rationale

#### This Answer is Correct

The first step of a financial statement analysis framework is to define the purpose and context of the analysis. The second step is collecting input data where one of the sources of information would be discussions with management, suppliers, customers, and competitors.

### Question 3

L2R22TB-AC015-1512

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

An analyst looking at the creditworthiness of a company would *most likely* concentrate on:

- ☒ Interest coverage ratios.
- ☐ Cash flow from investing.
- ☐ The total of the short- and long-term debt.

#### Rationale

##### ✓ Interest coverage ratios.

The ability of a company to cover its interest expenses is more important than the amount of cash flow from investing and the total amount of debt. Interest coverage gives a quick idea of whether or not a company can pay the minimum amount due on its debt now; without that ability, it will go under.

#### Rationale

##### ✗ Cash flow from investing.

The ability of a company to cover its interest expenses is more important than the amount of cash flow from investing and the total amount of debt. Interest coverage gives a quick idea of whether or not a company can pay the minimum amount due on its debt now; without that ability, it will go under.

#### Rationale

##### ✗ The total of the short- and long-term debt.

The ability of a company to cover its interest expenses is more important than the amount of cash flow from investing and the total amount of debt. Interest coverage gives a quick idea of whether or not a company can pay the minimum amount due on its debt now; without that ability, it will go under.

#### Question 4

L2R22TB-ITEMSET-AC001-1512

LOS: LOS-7300

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Use the following information to answer the next 3 questions:

Wey, Inc. is acquiring Zee1, Inc. and it plans to issue debt to pay for Zee1's outstanding shares and will assume all existing debt that Zee1 has outstanding. The total market value of Zee1's shares is \$9,500. Key pre-acquisition financial data for Wey and Zee1 for 20X3 are as follows:

	Wey, Inc.	Zee1, Inc.
Revenue	8,576	3,091
EBIT	2,573	773
Interest	70	33
Taxes	<u>751</u>	<u>222</u>
Net income	1,752	518
Total assets	10,350	6,420
Total debt	3,518	3,886
Total equity	6,832	2,534
Lease expense	435	216

An analyst for the debt underwriters wants to determine the likely credit rating for the new issue. If interest coverage is at 6.5 times or higher, the company will qualify for an AA credit rating and an interest rate on its debt of 4.75%. If the interest coverage is below 6.5 times, then the company will qualify for a rate of 5.05%.

When calculating ratios, the debt underwriter requires that its analysts adjust the company's income statement to treat lease expense as interest.

i.

The analyst at the debt underwriter will calculate a post-acquisition interest coverage ratio for Wey, Inc. that is *closest to*:

- ☐ 4.4
- ☒ 5.3
- ☐ 6.0

#### Rationale

##### ✓ This Answer is Correct

The combined company's EBIT and interest expense without adjustment for the lease expense are 3,346 (2,573 + 773) and 103 (70 + 33). The analyst in adjusting for lease expense will remove this expense from operating expenses (increasing EBIT) and add it to interest. The adjusted EBIT rises to 3,997 (3,346 + 435 + 216) and the adjusted interest expense rises to 754 (103 + 435 + 216). The post-acquisition interest coverage, which is EBIT/Interest expense, on an adjusted basis is 5.3 (3,997/754)

#### Rationale

##### ✓ This Answer is Correct

The combined company's EBIT and interest expense without adjustment for the lease expense are 3,346 ( $2,573 + 773$ ) and 103 ( $70 + 33$ ). The analyst in adjusting for lease expense will remove this expense from operating expenses (increasing EBIT) and add it to interest. The adjusted EBIT rises to 3,997 ( $3,346 + 435 + 216$ ) and the adjusted interest expense rises to 754 ( $103 + 435 + 216$ ). The post-acquisition interest coverage, which is EBIT/Interest expense, on an adjusted basis is 5.3 ( $3,997/754$ )

#### Rationale

##### ✔ This Answer is Correct

The combined company's EBIT and interest expense without adjustment for the lease expense are 3,346 ( $2,573 + 773$ ) and 103 ( $70 + 33$ ). The analyst in adjusting for lease expense will remove this expense from operating expenses (increasing EBIT) and add it to interest. The adjusted EBIT rises to 3,997 ( $3,346 + 435 + 216$ ) and the adjusted interest expense rises to 754 ( $103 + 435 + 216$ ). The post-acquisition interest coverage, which is EBIT/Interest expense, on an adjusted basis is 5.3 ( $3,997/754$ )

ii.  
After making the acquisition, Wey's debt-to-equity ratio will be *closest to*:

- ☐ 1.80
- ☐ 1.91
- ☒ 2.47

#### Rationale

##### ✘ This Answer is Incorrect

Wey is issuing debt of 9,500 to acquire Zee1's equity and assuming Zee's outstanding debt of 3,886. The company's total debt after the acquisition is 16,904 ( $3,518 + 9,500 + 3,886$ ) and its equity of 6,832 is unchanged by the acquisition. Therefore, the post-acquisition debt-to-equity ratio for Wey is 2.47.

#### Rationale

##### ✘ This Answer is Incorrect

Wey is issuing debt of 9,500 to acquire Zee1's equity and assuming Zee's outstanding debt of 3,886. The company's total debt after the acquisition is 16,904 ( $3,518 + 9,500 + 3,886$ ) and its equity of 6,832 is unchanged by the acquisition. Therefore, the post-acquisition debt-to-equity ratio for Wey is 2.47.

#### Rationale

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Wey is issuing debt of 9,500 to acquire Zee1's equity and assuming Zee's outstanding debt of 3,886. The company's total debt after the acquisition is 16,904 ( $3,518 + 9,500 + 3,886$ ) and its equity of 6,832 is unchanged by the acquisition. Therefore, the post-acquisition debt-to-equity ratio for Wey is 2.47.

iii.  
In comparing Wey's pre-acquisition five-component DuPont analysis to the same analysis post-acquisition, the analyst will *most likely* find that the:

- ☒ Pretax income/EBIT—the interest burden—falls.
- ☐ Net income/pretax income—the tax burden—rises.
- ☐ Sales/average total assets—the total asset turnover—rises.

### Rationale

#### ✖ This Answer is Incorrect

The large increase in Wey's debt due to the acquisition will likely result in interest expense rising significantly. The company's EBIT will rise from the acquisition, but that percentage rise is unlikely to overcome the percentage rise in interest expense. Therefore, the pretax income (EBIT – interest) will likely have a percentage rise that is less the percentage rise in EBIT. As a result, the pretax income/EBIT will fall. The tax rates for each company are approximately the same, so the tax burden factor is unlikely to change. Given that sales/assets ratio is 0.8286 at Wey, Inc. and 0.4815 for Zee1; it is more likely that the total asset turnover will fall, not rise, after the acquisition.

### Rationale

#### ✖ This Answer is Incorrect

The large increase in Wey's debt due to the acquisition will likely result in interest expense rising significantly. The company's EBIT will rise from the acquisition, but that percentage rise is unlikely to overcome the percentage rise in interest expense. Therefore, the pretax income (EBIT – interest) will likely have a percentage rise that is less the percentage rise in EBIT. As a result, the pretax income/EBIT will fall. The tax rates for each company are approximately the same, so the tax burden factor is unlikely to change. Given that sales/assets ratio is 0.8286 at Wey, Inc. and 0.4815 for Zee1; it is more likely that the total asset turnover will fall, not rise, after the acquisition.

### Rationale

#### ✖ This Answer is Incorrect

The large increase in Wey's debt due to the acquisition will likely result in interest expense rising significantly. The company's EBIT will rise from the acquisition, but that percentage rise is unlikely to overcome the percentage rise in interest expense. Therefore, the pretax income (EBIT – interest) will likely have a percentage rise that is less the percentage rise in EBIT. As a result, the pretax income/EBIT will fall. The tax rates for each company are approximately the same, so the tax burden factor is unlikely to change. Given that sales/assets ratio is 0.8286 at Wey, Inc. and 0.4815 for Zee1; it is more likely that the total asset turnover will fall, not rise, after the acquisition.

## Question 5

L2R22TB-AC007-1512

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

As analyst is investigating Hampshire Group for possible inclusion in equity portfolios managed by the analyst's firm. He has adjusted the balance sheet and income statement for the last three years, and these adjusted financial statements are shown below:

### ADJUSTED INCOME STATEMENTS (\$ IN 000S)

	20X5	20X4	20X3
Revenues	37,631.3	35,428.8	33,990.8
Cost of sales	28,044.1	26,786.7	25,812.8
SG&A expenses	4,607.3	3,941.8	3,695.2
Other expenses	<u>1,011.2</u>	<u>981.2</u>	<u>902.8</u>
Earnings before interest and taxes	3,968.7	3,719.1	3,580.0
Interest	<u>1,456.5</u>	<u>1,398.2</u>	<u>1,201.0</u>
Earnings before taxes	2,512.2	2,320.9	2,379.0
Taxes	<u>879.3</u>	<u>882.3</u>	<u>950.0</u>
Net income	1,632.9	1,438.6	1,429.0

### ADJUSTED SELECT BALANCE STATEMENT ACCOUNTS (\$ IN 000S)

	20X5	20X4	20X3
Current assets	12,135.0	11,857.3	11,115.8
Total assets	27,215.1	26,209.2	25,414.3
Total debt	14,107.1	13,504.8	11,891.2
Total liabilities (excluding debt)	4,189.0	3,114.3	3,429.0

Using a five-factor DuPont analysis with averages for balance sheet items, the analyst wants to examine the change in the firm's ROE over the period.

In comparison to the ROE achieved for 20X4, the 20X5 ROE:

- ☒ Rose, with higher leverage causing approximately one-half of the total increase.
- ☐ Rose, but would have risen more if the interest burden factor had not risen.
- ☐ Fell, due to higher leverage and increases in the interest and tax burdens.

#### Rationale

☒ **Rose, with higher leverage causing approximately one-half of the total increase.**

The first step is to find the ending equity balances each year, which are calculated as follows:

$$\text{Ending total equity} = \text{Total assets} - \text{Total debt} - \text{Total liabilities (excluding debt)}$$

$$20 \text{ X } 5 \text{ equity} = 27,215.1 - 14,107.1 - 4,189.0 = 8,919.0$$

$$20 \text{ X } 4 \text{ equity} = 26,209.2 - 13,504.8 - 3,114.3 = 9,590.1$$

$$20 \text{ X } 3 \text{ equity} = 25,414.3 - 11,891.2 - 3,429.0 = 10,094.1$$

The ROE is then calculated for 20X4 and 20X5 by dividing net income for the year by the average equity for each year. The ROE for 20X4 is 14.6% and the ROE for 20X5 is 17.6%. Therefore, the ROE rose.

Next, the five-component DuPont analysis is used to examine the underlying causes:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stockholder equity}} \\ \text{ROE}_{20\text{X}4} &= \frac{1,438.6}{2,320.9} \times \frac{2,320.9}{3,719.1} \times \frac{3,719.1}{35,428.8} \times \frac{35,428.8}{(26,209.2+25,413.3)/2} \times \frac{(26,209.2+25,413.3)/2}{(9,590.1+10,094.1)/2} \\ \text{ROE}_{20\text{X}4} &= 0.620 \times 0.624 \times 0.105 \times 1,373 \times 2,623 = 0.146 \\ \text{ROE}_{20\text{X}5} &= \frac{1,632.9}{2,512.2} \times \frac{2,512.2}{3,968.7} \times \frac{3,968.7}{37,631.3} \times \frac{37,631.3}{(27,215.1+26,209.2)/2} \times \frac{(27,215.1+26,209.2)/2}{(8,919.0+9,590.1)/2} \\ \text{ROE}_{20\text{X}5} &= 0.650 \times 0.633 \times 0.105 \times 1.409 \times 2.886 = 0.176 \end{aligned}$$

The ROE benefited from the following: (1) a rise in the tax burden factor (tax rate fell from 38% to 35%), (2) a rise in the interest burden (interest as a percentage of EBIT fell), (3) higher total asset turnover, and (4) higher leverage. The biggest factor was leverage. Holding all else equal, if leverage in 20X5 had stayed the same as the 20X4 level of 2.623, then the ROE would have risen 16.0%. This shows that ROE rose from 14.6 to 16.0 (up 1.4) due to other factors and from 16.0 to 17.6 (up an additional 1.6) due to leverage. Therefore, higher leverage contributed more than one-half of the total increase from 14.6 to 17.6.

### Rationale

✖ **Rose, but would have risen more if the interest burden factor had not risen.**

The first step is to find the ending equity balances each year, which are calculated as follows:

$$\begin{aligned} \text{Ending total equity} &= \text{Total assets} - \text{Total debt} - \text{Total liabilities(excluding debt)} \\ 20\text{X}5 \text{ equity} &= 27,215.1 - 14,107.1 - 4,189.0 = 8,919.0 \\ 20\text{X}4 \text{ equity} &= 26,209.2 - 13,504.8 - 3,114.3 = 9,590.1 \\ 20\text{X}3 \text{ equity} &= 25,414.3 - 11,891.2 - 3,429.0 = 10,094.1 \end{aligned}$$

The ROE is then calculated for 20X4 and 20X5 by dividing net income for the year by the average equity for each year. The ROE for 20X4 is 14.6% and the ROE for 20X5 is 17.6%. Therefore, the ROE rose.

Next, the five-component DuPont analysis is used to examine the underlying causes:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stockholder equity}} \\ \text{ROE}_{20\text{X}4} &= \frac{1,438.6}{2,320.9} \times \frac{2,320.9}{3,719.1} \times \frac{3,719.1}{35,428.8} \times \frac{35,428.8}{(26,209.2+25,413.3)/2} \times \frac{(26,209.2+25,413.3)/2}{(9,590.1+10,094.1)/2} \\ \text{ROE}_{20\text{X}4} &= 0.620 \times 0.624 \times 0.105 \times 1,373 \times 2,623 = 0.146 \\ \text{ROE}_{20\text{X}5} &= \frac{1,632.9}{2,512.2} \times \frac{2,512.2}{3,968.7} \times \frac{3,968.7}{37,631.3} \times \frac{37,631.3}{(27,215.1+26,209.2)/2} \times \frac{(27,215.1+26,209.2)/2}{(8,919.0+9,590.1)/2} \\ \text{ROE}_{20\text{X}5} &= 0.650 \times 0.633 \times 0.105 \times 1.409 \times 2.886 = 0.176 \end{aligned}$$

The ROE benefited from the following: (1) a rise in the tax burden factor (tax rate fell from 38% to 35%), (2) a rise in the interest burden (interest as a percentage of EBIT fell), (3) higher total asset turnover, and (4) higher leverage. The biggest factor was leverage. Holding all else equal, if leverage in 20X5 had stayed the same as the 20X4 level of 2.623, then the ROE would have risen 16.0%. This shows that ROE rose from 14.6 to 16.0 (up 1.4) due to other factors and from 16.0 to 17.6 (up an additional 1.6) due to leverage. Therefore, higher leverage contributed more than one-half of the total increase from 14.6 to 17.6.

### Rationale



✖ **Fell, due to higher leverage and increases in the interest and tax burdens.**

The first step is to find the ending equity balances each year, which are calculated as follows:

$$\text{Ending total equity} = \text{Total assets} - \text{Total debt} - \text{Total liabilities(excluding debt)}$$

$$20 \text{ X } 5 \text{ equity} = 27,215.1 - 14,107.1 - 4,189.0 = 8,919.0$$

$$20 \text{ X } 4 \text{ equity} = 26,209.2 - 13,504.8 - 3,114.3 = 9,590.1$$

$$20 \text{ X } 3 \text{ equity} = 25,414.3 - 11,891.2 - 3,429.0 = 10,094.1$$

The ROE is then calculated for 20X4 and 20X5 by dividing net income for the year by the average equity for each year. The ROE for 20X4 is 14.6 percent and the ROE for 20X5 is 17.6%. Therefore, the ROE rose.

Next, the five-component DuPont analysis is used to examine the underlying causes:

$$\text{ROE} = \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stockholder equity}}$$

$$\text{ROE}_{20 \text{ X } 4} = \frac{1,438.6}{2,320.9} \times \frac{2,320.9}{3,719.1} \times \frac{3,719.1}{35,428.8} \times \frac{35,428.8}{(26,209.2+25,413.3)/2} \times \frac{(26,209.2+25,413.3)/2}{(9,590.1+10,094.1)/2}$$

$$\text{ROE}_{20 \text{ X } 4} = 0.620 \times 0.624 \times 0.105 \times 1,373 \times 2,623 = 0.146$$

$$\text{ROE}_{20 \text{ X } 5} = \frac{1,632.9}{2,512.2} \times \frac{2,512.2}{3,968.7} \times \frac{3,968.7}{37,631.3} \times \frac{37,631.3}{(27,215.1+26,209.2)/2} \times \frac{(27,215.1+26,209.2)/2}{(8,919.0+9,590.1)/2}$$

$$\text{ROE}_{20 \text{ X } 5} = 0.650 \times 0.633 \times 0.105 \times 1,409 \times 2,886 = 0.176$$

The ROE benefited from the following: (1) a rise in the tax burden factor (tax rate fell from 38% to 35%), (2) a rise in the interest burden (interest as a percentage of EBIT fell), (3) higher total asset turnover, and (4) higher leverage. The biggest factor was leverage. Holding all else equal, if leverage in 20X5 had stayed the same as the 20X4 level of 2.623, then the ROE would have risen 16.0%. This shows that ROE rose from 14.6 to 16.0 (up 1.4) due to other factors and from 16.0 to 17.6 (up an additional 1.6) due to leverage. Therefore, higher leverage contributed more than one-half of the total increase from 14.6 to 17.6.

## Question 6

L2R22TB-AC014-1512

LOS: LOS-7280

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Analysts will *most likely* find information about the company's changes to expense recognition in the:

- ☐ Income statement.
- ☒ Footnotes to the financial statements.
- ☐ Management's discussion and analysis.

### Rationale

#### **Income statement.**

Changes in the way that a company manages expenses will most likely show up in the footnotes to the financial statements. In particular, they will reveal whether or not depreciation practices changed and any changes in how accruals for warranties or bad debts are handled.

### Rationale

#### **Footnotes to the financial statements.**

Changes in the way that a company manages expenses will most likely show up in the footnotes to the financial statements. In particular, they will reveal whether or not depreciation practices changed and any changes in how accruals for warranties or bad debts are handled.

### Rationale

#### **Management's discussion and analysis.**

Changes in the way that a company manages expenses will most likely show up in the footnotes to the financial statements. In particular, they will reveal whether or not depreciation practices changed and any changes in how accruals for warranties or bad debts are handled.

### Question 7

L2FR-PQ2105-1502

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

If the proportion of the company's total long-term capital has shifted over the past 5 years from 80% stockholders' equity to 70%, while at the same time long-term debt increased from 20% to 30%, what has happened to the aggregate risk structure of the firm?

- ☒ Gone up.
- ☐ Gone down.
- ☐ Remained unchanged.

#### Rationale

##### This Answer is Correct

Stockholders' equity is a relatively low-risk asset on the long-term capital balance sheet, whereas long-term debt is riskier than equities. So the total risk of the firm's capital structure has increased.

### Question 8

L2FR-TBB207-1412

LOS: LOS-7290

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Compared to a company that treats leases as financing leases, accounting for leases as operating leases will *most likely*:

- ☒ Reduce financial leverage and increase interest coverage.
- ☐ Increase financial leverage and reduce interest coverage.
- ☐ Reduce financial leverage and reduce interest coverage.

#### Rationale

##### This Answer is Correct

When leases are capitalized, assets and liabilities rise; hence, financial leverage increases. Also while EBIT may increase due to the full operating expense being removed and replaced smaller depreciation charge, there will also be an increase in the interest expense of the company related to the interest accrued on the outstanding lease liability. It is likely that the increase in interest is proportionally greater than the increase in EBIT and hence, interest coverage will fall.

### Question 9

L2R22TB-ITEMSET-AC004-1512

LOS: LOS-7270

LOS: LOS-7300

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

**Use the following information to answer the next 3 questions:**

An analyst at an investment bank is researching acquisition targets for a client. She is looking at two potential companies, Red and Blue, for the client to consider. The most recent 20X5 financial data for each company is as follows:

	Red	Blue
Revenue	\$924,885	\$438,900
EBIT	47,820	16,288
Interest	16,070	3,943
Taxes	<u>8,890</u>	<u>3,580</u>
Net income	\$22,860	\$8,765
<b>Select Balance Sheet Amounts</b>		
Total current assets	\$83,175	\$10,988
Total assets	420,899	146,800
Total current liabilities	49,905	7,691
Total debt	168,144	56,329
Total equity	202,850	82,780
Return on equity (net income/equity)	11.3 percent	10.6 percent

Near the end of 20X5, Blue sold accounts receivable with a recorded value of \$28,100 to a third party for \$29,700 in cash and recorded an after-tax gain of \$1,136 on the sale. The \$1,600 pre-tax gain was recorded as other income in the income statement. The cash proceeds were used to pay down current liabilities and the tax on the gain is accrued in current liabilities.

As part of her analysis, the analyst plans to decompose Blue's ROE using the five-component DuPont analysis. Because she has only year-end balance sheet data, she will use the year-end amounts for any component that requires a balance sheet input.

One item the analyst wants to find is the leverage ratio that would have existed for Blue if it had not securitized receivables. In addition, she plans to assess how the securitization affected Blue's ROE components and determine, based on the actual 20X5 results reported, which components were better (benefitted/improved ROE) for Red relative to Blue.

i.

Without the securitization, Blue's leverage ratio in the analyst's DuPont analysis will be *closest to*:

- ☐ 1.77
- ☐ 1.80
- ☒ 2.14

#### Rationale

 **This Answer is Correct**

The first step is to find the effects of the securitization. When the sale was made, the company received \$29,700 in cash (assets up), reduced the receivables balance by \$28,100 (assets down). In addition, it recorded a pre-tax gain of \$1,600 and tax expense of \$464 (\$1,600 – 1,136). Then, Blue used the \$29,700 in cash to pay down liabilities. Therefore, in total Blue's assets fell \$28,100 (\$29,700 cash in – 28,700 A/R reduction – 29,700 cash out to pay liabilities), liabilities fell by \$29,236 (\$464 tax payable increase – 29,700 pay down of liabilities), and equity increased by \$1,136 (the after-tax gain).

In the five-component DuPont analysis, the leverage ratio is assets/equity. As reported, Blue's leverage ratio is:

$$\text{Leverage} = \frac{\text{Total assets(average if available)}}{\text{Total equity(average if available)}} = \frac{\$146,800}{\$82,780} = 1.77$$

To find the leverage if the securitization did not occur, the numerator and denominator of the equation are adjusted to reverse out the net securitization effect:

$$\text{Leverage without securitization} = \frac{\text{Adjusted total assets}}{\text{Adjusted total equity}} = \frac{\$146,800 + 28,100}{\$82,780 - 1,136} = 2.14$$

#### Rationale

✔ This Answer is Correct

The first step is to find the effects of the securitization. When the sale was made, the company received \$29,700 in cash (assets up), reduced the receivables balance by \$28,100 (assets down). In addition, it recorded a pre-tax gain of \$1,600 and tax expense of \$464 (\$1,600 – 1,136). Then, Blue used the \$29,700 in cash to pay down liabilities. Therefore, in total Blue's assets fell \$28,100 (\$29,700 cash in – 28,700 A/R reduction – 29,700 cash out to pay liabilities), liabilities fell by \$29,236 (\$464 tax payable increase – 29,700 pay down of liabilities), and equity increased by \$1,136 (the after-tax gain).

In the five-component DuPont analysis, the leverage ratio is assets/equity. As reported, Blue's leverage ratio is:

$$\text{Leverage} = \frac{\text{Total assets(average if available)}}{\text{Total equity(average if available)}} = \frac{\$146,800}{\$82,780} = 1.77$$

To find the leverage if the securitization did not occur, the numerator and denominator of the equation are adjusted to reverse out the net securitization effect:

$$\text{Leverage without securitization} = \frac{\text{Adjusted total assets}}{\text{Adjusted total equity}} = \frac{\$146,800 + 28,100}{\$82,780 - 1,136} = 2.14$$

#### Rationale

✔ This Answer is Correct

The first step is to find the effects of the securitization. When the sale was made, the company received \$29,700 in cash (assets up), reduced the receivables balance by \$28,100 (assets down). In addition, it recorded a pre-tax gain of \$1,600 and tax expense of \$464 (\$1,600 – 1,136). Then, Blue used the \$29,700 in cash to pay down liabilities. Therefore, in total Blue's assets fell \$28,100 (\$29,700 cash in – 28,700 A/R

reduction – 29,700 cash out to pay liabilities), liabilities fell by \$29,236 (\$464 tax payable increase – 29,700 pay down of liabilities), and equity increased by \$1,136 (the after-tax gain).

In the five-component DuPont analysis, the leverage ratio is assets/equity. As reported, Blue's leverage ratio is:

$$\text{Leverage} = \frac{\text{Total assets (average if available)}}{\text{Total equity (average if available)}} = \frac{\$146,800}{\$82,780} = 1.77$$

To find the leverage if the securitization did not occur, the numerator and denominator of the equation are adjusted to reverse out the net securitization effect:

$$\text{Leverage without securitization} = \frac{\text{Adjusted total assets}}{\text{Adjusted total equity}} = \frac{\$146,800 + 28,100}{\$82,780 - 1,136} = 2.14$$

ii.

The securitization of the receivables *most likely* caused Blue's total asset turnover to be:

- ☒ Higher and its EBIT margin to be higher than they would have been without the securitization.
- ☐ Unchanged and its EBIT margin to be lower than they would have been without the securitization.
- ☐ Unchanged and its EBIT margin to be higher than they would have been without the securitization.

#### Rationale

##### This Answer is Incorrect

The asset turnover is revenues/average total assets. Blue's assets were lower by the recorded value of the receivables sold. This is because the securitization's proceeds were used to reduce liabilities and were not retained in cash. The revenues were not affected. Therefore, the asset turnover is higher with the securitization due to lower assets than it would be without the securitization. The EBIT margin is EBIT/sales. The EBIT benefited from the securitization in that the company recorded a gain of \$1,600 in other income and sales were unaffected. Thus, the EBIT margin is higher because of the securitization.

#### Rationale

##### This Answer is Incorrect

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#### Rationale

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iii.

Using the reported results, which of the five components constituting the decomposed ROE resulted in Red's ROE being higher than Blue's ROE?

- ☒ Tax burden, EBIT margin, and leverage, only.
- ☐ Interest burden, EBIT margin, and asset turnover, only.
- ☐ Interest burden, EBIT margin, asset turnover, and leverage, only.

#### Rationale

**✗ This Answer is Incorrect**

The decomposed ROE for each company using ending balance sheet data is as follows:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \\ &\quad \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stock holders' equity}} \\ \text{ROE}_{\text{Red}} &= \frac{22,860}{22,860 + 8,890} \times \frac{22,860 + 8,890}{47,820} \times \frac{47,820}{924,885} \times \frac{924,885}{420,899} \times \frac{420,899}{202,850} \\ \text{ROE}_{\text{Red}} &= 0.72 \left( \begin{array}{c} \text{tax} \\ \text{burden} \end{array} \right) \times 0.664 \left( \begin{array}{c} \text{interest} \\ \text{burden} \end{array} \right) \times 0.052 \left( \begin{array}{c} \text{EBIT} \\ \text{margin} \end{array} \right) \times 2.197 \left( \begin{array}{c} \text{asset} \\ \text{turnover} \end{array} \right) \times 2.075 \text{ (leverage)} \\ &= 0.113 \\ \text{ROE}_{\text{Blue}} &= \frac{8,765}{8,765 + 3,580} \times \frac{8,765 + 3,580}{16,288} \times \frac{16,288}{438,900} \times \frac{438,900}{146,800} \times \frac{146,800}{82,780} \\ \text{ROE}_{\text{Blue}} &= 0.71 \left( \begin{array}{c} \text{tax} \\ \text{burden} \end{array} \right) \times 0.758 \left( \begin{array}{c} \text{interest} \\ \text{burden} \end{array} \right) \times 0.037 \left( \begin{array}{c} \text{EBIT} \\ \text{margin} \end{array} \right) \times 2.99 \left( \begin{array}{c} \text{asset} \\ \text{turnover} \end{array} \right) \times 1.773 \text{ (leverage)} \\ &= 0.106 \end{aligned}$$

The higher a factor, the more it helps ROE. In comparing Red's components to Blue's components, Red has a higher tax burden (i.e., pays a lower tax rate), EBIT margin, and leverage.

#### Rationale

**✗ This Answer is Incorrect**

The decomposed ROE for each company using ending balance sheet data is as follows:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \\ &\quad \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stock holders' equity}} \\ \text{ROE}_{\text{Red}} &= \frac{22,860}{22,860 + 8,890} \times \frac{22,860 + 8,890}{47,820} \times \frac{47,820}{924,885} \times \frac{924,885}{420,899} \times \frac{420,899}{202,850} \\ \text{ROE}_{\text{Red}} &= 0.72 \left( \begin{array}{c} \text{tax} \\ \text{burden} \end{array} \right) \times 0.664 \left( \begin{array}{c} \text{interest} \\ \text{burden} \end{array} \right) \times 0.052 \left( \begin{array}{c} \text{EBIT} \\ \text{margin} \end{array} \right) \times 2.197 \left( \begin{array}{c} \text{asset} \\ \text{turnover} \end{array} \right) \times 2.075 \text{ (leverage)} \\ &= 0.113 \\ \text{ROE}_{\text{Blue}} &= \frac{8,765}{8,765 + 3,580} \times \frac{8,765 + 3,580}{16,288} \times \frac{16,288}{438,900} \times \frac{438,900}{146,800} \times \frac{146,800}{82,780} \end{aligned}$$



$$\begin{aligned} \text{ROE}_{\text{Blue}} &= 0.71 \left( \frac{\text{tax}}{\text{burden}} \right) \times 0.758 \left( \frac{\text{interest}}{\text{burden}} \right) \times 0.037 \left( \frac{\text{EBIT}}{\text{margin}} \right) \times 2.99 \left( \frac{\text{asset}}{\text{turnover}} \right) \times 1.773 (\text{leverage}) \\ &= 0.106 \end{aligned}$$

The higher a factor, the more it helps ROE. In comparing Red's components to Blue's components, Red has a higher tax burden (i.e., pays a lower tax rate), EBIT margin, and leverage.

## Rationale

### ✖ This Answer is Incorrect

The decomposed ROE for each company using ending balance sheet data is as follows:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Pretax income}} \times \frac{\text{Pretax income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \\ &\quad \times \frac{\text{Sales}}{\text{Average total assets}} \times \frac{\text{Average total assets}}{\text{Average stock holders' equity}} \end{aligned}$$

$$\text{ROE}_{\text{Red}} = \frac{22,860}{22,860 + 8,890} \times \frac{22,860 + 8,890}{47,820} \times \frac{47,820}{924,885} \times \frac{924,885}{420,899} \times \frac{420,899}{202,850}$$

$$\begin{aligned} \text{ROE}_{\text{Red}} &= 0.72 \left( \frac{\text{tax}}{\text{burden}} \right) \times 0.664 \left( \frac{\text{interest}}{\text{burden}} \right) \times 0.052 \left( \frac{\text{EBIT}}{\text{margin}} \right) \times 2.197 \left( \frac{\text{asset}}{\text{turnover}} \right) \times 2.075 (\text{leverage}) \\ &= 0.113 \end{aligned}$$

$$\text{ROE}_{\text{Blue}} = \frac{8,765}{8,765 + 3,580} \times \frac{8,765 + 3,580}{16,288} \times \frac{16,288}{438,900} \times \frac{438,900}{146,800} \times \frac{146,800}{82,780}$$

$$\begin{aligned} \text{ROE}_{\text{Blue}} &= 0.71 \left( \frac{\text{tax}}{\text{burden}} \right) \times 0.758 \left( \frac{\text{interest}}{\text{burden}} \right) \times 0.037 \left( \frac{\text{EBIT}}{\text{margin}} \right) \times 2.99 \left( \frac{\text{asset}}{\text{turnover}} \right) \times 1.773 (\text{leverage}) \\ &= 0.106 \end{aligned}$$

The higher a factor, the more it helps ROE. In comparing Red's components to Blue's components, Red has a higher tax burden (i.e., pays a lower tax rate), EBIT margin, and leverage.

### Question 10

L2R22TB-AC013-1512

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Company N's cash-flow-based accruals ratio for the past three years has been as follows:

Year	Cash-Flow-Based Accruals Ratio
20X5	8.2%
20X4	6.3%
20X3	7.1%

Based on these ratios, an analyst will *most likely* conclude that the company's earnings quality over the entire period has:

- ☐ Improved.
- ☒ Deteriorated.
- ☐ Been unchanged.

#### Rationale

##### Improved.

The cash-flow-based accruals ratio has risen from 7.1 to 8.2 over the period, albeit with a drop in 20X4. This increase indicates that accruals are contributing more, which is an indication of deteriorating earnings quality.

#### Rationale

##### Deteriorated.

The cash-flow-based accruals ratio has risen from 7.1 to 8.2 over the period, albeit with a drop in 20X4. This increase indicates that accruals are contributing more, which is an indication of deteriorating earnings quality.

#### Rationale

##### Been unchanged.

The cash-flow-based accruals ratio has risen from 7.1 to 8.2 over the period, albeit with a drop in 20X4. This increase indicates that accruals are contributing more, which is an indication of deteriorating earnings quality.

### Question 11

L2R22TB-AC009-1512

LOS: LOS-7290

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Company Y has off-balance-sheet leases. When they are added to the balance sheet as debt, an offsetting entry must *most likely* be made to:

- ☒ Assets.
- ☐ Another liability.
- ☐ Accrued interest.

#### Rationale

☒ **Assets.**

The offsetting entry is made to assets in order to reflect the value of the equipment that is financed by the operating leases.

#### Rationale

☐ **Another liability.**

The offsetting entry is made to assets in order to reflect the value of the equipment that is financed by the operating leases.

#### Rationale

☐ **Accrued interest.**

The offsetting entry is made to assets in order to reflect the value of the equipment that is financed by the operating leases.

## Question 12

L2R22TB-AC010-1512

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Holding all else equal, an increase in asset turnover will *most likely* result in:

- ☐ A lower ROE.
- ☒ A higher ROE.
- ☐ No change in the ROE.

### Rationale

#### A lower ROE.

Asset turnover, or sales/assets, is one of the components of a DuPont analysis (used to decompose ROE). If sales increase relative to assets, then management is using the assets provided by investors more efficiently; it leads to an increase in ROE.

### Rationale

#### A higher ROE.

Asset turnover, or sales/assets, is one of the components of a DuPont analysis (used to decompose ROE). If sales increase relative to assets, then management is using the assets provided by investors more efficiently; it leads to an increase in ROE.

### Rationale

#### No change in the ROE.

Asset turnover, or sales/assets, is one of the components of a DuPont analysis (used to decompose ROE). If sales increase relative to assets, then management is using the assets provided by investors more efficiently; it leads to an increase in ROE.

### Question 13

L2FR-PQ2106-1502

LOS: LOS-7280

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

If analysis of a company's noncurrent assets revealed goodwill has been consistently increasing over the past 5 years, what does this *most* likely tell us about the source of the firm's growth?

- ☐ High sales.
- ☒ High number of acquisitions.
- ☐ Low number of acquisitions.

#### Rationale

##### This Answer is Correct

The increasing share of goodwill in total noncurrent assets indicates the company has been growing through a higher number of acquisitions.

## Question 14

L2R22TB-AC012-1512

LOS: LOS-7270

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

Company M's balance sheet for 20X4 and 20X5 are as follows:

	20X5	20X4
Total current assets	15,000	12,000
Non-current assets	<u>100,000</u>	<u>90,000</u>
Total assets	115,000	102,000
Current liabilities	17,000	15,000
Total debt	<u>66,000</u>	<u>60,000</u>
Total liabilities	83,000	75,000
Equity	32,000	27,000

The non-current assets reported for 20X5 and 20X4 include \$5,000 and \$4,000, respectively, from a partially-owned subsidiary that only owns real estate and has no liabilities. An analyst is adjusting the financial statements to exclude the partially-owned subsidiary before analyzing the company's ROE. If the analyst is using averages, the leverage factor that she will use in the five-component DuPont analysis of ROE for 20X5 will be *closest* to:

- ☐ 2.52
- ☐ 3.52
- ☒ 4.16

### Rationale

✖ 2.52

The assets for the partially-owned subsidiary are removed from the balance sheet assets and the offset will be an equal reduction in equity (the subsidiary has no liabilities). Therefore, the adjusted equity values for 20X5 and 20X4 are 27,000 (32,000 – 5,000) and 23,000 (27,000 – 4,000), respectively, and the adjusted total assets for 20X5 and 20X4 are 110,000 (115,000 – 5,000) and 98,000 (102,000 – 4,000), respectively. Using the adjusted assets and equity, the leverage is calculated as follows:

$$\begin{aligned}\text{Leverage for DuPont analysis} &= \frac{\text{Average total assets}}{\text{Average stockholders equity}} \\ &= \frac{(110,000 + 98,000)/2}{(27,000 + 23,000)/2} = 4.16\end{aligned}$$

### Rationale

✖ 3.52

The assets for the partially-owned subsidiary are removed from the balance sheet assets and the offset will be an equal reduction in equity (the subsidiary has no liabilities). Therefore, the adjusted equity values for 20X5 and 20X4 are 27,000 (32,000 – 5,000) and 23,000 (27,000 – 4,000), respectively, and the adjusted total assets for 20X5 and 20X4 are 110,000 (115,000 – 5,000) and 98,000 (102,000 – 4,000), respectively. Using the adjusted assets and equity, the leverage is calculated as follows:

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### Rationale

#### ✔ 4.16

The assets for the partially-owned subsidiary are removed from the balance sheet assets and the offset will be an equal reduction in equity (the subsidiary has no liabilities). Therefore, the adjusted equity values for 20X5 and 20X4 are 27,000 (32,000 – 5,000) and 23,000 (27,000 – 4,000), respectively, and the adjusted total assets for 20X5 and 20X4 are 110,000 (115,000 – 5,000) and 98,000 (102,000 – 4,000), respectively. Using the adjusted assets and equity, the leverage is calculated as follows:

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### Question 15

L2FR-TB0032-1412

LOS: LOS-7280

Lesson Reference: Lesson 1: Case Study: Long-Term Equity Investment

Difficulty: medium

An analyst collects the following information from the statement of cash flows of a company they are analyzing for earning quality:

	2015	2014	2013
Profit from continuing operations	1,100	980	860
Operating cash flow	1,300	1,200	1,020
Investing cash flow	-1,570	-1,050	-470

The analyst should conclude that:

- ☐ Cash flow-based aggregate accruals are increasing, leading to higher earnings quality.
- ☐ Cash flow-based aggregate accruals are decreasing, leading to higher earnings quality.
- ☒ Cash flow-based aggregate accruals are increasing, leading to lower earnings quality.

#### Rationale

##### ✔ This Answer is Correct

Cash-flow based aggregate accruals are Profit – CFO – CFI. This will be 1,370 for 2015, 830 for 2014, and 310 for 2013. This indicates an increasing contribution of accruals to earnings over time, which lowers the quality of the reported earnings.