

## CHAPTER 1

### SOLUTIONS TO MULTIPLE CHOICE QUESTIONS, EXERCISES AND PROBLEMS

#### MULTIPLE CHOICE QUESTIONS

1. c

$$\begin{array}{rcl} \$180,000 - \$160,000 & = & \$20,000 \\ \$125,000 - \$100,000 & = & \underline{25,000} \\ \text{Total gain} & & \underline{\underline{\$45,000}} \end{array}$$

2. a

$$\$29,000 - \$26,000 = \underline{\underline{\$3,000}}$$

3. a

$$\$207,544 - [(6\% \times \$200,000) - (4\% \times \$207,544)] = \underline{\underline{\$203,846}}$$

4. d

|                                                            |                              |
|------------------------------------------------------------|------------------------------|
| Reclassification of unrealized loss on AFS securities sold | \$1,000 credit               |
| Unrealized gain on AFS securities held at year-end         | <u>6,000</u> credit (1)      |
| Total amount reported in OCI                               | <u><u>\$7,000</u></u> credit |

$$(1) \$81,000 - (\$100,000 - \$25,000) = \$6,000 \text{ unrealized gain}$$

5. d

$$\$5,000,000 + [40\% \times (\$600,000 - \$200,000)] = \underline{\underline{\$5,160,000}}$$

6. b

7. b

|                                             |                     |
|---------------------------------------------|---------------------|
| Reported net income; 35% x \$7,000,000 =    | \$ 2,450,000        |
| Less unconfirmed profit on ending inventory |                     |
| 35% x [\$6,000,000 – (\$6,000,000/1.25)] =  | <u>(420,000)</u>    |
| Equity in net income for 2020               | \$ 2,030,000        |
| Less dividends; 35% x \$2,000,000           | (700,000)           |
| Plus beginning investment balance           | <u>50,000,000</u>   |
| Ending investment balance                   | <u>\$51,330,000</u> |

8. d

Fizzy's entry to record the acquisition is:

|                |            |            |
|----------------|------------|------------|
| Current assets | 25,000     |            |
| Property       | 2,500,000  |            |
| Goodwill       | 25,475,000 |            |
| Liabilities    |            | 3,000,000  |
| Cash           |            | 25,000,000 |

9. b

10. a

## EXERCISES

### E1.1 Investment in Trading Securities

(in millions)

a.  $\$384 - 39 = \underline{\$345}$

b. Unrealized gains and losses on trading securities are reported in income.

c.

|                                  |     |     |
|----------------------------------|-----|-----|
| Investment in trading securities | 345 |     |
| Cash                             |     | 345 |

|                                     |    |    |
|-------------------------------------|----|----|
| Investment in trading securities    | 39 |    |
| Gain on trading securities (income) |    | 39 |

d.

|                                     |     |     |
|-------------------------------------|-----|-----|
| Cash                                | 370 |     |
| Loss on trading securities (income) | 14  |     |
| Investment in trading securities    |     | 384 |

### E1.2 Investment in Trading and Available-for-Sale Securities

a. 2019 entries

|                                  |         |         |
|----------------------------------|---------|---------|
| Investment in trading securities | 500,000 |         |
| Cash                             |         | 500,000 |

|                                      |        |        |
|--------------------------------------|--------|--------|
| Investment in trading securities     | 20,000 |        |
| Gains on trading securities (income) |        | 20,000 |

2020 entries

|                                      |         |         |
|--------------------------------------|---------|---------|
| Cash                                 | 525,000 |         |
| Investment in trading securities     |         | 520,000 |
| Gains on trading securities (income) |         | 5,000   |

|                                  |         |         |
|----------------------------------|---------|---------|
| Investment in trading securities | 700,000 |         |
| Cash                             |         | 700,000 |

|                                       |         |         |
|---------------------------------------|---------|---------|
| Losses on trading securities (income) | 100,000 |         |
| Investment in trading securities      |         | 100,000 |

b. (1) 2019 entries

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS securities | 500,000 |         |
| Cash                         |         | 500,000 |

|                               |        |        |
|-------------------------------|--------|--------|
| Investment in AFS securities  | 20,000 |        |
| Gains on AFS securities (OCI) |        | 20,000 |

2020 entries

|                                                   |         |         |
|---------------------------------------------------|---------|---------|
| Cash                                              | 525,000 |         |
| Reclassification of gains on AFS securities (OCI) | 20,000  |         |
| Investment in AFS securities                      |         | 520,000 |
| Gains on AFS securities (income)                  |         | 25,000  |

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS securities | 700,000 |         |
| Cash                         |         | 700,000 |

|                                   |         |         |
|-----------------------------------|---------|---------|
| Losses on AFS securities (income) | 100,000 |         |
| Investment in AFS securities      |         | 100,000 |

(2) 2019 entries are the same as in (1).

2020 entries

|                                                   |         |         |
|---------------------------------------------------|---------|---------|
| Cash                                              | 525,000 |         |
| Reclassification of gains on AFS securities (OCI) | 20,000  |         |
| Investment in AFS securities                      |         | 520,000 |
| Gains on AFS securities (income)                  |         | 25,000  |

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS securities | 700,000 |         |
| Cash                         |         | 700,000 |

|                                                                              |         |         |
|------------------------------------------------------------------------------|---------|---------|
| Losses on AFS securities (income)                                            | 100,000 |         |
| Allowance for credit losses on AFS securities (contra to investment account) |         | 100,000 |

(3) 2019 entries are the same as in (1).

2020 entries

|                                                   |         |         |
|---------------------------------------------------|---------|---------|
| Cash                                              | 525,000 |         |
| Reclassification of gains on AFS securities (OCI) | 20,000  |         |
| Investment in AFS securities                      |         | 520,000 |
| Gains on AFS securities (income)                  |         | 25,000  |

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS securities | 700,000 |         |
| Cash                         |         | 700,000 |

|                                |         |         |
|--------------------------------|---------|---------|
| Losses on AFS securities (OCI) | 100,000 |         |
| Investment in AFS securities   |         | 100,000 |

### E1.3 Held-to-Maturity Investments

Amortization schedule (supports numbers in entries below)

|            | <b>Interest Income</b><br>(4% x Beginning<br>investment balance) | <b>Amortization</b><br>(\$250,000 – Interest<br>income) | <b>Investment Balance</b><br>(Beginning balance –<br>amortization) |
|------------|------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------|
| 1/1/2019   |                                                                  |                                                         | \$5,222,591                                                        |
| 12/31/2019 | \$208,904                                                        | \$41,096                                                | 5,181,495                                                          |
| 12/31/2020 | 207,260                                                          | 42,740                                                  | 5,138,755                                                          |
| 12/31/2021 | 205,550                                                          | 44,450                                                  | 5,094,305                                                          |
| 12/31/2022 | 203,772                                                          | 46,228                                                  | 5,048,077                                                          |
| 12/31/2023 | 201,923                                                          | 48,077                                                  | 5,000,000                                                          |

January 1, 2019

|                              |           |           |
|------------------------------|-----------|-----------|
| Investment in HTM securities | 5,222,591 |           |
| Cash                         |           | 5,222,591 |

December 31, 2019

|                              |         |         |
|------------------------------|---------|---------|
| Cash                         | 250,000 |         |
| Interest income              |         | 208,904 |
| Investment in HTM securities |         | 41,096  |

December 31, 2020

|                              |         |         |
|------------------------------|---------|---------|
| Cash                         | 250,000 |         |
| Interest income              |         | 207,260 |
| Investment in HTM securities |         | 42,740  |

December 31, 2021

|                              |         |         |
|------------------------------|---------|---------|
| Cash                         | 250,000 |         |
| Interest income              |         | 205,550 |
| Investment in HTM securities |         | 44,450  |

December 31, 2022

|                              |         |         |
|------------------------------|---------|---------|
| Cash                         | 250,000 |         |
| Interest income              |         | 203,772 |
| Investment in HTM securities |         | 46,228  |

December 31, 2023

|                              |         |         |
|------------------------------|---------|---------|
| Cash                         | 250,000 |         |
| Interest income              |         | 201,923 |
| Investment in HTM securities |         | 48,077  |

|                              |           |           |
|------------------------------|-----------|-----------|
| Cash                         | 5,000,000 |           |
| Investment in HTM securities |           | 5,000,000 |

#### E1.4 Investment in Equity Securities with No Significant Influence

a.

**December 31, 2018**

|                                  |                    |
|----------------------------------|--------------------|
| Investment in Becker Corporation | \$ 380,000         |
| Investment in Corey Corporation  | <u>640,000</u>     |
| Total                            | <u>\$1,020,000</u> |

**December 31, 2019**

|                                 |                   |
|---------------------------------|-------------------|
| Investment in Corey Corporation | <u>\$ 510,000</u> |
|---------------------------------|-------------------|

b.

**2018**

|                                                                    |                 |
|--------------------------------------------------------------------|-----------------|
| Gain on investment in Allen Corporation = \$210,000 - \$200,000 =  | \$ 10,000       |
| Loss on investment in Becker Corporation = \$380,000 - \$400,000 = | (20,000)        |
| Gain on investment in Corey Corporation = \$640,000 - \$600,000 =  | <u>40,000</u>   |
| Net gain                                                           | <u>\$30,000</u> |

**2019**

|                                                                    |                    |
|--------------------------------------------------------------------|--------------------|
| Gain on investment in Becker Corporation = \$405,000 - \$380,000 = | \$ 25,000          |
| Loss on investment in Corey Corporation = \$510,000 - \$640,000 =  | <u>(130,000)</u>   |
| Net loss                                                           | <u>\$(105,000)</u> |

**2020**

|                                                                   |                    |
|-------------------------------------------------------------------|--------------------|
| Loss on investment in Corey Corporation = \$500,000 - \$510,000 = | <u>\$ (10,000)</u> |
|-------------------------------------------------------------------|--------------------|

## E1.5 Financial Statement Display of AFS Debt Securities

- a. The loss is a direct reduction in the investment balance, and is reported in income.

Investment in AFS securities..... \$160,000

b.

- (1) The loss is reported in an allowance account, and is reported in income.

|                                            |           |           |
|--------------------------------------------|-----------|-----------|
| Investment in AFS securities               | \$200,000 |           |
| Less: Allowance for expected credit losses | ( 40,000) |           |
| Net investment in AFS securities.....      |           | \$160,000 |

- (2) The credit-related loss is reported in an allowance account, and is reported in income. The market-related loss is a direct reduction in the investment balance, and is reported in OCI.

|                                                    |           |           |
|----------------------------------------------------|-----------|-----------|
| Investment in AFS securities (\$200,000 - \$5,000) | \$195,000 |           |
| Less: Allowance for expected credit losses         | ( 35,000) |           |
| Net investment in AFS securities.....              |           | \$160,000 |

## E1.6 Investment in AFS Securities

- a.  $\$460,000 - \$65,000 = \$395,000$ . Historical cost = fair value less unrealized gains.
- b. Cash received = \$85,000, derived by reconstructing the summary entry to record sales of AFS securities:

|                                                              |        |        |
|--------------------------------------------------------------|--------|--------|
| Cash                                                         | 85,000 |        |
| Reclassification of unrealized gains on AFS securities (OCI) | 10,000 |        |
| Gain on sale of AFS securities (income)                      |        | 20,000 |
| Investment in AFS securities                                 |        | 75,000 |

The credit to investment in AFS securities is \$75,000, because the investment balance declined by \$60,000 in 2020, but \$15,000 in unrealized gains was recorded in OCI.  $\$520,000 + \$15,000 - X = \$460,000$ ;  $X = \$75,000$ . The amount of cash received is the number that balances the entry. The other numbers are given in the exercise.

### E1.7 Equity Method Investment with Intercompany Sales

Calculation of 2019 equity in Coca-Cola FEMSA's net income:

|                                                                                         |                     |
|-----------------------------------------------------------------------------------------|---------------------|
| Coca-Cola's share of Coca-Cola FEMSA's reported income<br>(28% x \$5 million)           | \$ 1,400,000        |
| + Realized profit on intercompany sales<br>[28% x (\$1,350,000 – (\$1,350,000/1.35))]   | 98,000              |
| - Unrealized profit on intercompany sales<br>[28% x (\$1,215,000 – (\$1,215,000/1.35))] | <u>(88,200)</u>     |
| Equity in net income of Coca-Cola FEMSA                                                 | <u>\$ 1,409,800</u> |

Entry to record equity in Coca-Cola FEMSA's net income:

|                                                     |           |           |
|-----------------------------------------------------|-----------|-----------|
| Investment in Coca-Cola FEMSA                       | 1,409,800 |           |
| Equity in net income of Coca-Cola FEMSA<br>(income) |           | 1,409,800 |

### E1.8 Equity Method Investment with Cost in Excess of Book Value

Analysis of acquisition cost (not required):

|                                       |                |                      |
|---------------------------------------|----------------|----------------------|
| Acquisition cost                      |                | \$ 15,000,000        |
| 40% x book value (40% x \$6,000,000)  | \$ 2,400,000   |                      |
| Excess of fair value over book value: |                |                      |
| Patents (40% x \$1,000,000)           | 400,000        |                      |
| Technology (40% x \$2,000,000)        | <u>800,000</u> | <u>3,600,000</u>     |
| Goodwill                              |                | <u>\$ 11,400,000</u> |

Calculation of 2019 equity in Ronco's net income:

|                                                            |                   |
|------------------------------------------------------------|-------------------|
| Revco's share of Ronco's reported income (40% x \$900,000) | \$ 360,000        |
| - Amortization of patent undervaluation (\$400,000/10)     | (40,000)          |
| - Amortization of unreported technology (\$800,000/5)      | <u>(160,000)</u>  |
| Equity in net income of Ronco                              | <u>\$ 160,000</u> |

Revco's entries for 2019:

January 1, 2019

|                     |            |            |
|---------------------|------------|------------|
| Investment in Ronco | 15,000,000 |            |
| Cash                |            | 15,000,000 |

During 2019

|                     |         |         |
|---------------------|---------|---------|
| Cash                | 100,000 |         |
| Investment in Ronco |         | 100,000 |

\$250,000 x 40% = \$100,000



December 31, 2019

|                                        |         |         |
|----------------------------------------|---------|---------|
| Investment in Ronco                    | 160,000 |         |
| Equity in net income of Ronco (income) |         | 160,000 |

December 31, 2019 investment balance:

$$\$15,000,000 - \$100,000 + \$160,000 = \underline{\underline{\$15,060,000}}$$

## E1.9 Equity Method and Other Comprehensive Income

Journal entries for 2020:

|                      |            |            |
|----------------------|------------|------------|
| Investment in Turner | 10,000,000 |            |
| Cash                 |            | 10,000,000 |

To record investment in 30% of Turner's stock.

|                                         |         |         |
|-----------------------------------------|---------|---------|
| Investment in Turner                    | 300,000 |         |
| Equity in net income of Turner (income) |         | 300,000 |

To record Mitchell's share of Turner's net income for 2020;  $30\% \times \$1,000,000 = \$300,000$ .

|                      |        |        |
|----------------------|--------|--------|
| Cash                 | 75,000 |        |
| Investment in Turner |        | 75,000 |

To record receipt of dividends from Turner;  $\$75,000 = \$250,000 \times 30\%$ .

|                                 |        |        |
|---------------------------------|--------|--------|
| Losses on AFS investments (OCI) | 24,000 |        |
| Investment in Turner            |        | 24,000 |

To record Mitchell's share of Turner's OCI for 2020;  $\$80,000 \times 30\% = \$24,000$ .

## E1.10 Equity Method Investment Cost Computation

Changes in the investment balance in 2018, 2019, and 2020:

|                                                                 | 2018             | 2019              | 2020              |
|-----------------------------------------------------------------|------------------|-------------------|-------------------|
| 40% reported net income                                         | \$ 480,000       | \$ 600,000        | \$ 560,000        |
| Amortization of unreported intangibles<br>(40% x \$4,000,000/5) | <u>(320,000)</u> | <u>(320,000)</u>  | <u>(320,000)</u>  |
| Equity in net income                                            | \$ 160,000       | \$ 280,000        | \$ 240,000        |
| Less 40% dividends                                              | <u>(80,000)</u>  | <u>(100,000)</u>  | <u>(92,000)</u>   |
| Change in investment balance                                    | <u>\$ 80,000</u> | <u>\$ 180,000</u> | <u>\$ 148,000</u> |

\*Total increase in investment balance =  $\$80,000 + \$180,000 + \$148,000 = \$408,000$

|                                                  |                      |
|--------------------------------------------------|----------------------|
| Investment balance December 31, 2020             | \$14,608,000         |
| Less: 2018 - 2020 increase in investment balance | <u>− \$ 408,000*</u> |
| January 2, 2018 investment cost =                | <u>\$14,200,000</u>  |

### E1.11 Change in Reporting for Equity Investment

Entries made by Stream (not required):

#### January 1, 2020

|                      |      |           |           |
|----------------------|------|-----------|-----------|
| Investment in Topsia |      | 2,000,000 |           |
|                      | Cash |           | 2,000,000 |

To record investment in 10% of Topsia's stock.

#### December 31, 2020

|      |                          |        |        |
|------|--------------------------|--------|--------|
| Cash |                          | 20,000 |        |
|      | Dividend income (income) |        | 20,000 |

To record receipt of cash dividends;  $\$20,000 = 10\% \times \$200,000$ .

|                      |                             |         |         |
|----------------------|-----------------------------|---------|---------|
| Investment in Topsia |                             | 100,000 |         |
|                      | Gain on investment (income) |         | 100,000 |

To record unrealized gain on Topsia investment;  $\$100,000 = \$2,100,000 - \$2,000,000$ .

#### January 1, 2021

|                      |      |           |           |
|----------------------|------|-----------|-----------|
| Investment in Topsia |      | 8,000,000 |           |
|                      | Cash |           | 8,000,000 |

To record additional investment in 30% of Topsia's stock. Going forward, the investment is reported prospectively using the equity method.

#### December 31, 2021

|      |                      |         |         |
|------|----------------------|---------|---------|
| Cash |                      | 120,000 |         |
|      | Investment in Topsia |         | 120,000 |

To record receipt of cash dividends;  $\$120,000 = 40\% \times \$300,000$ .

|                      |                                         |         |         |
|----------------------|-----------------------------------------|---------|---------|
| Investment in Topsia |                                         | 160,000 |         |
|                      | Equity in net income of Topsia (income) |         | 160,000 |

To record equity in Topsia's net income;  $\$160,000 = 40\% \times \$400,000$

Account balances are as follows:

- a. Investment in Topsia, December 31, 2020:      \$ 2,100,000  
    =  $(\$2,000,000 + \$100,000)$   
    Investment in Topsia, December 31, 2021:      \$10,140,000  
    =  $(\$2,100,000 + \$8,000,000 - \$120,000 + \$160,000)$
- b. Dividend income, 2020                                      \$     20,000  
    Dividend income, 2021                                      --

|                                         |            |
|-----------------------------------------|------------|
| c. Unrealized gain on investment, 2020  | \$ 100,000 |
| Unrealized gain on investment, 2021     | --         |
| d. Equity in net income of Topsia, 2020 | \$ --      |
| Equity in net income of Topsia, 2021    | \$ 160,000 |

### E1.12 Joint Venture

(in millions)

Each investor reports the investment on its December 31, 2020 balance sheet at \$2,800,000 [= \$2,500,000 + (50% x \$600,000)]

Each investor reports equity in the joint venture's net income at \$300,000 on its 2020 income statement.

The individual assets and liabilities of the joint venture are not reported separately by the investors.

### E1.13 Equity Method Investment with Basis Differences Several Years Later

Calculation of 2019 equity in Taylor's net income:

|                                                                               |                   |
|-------------------------------------------------------------------------------|-------------------|
| Saxton's share of Taylor's reported income (30% x \$325,000)                  | \$ 97,500         |
| + Correction of depreciation of plant and equipment<br>(30% x \$2,000,000/10) | <u>60,000</u>     |
| Equity in net income of Taylor                                                | <u>\$ 157,500</u> |

Note: There is no amortization of the customer database because its life is over.

Saxton's entries for 2019:

During 2019

|                      |        |        |
|----------------------|--------|--------|
| Cash                 | 45,000 |        |
| Investment in Taylor |        | 45,000 |

To record receipt of dividends from Taylor; \$45,000 = 30% x \$150,000.

December 31, 2019

|                                         |         |         |
|-----------------------------------------|---------|---------|
| Investment in Taylor                    | 157,500 |         |
| Equity in net income of Taylor (income) |         | 157,500 |

To record equity in net income of Taylor.

### E1.14 Merger and Stock Investment (see related E1.13)

a.

|                     |            |            |
|---------------------|------------|------------|
| Current assets      | 10,000,000 |            |
| Plant and equipment | 68,000,000 |            |
| Customer database   | 700,000    |            |
| Goodwill            | 10,300,000 |            |
| Current liabilities |            | 16,000,000 |
| Long-term debt      |            | 58,000,000 |
| Cash                |            | 15,000,000 |

b.

|                      |            |            |
|----------------------|------------|------------|
| Investment in Taylor | 15,000,000 |            |
| Cash                 |            | 15,000,000 |

### E1.15 Merger

*(in millions)*

|                     |     |     |
|---------------------|-----|-----|
| Current assets      | 10  |     |
| Plant and equipment | 20  |     |
| Intangible assets   | 15  |     |
| Goodwill            | 105 |     |
| Current liabilities |     | 12  |
| Long-term debt      |     | 38  |
| Cash                |     | 100 |

To record the merger.

Note that the amount of recorded goodwill exceeds the acquisition cost. This is a common occurrence in practice, as the fair value of the acquired company's identifiable net assets is often less than zero.

### E1.16 Change from Significant Influence to Control (see related E1.15)

(in millions)

|                                           |    |    |
|-------------------------------------------|----|----|
| Investment in Healthy Snax                | 15 |    |
| Gain on equity method investment (income) |    | 15 |

To revalue the equity method investment to fair value

|                            |     |    |
|----------------------------|-----|----|
| Current assets             | 10  |    |
| Plant and equipment        | 20  |    |
| Intangible assets          | 15  |    |
| Goodwill                   | 105 |    |
| Current liabilities        |     | 12 |
| Long-term debt             |     | 38 |
| Cash                       |     | 60 |
| Investment in Healthy Snax |     | 40 |

To record acquisition of the remaining shares of Healthy Snax.

### E1.17 Consequences of Investment Reporting Choices

(amounts in millions)

a.

|                      |     |     |
|----------------------|-----|-----|
| Investment in Bubbly | 950 |     |
| Cash                 |     | 950 |

b.

|                 |       |     |
|-----------------|-------|-----|
| Tangible assets | 1,000 |     |
| Goodwill        | 850   |     |
| Liabilities     |       | 900 |
| Cash            |       | 950 |

- c. Significant influence investment:  $\$20,000/\$80,000 = 25\%$   
Merger:  $(\$20,000 + \$900)/(\$80,000 + \$1,000 + \$850 - \$950) = 25.8\%$
- d. Use of the equity method prevents Bubbly's high leverage from affecting Coca-Cola's balance sheet.

Evaluation is based on whether or not the investor actually controls the investee. An auditor should review factors that determine the extent of control, such as government regulations, agreements between the investor and investee regarding shareholder rights, and inability to obtain representation on the investee's board. Because in many cases the company benefits from classifying its investment as a significant influence investment instead of a controlling investment, the auditor should investigate questionable choices carefully.

## PROBLEMS

### P1.1 Investments in Trading and AFS Securities

a. 3/5/19

|                                  |         |         |
|----------------------------------|---------|---------|
| Investment in trading security A | 350,000 |         |
| Cash                             |         | 350,000 |

6/3/19

|                                     |         |         |
|-------------------------------------|---------|---------|
| Cash                                | 325,000 |         |
| Loss on trading securities (income) | 25,000  |         |
| Investment in trading security A    |         | 350,000 |

7/14/19

|                                  |         |         |
|----------------------------------|---------|---------|
| Investment in trading security B | 225,000 |         |
| Cash                             |         | 225,000 |

8/2/19

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS security D | 175,000 |         |
| Cash                         |         | 175,000 |

11/20/19

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS security E | 300,000 |         |
| Cash                         |         | 300,000 |

12/31/19

|                                     |        |        |
|-------------------------------------|--------|--------|
| Investment in trading security B    | 27,000 |        |
| Gain on trading securities (income) |        | 27,000 |

$$\$27,000 = \$252,000 - \$225,000.$$

|                              |        |        |
|------------------------------|--------|--------|
| Investment in AFS security D | 15,000 |        |
| Gain on AFS securities (OCI) |        | 15,000 |

$$\$15,000 = \$190,000 - \$175,000.$$

|                                 |        |        |
|---------------------------------|--------|--------|
| Loss on AFS security E (income) | 50,000 |        |
| Allowance for credit losses     |        | 50,000 |

$$\$50,000 = \$250,000 - \$300,000.$$

1/15/20

|                                     |         |         |
|-------------------------------------|---------|---------|
| Cash                                | 235,000 |         |
| Loss on trading securities (income) | 17,000  |         |
| Investment in trading security B    |         | 252,000 |

4/2/20

|                                                  |         |         |
|--------------------------------------------------|---------|---------|
| Cash                                             | 213,000 |         |
| Reclassification of gain on AFS securities (OCI) | 15,000  |         |
| Investment in AFS security D                     |         | 190,000 |
| Gain on AFS securities (income)                  |         | 38,000  |

4/6/20

|                              |         |         |
|------------------------------|---------|---------|
| Investment in AFS security F | 710,000 |         |
| Cash                         |         | 710,000 |

9/1/20

|                                  |         |         |
|----------------------------------|---------|---------|
| Investment in trading security C | 400,000 |         |
| Cash                             |         | 400,000 |

12/31/20

|                                     |        |        |
|-------------------------------------|--------|--------|
| Investment in trading security C    | 10,000 |        |
| Gain on trading securities (income) |        | 10,000 |

$\$10,000 = \$410,000 - \$400,000$ .

|                                 |        |        |
|---------------------------------|--------|--------|
| Loss on AFS security E (income) | 35,000 |        |
| Allowance for credit losses     |        | 35,000 |

$\$35,000 = \$215,000 - \$250,000$ .

|                              |        |        |
|------------------------------|--------|--------|
| Investment in AFS security F | 25,000 |        |
| Gain on AFS securities (OCI) |        | 25,000 |

$\$25,000 = \$735,000 - \$710,000$ .

b. 2019 Financial Statements

**Balance Sheet, 12/31/19**

**Assets:**

|                                                      |                 |            |
|------------------------------------------------------|-----------------|------------|
| Investment in trading securities                     |                 | \$ 252,000 |
| Investment in AFS securities (\$190,000 + \$300,000) | \$490,000       |            |
| Less: Allowance for credit losses                    | <u>(50,000)</u> | 440,000    |

**Equity:**

|            |  |        |
|------------|--|--------|
| AOCI gains |  | 15,000 |
|------------|--|--------|

**Income Statement, 2019**

|                                                             |          |
|-------------------------------------------------------------|----------|
| Gains (losses) on trading securities (-\$25,000 + \$27,000) | \$ 2,000 |
| Credit losses on AFS securities                             | 50,000   |

**Statement of Comprehensive Income, 2019**

|                         |        |
|-------------------------|--------|
| Gains on AFS securities | 15,000 |
|-------------------------|--------|

2020 Financial Statements

**Balance Sheet, 12/31/20**

**Assets:**

|                                                      |                         |
|------------------------------------------------------|-------------------------|
| Investment in trading securities                     | \$ 410,000              |
| Investment in AFS securities (\$300,000 + \$735,000) | \$1,035,000             |
| Less: Allowance for credit losses                    | <u>(85,000)</u> 950,000 |

**Equity:**

|                                             |        |
|---------------------------------------------|--------|
| AOCI gains (\$15,000 – \$15,000 + \$25,000) | 25,000 |
|---------------------------------------------|--------|

**Income Statement, 2020**

|                                                             |          |
|-------------------------------------------------------------|----------|
| Gains (losses) on trading securities (-\$17,000 + \$10,000) | (7,000)  |
| Realized gains on AFS securities                            | 38,000   |
| Credit loss on AFS securities                               | (35,000) |

**Statement of Comprehensive Income, 2020**

|                                                |          |
|------------------------------------------------|----------|
| Gains on AFS securities                        | 25,000   |
| Reclassifications of (gains) on AFS securities | (15,000) |

**P1.2 Available-for-Sale Debt Investment Impairment**

The securities are impaired in both years because their fair value is less than cost. The credit loss is reported in income, as the difference between cost and the present value of expected cash flows. The remaining market-related loss is reported in OCI.

December 31, 2020

|                                          |                              |        |        |
|------------------------------------------|------------------------------|--------|--------|
| Credit losses on AFS securities (income) |                              | 15,000 |        |
| Loss on AFS securities (OCI)             |                              | 5,000  |        |
|                                          | Allowance for credit losses  |        | 15,000 |
|                                          | Investment in AFS securities |        | 5,000  |

To record credit-related and noncredit-related losses on AFS debt securities. \$15,000 = \$85,000 - \$100,000 and \$5,000 = \$80,000 - \$85,000.

December 31, 2021

|                              |                                          |       |       |
|------------------------------|------------------------------------------|-------|-------|
| Allowance for credit losses  |                                          | 4,000 |       |
| Loss on AFS securities (OCI) |                                          | 1,000 |       |
|                              | Credit losses on AFS securities (income) |       | 4,000 |
|                              | Investment in AFS securities             |       | 1,000 |

To record credit-related and noncredit-related losses on AFS debt securities. \$4,000 = \$89,000 - \$85,000; the total increase in value is (\$83,000 - \$80,000) = \$3,000 and the credit-related gain is \$4,000, so the market-related loss is \$1,000.



### P1.3 Held-to-Maturity Intercompany Debt Investments

- a. Bond #1 pays \$60,000 annually in interest and \$1,000,000 at maturity.

| Cash flow   | Present value calculation | Present value      |
|-------------|---------------------------|--------------------|
| \$60,000    | $\$60,000/1.05$           | \$ 57,143          |
| \$60,000    | $\$60,000/(1.05)^2$       | 54,422             |
| \$60,000    | $\$60,000/(1.05)^3$       | 51,830             |
| \$60,000    | $\$60,000/(1.05)^4$       | 49,362             |
| \$1,060,000 | $\$1,060,000/(1.05)^5$    | 830,538            |
| Total price |                           | <u>\$1,043,295</u> |

Bond #2 pays \$20,000 annually in interest and \$500,000 at maturity.

| Cash flow   | Present value calculation | Present value     |
|-------------|---------------------------|-------------------|
| \$20,000    | $\$20,000/1.05$           | \$ 19,048         |
| \$20,000    | $\$20,000/(1.05)^2$       | 18,141            |
| \$20,000    | $\$20,000/(1.05)^3$       | 17,277            |
| \$520,000   | $\$520,000/(1.05)^4$      | 427,805           |
| Total price |                           | <u>\$ 482,271</u> |

Amortization tables to support answers to requirements b, c and d:

Bond #1

|            | Interest Income<br>(5% x Beginning<br>investment balance) | Amortization<br>(\$60,000 – Interest<br>income) | Investment Balance<br>(Beginning balance –<br>amortization) |
|------------|-----------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|
| 1/1/2019   |                                                           |                                                 | \$1,043,295                                                 |
| 12/31/2019 | \$52,165                                                  | \$7,835                                         | 1,035,460                                                   |
| 12/31/2020 | 51,773                                                    | 8,227                                           | 1,027,233                                                   |
| 12/31/2021 | 51,362                                                    | 8,638                                           | 1,018,595                                                   |
| 12/31/2022 | 50,930                                                    | 9,070                                           | 1,009,525                                                   |
| 12/31/2023 | 50,476                                                    | 9,525*                                          | 1,000,000                                                   |

\*Includes a rounding adjustment of \$1

Bond #2

|            | Interest Income<br>(5% x Beginning<br>investment balance) | Amortization<br>(Interest income –<br>\$20,000) | Investment Balance<br>(Beginning balance +<br>amortization) |
|------------|-----------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|
| 1/1/2019   |                                                           |                                                 | \$482,271                                                   |
| 12/31/2019 | \$24,114                                                  | \$4,114                                         | \$486,385                                                   |
| 12/31/2020 | 24,319                                                    | 4,319                                           | 490,704                                                     |
| 12/31/2021 | 24,535                                                    | 4,535                                           | 495,239                                                     |
| 12/31/2022 | 24,762                                                    | 4,761*                                          | 500,000                                                     |

\*Includes a rounding adjustment of - \$1

b.

|                       | 2019             | 2020             |
|-----------------------|------------------|------------------|
| Bond #1               | \$ 52,165        | \$ 51,773        |
| Bond #2               | 24,114           | 24,319           |
| Total interest income | <u>\$ 76,279</u> | <u>\$ 76,092</u> |

c.  $\$1,018,595 + \$495,239 = \underline{\$1,513,834}$

- d. Expected credit losses occur because it is improbable that the bond issuer will be able to make the remaining interest and principal payments per the bond agreement. Factors indicating impairment loss relate to the financial health of the bond issuer, such as failure to make payments on other debts and a significant decline in credit rating. Estimates are made using the CECL model, which forecasts payments over the life of the bond. Changes in expected credit losses are reported in income. In this case, a credit loss of \$500,000 is reported in income, and an allowance is set up to reduce the investment account by the amount of the expected credit loss.

#### P1.4 Trading and AFS Securities in Financial Statements

- a. Given information:  
Change in trading investments account:  $\$8,500 - \$11,000 = \$(2,500)$   
Cash received from sales of trading investments: \$4,000  
Purchases of trading investments: \$1,000

Therefore journal entries were:

|                                  |      |       |       |
|----------------------------------|------|-------|-------|
| Investment in trading securities |      | 1,000 |       |
|                                  | Cash |       | 1,000 |

To record purchases of trading securities.

|      |                                  |       |       |
|------|----------------------------------|-------|-------|
| Cash |                                  | 4,000 |       |
|      | Investment in trading securities |       | 3,500 |
|      | Net gains on trading securities  |       | 500   |

To record net change in value of trading securities held and sold.

Net gains on trading securities reported in 2019 income = \$500

- b. Given information:  
Change in AFS investments account: \$1,000  
Cash received from sales of AFS investments: \$6,000  
Purchases of AFS investments: \$3,600  
Net change in unrealized gains on AFS securities held at year-end: \$2,000  
Reclassification of net unrealized gains included in net income on AFS securities sold: \$2,100

Therefore journal entries were:

|                              |      |       |       |
|------------------------------|------|-------|-------|
| Investment in AFS securities |      | 3,600 |       |
|                              | Cash |       | 3,600 |

To record purchase of AFS securities.

|                              |                                          |       |       |
|------------------------------|------------------------------------------|-------|-------|
| Investment in AFS securities |                                          | 2,000 |       |
|                              | Unrealized gains on AFS securities (OCI) |       | 2,000 |

To record unrealized gains on AFS securities held at year-end.

|                                                 |                                         |       |       |
|-------------------------------------------------|-----------------------------------------|-------|-------|
| Cash                                            |                                         | 6,000 |       |
| Reclassification of net gains on AFS securities |                                         | 2,100 |       |
|                                                 | Investment in AFS securities            |       | 4,600 |
|                                                 | Gain on sale of AFS securities (income) |       | 3,500 |

To record sale of AFS securities.

Gain on sale of AFS investments, included in income = \$3,500

c.

|                                       |                |
|---------------------------------------|----------------|
| Reported value of AFS securities sold | \$4,600        |
| Less previously reported gains        | (2,100)        |
| Original cost of AFS securities sold  | <u>\$2,500</u> |

## P1.5 Trading, AFS, and Equity Investments

|                                             |        |        |
|---------------------------------------------|--------|--------|
| Cash                                        | 43,000 |        |
| Investment in trading securities            |        | 40,000 |
| Gain on sale of trading securities (income) |        | 3,000  |

To record sale of trading securities.

|                                             |        |        |
|---------------------------------------------|--------|--------|
| Cash                                        | 20,000 |        |
| Investment in trading securities            |        | 16,000 |
| Gain on sale of trading securities (income) |        | 4,000  |

To record sale of trading securities;  $\$16,000 = \$56,000 - \$40,000$ .

|                                  |        |        |
|----------------------------------|--------|--------|
| Investment in trading securities | 60,000 |        |
| Cash                             |        | 60,000 |

To record investment in trading securities.

|                                     |       |       |
|-------------------------------------|-------|-------|
| Loss on trading securities (income) | 8,000 |       |
| Investment in trading securities    |       | 8,000 |

To record unrealized loss on trading securities;  $\$8,000 = \$52,000 - \$60,000$ .

|                                                   |        |        |
|---------------------------------------------------|--------|--------|
| Cash                                              | 55,000 |        |
| Reclassification of gains on AFS securities (OCI) | 5,000  |        |
| Investment in AFS securities                      |        | 50,000 |
| Gain on sale of AFS securities (income)           |        | 10,000 |

To record sale of AFS securities.

|                              |        |        |
|------------------------------|--------|--------|
| Investment in AFS securities | 40,000 |        |
| Cash                         |        | 40,000 |

To record purchase of AFS securities.

|                                               |       |       |
|-----------------------------------------------|-------|-------|
| Impairment loss on AFS securities (income)    | 6,000 |       |
| Allowance for credit losses on AFS securities |       | 6,000 |

To record credit loss on AFS securities held at year-end;  $\$6,000 = \$34,000 - \$40,000$ .

|                                    |        |        |
|------------------------------------|--------|--------|
| Cash                               | 50,000 |        |
| Investment in equity securities    |        | 45,000 |
| Gain on equity securities (income) |        | 5,000  |

To record purchase of equity securities.

|                                     |       |       |
|-------------------------------------|-------|-------|
| Investment in equity securities     | 8,000 |       |
| Gains on equity securities (income) |       | 8,000 |

To record increase in value of equity securities held at year-end;  $\$8,000 = \$63,000 - (\$100,000 - \$45,000)$ .

**Balance Sheet, December 31, 2020**

|                                                                                        |          |
|----------------------------------------------------------------------------------------|----------|
| Investment in trading securities (\$56,000 - \$40,000 - \$16,000 + \$60,000 - \$8,000) | \$52,000 |
| Investment in AFS securities (\$50,000 - \$50,000 + \$40,000)                          | \$40,000 |
| Less allowance for credit losses                                                       | (6,000)  |
| Net investment in AFS securities.....                                                  |          |
| 34,000                                                                                 |          |
| Investment in equity securities (\$100,000 - \$45,000 + \$8,000).....                  |          |
| 63,000                                                                                 |          |
| AOCI (unrealized gains (losses) on AFS securities).....                                |          |
| 0                                                                                      |          |

**Income Statement for 2020**

|                                                                     |                  |
|---------------------------------------------------------------------|------------------|
| Net losses on trading securities (\$3,000 + \$4,000 - \$8,000)..... | \$ (1,000)       |
| Net gains on AFS securities (\$10,000 - \$6,000).....               | 4,000            |
| Net gains on equity securities (\$5,000 + \$8,000).....             | <u>13,000</u>    |
| Net gains on trading, AFS, and equity securities.....               | <u>\$ 16,000</u> |

**Statement of Comprehensive Income for 2020**

|                                                       |         |
|-------------------------------------------------------|---------|
| Reclassification of gains on AFS securities sold..... | (5,000) |
|-------------------------------------------------------|---------|

**P1.6 Investment in AFS Securities***(in millions)*

a.

|                                                   |        |        |
|---------------------------------------------------|--------|--------|
| Cash                                              | 11,540 |        |
| Losses on AFS securities (income)                 | 51     |        |
| Reclassification of gains on AFS securities (OCI) | 100    |        |
| Gains on AFS securities (income)                  |        | 152    |
| Investment in AFS securities                      |        | 11,539 |

*Note: The credit to investment in AFS securities is a plug number. The other amounts are given.*

b.

|                                |     |     |
|--------------------------------|-----|-----|
| Losses on AFS securities (OCI) | 282 |     |
| Investment in AFS securities   |     | 282 |

The net change in OCI from AFS investments is a loss of \$382. Entry a. reduces OCI by \$100. Therefore unrealized losses for AFS securities on hand at year-end must be \$282.

c.

|                              |       |       |
|------------------------------|-------|-------|
| Investment in AFS securities | 9,628 |       |
| Cash                         |       | 9,628 |

$\$8,606 + X - \$11,539 - \$282 = \$6,413$ ;  $X = \$9,628$ .

## P1.7 Equity Method Investment Several Years After Acquisition

**Note to instructor:** This problem provides an introduction to calculating a parent's investment balance in years subsequent to acquisition, covered in Chapter 4.

### a. Calculation of 2020 equity in net income

|                                                                                                  |                   |
|--------------------------------------------------------------------------------------------------|-------------------|
| Better Bottlers' net income (45% x \$2,500,000)                                                  | \$ 1,125,000      |
| – Amortization of patents and trademarks revaluation<br>[45% x ((\$160,000,000 - \$150,000)/10)] | (450,000)         |
| – Amortization of brand names [45% x (\$9,000,000/15)]                                           | (270,000)         |
| Equity in net income of Better Bottlers                                                          | <u>\$ 405,000</u> |

Best Beverages' journal entries for 2020:

|                                                     |         |         |
|-----------------------------------------------------|---------|---------|
| Investment in Better Bottlers                       | 405,000 |         |
| Equity in net income of Better Bottlers<br>(income) |         | 405,000 |

  

|                                  |         |         |
|----------------------------------|---------|---------|
| Cash (45% x \$650,000 dividends) | 292,500 |         |
| Investment in Better Bottlers    |         | 292,500 |

### b.

|                                                                                                                                |                      |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Investment balance, January 2, 2017                                                                                            | \$ 30,000,000        |
| + 45% x 2017 to 2020 change in Retained Earnings<br>(reported income less dividends): [45% x (\$25,000,000<br>– \$13,000,000)] | 5,400,000            |
| – 4 years of revaluation write-offs:<br>\$450,000 x 4                                                                          | (1,800,000)          |
| \$270,000 x 4                                                                                                                  | (1,080,000)          |
| Investment balance, December 31, 2020                                                                                          | <u>\$ 32,520,000</u> |

## P1.8 Equity Method Investment Several Years After Acquisition

**Note to instructor:** This problem can be used to prepare students for equity method calculations of investment balance in Chapters 4 and 6.

- a. (Calculation of equity in net income for 2018-2019 provided in addition to 2020's calculation, for use in requirement c.)

### Equity in net income calculation

|                                                                                       | 2018-2019           | 2020                |
|---------------------------------------------------------------------------------------|---------------------|---------------------|
| 30% x Seaway's net income: 2018-2019: (30% x \$14,000,000); 2020: (30% x \$4,000,000) | \$ 4,200,000        | \$ 1,200,000        |
| Write-off of P&E revaluation (30% x \$4,000,000/10 each year)                         | 240,000             | 120,000             |
| Amortization of undervalued intangibles (30% x \$6,000,000/2 for 2018 and 2019 only)  | (1,800,000)         | --                  |
| 2019 ending inventory profit, upstream [30% x (\$925,000 – \$925,000/1.25)]           | (55,500)            | 55,500              |
| 2019 ending inventory profit, downstream [30% x (\$420,000 – \$420,000/1.2)]          | (21,000)            | 21,000              |
| 2020 ending inventory profit, upstream [30% x (\$625,000 – \$625,000/1.25)]           | --                  | (37,500)            |
| 2020 ending inventory profit, downstream [30% x (\$696,000 – \$696,000/1.2)]          | --                  | (34,800)            |
| Equity in net income                                                                  | <u>\$ 2,563,500</u> | <u>\$ 1,324,200</u> |

- b.

|                                |           |           |
|--------------------------------|-----------|-----------|
| Investment in Seaway           | 1,324,200 |           |
| Equity in net income of Seaway |           | 1,324,200 |

|                                |         |         |
|--------------------------------|---------|---------|
| Losses on AFS securities (OCI) | 240,000 |         |
| Investment in Seaway           |         | 240,000 |

|                      |         |         |
|----------------------|---------|---------|
| Cash                 | 450,000 |         |
| Investment in Seaway |         | 450,000 |

- c.

|                                                                     |                      |
|---------------------------------------------------------------------|----------------------|
| Investment, January 2, 2018                                         | \$ 10,000,000        |
| + Equity in net income, 2018-2019                                   | 2,563,500            |
| + Unrealized gains on AFS securities, 2018-2019 (30% x \$1 million) | 300,000              |
| – Dividends, 2018-2019 (30% x \$5 million)                          | (1,500,000)          |
| + Equity in net income, 2020                                        | 1,324,200            |
| – Unrealized losses on AFS securities, 2020 (30% x \$800,000)       | (240,000)            |
| – Dividends, 2020 (30% x \$1.5 million)                             | (450,000)            |
| Investment, December 31, 2020                                       | <u>\$ 11,997,700</u> |

### P1.9 Equity Method Investment with Basis Differences

- a. Manchester has  $\$600,000/\$2 = 300,000$  shares outstanding  
 $30\% \times 300,000 = 90,000$  shares acquired

- b. Calculation of 2019 equity in net income (*in thousands*)

|                                                                            |               |
|----------------------------------------------------------------------------|---------------|
| Manchester's net income ( $30\% \times \$1,500$ )                          | \$ 450        |
| Adjusted for Bristol's share of revaluation write-offs:                    |               |
| + Reduction in cost of goods sold ( $30\% \times \$500$ ) (note 1)         | 150           |
| + Depreciation on revaluation of P&E ( $30\% \times \$1,800/20$ ) (note 2) | 27            |
| – Amortization of franchises ( $30\% \times (\$1,000/5)$ )                 | <u>(60)</u>   |
| Equity in Manchester net income                                            | <u>\$ 567</u> |

Note 1: Because Manchester uses FIFO, the beginning inventory is completely sold during the year.

Note 2: Revaluation of P&E =  $\$1,800$  decline [=  $(\$4,000 - \$1,500) - \$700$ ]

### P1.10 Equity Method Investment, Intercompany Sales

***Note to instructor: This problem provides an introduction to elimination of unconfirmed intercompany profits in consolidation, covered in Chapter 6.***

(*in thousands*)

- a. Jackson's reported net income must be adjusted for unconfirmed profits in ending inventory.

Calculation of 2020 equity in net income:

|                                                                                                  |               |
|--------------------------------------------------------------------------------------------------|---------------|
| Jackson's net income ( $40\% \times \$10,000$ )                                                  | \$ 4,000      |
| – Unconfirmed profit on downstream ending inventory<br>$[\$26,000 - (\$26,000/1.3)] \times 40\%$ | (2,400)       |
| – Unconfirmed profit on upstream ending inventory<br>$[\$12,000 - (\$12,000/1.2)] \times 40\%$   | <u>(800)</u>  |
| Equity in Jackson's net income                                                                   | <u>\$ 800</u> |

- b.  $\$40,000 + \$800 - (40\% \times \$1,000) = \$40,400$



## P1.11 Equity Investments, Various Reporting Methods

(in thousands)

a.

### Balance Sheet, December 31, 2019

|                                 |                        |                              |                   |
|---------------------------------|------------------------|------------------------------|-------------------|
| Current assets                  | \$ 38,500 <sup>1</sup> | Current liabilities          | \$ 20,000         |
| Property, net                   | 450,000                | Long-term liabilities        | 200,000           |
| Investment in equity securities | 1,200                  | Capital stock                | 90,000            |
| Identifiable intangibles        | <u>5,000</u>           | Retained earnings            | <u>184,700</u>    |
| Total assets                    | <u>\$ 494,700</u>      | Total liabilities and equity | <u>\$ 494,700</u> |

### 2019 Income Statement

|                           |                 |
|---------------------------|-----------------|
| Sales revenue             | \$ 900,000      |
| Cost of sales             | (750,000)       |
| Operating expenses        | (140,000)       |
| Loss on equity investment | <u>(300)</u>    |
| Net income                | <u>\$ 9,700</u> |

<sup>1</sup> \$38,500 = \$40,000 balance without investment – \$1,500 original investment

b.

### Balance Sheet, December 31, 2019

|                          |                        |                              |                   |
|--------------------------|------------------------|------------------------------|-------------------|
| Current assets           | \$ 34,000 <sup>1</sup> | Current liabilities          | \$ 20,000         |
| Property, net            | 450,000                | Long-term liabilities        | 200,000           |
| Investment in Quarry     | 7,200 <sup>2</sup>     | Capital stock                | 90,000            |
| Identifiable intangibles | <u>5,000</u>           | Retained earnings            | <u>186,200</u>    |
| Total assets             | <u>\$ 496,200</u>      | Total liabilities and equity | <u>\$ 496,200</u> |

### 2019 Income Statement

|                            |                  |
|----------------------------|------------------|
| Sales revenue              | \$ 900,000       |
| Equity in income of Quarry | 1,200            |
| Cost of sales              | (750,000)        |
| Operating expenses         | <u>(140,000)</u> |
| Net income                 | <u>\$ 11,200</u> |

<sup>1</sup> \$34,000 = \$40,000 balance without investment – \$6,000 original investment

<sup>2</sup> \$7,200 = \$6,000 original investment + (40% x \$3,000) equity in net income

c.

**Balance Sheet, December 31, 2019**

|                          |                            |                              |                             |
|--------------------------|----------------------------|------------------------------|-----------------------------|
| Current assets           | \$ 30,000 <sup>1</sup>     | Current liabilities          | \$ 22,000                   |
| Property, net            | 535,000                    | Long-term liabilities        | 281,000                     |
| Identifiable intangibles | 5,000                      | Capital stock                | 90,000                      |
| Goodwill                 | <u>11,000</u> <sup>2</sup> | Retained earnings            | <u>188,000</u> <sup>3</sup> |
| Total assets             | <u>\$ 581,000</u>          | Total liabilities and equity | <u>\$ 581,000</u>           |

**2019 Income Statement**

|                    |                  |
|--------------------|------------------|
| Sales revenue      | \$ 960,000       |
| Cost of sales      | (770,000)        |
| Operating expenses | (177,000)        |
| Net income         | <u>\$ 13,000</u> |

<sup>1</sup> \$30,000 = \$40,000 balance without investment – \$15,000 investment + \$5,000 Quarry's current assets

<sup>2</sup> \$11,000 = \$15,000 investment – \$4,000 Quarry's book value at date of acquisition

<sup>3</sup> \$188,000 = \$185,000 Parker's retained earnings + \$3,000 Quarry's net income

**P1.12 Joint Venture**

*(all amounts in millions)*

a. Allen Corp. adjusting entry:

|                             |   |   |
|-----------------------------|---|---|
| Equity in net loss of Albar | 1 |   |
| Investment in Albar         |   | 1 |

To record equity in Albar's net loss for 2019. Albar's net loss = \$2.0, since its change in retained earnings is \$(2.4) and it distributed \$0.4 in dividends.

Barkely Corp. adjusting entries:

|                             |   |   |
|-----------------------------|---|---|
| Equity in net loss of Albar | 1 |   |
| Investment in Albar         |   | 1 |

|                     |     |     |
|---------------------|-----|-----|
| Impairment loss     | 3.3 |     |
| Investment in Albar |     | 3.3 |

After equity in Albar's net loss is recorded, the investment balance is \$3.8. Therefore the impairment loss is \$3.3 (= \$3.8 – \$0.5).

b.

|                                 | Allen Corp.             | Barkely Corp.           |
|---------------------------------|-------------------------|-------------------------|
| Current assets                  | \$ 1.2                  | \$ 0.6                  |
| Plant and equipment, net        | 150.0                   | 65.0                    |
| Investment in Albar Enterprises | 3.8 <sup>1</sup>        | 0.5 <sup>3</sup>        |
| Intangibles                     | <u>200.0</u>            | <u>3.5</u>              |
| Total assets                    | <u>\$ 355.0</u>         | <u>\$ 69.6</u>          |
| Current liabilities             | \$ 14.0                 | \$ 0.2                  |
| Noncurrent liabilities          | 265.0                   | 55.0                    |
| Capital stock                   | 10.0                    | 1.0                     |
| Retained earnings               | <u>66.0<sup>2</sup></u> | <u>13.4<sup>4</sup></u> |
| Total liabilities and equity    | <u>\$ 355.0</u>         | <u>\$ 69.6</u>          |

<sup>1</sup> \$3.8 = \$4.8 – \$1

<sup>2</sup> \$66.0 = \$67.0 – \$1

<sup>3</sup> \$0.5 = \$4.8 – \$1 – \$3.3

<sup>4</sup> \$13.4 = \$17.7 – \$1 – \$3.3

- c. Although Allen and Barkely probably use similar techniques to compute the value of their investment, considerable judgment is involved in estimating future expected cash flows, risk, and investment holding period. Strategy and expectations concerning the investment may differ between the two corporations. An impairment loss is only reported if the loss is considered to be other than temporary. Allen and Barkely may therefore come to different conclusions regarding the value of their investment in Albar Enterprises.

### P1.13 Change in Reporting for Equity Investment

#### January 1, 2020

|                     |      |           |           |
|---------------------|------|-----------|-----------|
| Investment in Moxie |      | 6,000,000 |           |
|                     | Cash |           | 6,000,000 |

To record investment in 15% of Moxie's stock.

#### December 31, 2020

|      |                          |       |       |
|------|--------------------------|-------|-------|
| Cash |                          | 7,500 |       |
|      | Dividend income (income) |       | 7,500 |

To record receipt of cash dividends;  $\$7,500 = 15\% \times \$50,000$ .

|                     |                             |         |         |
|---------------------|-----------------------------|---------|---------|
| Investment in Moxie |                             | 200,000 |         |
|                     | Gain on investment (income) |         | 200,000 |

To record unrealized gain on Moxie investment;  $\$200,000 = \$6,200,000 - \$6,000,000$ .

#### December 31, 2021

|      |                          |        |        |
|------|--------------------------|--------|--------|
| Cash |                          | 12,000 |        |
|      | Dividend income (income) |        | 12,000 |

To record receipt of cash dividends;  $\$12,000 = 15\% \times \$80,000$ .

|                     |                             |         |         |
|---------------------|-----------------------------|---------|---------|
| Investment in Moxie |                             | 250,000 |         |
|                     | Gain on investment (income) |         | 250,000 |

To record unrealized gain on Moxie investment;  $\$250,000 = \$6,450,000 - \$6,200,000$ .

#### January 1, 2022

|                     |      |            |            |
|---------------------|------|------------|------------|
| Investment in Moxie |      | 15,000,000 |            |
|                     | Cash |            | 15,000,000 |

To record additional investment in 25% of Moxie's stock.

#### December 31, 2022

|      |                     |        |        |
|------|---------------------|--------|--------|
| Cash |                     | 40,000 |        |
|      | Investment in Moxie |        | 40,000 |

To record receipt of cash dividends;  $\$40,000 = 40\% \times \$100,000$ .

|                     |                                        |         |         |
|---------------------|----------------------------------------|---------|---------|
| Investment in Moxie |                                        | 100,000 |         |
|                     | Equity in net income of Moxie (income) |         | 100,000 |

To record equity in Moxie's net income;  $\$100,000 = 40\% \times \$250,000$ .

Calculation of Investment balance, December 31, 2022:

|                                               |                     |
|-----------------------------------------------|---------------------|
| Fair value of 15% investment, January 1, 2022 | \$ 6,450,000        |
| Additional investment, January 1, 2022        | 15,000,000          |
| Equity in net income, 2022                    | 100,000             |
| Cash dividends, 2022                          | (40,000)            |
| Investment balance, December 31, 2022         | <u>\$21,510,000</u> |

### P1.14 Balance Sheet After Business Acquisition

| Wilson Corporation<br>Balance Sheet ( <i>in millions</i> ) |                 |                              |               |
|------------------------------------------------------------|-----------------|------------------------------|---------------|
| <b>Assets</b>                                              |                 | <b>Liabilities</b>           |               |
| Current assets                                             | \$ 15           | Current liabilities          | \$ 27         |
| Property and equipment                                     | 560             | Long-term debt               | <u>465</u>    |
| Intangibles                                                | 50              | Total liabilities            | <u>\$ 492</u> |
| Goodwill                                                   | 22 <sup>1</sup> | <b>Equity</b>                |               |
|                                                            |                 | Capital stock                | \$ 50         |
|                                                            |                 | Retained earnings            | 120           |
|                                                            |                 | AOCI                         | <u>(15)</u>   |
|                                                            |                 | Total equity                 | <u>\$ 155</u> |
| Total assets                                               | <u>\$ 647</u>   | Total liabilities and equity | <u>\$ 647</u> |

<sup>1</sup> \$22 = \$50 – (\$5 + \$60 + \$23 + \$7 – \$2 – \$65)

### P1.15 Merger

(*in millions of euros*)

|                                                   |     |     |
|---------------------------------------------------|-----|-----|
| Property, plant and equipment, net of liabilities | 16  |     |
| Intangible assets                                 | 70  |     |
| Goodwill                                          | 274 |     |
| Consideration paid (cash, etc.)                   |     | 360 |

Note: the amount recorded for goodwill is the difference between total consideration paid and the fair value of identifiable net assets acquired; €274 = €360 - €16 - €70.

## P1.16 Change from Significant Influence to Control

*(all amounts in millions)*

- a. Using the equity method, the investment balance reflects the original cost of the investment, plus (minus) the investor's share of changes in the investee's retained earnings and AOCI. Equity method investments are not carried at fair value. Although the investment's reported value usually significantly understates fair value, in this case the investment is carried at an amount that is above fair value. The investment is written down and a loss is reported in income if the impairment is judged to be other than temporary. In this case, there are two possibilities as to why no impairment had been recorded: the impairment did not occur until the time of the merger, or the impairment was not considered to be other than temporary.
- b. Fair value = \$50 - \$19 = \$31.
- c. The equity method investment is revalued to fair value, with the loss reported in income. Acquisition cost is  $\$300 + \$31 = \$331$ , while the fair value of identifiable net assets acquired is  $\$2,000 - \$1,900 = \$100$ . Therefore acquired goodwill is  $\$331 - \$100 = \$231$ .

The journal entries are as follows:

|                                          |    |    |
|------------------------------------------|----|----|
| Loss on equity method investment (income | 19 |    |
| Equity method investment                 |    | 19 |

  

|                          |       |       |
|--------------------------|-------|-------|
| Identifiable assets      | 2,000 |       |
| Goodwill                 | 231   |       |
| Liabilities              |       | 1,900 |
| Equity method investment |       | 31    |
| Cash                     |       | 300   |

## P1.17 Merger with Associate

(all amounts in millions)

|    |                                       |                                         |                               |
|----|---------------------------------------|-----------------------------------------|-------------------------------|
| a. | Acquisition cost                      | $\$20,103 + \$12,946$                   | $\$33,049$                    |
|    | Fair value of identifiable net assets | $\$9,779 + \$8,231 - \$1,975 - \$2,578$ | <u><math>(13,457)</math></u>  |
|    | Goodwill                              |                                         | <u><math>\\$19,592</math></u> |

- b. Using the equity method, OCI of associates is reported by the investor. When the investment is converted or sold, this OCI is reclassified out of AOCI and reported in income.

c.

|                                                        |       |       |
|--------------------------------------------------------|-------|-------|
| Investment in associates                               | 6,211 |       |
| Reclassification of OCI gains of associates (OCI)      | 199   |       |
| Gain on conversion of investment in associate (income) |       | 6,410 |

The debit to investment in associates is a plug number.

|                          |        |        |
|--------------------------|--------|--------|
| Current assets           | 8,231  |        |
| Noncurrent assets        | 9,779  |        |
| Goodwill                 | 19,592 |        |
| Current liabilities      |        | 2,578  |
| Noncurrent liabilities   |        | 1,975  |
| Cash                     |        | 20,103 |
| Investment in associates |        | 12,946 |

- d.  $\$12,946 - \$6,211$  (adjustment in c. above) =  $\$6,735$  million