
Solutions

1. C is correct. Karp's inventory under FIFO equals Karp's inventory under LIFO plus the LIFO reserve. Therefore, as of 31 December 2009, Karp's inventory under FIFO equals:

$$\begin{aligned}\text{Inventory (FIFO method)} &= \text{Inventory (LIFO method)} + \text{LIFO reserve} \\ &= \$620 \text{ million} + 155 \text{ million} \\ &= \$775 \text{ million}\end{aligned}$$

2. B is correct. Karp's cost of goods sold (COGS) under FIFO equals Karp's cost of goods sold under LIFO minus the increase in the LIFO reserve. Therefore, for the year ended 31 December 2009, Karp's cost of goods sold under FIFO equals:

$$\begin{aligned}\text{COGS (FIFO method)} &= \text{COGS (LIFO method)} - \text{Increase in LIFO reserve} \\ &= \$2,211 \text{ million} - (155 \text{ million} - 117 \text{ million}) \\ &= \$2,173 \text{ million}\end{aligned}$$

3. A is correct. Karp's net income (NI) under FIFO equals Karp's net income under LIFO plus the after-tax increase in the LIFO reserve. For the year ended 31 December 2009, Karp's net income under FIFO equals:

$$\begin{aligned}\text{NI (FIFO method)} &= \text{NI (LIFO method)} + \text{Increase in LIFO reserve} \times (1 - \text{Tax rate}) \\ &= \$247 \text{ million} + 38 \text{ million} \times (1 - 20\%) \\ &= \$277.4 \text{ million}\end{aligned}$$

Therefore, the increase in net income is:

$$\begin{aligned}\text{Increase in NI} &= \text{NI (FIFO method)} - \text{NI (LIFO method)} \\ &= \$277 \text{ million} - 247 \text{ million} \\ &= \$30.4 \text{ million}\end{aligned}$$

4. B is correct. Karp's retained earnings (RE) under FIFO equals Karp's retained earnings under LIFO plus the after-tax LIFO reserve. Therefore, for the year ended 31 December 2009, Karp's retained earnings under FIFO equals:

$$\begin{aligned}\text{RE (FIFO method)} &= \text{RE (LIFO method)} + \text{LIFO reserve} \times (1 - \text{Tax rate}) \\ &= \$787 \text{ million} + 155 \text{ million} \times (1 - 20\%) \\ &= \$911 \text{ million}\end{aligned}$$

Therefore, the increase in retained earnings is:

$$\text{Increase in RE} = \text{RE (FIFO method)} - \text{RE (LIFO method)}$$

$$= \$911 \text{ million} - 787 \text{ million}$$

$$= \$124 \text{ million}$$

5. A is correct. The cash ratio (cash and cash equivalents \div current liabilities) would be lower because cash would have been less under FIFO. Karp's income before taxes would have been higher under FIFO, and consequently taxes paid by Karp would have also been higher and cash would have been lower. There is no impact on current liabilities. Both Karp's current ratio and gross profit margin would have been higher if FIFO had been used. The current ratio would have been higher because inventory under FIFO increases by a larger amount than the cash decreases for taxes paid. Because the cost of goods sold under FIFO is lower than under LIFO, the gross profit margin would have been higher.
6. B is correct. If Karp had used FIFO instead of LIFO, the debt-to-equity ratio would have decreased. No change in debt would have occurred, but shareholders' equity would have increased as a result of higher retained earnings.
7. B is correct. Crux's adjusted inventory turnover ratio must be computed using cost of goods sold (COGS) under FIFO and excluding charges for increases in valuation allowances.

$$\text{COGS (adjusted)} = \text{COGS (LIFO method)} - \text{Charges included in cost of goods sold for inventory write-downs} - \text{Change in LIFO reserve}$$

$$= \$3,120 \text{ million} - 13 \text{ million} - (55 \text{ million} - 72 \text{ million})$$

$$= \$3,124 \text{ million}$$

Note: Minus the change in LIFO reserve is equivalent to plus the decrease in LIFO reserve. The adjusted inventory turnover ratio is computed using average inventory under FIFO.

$$\text{Ending inventory (FIFO)} = \text{Ending inventory (LIFO)} + \text{LIFO reserve}$$

$$\text{Ending inventory 2009 (FIFO)} = \$480 + 55 = \$535$$

$$\text{Ending inventory 2008 (FIFO)} = \$465 + 72 = \$537$$

$$\text{Average inventory} = (\$535 + 537)/2 = \$536$$

Therefore, adjusted inventory turnover ratio equals:

$$\text{Inventory turnover ratio} = \text{COGS/Average inventory} = \$3,124/\$536 = 5.83$$

8. B is correct. Rolby's adjusted net profit margin must be computed using net income (NI) under FIFO and excluding charges for increases in valuation allowances.

$$\text{NI (adjusted)} = \text{NI (FIFO method)} + \text{Charges, included in cost of goods sold for inventory write-downs, after tax}$$

$$= \$327 \text{ million} + 15 \text{ million} \times (1 - 30\%)$$

= \$337.5 million

Therefore, adjusted net profit margin equals:

$$\text{Net profit margin} = \text{NI/Revenues} = \$337.5/\$5,442 = 6.20\%$$

9. A is correct. Mikko's adjusted debt-to-equity ratio is lower because the debt (numerator) is unchanged and the adjusted shareholders' equity (denominator) is higher. The adjusted shareholders' equity corresponds to shareholders' equity under FIFO, excluding charges for increases in valuation allowances. Therefore, adjusted shareholders' equity is higher than reported (unadjusted) shareholders' equity.
10. C is correct. Mikko's and Crux's gross margin ratios would better reflect the current gross margin of the industry than Rolby because both use LIFO. LIFO recognizes as cost of goods sold the cost of the most recently purchased units, therefore, it better reflects replacement cost. However, Mikko's gross margin ratio best reflects the current gross margin of the industry because Crux's LIFO reserve is decreasing. This could reflect a LIFO liquidation by Crux which would distort gross profit margin.
11. B is correct. The FIFO method shows a higher gross profit margin than the LIFO method in an inflationary scenario, because FIFO allocates to cost of goods sold the cost of the oldest units available for sale. In an inflationary environment, these units are the ones with the lowest cost.
12. A is correct. An inventory write-down increases cost of sales and reduces profit and reduces the carrying value of inventory and assets. This has a negative effect on profitability and solvency ratios. However, activity ratios appear positively affected by a write-down because the asset base, whether total assets or inventory (denominator), is reduced. The numerator, sales, in total asset turnover is unchanged, and the numerator, cost of sales, in inventory turnover is increased. Thus, turnover ratios are higher and appear more favorable as the result of the write-down.
13. B is correct. Finished goods least accurately reflect current prices because some of the finished goods are valued under the "last-in, first-out" ("LIFO") basis. The costs of the newest units available for sale are allocated to cost of goods sold, leaving the oldest units (at lower costs) in inventory. ZP values raw materials and work in process using the weighted average cost method. While not fully reflecting current prices, some inflationary effect will be included in the inventory values.
14. C is correct. FIFO inventory = Reported inventory + LIFO reserve = ¥608,572 + 10,120 = ¥618,692. The LIFO reserve is disclosed in Note 2 of the notes to consolidated financial statements.
15. A is correct. The SEC does not require companies to use the same inventory valuation method for all inventories, so this is the *least likely* reason to change accounting policies regarding inventory. The SEC is currently evaluating whether all US companies should be required to adopt IFRS. If the SEC requires companies to adopt IFRS, the LIFO method of inventory valuation would no longer be allowed.
16. A is correct. The inventory turnover ratio would be lower. The average inventory would be higher under FIFO and cost of products sold would be lower by the increase in LIFO reserve. LIFO is not permitted under IFRS.

$$\text{Inventory turnover ratio} = \text{Cost of products sold} \div \text{Average inventory}$$

2009 inventory turnover ratio as reported = $10.63 = \text{¥}5,822,805 / [(608,572 + 486,465) / 2]$.

2009 inventory turnover ratio adjusted to FIFO as necessary = $10.34 = [\text{¥}5,822,805 - (19,660 - 10,120)] / [(608,572 + 10,120 + 486,465 + 19,660) / 2]$.

17. A is correct. No LIFO liquidation occurred during 2009; the LIFO reserve increased from ¥10,120 million in 2008 to ¥19,660 million in 2009. Management stated in the MD&A that the decrease in inventories reflected the impacts of decreased sales volumes and fluctuations in foreign currency translation rates.
18. C is correct. Finished goods and raw materials inventories are lower in 2009 when compared to 2008. Reduced levels of inventory typically indicate an anticipated business contraction.
19. B is correct. The decrease in LIFO inventory in 2009 would typically indicate that more inventory units were sold than produced or purchased. Accordingly, one would expect a liquidation of some of the older LIFO layers and the LIFO reserve to decrease. In actuality, the LIFO reserve *increased* from ¥10,120 million in 2008 to ¥19,660 million in 2009. This is not to be expected and is likely caused by the increase in prices of raw materials, other production materials, and parts of foreign currencies as noted in the MD&A. An analyst should seek to confirm this explanation.
20. B is correct. If prices have been decreasing, write-downs under FIFO are least likely to have a significant effect because the inventory is valued at closer to the new, lower prices. Typically, inventories valued using LIFO are less likely to incur inventory write-downs than inventories valued using weighted average cost or FIFO. Under LIFO, the *oldest* costs are reflected in the inventory carrying value on the balance sheet. Given increasing inventory costs, the inventory carrying values under the LIFO method are already conservatively presented at the oldest and lowest costs. Thus, it is far less likely that inventory write-downs will occur under LIFO; and if a write-down does occur, it is likely to be of a lesser magnitude.

Solutions

1. C is correct. Expensing rather than capitalising an investment in long-term assets will result in higher expenses and lower net income and net profit margin in the current year. Future years' incomes will not include depreciation expense related to these expenditures. Consequently, year-to-year growth in profitability will be higher. If the expenses had been capitalised, the carrying amount of the assets would have been higher and the 2009 total asset turnover would have been lower.
2. C is correct. In 2010, switching to an accelerated depreciation method would increase depreciation expense and decrease income before taxes, taxes payable, and net income. Cash flow from operating activities would increase because of the resulting tax savings.
3. B is correct. 2009 net income and net profit margin are lower because of the impairment loss. Consequently, net profit margins in subsequent years are likely to be higher. An impairment loss suggests that insufficient depreciation expense was recognized in prior years, and net income was overstated in prior years. The impairment loss is a non-cash item and will not affect operating cash flows.
4. A is correct. The estimated average remaining useful life is 20.75 years.

Estimate of remaining useful life = Net plant and equipment ÷ Annual depreciation expense

Net plant and equipment = Gross P & E – Accumulated depreciation

$$= €6000 - €1850 = €4150$$

Estimate of remaining useful life = Net P & E ÷ Depreciation expense

$$= €4150 \div €200 = 20.75$$

5. A is correct. When leases are classified as finance leases, the lessee initially reports an asset and liability at a carrying amount equal to the lower of the fair value of the leased asset or the present value of the future lease payments. Under an operating lease, the lessee does not report an asset or liability. Therefore, total asset turnover (total revenue ÷ average total assets) would be lower if the leases were classified as finance leases.
6. C is correct. Total liabilities-to-assets would be higher. When leases are classified as finance leases, the lessee initially reports an asset and liability at a carrying amount equal to the lower of the fair value of the leased asset or the present value of the future lease payments. Both the numerator and denominator would increase by an equal amount, but the proportional increase in the numerator is higher and the ratio would be higher. The following exhibit shows what would happen to 2009 total liabilities, assets, and total liabilities-to-assets if €200 million, the fair value of the leased equipment, is added to AMRC's total liabilities and assets. This simple example ignores the impact of accounting for the 2009 lease payment.

	2009 Actual Under Operating Lease	2009 Hypothetical Under Finance Lease
Total liabilities	€2,750	€2,950
Total assets	€5,350	€5,550
Total liabilities-to- assets	51.4%	53.2%

The depreciation and interest expense under a finance lease tends to be higher than the operating lease payment in the early years of the lease. The finance lease would result in lower net income and net profit margin. Long-lived (fixed) assets are higher under a finance lease and fixed asset turnover is lower.

7. C is correct. The decision to capitalise the costs of the new computer system results in higher cash flow from operating activities; the expenditure is reported as an outflow of investing activities. The company allocates the capitalised amount over the asset's useful life as depreciation or amortisation expense rather than expensing it in the year of expenditure. Net income and total assets are higher in the current fiscal year.
8. B is correct. Alpha's fixed asset turnover will be lower because the capitalised interest will appear on the balance sheet as part of the asset being constructed. Therefore, fixed assets will be higher and the fixed asset turnover ratio (total revenue/average net fixed assets) will be lower than if it had expensed these costs. Capitalised interest appears on the balance sheet as part of the asset being constructed instead of being reported as interest expense in the period incurred. However, the interest coverage ratio should be based on interest payments, not interest expense (earnings before interest and taxes/interest payments), and should be unchanged. To provide a true picture of a company's interest coverage, the entire amount of interest expenditure, both the capitalised portion and the expensed portion, should be used in calculating interest coverage ratios.
9. C is correct. The cash flow from operating activities will be lower, not higher, because the full lease payment is treated as an operating cash outflow. With a finance lease, only the portion of the lease payment relating to interest expense potentially reduces operating cash outflows. A company reporting a lease as an operating lease will typically show higher profits in early years, because the lease expense is less than the sum of the interest and depreciation expense. The company reporting the lease as an operating lease will typically report stronger solvency and activity ratios.
10. A is correct. Accelerated depreciation will result in an improving, not declining, net profit margin over time, because the amount of depreciation expense declines each year. Under straight-line depreciation, the amount of depreciation expense will remain the same each year. Under the units-of-production method, the amount of depreciation expense reported each year varies with the number of units produced.
11. B is correct. The estimated average total useful life of a company's assets is calculated by adding the estimates of the average remaining useful life and the average age of the assets. The average age of the assets is estimated by dividing accumulated depreciation by depreciation expense. The average remaining useful life of the asset base is estimated by dividing net property, plant, and equipment by annual depreciation expense.

- 12.** C is correct. The impairment loss is a non-cash charge and will not affect cash flow from operating activities. The debt to total assets and fixed asset turnover ratios will increase, because the impairment loss will reduce the carrying amount of fixed assets and therefore total assets.
- 13.** A is correct. In an asset revaluation, the carrying amount of the assets increases. The increase in the asset's carrying amount bypasses the income statement and is reported as other comprehensive income and appears in equity under the heading of revaluation surplus. Therefore, shareholders' equity will increase but net income will not be affected, so return on equity will decline. Return on assets and debt to capital ratios will also decrease.

Solutions

1. A is correct. Dividends from equity securities that are classified as available-for-sale are included in income when earned. Cinnamon would record its 19 percent share of the dividends paid by Cambridge; this is £3.8 million ($£20 \times 0.19$). Though the value of Cinnamon's stake in Cambridge Processing rose by £2 million during the year, under IFRS any unrealized gains or losses for available-for-sale securities are reported in the equity section of the balance sheet as part of other comprehensive income until the securities are sold.
2. B is correct. If Cinnamon is deemed to have control over Cambridge, it would use the acquisition method to account for Cambridge and prepare consolidated financial statements. Proportionate consolidation is used for joint ventures; the equity method is used for some joint ventures and when there is significant influence but not control.
3. A is correct. If Cinnamon is deemed to have control over Cambridge, consolidated financial statements would be prepared and Cinnamon's shareholders' equity would increase and include the amount of the noncontrolling interest. If Cinnamon is deemed to have significant influence, the equity method would be used and there would be no change in the shareholders' equity of Cinnamon.
4. C is correct. If Cinnamon is deemed to have significant influence, it would report half of Cambridge's net income as a line item on its income statement, but no additional revenue is shown. Its profit margin is thus higher than if it consolidated Cambridge's results, which would impact revenue and income, or if it only reported 19 percent of Cambridge's dividends (no change in ownership).
5. C is correct. The full and partial goodwill method will have the same amount of debt; however, shareholders' equity will be higher under full goodwill (and the debt to equity ratio will be lower). Therefore, the debt to equity will be higher under partial goodwill. If control is assumed, Cinnamon cannot use the equity method.
6. A is correct. Cambridge has a lower operating margin ($88/1,100 = 8.0\%$) than Cinnamon ($142/1,575 = 9.0\%$). If Cambridge's results are consolidated with Cinnamon's, the consolidated operating margin will reflect that of the combined company, or $230/2,675 = 8.6\%$.
7. B is correct. Oxbow was classified as a held for trading security. Held for trading securities are reported at fair value, with unrealized gains and losses included in income. The income statement also includes dividends from equity securities that are classified as held for trading. The €3 million decline in the value of Zimt's stake would reduce income by that amount. Zimt would record its share of the dividends paid ($0.1 \times €20 \text{ million} = €2 \text{ million}$). The net effect of Zimt's stake in Oxbow Limited would be to reduce Zimt's income before taxes by €1 million for 2009.
8. A is correct. When a company is deemed to have control of another entity, it records all of the other entity's assets on its own consolidated balance sheet.

9. B is correct. If Zimt is deemed to have significant influence, it would use the equity method to record its ownership. Under the equity method, Zimt's share of Oxbow's net income would be recorded as a single line item. Net income of Zimt = $75 + 0.5(68) = 109$.
10. B is correct. Under the proportionate consolidation method, Zimt's balance sheet would show its own total liabilities of $€1,421 - 735 = €686$ plus half of Oxbow's liabilities of $€1,283 - 706 = €577$. $€686 + (0.5 \times 577) = €974.5$.
11. C is correct. Under the assumption of control, Zimt would record its own sales plus 100 percent of Oxbow's. $€1,700 + 1,350 = €3,050$.
12. C is correct. Net income is not affected by the accounting method used to account for active investments in other companies. "One-line consolidation" and consolidation result in the same impact on net income; it is the disclosure that differs.
13. C is correct. Held for trading and available-for-sale securities are carried at market value, whereas held-to-maturity securities are carried at historical cost. $€28,000 + 40,000 + 50,000 = €118,000$.
14. C is correct. If Dumas had been classified as a held for trading security, its carrying value would have been the $€55,000$ fair value rather than the $€50,000$ historical cost.
15. B is correct. The coupon payment is recorded as interest income whether securities are held-to-maturity or available-for-sale. No adjustment is required for amortization since the bonds were bought at par.
16. B is correct. Unrealized gains and losses are included in income when securities are classified as held for trading securities. During 2009 there was an unrealized loss of $€1,000$.
17. B is correct. The difference between historical cost and par value must be amortized under the effective interest method. If the par value is less than the initial cost (stated interest rate is greater than the effective rate), the interest income would be lower than the interest received because of amortization of the premium.
18. B is correct. Under IFRS, SPEs must be consolidated if they are conducted for the benefit of the sponsoring entity. Further, under IFRS, SPEs cannot be classified as qualifying. Under US GAAP, qualifying SPEs (a classification which has been eliminated) do not have to be consolidated.
19. B is correct. Statewide Medical was accounted for under the pooling of interest method, which causes all of Statewide's assets and liabilities to be reported at historical book value. The excess of assets over liabilities generally is lower using the historical book value method than using the fair value method (this latter method must be used under currently required acquisition accounting). It would have no effect on revenue.
20. A is correct. Under the equity method, BetterCare would record its interest in the joint venture's net profit as a single line item, but would show no line-by-line contribution to revenues or expenses.
21. C is correct. Net income will be the same under the equity method and proportional consolidation. However, sales, cost of sales, and expenses are different because under the

equity method the net effect of sales, cost of sales, and expenses is reflected in a single line.

22. B is correct. Under the proportionate consolidation method, Supreme Healthcare's consolidated financial statements will include its 50 percent share of the joint venture's total assets.
23. C is correct. The choice of equity method or proportionate consolidation does not affect reported shareholders' equity.
24. C is correct. Although Supreme Healthcare has no voting interest in the SPE, it is expected to absorb any losses that the SPE incurs. Therefore, Supreme Healthcare "in substance" controls the SPE and would consolidate it. On the consolidated balance sheet, the accounts receivable balance will be the same since the sale to the SPE will be reversed upon consolidation.
25. A is correct. The current ratio using the equity method of accounting is $\text{Current assets/Current liabilities} = \text{£}250/\text{£}110 = 2.27$. Using consolidation (either full or partial goodwill), the current ratio = $\text{£}390/\text{£}200 = 1.95$. Therefore, the current ratio is highest using the equity method.
26. A is correct. Using the equity method, long-term debt to equity = $\text{£}600/\text{£}1,430 = 0.42$. Using the consolidation method, long-term debt to equity = $\text{long-term debt/equity} = \text{£}1,000/\text{£}1,750 = 0.57$. Equity includes the £320 noncontrolling interest under either consolidation. It does not matter if the full or partial goodwill method is used since there is no goodwill.
27. C is correct. The projected depreciation and amortization expense will include NinMount's reported depreciation and amortization (£102), Boswell's reported depreciation and amortization (£92), and amortization of Boswell's licenses (£10 million). The licenses have a fair value of £60 million. £320 purchase price indicates a fair value of £640 for the net assets of Boswell. The net book (fair) value of the recorded assets is £580. The previously unrecorded licenses have a fair value of £60 million. The licenses have a remaining life of six years; the amortization adjustment for 2008 will be £10 million. Therefore, Projected depreciation and amortization = $\text{£}102 + \text{£}92 + \text{£}10 = \text{£}204$ million.
28. A is correct. Net income is the same using any of the methods but under the equity method, net sales are only £950; Boswell's sales are not included in the net sales figure. Therefore, net profit margin is highest using the equity method.
29. A is correct. Net income is the same using any of the choices. Beginning equity under the equity method is £1,430. Under either of the consolidations, beginning equity is £1,750 since it includes the £320 noncontrolling interest. Return on beginning equity is highest under the equity method.
30. A is correct. Using the equity method, Total asset turnover = $\text{Net sales/Beginning total assets} = \text{£}950/\text{£}2,140 = 0.444$. Total asset turnover on beginning assets using consolidation = $\text{£}1,460/\text{£}2,950 = 0.495$. Under consolidation, Assets = $\text{£}2,140 - 320 + 1,070 + 60 = \text{£}2,950$. Therefore, total asset turnover is lowest using the equity method.

Solutions

1. B is correct. The £28,879 million year-end benefit obligation represents the defined benefit obligation.
2. C is correct. The net interest expense of £273 million represents the interest cost on the beginning net pension obligation (beginning funded status) using the discount rate that the company uses in estimating the present value of its pension obligations. This is calculated as $-\text{£}4,984 \text{ million} \times 5.48 \text{ percent} = -\text{£}273 \text{ million}$; this represents an interest expense on the amount that the company essentially owes the pension plan.
3. C is correct. The remeasurement component of periodic pension cost includes both actuarial gains and losses on the pension obligation and net return on plan assets. Because Kensington does not have any actuarial gains and losses on the pension obligation, the remeasurement component includes only net return on plan assets. In practice, actuarial gains and losses are rarely equal to zero. The net return on plan assets is equal to actual returns minus beginning plan assets times the discount rate, or $\text{£}1,302 \text{ million} - (\text{£}23,432 \text{ million} \times 0.0548) = \text{£}18 \text{ million}$.
4. A is correct. The actual return on plan assets was $1,302/23,432 = 0.0556$, or 5.56 percent. The rate of return included in the interest income/expense is the discount rate, which is given in this example as 5.48 percent.

The rate of 1.17 percent, calculated as the net interest income divided by beginning plan assets, is not used in pension cost calculations.

5. C is correct. Under IFRS, the component of periodic pension cost that is shown in OCI rather than P&L is remeasurments.
6. A is correct. The relation between the periodic pension cost and the plan's funded status can be expressed as $\text{Periodic pension cost} = \text{Ending funded status} - \text{Employer contributions} - \text{Beginning funded status}$.
7. B is correct. Kensington's periodic pension cost was £483. The company's contributions to the plan were £693. The £210 difference between these two numbers can be viewed as a reduction of the overall pension obligation. To adjust the statement of cash flows to reflect this view, an analyst would reclassify the £210 million (excluding income tax effects) as an outflow related to financing activities rather than operating activities.
8. C is correct. The retirement benefits paid during the year were closest to 4,000. The beginning obligation plus current and past service costs plus interest expense plus increase in obligation due to actuarial loss less ending obligation equals benefits paid ($= 42,000 + 200 + 120 + (42,000 \times 0.07) + 460 - 41,720 = 4,000$). Beginning plan assets plus contributions plus actual return on plan assets less ending plan assets equals benefits paid ($= 39,000 + 1,000 + 2,700 - 38,700 = 4,000$).
9. B is correct. The total periodic pension cost is the change in the net pension liability adjusted for the employer's contribution into the plan. The net pension liability increased

from 3,000 to 3,020, and the employer's contribution was 1,000. The total periodic pension cost is 1,020. This will be allocated between P&L and OCI.

10. B is correct. Under IFRS, the components of periodic pension cost that would be reported in P&L are the service cost (composed of current service and past service costs) and the net interest expense or income, calculated by multiplying the net pension liability or net pension asset by the discount rate used to measure the pension liability. Here, the service costs are 320 (= 200 + 120) and the net interest expense is 210 [= (42,000 – 39,000) × 7%]. Thus, the total periodic pension cost is equal to 530.
11. A is correct. Under US GAAP—assuming the company chooses not to immediately recognise the actuarial loss and assuming there is no amortisation of past service costs or actuarial gains and losses—the components of periodic pension cost that would be reported in P&L include the current service cost of 200, the interest expense on the pension obligation at the beginning of the period of 2,940 (= 7.0% × 42,000), and the expected return on plan assets, which is a reduction of the cost of 3,120 (= 8.0% × 39,000). Summing these three components gives 20.
12. B is correct. The component of periodic pension cost that would be reported in OCI is the remeasurements component. It consists of actuarial gains and losses on the pension obligation and net return on plan assets. Here, the actuarial loss was 460. In addition, the actual return on plan assets was 2,700, which was 30 lower than the return of 2,730 (= 39,000 × 0.07) incorporated in the net interest income/expense. Therefore, the total remeasurements are 490.
13. A is correct. In 2009, XYZ used a lower volatility assumption than it did in 2008. Lower expected volatility reduces the fair value of an option and thus the reported expense. Using the 2008 volatility estimate would have resulted in higher expense and thus lower net income.
14. C is correct. The assumed long-term rate of return on plan assets is not a component that is used in calculating the pension obligation, so there would be no change.
15. B is correct. A higher discount rate (5.38 percent instead of 4.85 percent) will reduce the present value of the pension obligation (liability). In most cases, a higher discount rate will decrease the interest cost component of the net periodic cost because the decrease in the obligation will more than offset the increase in the discount rate (except if the pension obligation is of short duration). Therefore, periodic pension cost would have been lower and reported net income higher. Cash flow from operating activities should not be affected by the change.
16. B is correct. In 2009, the three relevant assumptions were lower than in 2008. Lower expected salary increases reduce the service cost component of the periodic pension cost. A lower discount rate will increase the defined benefit obligation and increase the interest cost component of the periodic pension cost (the increase in the obligation will, in most cases, more than offset the decrease in the discount rate). Reducing the expected return on plan assets typically increases the periodic pension cost.
17. A is correct. The company's inflation estimate rose from 2008 to 2009. However, it lowered its estimate of future salary increases. Normally, salary increases will be positively related to inflation.

- 18.** B is correct. A higher volatility assumption increases the value of the stock option and thus the compensation expense, which, in turn, reduces net income. There is no associated liability for stock options.
- 19.** C is correct. A higher dividend yield reduces the value of the option and thus option expense. The lower expense results in higher earnings. Higher risk-free rates and expected lives result in higher call option values.

Solutions

1. B is correct. IAS 21 requires that the financial statements of the foreign entity first be restated for local inflation using the procedures outlined in IAS 29, "Financial Reporting in Hyperinflationary Economies." Then, the inflation-restated foreign currency financial statements are translated into the parent's presentation currency using the current exchange rate. Under US GAAP, the temporal method would be used with no restatement.
2. B is correct. Ruiz expects the EUR to appreciate against the UAH and expects some inflation in the Ukraine. In an inflationary environment, FIFO will generate a higher gross profit than weighted-average cost. For either inventory choice, the current rate method will give higher gross profit to the parent company if the subsidiary's currency is depreciating. Thus, using FIFO and translating using the current rate method will generate a higher gross profit for the parent company, Eurexim SA, than any other combination of choices.
3. B is correct. If the parent's currency is chosen as the functional currency, the temporal method must be used. Under the temporal method, fixed assets are translated using the rate in effect at the time the assets were acquired.
4. C is correct. Monetary assets and liabilities such as accounts receivable are translated at current (end-of-period) rates regardless of whether the temporal or current rate method is used.
5. B is correct. When the foreign currency is chosen as the functional currency, the current rate method is used. All assets and liabilities are translated at the current (end-of-period) rate.
6. C is correct. When the foreign currency is chosen as the functional currency, the current rate method must be used and all gains or losses from translation are reported as a cumulative translation adjustment to shareholder equity. When the foreign currency decreases in value (weakens), the current rate method results in a negative translation adjustment in stockholders' equity.
7. B is correct. When the parent company's currency is used as the functional currency, the temporal method must be used to translate the subsidiary's accounts. Under the temporal method, monetary assets and liabilities (e.g., debt) are translated at the current (year-end) rate, non-monetary assets and liabilities measured at historical cost (e.g., inventory) are translated at historical exchange rates, and non-monetary assets and liabilities measured at current value are translated at the exchange rate at the date when the current value was determined. Because beginning inventory was sold first and sales and purchases were evenly acquired, the average rate is most appropriate for translating inventory and $C\$77 \text{ million} \times 0.92 = \71 million . Long-term debt is translated at the year-end rate of 0.95. $C\$175 \text{ million} \times 0.95 = \166 million .

8. B is correct. Translating the 20X2 balance sheet using the temporal method, as is required in this instance, results in assets of US\$369 million. The translated liabilities and common stock are equal to US\$325 million, meaning that the value for 20X2 retained earnings is US\$369 million – US\$325 million = US\$44 million.

Temporal Method (20X2)			
Account	C\$	Rate	US\$
Cash	135	0.95	128
Accounts receivable	98	0.95	93
Inventory	77	0.92	71
Fixed assets	100	0.86	86
Accumulated depreciation	(10)	0.86	(9)
Total assets	400		369
Accounts payable	77	0.95	73
Long-term debt	175	0.95	166
Common stock	100	0.86	86
Retained earnings	48	to balance	44
Total liabilities and shareholders' equity	400		369

9. C is correct. The Canadian dollar would be the appropriate reporting currency when substantially all operating, financing, and investing decisions are based on the local currency. The parent country's inflation rate is never relevant. Earnings manipulation is not justified, and at any rate changing the functional currency would take the gains off of the income statement.
10. C is correct. If the functional currency were changed from the parent currency (US dollar) to the local currency (Canadian dollar), the current rate method would replace the temporal method. The temporal method ignores unrealized gains and losses on non-monetary assets and liabilities, but the current rate method does not.
11. B is correct. If the Canadian dollar is chosen as the functional currency, the current rate method will be used and the current exchange rate will be the rate used to translate all assets and liabilities. Currently, only monetary assets and liabilities are translated at the current rate. Sales are translated at the average rate during the year under either method. Fixed assets are translated using the historical rate under the temporal method but would switch to current rates under the current rate method. Therefore, there will most likely be an effect on sales/fixed assets. Because the cash ratio involves only monetary assets and liabilities, it is unaffected by the translation method. Receivables turnover pairs a monetary asset with sales and is thus also unaffected.
12. B is correct. If the functional currency were changed, then Consol-Can would use the current rate method and the balance sheet exposure would be equal to net assets (total assets – total liabilities). In this case, $400 - 77 - 175 = 148$.
13. B is correct. Julius is using the current rate method, which is most appropriate when it is operating with a high degree of autonomy.

14. A is correct. If the current rate method is being used (as it is for Julius), the local currency (euro) is the functional currency. When the temporal method is being used (as it is for Augustus), the parent company's currency (US dollar) is the functional currency.
15. C is correct. When the current rate method is being used, all currency gains and losses are recorded as a cumulative translation adjustment to shareholder equity.
16. C is correct. Under the current rate method, all assets are translated using the year-end 20X2 (current) rate of \$1.61/€1.00. $€2,300 \times 1.61 = \$3,703$.
17. A is correct. Under the current rate method, both sales and cost of goods sold would be translated at the 20X2 average exchange rate. The ratio would be the same as reported under the euro. $€2,300 - €1,400 = €900$, $€900/€2,300 = 39.1\%$. Or, $\$3,542 - \$2,156 = \$1,386$, $\$1,386/\$3,542 = 39.1\%$.
18. C is correct. Augustus is using the temporal method in conjunction with FIFO inventory accounting. If FIFO is used, ending inventory is assumed to be composed of the most recently acquired items, and thus inventory will be translated at relatively recent exchange rates. To the extent that the average weight used to translate sales differs from the historical rate used to translate inventories, the gross margin will be distorted when translated into US dollars.
19. C is correct. If the US dollar is the functional currency, the temporal method must be used. Revenues and receivables (monetary asset) would be the same under either accounting method. Inventory and fixed assets were purchased when the US dollar was stronger, so at historical rates (temporal method), translated they would be lower. Identical revenues/lower fixed assets would result in higher fixed-asset turnover.
20. A is correct. If the US dollar is the functional currency, the temporal method must be used, and the balance sheet exposure will be the net monetary assets of $125 + 230 - 185 - 200 = -30$, or a net monetary liability of SGD30 million. This net monetary liability would be eliminated if fixed assets (non-monetary) were sold to increase cash. Issuing debt, either short-term or long-term, would increase the net monetary liability.
21. A is correct. Because the US dollar has been consistently weakening against the Singapore dollar, cost of sales will be lower and gross profit higher when an earlier exchange rate is used to translate inventory, compared with using current exchange rates. If the Singapore dollar is the functional currency, current rates would be used. Therefore, the combination of the US dollar (temporal method) and FIFO will result in the highest gross profit margin.
22. A is correct. Under the current rate method, revenue is translated at the average rate for the year, $SGD4,800 \times 0.662 = USD3,178$ million. Debt should be translated at the current rate, $SGD200 \times 0.671 = USD134$ million. Under the current rate method, Acceletron would have a net asset balance sheet exposure. Because the Singapore dollar has been strengthening against the US dollar, the translation adjustment would be positive rather than negative.
23. B is correct. Under the temporal method, inventory and fixed assets would be translated using historical rates. Accounts receivable is a monetary asset and would be translated at year-end (current) rates. Fixed assets are found as $(1,000 \times 0.568) + (640 \times 0.606) = USD 956$ million.

24. B is correct. USD0.671/SGD is the current exchange rate. That rate would be used regardless of whether Acceletron uses the current rate or temporal method. USD0.654 was the weighted-average rate when inventory was acquired. That rate would be used if the company translated its statements under the temporal method but not the current rate method. USD0.588/SGD was the exchange rate in effect when long-term debt was issued. As a monetary liability, long-term debt is always translated using current exchange rates. Consequently, that rate is not applicable regardless of how Acceletron translates its financial statements.

Solutions

1. B is correct. Stellar's financial statements are GAAP compliant (Conclusion 1) but cannot be relied upon to assess earnings quality. There is evidence of earnings management: understating and overstating earnings depending upon the results of the period (Conclusion 1), understated amortizable intangibles (Conclusion 2), and a high accruals component in the company's earnings (Conclusion 3).
2. C is correct. Martinez believes that Stellar most likely understated the value of amortizable intangibles when recording the acquisition of a rival company last year. Impairment charges have not been taken since the acquisition (Conclusion 2). Consequently, the company's earnings are likely to be overstated because amortization expense is understated. This understatement has not been offset by an impairment charge.
3. B is correct. Martinez concluded that the accruals component of Stellar's earnings was large relative to the cash component (Conclusion 3). Earnings with a larger component of accruals are typically less persistent and of lower quality. An important distinction is between accruals that arise from normal transactions in the period (called non-discretionary) and accruals that result from transactions or accounting choices outside the normal (called discretionary accruals). The discretionary accruals are possibly made with the intent to distort reported earnings. Outlier discretionary accruals are an indicator of possibly manipulated—and thus low quality earnings. Thus, Martinez is primarily focused on discretionary accruals, particularly outlier discretionary accruals (referred to as abnormal accruals).
4. B is correct. Because accounts receivable will be lower than reported in the past, Stellar's DSO $[\text{Accounts receivable}/(\text{Revenues}/365)]$ will decrease. Stellar's accounts receivable turnover $(365/\text{days' sales outstanding})$ will increase with the lower DSO, giving the false impression of a faster turnover. The company's current ratio will decrease (current assets will decrease with no change in current liabilities).

Solutions

1. A is correct. The capitalized value of Silk Road's leases, the amount by which assets would increase, is estimated as the present value of the operating lease expense (payments). The present value of 8 payments of 213 at 6.5 percent is 1,297.
2. B is correct. Adjusted EBIT = EBIT + Lease expense – Adjustment to depreciation = 318 + 213 – (1,297/8) = 369. Adjusted interest expense = Interest expense + Assumed interest expense on leases = 21 + (0.065 × 1,297) = 105.3. Adjusted interest coverage ratio = 369/105.3 = 3.50.
3. C is correct. The capitalized value of the leases is added to assets and liabilities but does not impact equity. On an adjusted basis, Silk Road's financial leverage ratio = (2,075 + 1,297)/1,156 = 2.92.
4. A is correct. Without the accounting change, Colorful Concepts has a financial leverage ratio = 3,844/2,562 = 1.50 and an interest coverage ratio = 865/35 = 24.71. These are both passing ratios. With the accounting change, the capitalized value of Colorful Concept's leases is 2,472. The financial leverage ratio = (3,844 + 2,472)/2,562 = 2.46 and the interest coverage ratio = [865 + 406 – (2,472/8)]/[35 + (2,472 × 0.065)] = 4.91. These are both failing ratios. The change in interest rate coverage is particularly dramatic.
5. A is correct. Silk Road has higher unadjusted and adjusted financial leverage ratios and lower unadjusted and adjusted interest coverage ratios than Colorful Concepts. Silk Road is riskier based on the financial leverage and interest coverage ratios, so it should have a lower bond rating.
6. B is correct. The investment in Exotic Imports is accounted for using the equity method and 20 percent of Exotic Import's net income is included in the net income of Colorful Concepts. The net profit margin excluding the investment in Exotic Imports is (528 – 21)/7,049 = 7.2 percent. (If the investment in Exotic Imports is included, net profit margin is 7.5 percent.)
7. B is correct. The asset turnover ratio (sales/average total assets) without adjustment is 7,049/3,844 = 1.83. To compute the asset turnover ratio excluding investments in associates, the average investment in associates [(204 + 188)/2 = 196] is deducted from average total assets. The adjusted asset turnover ratio is 7,049/(3,844 – 196) = 1.93. The asset turnover ratio increased by 0.10.
8. C is correct. The calculation for interest coverage is EBIT/interest expense, neither of which is affected by the investment in associates.
9. C is correct. The ROE has been trending higher. ROE can be calculated by multiplying (net profit margin) × (asset turnover) × (financial leverage). Net profit margin is net income/sales. In 2007 the net profit margin was 2,576/55,781 = 4.6% and the ROE = 4.6% × 0.68 × 3.43 = 10.8%. Using the same method, ROE was 12.9 percent in 2008 and 13.6 percent in 2009.

10. A is correct. The DuPont analysis shows that profit margins and asset turnover have both increased over the last three years, but leverage has declined. The reduction in leverage offsets a portion of the improvement in profitability and turnover. Thus, ROE would have been higher if leverage had not decreased.
11. B is correct. The Power and Industrial segment has the lowest EBIT margins but uses about 31 percent of the capital employed. Further, Power and Industrial's proportion of the capital expenditures has increased from 32 percent to 36 percent over the three years. Its capital intensity only looked to get worse, as the segment's percentage of total capital expenditures was higher than its percentage of total capital in each of the three years. If Abay is considering divesting segments that do not earn sufficient returns on capital employed, this segment is most suitable.
12. A is correct. The cash-flow-based accruals ratio = $[NI - (CFO + CFI)] / (\text{Average NOA}) = [4,038 - (9,822 - 10,068)] / 43,192 = 9.9\%$.
13. A is correct. The cash-flow-based accruals ratio falls from 11.0 percent in 2007 to 5.9 percent in 2008, and then rises to 9.9 percent in 2009. However, the change over the three-year period is a net modest decline, indicating a slight improvement in earnings quality.
14. B is correct. Net cash flow provided by (used in) operating activity has to be adjusted for interest and taxes, as necessary, in order to be comparable to operating income (EBIT). Bickchip, reporting under IFRS, chose to classify interest expense as a financing cash flow so the only necessary adjustment is for taxes. The operating cash flow before interest and taxes = $9,822 + 1,930 = 11,752$. Dividing this by EBIT of 6,270 yields 1.9.
15. A is correct. Operating cash flow before interest and taxes to operating income rises steadily (not erratically) from 1.2 to 1.3 to 1.9. The ratios over 1.0 and the trend indicate that earnings are supported by cash flow.
16. A is correct. The leverage ratio is measured as total assets/total equity. As reported, this was $\$3,610,600 / \$976,500 = 3.70$. Had the securitized receivables been held on the balance sheet, assets would have been \$267,500 higher, or \$3,878,100, and equity would have been unchanged. The ratio would then have been 3.97. The ratio of 3.70 as reported is 6.8 percent less than 3.97: $1 - 3.7/3.97 = 0.068$.
17. B is correct. If the receivables had been held on the balance sheet, both assets and liabilities would have been \$267,500 higher: $\$2,901,600 / \$3,878,100 = 74.8\%$.
18. A is correct. PDQ owns 20 percent of Astana ($0.2 \times 298,350 = \$59,670$). Translated at the current exchange rate of \$1.62 per euro that is €36,833. $36,833 / 563,355 = 0.0654$ or 6.5%.
19. A is correct. PDQ's solo market capitalization is $563,355 - 36,833 = 526,522$. To calculate its solo net income, because Astana is accounted for using the equity method, 20 percent of Astana's net income of \$9,945 is translated at the average exchange rate of \$1.55/€ and deducted from PDQ's net income to produce €26,884 in adjusted net income for PDQ. $P/E = 526,522 / 26,884 = 19.6$.
20. B is correct. Adjusted financial statements are created during the data processing phase of the financial analysis process.

- 21.** A is correct. Estimates of Astana's impact on PDQ's financial statements are crude due to the potential differences in accounting standards used by the two firms. Based on the currencies each reports in, Astana is likely using US GAAP and PDQ is likely using IFRS. Pricing (market capitalization) should reflect the other potential differences.