Chapter 13: Investment Centers and Transfer Pricing

MULTIPLE CHOICE QUESTIONS

1. The biggest challenge in making a decentralized organization function effectively is:
   A. earning maximum profits through fair practices.
   B. minimizing losses.
   C. taking advantage of the specialized knowledge and skills of highly talented managers.
   D. obtaining goal congruence among division managers.
   E. developing an adequate budgetary control system.

   Answer: D LO: 1 Type: RC

2. What practice is present when divisional managers throughout an organization work together in an effort to achieve the organization's goals?
   A. Participatory management.
   B. Goal attainment.
   C. Goal congruence.
   D. Centralization of objectives.
   E. Negotiation by subordinates.

   Answer: C LO: 1 Type: RC

3. Consider the following statements about goal congruence:

   I. Goal congruence is obtained when managers of subunits throughout an organization strive to achieve the goals set by top management.
   II. Managers are often more concerned about the performance of their own subunits rather than the performance of the entire organization.
   III. Achieving goal congruence in most organizations is relatively straightforward and easy to accomplish.

   Which of the above statements is (are) true?
   A. I only.
   B. II only.
   C. I and II.
   D. II and III.
   E. I, II, and III.

   Answer: C LO: 1 Type: RC

4. Which of the following performance measures is (are) used to evaluate the financial success or failure of investment centers?
   A. Residual income.
   B. Return on investment.
   C. Number of suppliers.
   D. Economic value added.
   E. All of the above measures are used except "C."

   Answer: E LO: 1 Type: RC

5. ROI is most appropriately used to evaluate the performance of:
   A. cost center managers.
   B. revenue center managers.
   C. profit center managers.
   D. investment center managers.
   E. both profit center managers and investment center managers.

   Answer: D LO: 2 Type: RC

6. Which of the following is <u>not</u> considered in the calculation of divisional ROI?
   A. Divisional income.
   B. Earnings velocity.
   C. Capital turnover.
   D. Sales margin.
   E. Sales revenue.

   Answer: B LO: 2 Type: RC

7. Which of the following is the correct mathematical expression for return on investment?
   A. Sales margin ÷ capital turnover.
   B. Sales margin + capital turnover.
   C. Sales margin - capital turnover.
   D. Sales margin x capital turnover.
   E. Capital turnover ÷ sales margin.

   Answer: D LO: 2 Type: RC

8. The ROI calculation will indicate:
   A. the percentage of each sales dollar that is invested in assets.
   B. the sales dollars generated from each dollar of income.
   C. how effectively a company used its invested capital.
   D. the invested capital generated from each dollar of income.
   E. the overall quality of a company's earnings.

   Answer: C LO: 2 Type: RC

9. A company's sales margin:
   A. must, by definition, be greater than the firm's net sales.
   B. has basically the same meaning as the term "contribution margin."
   C. is computed by dividing sales revenue into income.
   D. is computed by dividing income into sales revenue.
   E. shows the sales dollars generated from each dollar of income.

   Answer: C LO: 2 Type: RC

10. Which of the following is the correct mathematical expression to derive a company's capital turnover?
   A. Sales revenue ÷ invested capital.
   B. Contribution margin ÷ invested capital.
   C. Income ÷ invested capital.
   D. Invested capital ÷ sales revenue
   E. Invested capital ÷ income

   Answer: A LO: 2 Type: RC

11. Capital turnover shows:
   A. the amount of income generated by each dollar of capital investment.
   B. the number of sales dollars generated by each dollar of capital investment.
   C. the amount of contribution margin generated by each dollar of capital investment.
   D. the amount of capital investment generated by each sales dollar.
   E. the amount of capital investment generated by each dollar of income.

   Answer: B LO: 2 Type: RC

12. Webster Company had sales revenue and operating expenses of $5,000,000 and $4,200,000, respectively, for the year just ended. If invested capital amounted to $6,000,000, the firm's ROI was:
   A. 13.33%.
   B. 83.33%.
   C. 120.00%.
   D. 750.00%.
   E. some other figure.

   Answer: A LO: 2 Type: A

13. Zang Enterprises had a sales margin of 7%, sales of $5,000,000, and invested capital of $4,000,000. The company's ROI was:
   A. 5.60%.
   B. 8.75%.
   C. 11.43%.
   D. 17.86%.
   E. some other figure.

   Answer: B LO: 2 Type: A

14. Mission, Inc., reported a return on investment of 12%, a capital turnover of 5, and income of $180,000. On the basis of this information, the company's invested capital was:
    A. $300,000.
    B. $900,000.
    C. $1,500,000.
    D. $7,500,000.
    E. some other amount.

    Answer: C LO: 2 Type: A

15. The information that follows relates to Katz Corporation:

    Sales margin: 7.5%
    Capital turnover: 2
    Invested capital: $20,000,000

    On the basis of this information, the company's sales revenue is:
    A. $1,500,000.
    B. $3,000,000.
    C. $10,000,000.
    D. $40,000,000.
    E. some other amount.

    Answer: D LO: 2 Type: A

16. A division's return on investment may be improved by increasing:
    A. cost of goods sold and expenses.
    B. sales margin and cost of capital.
    C. sales revenue and cost of capital.
    D. capital turnover or sales margin.
    E. capital turnover or cost of capital.

    Answer: D LO: 3 Type: RC

17. All of the following actions will increase ROI except:
    A. an increase in sales revenues.
    B. a decrease in operating expenses.
    C. a decrease in a company's invested capital.
    D. a decrease in the number of units sold.
    E. an improvement in manufacturing efficiency.

    Answer: D LO: 3 Type: N

18. Which of the following is used in the calculation of both return on investment and residual income?
    A. Total stockholders' equity.
    B. Retained earnings.
    C. Invested capital.
    D. Total liabilities.
    E. The cost of capital.

    Answer: C LO: 2 Type: RC

19. Consider the following statements about residual income:

    I. Residual income incorporates a firm's cost of acquiring investment capital.
    II. Residual income is a percentage measure, not a dollar measure.
    III. If used correctly, residual income may result in division managers making decisions that are in their own best interest and not in the best interest of the entire firm.

    Which of the above statements is (are) true?
    A. I only.
    B. II only.
    C. I and II.
    D. II and III.
    E. I and III.

    Answer: A LO: 2, 4 Type: RC

20. The basic idea behind residual income is to have a division maximize its:
    A. earnings per share.
    B. income in excess of a corporate imputed interest charge.
    C. cost of capital.
    D. cash flows.
    E. invested capital.

    Answer: B LO: 2, 4 Type: N

21. Sunrise Corporation has a return on investment of 15%. A Sunrise division, which currently has a 13% ROI and $750,000 of residual income, is contemplating a massive new investment that will (1) reduce divisional ROI and (2) produce $120,000 of residual income. If Sunrise strives for goal congruence, the investment:
    A. should not be acquired because it reduces divisional ROI.
    B. should not be acquired because it produces $120,000 of residual income.
    C. should not be acquired because the division's ROI is less than the corporate ROI before the investment is considered.
    D. should be acquired because it produces $120,000 of residual income for the division.
    E. should be acquired because after the acquisition, the division's ROI and residual income are both positive numbers.

    Answer: D LO: 4 Type: N

22. The Fitzhugh Division of General Enterprises has a negative residual income of $540,000. Fitzhugh's management is contemplating an investment opportunity that will reduce this negative amount to $400,000. The investment:
    A. should be pursued because it is attractive from both the divisional and corporate perspectives.
    B. should be pursued because it is attractive from the divisional perspective although not from the corporate perspective.
    C. should be pursued because it is attractive from the corporate perspective although not from the divisional perspective.
    D. should not be pursued because it is unattractive from both the divisional and corporate perspectives.
    E. should not be pursued because it is unattractive from the divisional perspective although it is attractive from the corporate perspective.

    Answer: A LO: 4 Type: N

23. The Magellan Division of Global Corporation, which has income of $250,000 and an asset investment of $1,562,500, is studying an investment opportunity that will cost $450,000 and yield a profit of $67,500. Assuming that Global uses an imputed interest charge of 14%, would the investment be attractive to:

    1—Divisional management if ROI is used to evaluate divisional performance?
    2—Divisional management if residual income (RI) is used to evaluate divisional performance?
    3—The management of Global Corporation?

	Attractive to Magellan: ROI	Attractive to Magellan: RI	Attractive to Global
A.	Yes	Yes	Yes
B.	Yes	No	No
C.	Yes	No	Yes
D.	No	Yes	Yes
E.	No	Yes	No

    Answer: D LO: 4 Type: A, N

24. The Georgia Division of Carter Companies currently reports a profit of $3.4 million. Divisional invested capital totals $12.5 million; the imputed interest rate is 14%. On the basis of this information, Georgia's residual income is:
    A. $476,000.
    B. $1,274,000.
    C. $1,650,000.
    D. $1,750,000.
    E. some other amount.

    Answer: C LO: 2 Type: A

25. The following information relates to the Mountain Division of Adler Enterprises:

    Income for the period just ended: $1,500,000
    Invested capital: $12,000,000

    If the firm has an imputed interest rate of 11%, Mountain's residual income would be:
    A. $165,000.
    B. $180,000.
    C. $187,500.
    D. some other dollar amount.
    E. a percentage greater than 11%.

    Answer: B LO: 2 Type: A

26. Extron Division reported a residual income of $200,000 for the year just ended. The division had $8,000,000 of invested capital and $1,000,000 of income. On the basis of this information, the imputed interest rate was:
    A. 2.5%.
    B. 10.0%.
    C. 12.5%.
    D. 20.0%.
    E. some other figure.

    Answer: B LO: 2 Type: A

27. Barber Corporation uses an imputed interest rate of 13% in the calculation of residual income. Division X, which is part of Barber, had invested capital of $1,200,000 and an ROI of 16%. On the basis of this information, X's residual income was:
    A. $24,960.
    B. $36,000.
    C. $156,000.
    D. $192,000.
    E. some other amount.

    Answer: B LO: 2 Type: A, N

Use the following to answer questions 28-31:

The following information pertains to Bingo Concrete:

Sales revenue	$1,500,000
Gross margin	600,000
Income	90,000
Invested capital	450,000

The company's imputed interest rate is 8%.

28. The capital turnover is:
    A. 3.33.
    B. 5.00.
    C. 16.67.
    D. 20.00.
    E. 30.00.

    Answer: A LO: 2 Type: A

29. The sales margin is:
    A. 6%.
    B. 15%.
    C. 20%.
    D. 30%.
    E. 40%.

    Answer: A LO: 2 Type: A

30. The ROI is:
    A. 6%.
    B. 15%.
    C. 20%.
    D. 30%.
    E. 40%.

    Answer: C LO: 2 Type: A

31. The residual income is:
    A. $30,000.
    B. $36,000.
    C. $42,000.
    D. $54,000.
    E. $82,800.

    Answer: D LO: 2 Type: A

32. For the period just ended, United Corporation's Delta Division reported profit of $31.9 million and invested capital of $220 million. Assuming an imputed interest rate of 12%, which of the following choices correctly denotes Delta's return on investment (ROI) and residual income?

	Return on Investment	Residual Income
A.	12.0%	$(5.5) million
B.	12.0%	$5.5 million
C.	14.5%	$(5.5) million
D.	14.5%	$5.5 million
E.	14.5%	$26.4 million

    Answer: D LO: 2 Type: A

33. For the period just ended, Price Corporation's Ohio Division reported profit of $49 million and invested capital of $350 million. Assuming an imputed interest rate of 16%, which of the following choices correctly denotes Ohio's return on investment (ROI) and residual income?

	Return on Investment	Residual Income
A.	14%	$7 million
B.	14%	$(7) million
C.	16%	$7 million
D.	$7 million	14%
E.	None of the above choices shows both the correct ROI and residual income.	

Answer: B LO: 2 Type: A

34. Which of the following elements is not used when calculating the weighted-average cost of capital?
A. Before-tax cost of debt capital.
B. After-tax cost of debt capital.
C. Cost of equity capital.
D. Market value of debt capital.
E. Market value of equity capital.

Answer: A LO: 2 Type: RC

35. The following information relates to the Atlantic Division of Ocean Enterprises:

Interest rate on debt capital: 8%
Cost of equity capital: 12%
Market value of debt capital: $50 million
Market value of equity capital: $80 million
Income tax rate: 30%

On the basis of this information, Atlantic's weighted-average cost of capital is:
A. 7.3%.
B. 8.3%.
C. 9.5%.
D. 10.8%.
E. some other figure.

Answer: C LO: 2 Type: A

36. The market value of Glendale's debt and equity capital totals $180 million, 80% of which is equity related. An analysis conducted by the company's finance department revealed a 7% after-tax cost of debt capital and a 10% cost of equity capital. On the basis of this information, Glendale's weighted-average cost of capital:
    A. is 7.6%.
    B. is 8.5%.
    C. is 9.4%.
    D. cannot be determined based on the data presented because the cost of debt capital must be stated on a before-tax basis.
    E. cannot be determined based on the data presented because the cost of equity capital must be stated on an after-tax basis.

    Answer: C LO: 2 Type: A, N

37. Which of the following measures of performance is, in part, based on the weighted-average cost of capital?
    A. Return on investment.
    B. Capital turnover.
    C. Book value.
    D. Economic value added (EVA).
    E. Gross margin.

    Answer: D LO: 2 Type: RC

38. Which of the following elements is <u>not</u> used in the calculation of economic value added for an investment center?
    A. An investment center's after-tax operating income.
    B. An investment center's total assets.
    C. An investment center's return on investment.
    D. An investment center's current liabilities.
    E. A company's weighted-average cost of capital.

    Answer: C LO: 2 Type: RC

39. Carolina Corporation has an after-tax operating income of $3,200,000 and a 9% weighted-average cost of capital. Assets total $7,000,000 and current liabilities total $1,800,000. On the basis of this information, Carolina's economic value added is:
    A. $2,408,000.
    B. $2,732,000.
    C. $3,668,000.
    D. $3,992,000.
    E. some other amount.

    Answer: B LO: 2 Type: A

40. The following information relates to Houston, Inc.:

Total assets	$9,000,000
After-tax operating income	1,500,000
Current liabilities	800,000

If the company has a 10% weighted-average cost of capital, its economic value added would be:
A. $(200,000).
B. $530,000.
C. $680,000.
D. $970,000.
E. some other amount.

Answer: C LO: 2 Type: A

41. Given that ROI measures performance over a period of time, invested capital would most appropriately be figured by using:
A. beginning-of-year assets.
B. average assets.
C. end-of-year assets.
D. total assets.
E. only current assets.

Answer: B LO: 5 Type: RC

42. When an organization allows divisional managers to be responsible for short-term loans and credit, the division's invested capital should be measured by
A. total assets minus total liabilities.
B. average total assets minus average current liabilities.
C. average total assets minus average total liabilities.
D. average total liabilities minus average current assets.
E. average total liabilities minus total assets.

Answer: B LO: 5 Type: RC

43. Hayes Division has been stagnant over the past five years, neither growing nor contracting in size and profitability. Investments in new property, plant, and equipment have been minimal. Would the division's use of total assets (valued at net book value) when measuring ROI result in (1) using numbers that are consistent with those on the balance sheet and (2) a rising ROI over time?

	Consistent with Numbers on the Balance Sheet?	Produce a Rising Return on Investment Over Time?
A.	Yes	Yes
B.	Yes	No
C.	No	Yes
D.	No	No
E.	Yes	Need more information to judge

Answer: A LO: 5 Type: RC

44. The income calculation for a division manager's ROI should be based on:
A. divisional contribution margin.
B. profit margin controllable by the division manager.
C. profit margin traceable to the division.
D. divisional income before interest and taxes.
E. divisional net income.

Answer: B LO: 5 Type: RC

45. To partially eliminate the problems that are associated with the short-term focus of return on investment, residual income, and EVA, the performance of a division's major investments is commonly evaluated through:
A. postaudits.
B. sensitivity analysis.
C. performance operating plans.
D. horizontal analysis.
E. segmented reporting.

Answer: A LO: 5 Type: RC

46. The amounts charged for goods and services exchanged between two divisions are known as:
A. opportunity costs.
B. transfer prices.
C. standard variable costs.
D. residual prices.
E. target prices.

Answer: B LO: 6 Type: RC

47. Nevada, Inc., has two divisions, one located in Las Vegas and the other located in Reno. Las Vegas sells selected goods to Reno for use in various end-products. Assuming that the transfer prices set by Las Vegas do not influence the decisions made by the two divisions, which of the following correctly describes the impact of the transfer prices on divisional profits and overall company profit?

	Las Vegas Profit	Reno Profit	Nevada Profit
A.	Affected	Affected	Affected
B.	Affected	Affected	Not affected
C.	Affected	Not affected	Affected
D.	Not affected	Not affected	Affected
E.	Not affected	Not affected	Not affected

Answer: B LO: 6 Type: RC

48. Thurmond, Inc., has two divisions, one located in New York and the other located in Arizona. New York sells a specialized circuit to Arizona and just recently raised the circuit's transfer price. This price hike had no effect on the volume of circuits transferred nor on Arizona's option of acquiring the circuit from either New York or from an external supplier. On the basis of this information, which of the following statements is most correct?
   A. The profit reported by New York will increase and the profit reported by Arizona will decrease.
   B. The profit reported by New York will increase, the profit reported by Arizona will decrease, and Thurmond's profit will be unaffected.
   C. The profit reported by New York will decrease, the profit reported by Arizona will increase, and Thurmond's profit will be unaffected.
   D. The profit reported by New York will increase and the profit reported by Arizona will increase.
   E. The profit reported by New York and the profit reported by Arizona will be unaffected.

Answer: B LO: 6 Type: RC, N

49. Which of the following describes the goal that should be pursued when setting transfer prices?
   A. Maximize profits of the buying division.
   B. Maximize profits of the selling division.
   C. Allow top management to become actively involved when calculating the proper dollar amounts.
   D. Establish incentives for autonomous division managers to make decisions that are in the overall organization's best interests (i.e., goal congruence).
   E. Minimize opportunity costs.

Answer: D LO: 6 Type: RC

50. A general calculation method for transfer prices that achieves goal congruence begins with the additional outlay cost per unit incurred because goods are transformed and then
    A. adds the opportunity cost per unit to the organization because of the transfer.
    B. subtracts the opportunity cost per unit to the organization because of the transfer.
    C. adds the sunk cost per unit to the organization because of the transfer.
    D. subtracts the sunk cost per unit to the organization because of the transfer.
    E. adds the sales revenue per unit to the organization because of the transfer.

    Answer: A LO: 6 Type: RC

51. Suddath Corporation has no excess capacity. If the firm desires to implement the general transfer-pricing rule, opportunity cost would be equal to:
    A. zero.
    B. the direct expenses incurred in producing the goods.
    C. the total difference in the cost of production between two divisions.
    D. the contribution margin forgone from the lost external sale.
    E. the summation of variable cost plus fixed cost.

    Answer: D LO: 6 Type: RC

52. Tulsa Corporation has excess capacity. If the firm desires to implement the general transfer-pricing rule, opportunity cost would be equal to:
    A. zero.
    B. the direct expenses incurred in producing the goods.
    C. the total difference in the cost of production between two divisions.
    D. the contribution margin forgone from the lost external sale.
    E. the summation of variable cost plus fixed cost.

    Answer: A LO: 6 Type: RC

53. McKenna's Florida Division is currently purchasing a part from an outside supplier. The company's Alabama Division, which has excess capacity, makes and sells this part for external customers at a variable cost of $22 and a selling price of $34. If Alabama begins sales to Florida, it (1) will use the general transfer-pricing rule and (2) will be able to reduce variable cost on internal transfers by $4. If sales to outsiders will not be affected, Alabama would establish a transfer price of:
    A. $18.
    B. $22.
    C. $30.
    D. $34.
    E. some other amount.

    Answer: A LO: 6 Type: A

54. AutoTech's Northern Division is currently purchasing a part from an outside supplier. The company's Southern Division, which has no excess capacity, makes and sells this part for external customers at a variable cost of $19 and a selling price of $31. If Southern begins sales to Northern, it (1) will use the general transfer-pricing rule and (2) will be able to reduce variable cost on internal transfers by $3. On the basis of this information, Southern would establish a transfer price of:
    A. $16.
    B. $19.
    C. $28.
    D. $31.
    E. some other amount.

    Answer: C LO: 6 Type: A

Use the following to answer questions 55-57:

Laissez Faire has two divisions: the Cologne Division and the Bottle Division. The Bottle Division produces containers that can be used by the Cologne Division. The Bottle Division's variable manufacturing cost is $2, shipping cost is $0.10, and the external sales price is $3. No shipping costs are incurred on sales to the Cologne Division, and the Cologne Division can purchase similar containers in the external market for $2.60.

55. The Bottle Division has sufficient capacity to meet all external market demands in addition to meeting the demands of the Cologne Division. Using the general rule, the transfer price from the Bottle Division to the Cologne Division would be:
    A. $2.00.
    B. $2.10.
    C. $2.60.
    D. $2.90.
    E. $3.00.

    Answer: A LO: 6 Type: A

56. Assume the Bottle Division has no excess capacity and could sell everything it produced externally. Using the general rule, the transfer price from the Bottle Division to the Cologne Division would be:
    A. $2.00.
    B. $2.10.
    C. $2.60.
    D. $2.90.
    E. $3.00.

    Answer: D LO: 6 Type: A

57. The maximum amount the Cologne Division would be willing to pay for each bottle transferred would be:
    A. $2.00.
    B. $2.10.
    C. $2.60.
    D. $2.90.
    E. $3.00.

    Answer: C LO: 6 Type: A

58. Transfer prices can be based on:
    A. variable cost.
    B. full cost.
    C. an external market price.
    D. a negotiated settlement between the buying and selling divisions.
    E. all of the above.

    Answer: E LO: 7 Type: RC

59. Which of the following transfer-pricing methods can lead to dysfunctional decision-making behavior by managers?
    A. Variable cost.
    B. Full cost.
    C. External market price.
    D. A professionally negotiated, amicable settlement between the buying and selling divisions.
    E. None of the above.

    Answer: B LO: 7 Type: RC

60. The Pro Division of Custom Industries is in need of a particular service. The service can be obtained from another division of Custom at "cost," with cost defined as the summation of variable cost ($9) and fixed cost ($3). Alternatively, Pro can secure the service from a source external to Custom for $10. Which of the following statements is true?
    A. Pro should compare $10 vs. $3 in deciding where to acquire the service.
    B. Pro should compare $10 vs. $9 in deciding where to acquire the service.
    C. Pro should compare $10 vs. $12 in deciding where to acquire the service.
    D. From Custom's perspective, the proper decision is reached by comparing $10 vs. $9.
    E. Both "C" and "D" are true.

    Answer: E LO: 7 Type: A, N

61. Division A transfers item no. 78 to Division B. Consider the following situations:

1—A is located in Texas and B is located in California.
2—A is located in Texas and B is located in Mexico.

Assuming that item no. 78 is unavailable in the open market, which of the following choices correctly depicts the probable importance of federal income taxes when determining the transfer price that is established for item no. 78?

	Situation 1	Situation 2
A.	Important	Important
B.	Important	Not important
C.	Not important	Important
D.	Not important	Not important

E. It is not possible to judge based on the information presented.

Answer: C LO: 7 Type: N

62. Division A transfers a profitable subassembly to Division B, where it is assembled into a final product. A is located in a European country that has a high tax rate; B is located in an Asian country that has a low tax rate. Ideally, (1) what type of before-tax income should each division report from the transfer and (2) what type of transfer price should be set for the subassembly?

	Division A Income	Division B Income	Transfer Price
A.	Low	Low	Low
B.	Low	High	Low
C.	Low	High	High
D.	High	Low	High
E.	High	High	Low

Answer: B LO: 7 Type: N

63. Consider the following statements about transfer pricing:

I. Income taxes and import duties are an important consideration when setting a transfer price for companies that pursue international commerce.
II. Transfer prices cannot be used by organizations in the service industry.
III. Transfer prices are totally cost-based in nature, not market-based.

Which of the above statements is (are) true?
A. I only.
B. II only.
C. I and II.
D. II and III.
E. I, II, and III.

Answer: A LO: 7 Type: RC

EXERCISES

Components of Return on Investment

64. The following data pertain to Corkscrew Corporation:

Income	$ 8,000,000
Sales revenue	40,000,000
Average invested capital	50,000,000

Required:
Calculate Corkscrew Corporation's sales margin, capital turnover, and return on investment.

LO: 2 Type: A

Answer:
Sales margin: $8,000,000 ÷ $40,000,000 = 20%
Capital turnover: $40,000,000 ÷ $50,000,000 = 0.8
Return on investment: $8,000,000 ÷ $50,000,000 = 16%

Components of ROI and Residual Income: Working Backward

65. Midland Division, which is part of Courtyard Enterprises, recently reported a sales margin of 30%, ROI of 21%, and residual income of $220,000. Courtyard uses an imputed interest rate of 10%.

Required:
A. Briefly define sales margin, capital turnover, and return on investment.
B. Compute Midland's capital turnover and invested capital.
C. Ignoring your work in requirement "B," assume that invested capital amounted to $2,500,000. On the basis of this information, calculate Midland's income and sales revenue.

LO: 2 Type: A, N

Answer:

A. Sales margin—the income generated from each sales dollar.
Computed as: Income ÷ sales revenue.

Capital turnover—the sales dollars produced from each dollar of invested capital.
Computed as: Sales revenue ÷ invested capital.

Return on investment—the income generated from each dollar of invested capital.
Computed as: Income ÷ invested capital, or sales margin x capital turnover.

B. Capital turnover:
Capital turnover x sales margin = ROI
Capital turnover x 30% = 21%
Capital turnover = 0.7

Invested capital:
ROI = Income ÷ invested capital
21% = Income ÷ invested capital
Income = Invested capital x 21%

Residual income = Income - (invested capital x imputed interest rate)
$220,000 = Income - (invested capital x 10%)
$220,000 = (Invested capital x 21%) - (invested capital x 10%)
$220,000 = Invested capital x 11%
Invested capital = $2,000,000

C. Income:
ROI = Income ÷ invested capital
21% = Income ÷ $2,500,000
Income = $525,000

Sales revenue:
Sales margin = Income ÷ sales revenue
30% = $525,000 ÷ sales revenue
Sales revenue = $1,750,000

Economic Value Added, Weighted-Average Cost of Capital

66. The following data pertain to Dana Industries:

Interest rate on debt capital: 9%
Cost of equity capital: 12%
Before-tax operating income: $35 million
Market value of debt capital: $60 million
Market value of equity capital: $120 million
Total assets: $150 million
Income tax rate: 30%
Total current liabilities: $15 million

Required:
A. Compute Dana's weighted-average cost of capital.
B. Compute Dana's economic value added.
C. Briefly explain the meaning of economic value added.

LO: 2 Type: RC, A

Answer:
A. WACC = [(9% x 70%) x $60,000,000) + (12% x $120,000,000)] ÷ ($60,000,000 + $120,000,000)
WACC = ($3,780,000 + $14,400,000) ÷ $180,000,000
WACC = 10.1%

B. EVA = ($35,000,000 x 70%) - [($150,000,000 - $15,000,000) x 10.1%]
EVA = $24,500,000 - $13,635,000
EVA = $10,865,000

C. Economic value added (EVA) measures the amount of shareholder wealth being created from a company's activities and operations. To expand, debt and equity capital are used to fund activities—activities that are hopefully conducted in a profitable manner. Profits cover the cost of the related capital, with shareholders benefiting from the residual (i.e., EVA).

Improving Return on Investment

67. The following data pertain to Norris Company for 20x1:

Sales revenue	$1,000,000
Cost of goods sold	550,000
Operating expenses	400,000
Average invested capital	500,000

Required:

A. Calculate the company's sales margin, capital turnover, and return on investment for 20x1.
B. If the sales and average invested capital remain the same, to what level would total costs and expenses have to be reduced in 20x2 to achieve a 15% return on investment?
C. Assume that costs and expenses are reduced, as calculated in requirement "B." Calculate the firm's new sales margin.
D. Suggest two possible actions that will improve the company's capital turnover.

LO: 2, 3 Type: A, N

Answer:

A.

Sales revenue		$1,000,000
Less: Cost of goods sold	$550,000	
Operating expenses	400,000	950,000
Operating income		$ 50,000

Sales margin: $50,000 ÷ $1,000,000 = 5%
Capital turnover: $1,000,000 ÷ $500,000 = 2
Return on investment: $50,000 ÷ $500,000 = 10%

B. New income level: $500,000 x 15% = $75,000

Sales revenue	$1,000,000
Less: Income	75,000
Costs and expenses	$ 925,000

Therefore, total costs and expenses must be reduced from $950,000 ($550,000 + $400,000) to $925,000 in order to achieve a 15% ROI.

C. Sales margin: $75,000 ÷ $1,000,000 = 7.5%

D. Capital turnover can be improved by increasing sales revenue and reducing invested capital.

Return on Investment and Residual Income: Calculation and Analysis

68. The following data pertain to the Oxnard Division of Kemp Company:

Divisional contribution margin	$ 700,000
Profit margin controllable by the divisional manager	320,000
Profit margin traceable to the division	294,400
Average asset investment	1,280,000

The company uses responsibility accounting concepts when evaluating performance, and Oxnard's division manager is contemplating the following three investments. He can invest up to $400,000.

	No. 1	No. 2	No. 3
Cost	$250,000	$300,000	$400,000
Expected income	50,000	54,000	96,000

Required:

A. Calculate the ROIs of the three investments.
B. What is the division manager's current ROI, computed by using responsibility accounting concepts?
C. Which of the three investments would be selected if the manager's focus is on Oxnard's divisional performance? Why?
D. If Kemp has an imputed interest charge of 22%, compute the residual income of investment no. 3. Is this investment attractive from Oxnard's perspective? From Kemp's perspective? Why?

LO: 2, 4 Type: A, N

Answer:

A. No. 1: $50,000 ÷ $250,000 = 20%
No. 2: $54,000 ÷ $300,000 = 18%
No. 3: $96,000 ÷ $400,000 = 24%

B. Controllable profit margin ($320,000) ÷ asset investment ($1,280,000) = 25%

C. None, as all will lower the current ROI.

D. Residual income: $96,000 - ($400,000 x 22%) = $8,000

This investment is attractive from both Oxnard and Kemp's perspectives. The positive residual income indicates that the investment income covers the imputed interest charge.

ROI and Residual Income, Investment Evaluation

69. Jasper Corporation is organized in three separate divisions. The three divisional managers are evaluated at year-end, and bonuses are awarded based on ROI. Last year, the overall company produced a 12% return on its investment.

    Managers of Jasper's Iowa Division recently studied an investment opportunity that would assist in the division's future growth. Relevant data follow.

	Iowa Division	Investment Opportunity
Income	$12,800,000	$ 4,200,000
Invested capital	80,000,000	30,000,000

    Required:

    A. Compute the current ROI of the Iowa Division and the division's ROI if the investment opportunity is pursued.
    B. What is the likely reaction of divisional management toward the acquisition? Why?
    C. What is the likely reaction of Jasper's corporate management toward the investment? Why?
    D. Assume that Jasper uses residual income to evaluate performance and desires an 11% minimum return on invested capital. Compute the current residual income of the Iowa Division and the division's residual income if the investment is made. Will divisional management likely change its attitude toward the acquisition? Why?

    LO: 2, 4 Type: A, N

Answer:

A. ROI = Income ÷ invested capital
Current: $12,800,000 ÷ $80,000,000 = 16%
If investment is made: ($12,800,000 + $4,200,000) ÷ ($80,000,000 + $30,000,000) = 15.45%

B. Divisional management will likely be against the acquisition because ROI will be lowered from 16% to 15.45%. Since bonuses are awarded on the basis of ROI, the acquisition will result in less compensation. However, before a final decision is made, additional insights are needed concerning how the investment will assist in future growth and in what magnitude.

C. An examination of the investment reveals a 14% ROI ($4,200,000 ÷ $30,000,000). Corporate management would probably favor the acquisition. Jasper has been earning a 12% return, and the investment will help the organization as a whole.

D. Current residual income of Iowa Division:

Divisional income	$12,800,000
Less: Imputed interest charge ($80,000,000 x 11%)	8,800,000
Residual income	$ 4,000,000

Residual income if investment is made:

Divisional income ($12,800,000 + $4,200,000)	$17,000,000
Less: Imputed interest charge [($80,000,000 + $30,000,000) x 11%]	12,100,000
Residual income	$ 4,900,000

Yes, divisional managers will likely change their attitude, particularly if they are team players. Residual income will increase by $900,000 ($4,900,000 - $4,000,000) from the acquisition. The RI measure focuses on the corporate perspective, not the divisional perspective, by integrating the firm's required return on invested capital.

Using ROI and Residual Income in Operating Decisions

70. Deborah Lewis, general manager of the Northwest Division of Berkshire Enterprises, has significant authority over pricing decisions as well as programs that involve cost reduction/control. The data that follow relate to upcoming divisional operations:

    Average invested capital: $15,000,000
    Annual fixed costs: $3,900,000
    Variable cost per unit: $80
    Number of units expected to be sold: 120,000

    Required:

    A. Top management will promote Deborah if she can earn a 14% return on investment for the year. What unit selling price should she establish to get her promotion?
    B. Independent of part "A," assume the unit selling price is $132 and that Berkshire has a 16% imputed interest charge. Top management will promote Deborah to corporate headquarters if her division can generate $200,000 of residual income. If Deborah desires to move to corporate, what must the division do to the amount of annual fixed costs incurred? Show your calculations.

    LO: 2, 4 Type: A, N

    Answer:

    A. A 14% return on investment will require the Division to produce income of $2,100,000 ($15,000,000 x 14%). If X = selling price, then:
        120,000X - (120,000 x $80) - $3,900,000 = $2,100,000
        120,000X - $9,600,000 - $3,900,000 = $2,100,000
        120,000X = $15,600,000
        X = $130

    B. If X = fixed cost, then:
        [($132 - $80) x 120,000] - X - ($15,000,000 x 16%) = $200,000
        $6,240,000 - X - $2,400,000 = $200,000
        X = $3,640,000

        To achieve her promotion, Deborah must reduce fixed costs by $260,000 ($3,900,000 - $3,640,000).

Basic Transfer Pricing: General Rule

71. Bronx Corporation's Gauge Division manufactures and sells product no. 24, which is used in refrigeration systems. Per-unit variable manufacturing and selling costs amount to $20 and $5, respectively. The Division can sell this item to external domestic customers for $36 or, alternatively, transfer the product to the company's Refrigeration Division. Refrigeration is currently purchasing a similar unit from Taiwan for $33. Assume use of the general transfer-pricing rule.

    Required:
    A. What is the most that the Refrigeration Division would be willing to pay the Gauge Division for one unit?
    B. If Gauge had excess capacity, what transfer price would the Division's management set?
    C. If Gauge had no excess capacity, what transfer price would the Division's management set?
    D. Repeat part "C," assuming that Gauge was able to reduce the variable cost of internal transfers by $4 per unit.

    LO: 6 Type: A

    Answer:
    A. Refrigeration would be willing to pay a maximum of $33, its current outside purchase price.

    B. The general rule holds that the transfer price be set at the sum of outlay cost and opportunity cost. Thus, ($20 + $5) + $0 = $25.

    C. In this case, the transfer price would amount to $36: ($20 + $5) + ($36 - $20 - $5).

    D. The transfer price would be $32: ($20 + $5 - $4) + ($36 - $20 - $5).

Basic Transfer Pricing

72. Gamma Division of Vaughn Corporation produces electric motors, 20% of which are sold to Vaughan's Omega Division and 80% to outside customers. Vaughn treats its divisions as profit centers and allows division managers to choose whether to sell to or buy from internal divisions. Corporate policy requires that all interdivisional sales and purchases be transferred at variable cost. Gamma Division's estimated sales and standard cost data for the year ended December 31, based on a capacity of 60,000 units, are as follows:

	Omega	Outsiders
Sales	$ 660,000	$5,760,000
Less: Variable costs	660,000	2,640,000
Contribution margin	$ ----	$3,120,000
Less: Fixed costs	175,000	900,000
Operating income (loss)	$ (175,000)	$2,220,000
Unit sales	12,000	48,000

Gamma has an opportunity to sell the 12,000 units shown above to an outside customer at $80 per unit. Omega can purchase the units it needs from an outside supplier for $92 each.

Required:

A. Assuming that Gamma desires to maximize operating income, should it take on the new customer and discontinue sales to Omega? Why? (Note: Answer this question from Gamma's perspective.)
B. Assume that Vaughn allows division managers to negotiate transfer prices. The managers agreed on a tentative price of $80 per unit, to be reduced by an equal sharing of the additional Gamma income that results from the sale to Omega of 12,000 motors at $80 per unit. On the basis of this information, compute the company's new transfer price.

LO: 6, 7 Type: A

Answer:

A. Yes. Gamma is currently selling motors to Omega at a transfer price of $55 per unit ($660,000 ÷ 12,000 units). A price of $80 to the new customer will increase Gamma Division's operating income by $300,000 [($80 - $55) x 12,000 units].

B. The additional operating income to Gamma is $300,000 [($80 - $55) x 12,000 units]. Splitting this amount equally results in a new transfer price of $67.50, calculated as follows:

Transfer price before reduction	$80.00
Less: Omega's per-unit share of additional income [($300,000 x 50%) ÷ 12,000 units]	12.50
New transfer price	$67.50

Transfer Pricing: Selling Internally or Externally

73. Sonoma Corporation is a multi-divisional company whose managers have been delegated full profit responsibility and complete autonomy to accept or reject transfers from other divisions. Division X produces 2,000 units of a subassembly that has a ready market. One of these subassemblies is currently used by Division Y for each final product manufactured, the latter of which is sold to outsiders for $1,600. Y's sales during the current period amounted to 2,000 completed units. Division X charges Division Y the $1,100 market price for the subassembly; variable costs are $850 and $600 for Divisions X and Y, respectively.

The manager of Division Y feels that X should transfer the subassembly at a lower price because Y is currently unable to make a profit.

Required:

A. Calculate the contribution margins (total dollars and per unit) of Divisions X and Y, as well as the company as a whole, if transfers are made at market price.
B. Assume that conditions have changed and X can sell only 1,000 units in the market at $900 per unit. From the company's perspective, should X transfer all 2,000 units to Y or sell 1,000 in the market and transfer the remainder? Note: Y's sales would decrease to 1,000 units if the latter alternative is pursued.

LO: 6, 7 Type: A

Answer:

A.

	Division X	Division Y	Company
Sales at $1,600		$ 3,200,000	$ 3,200,000
Transfers at $1,100	$ 2,200,000	(2,200,000)	
Less: Variable costs			
at $850	(1,700,000)		
at $600		(1,200,000)	(2,900,000)
Contribution margin	$ 500,000	$ (200,000)	$ 300,000
Unit contribution margin	$ 250	$ (100)	$ 150

B. Alternative no. 1: Transfer 2,000 units to Division Y:

Company sales (2,000 x $1,600)	$3,200,000
Less: Variable costs [2,000 x $850) + (2,000 x $600)]	2,900,000
Contribution margin	$ 300,000

Alternative no. 2: Sell 1,000 units in the open market and transfer 1,000 units to Y:

Company sales [(1,000 x $900) + (1,000 x $1,600)]	$2,500,000
Less: Variable costs [(2,000 x $850) + (1,000 x $600)]	2,300,000
Contribution margin	$ 200,000

Division X should transfer all 2,000 units to Division Y to produce an additional $100,000 ($300,000 - $200,000) of contribution margin.

Transfer Pricing; Negotiation

74. Kendall Corporation has two divisions: Phoenix and Tucson. Phoenix currently sells a condenser to manufacturers of cooling systems for $520 per unit. Variable costs amount to $380, and demand for this product currently exceeds the division's ability to supply the marketplace.

    Kendall is considering another use for the condenser, namely, integration into an enhanced refrigeration system that would be made by Tucson. Related information about the refrigeration system follows.

    Selling price of refrigeration system: $1,285
    Additional variable manufacturing costs required: $820
    Transfer price of condenser: $490

    Top management is anxious to introduce the refrigeration system; however, unless the transfer is made, an introduction will not be possible because of the difficulty of obtaining condensers in the quality and quantity desired. The company uses responsibility accounting and ROI in measuring divisional performance, and awards bonuses to divisional management.

    Required:

    A. How would Phoenix's divisional manager likely react to the decision to transfer condensers to Tucson? Show computations to support your answer.
    B. How would Tucson's divisional management likely react to the $490 transfer price? Show computations to support your answer.
    C. Assume that a lower transfer price is desired. What parties should be involved in setting the new price?
    D. From a contribution margin perspective, does Kendall benefit more if it sells the condensers externally or transfers the condensers to Tucson? By how much?

    LO: 6, 7 Type: A, N

Answer:

A. The Phoenix divisional manager will likely be opposed to the transfer. Currently, the division is selling all the units it produces at $520 each. With transfers taking place at $490, Phoenix will suffer a $30 drop in sales revenue and profit on each unit that is sent to Tucson.

B. Although Tucson is receiving a $30 "price break" on each unit purchased from Phoenix, the $490 transfer price would probably be deemed too high. The reason: Tucson will lose $25 on each refrigeration system produced and sold.

Sales revenue		$1,285
Less: Variable manufacturing costs	$820	
Transfer price paid to Phoenix	490	1,310
Income (loss)		$ (25)

C. Kendall uses a responsibility accounting system, awarding bonuses based on divisional performance. The two divisional managers (or their representatives) should negotiate a mutually agreeable price.

D. Kendall would benefit more if it sells the condenser externally. Observe that the transfer price is ignored in this evaluation—one that looks at the firm as a whole.

	Produce Condenser; Sell Externally	Produce Condenser; Transfer; Sell Refrigeration System
Sales revenue	$520	$1,285
Less: Variable cost $380; $380 + $820	380	1,200
Contribution margin	$140	$ 85

Basic Transfer Pricing: Domestic and International Implications

75. Walker, Inc., has a Pennsylvania-based division that produces electronic components, with a very strong domestic market for circuit no. 222. The variable production cost is $140, and the division can sell its entire output for $190. Walker is subject to a 30% income tax rate.

    Alternatively, the Pennsylvania division can ship the circuit to a division that is located in Mississippi, to be used in the manufacture of a global positioning system (GPS). Information about the global positioning system and Mississippi's costs follow.

    Selling price: $380
    Circuit shipping and handling fees to Mississippi: $10
    Labor, overhead, and additional material costs of GPS: $120

    Required:

    A. Assume that the transfer price for the circuit was $160. How would Pennsylvania's divisional manager likely react to a corporate decision to transfer the circuits to Mississippi? Why?
    B. Calculate Pennsylvania income, Mississippi income, and income for the company as a whole if the transfer took place at $160 per circuit.
    C. Assuming that transfers took place at a price higher than $160, would the revised price increase, decrease, or have no effect on Walker's income? Briefly explain.
    D. Assume that Walker moved its GPS production facility to a division located in Germany, which is subject to a 45% tax rate. The transfer took place at $180. Shipping fees (absorbed by the overseas division) doubled to $20; the German division paid an import duty equal to 10% of the transfer price; and labor, overhead, and additional material costs were $150 per GPS. If the German selling price of the GPS amounted to $450, calculate Pennsylvania income, German income, and income for Walker as a whole.
    E. Suppose that U.S. and German tax authorities allowed some discretion in how transfer prices were set. Given the difference in tax rates, should Walker attempt to generate the majority of its income in Pennsylvania or Germany? Why?

    LO: 6, 7 Type: RC, A

Answer:

A. The manager would be unhappy, as the division is being forced to take a "hit" of $30 per circuit ($190 vs. $160).

B. Pennsylvania: $160 - $140 = $20; $20 - ($20 x 30%) = $14
Mississippi: $380 - $10 - $120 - $160 = $90; $90 - ($90 x 30%) = $63
Walker, Inc.: $14 + $63 = $77

C. Walker's income is unaffected, as the transfer price is a wash between the divisions. In other words, Pennsylvania's revenue is offset by Mississippi's cost.

D. Pennsylvania: $180 - $140 = $40; $40 - ($40 x 30%) = $28
Germany: $450 - $20 - $150 - $180 - ($180 x 10%) = $82; $82 - ($82 x 45%) = $45.10
Walker, Inc.: $28.00 + $45.10 = $73.10

E. Tax rates are lower in the U.S. than in Germany (30% vs. 45%). Thus, Walker would benefit if it generated the majority of its income in Pennsylvania.

Basic Transfer Pricing: International

76. Cheney Corporation produces goods in the United States, to be sold by a separate division located in Italy. More specifically, the Italian division imports units of product X34 from the U.S. and sells them for $950 each. (Imports of similar goods sell for $850.) The Italian division is subject to a 40% tax rate whereas the U.S. tax rate is only 30%. The manufacturing cost of product X34 in the United States is $720. Furthermore, there is a 10% import duty, computed on the transfer price, that will be paid by the Italian division and is deductible when computing Italian income.

Tax laws of the two countries allow transfer prices to be set at U.S. manufacturing cost or the selling prices of comparable imports in Italy.

Required:
Analyze the profitability of the U.S. division and the Italian division to determine whether Cheney as a whole would be better off if transfers took place at (1) U.S. manufacturing cost or (2) the selling price of comparable imports.

LO: 6, 7 Type: A

Answer:
Alternative no. 1: Transfer at U.S. manufacturing cost
United States: $720 - $720 = $0
Italy: $950 - $720 - ($720 x 10%) = $158; $158 - ($158 x 40%) = $94.80
Cheney Corporation: $0 + $94.80 = $94.80

Alternative no. 2: Transfer at selling price of comparable imports
United States: $850 - $720 = $130; $130 - ($130 x 30%) = $91
Italy: $950 - $850 - ($850 x 10%) = $15; $15 - ($15 x 40%) = $9
Cheney Corporation: $91 + $9 = $100

Alternative no. 2 would be more profitable: $100.00 vs. $94.80.

International Transfer Pricing; Analysis of Operations

77. Cunningham, Inc., which produces electronic parts in the United States, has a very strong local market for part no. 54. The variable production cost is $40, and the company can sell its entire supply domestically for $110. The U.S. tax rate is 30%.

    Alternatively, Cunningham can ship the part to a division that is located in Switzerland, to be used in a product that the Swiss division will distribute throughout Europe. Information about the Swiss product and the division's operating environment follows.

    Selling price of final product: $400
    Shipping fees to import part no. 54: $20
    Labor, overhead, and additional material costs of final product: $230
    Import duties levied on part no. 54 (to be paid by the Swiss division): 10% of transfer price
    Swiss tax rate: 40%

    Based on U.S. and Swiss tax laws, the company has established a transfer price for part no. 54 equal to the U.S. market price. Assume that the Swiss division can obtain part no. 54 in Switzerland for $125.

    Required:

    A. If you were the head of the Swiss division, would you be better off to conduct business with your U.S. division or buy part no. 54 locally? Why? Show computations.
    B. Cunningham's accounting department has figured that the firm will make $66.40 for each unit transferred and used in the Swiss division's product. Rather than proceed with the transfer, would Cunningham be better off to sell its goods domestically and allow the Swiss division to acquire part no. 54 in Switzerland? Show computations for both U.S. and Swiss operations to support your answer.
    C. Generally speaking, when tax rates differ between countries, what income strategy should a company use in setting its transfer prices? If the seller is in a low tax-rate country, what type of price should it set? Why?

    LO: 6, 7 Type: A, N

    Answer:

    A. Courtesy of the shipping fee and import duty, both of which can be avoided, it is cheaper to purchase in Switzerland at $125. The shipping fee and import duty raise the cost to acquire parts from the U.S. operation to $141 ($110 + $20 + $11).

    B. Yes. Cunningham will make $76 ($49 + $27) if no transfer takes place and part no. 54 is sold in the U.S.

        U.S. operation: $110 - $40 = $70; $70 - ($70 x 30%) = $49
        Swiss operation: $400 - $125 - $230 = $45; $45 - ($45 x 40%) = $27

    C. When tax rates differ, companies should strive to generate more income in low tax-rate countries, and vice versa. Thus, if the seller is in a low tax-rate country, it should set a high transfer price (within allowed limits) to increase that country's income.

DISCUSSION QUESTIONS

Disadvantages of Return on Investment and Residual Income

78. Return on investment (ROI) and residual income (RI) are popular measures of divisional performance. Like any measure, there are disadvantages or weaknesses that are an inherent part of these tools. Briefly discuss a major weakness associated with each tool.

    LO: 4 Type: RC

    Answer:
    Divisions with high ROIs apparently are very successful. Top management would therefore like these managers to aggressively seek additional investment opportunities. However, the managers will often reject opportunities that are attractive to the company as a whole but that have a lower ROI than a division's current return.

    Residual income (RI) does not have the same weakness as described above for ROI. However, it is difficult to compare divisions of different sizes since RI is not a percentage.

Return on Investment: Asset Valuation

79. Return on investment (ROI) is a very popular tool to evaluate performance. The measurement of ROI is dependent, in part, on whether fixed assets are valued at acquisition cost or net book value.

    List several advantages of acquisition cost and net book value as ways to value long-lived assets.

    LO: 5 Type: RC

    Answer:
    Acquisition cost:
    - The investment base is not affected by the choice of an arbitrary depreciation method.
    - The investment base does not shrink over time because of accumulated depreciation. This avoids misleading increases in ROI or residual income.

    Net book value:
    - Consistency with the balance sheet is maintained.
    - Consistency with the definition of income is maintained, as both the numerator and denominator will reflect depreciation amounts.

General Transfer-Pricing Rule

80. One element of the general transfer-pricing rule is opportunity cost. Briefly define the term "opportunity cost" and then explain how it is computed for (1) companies that have excess capacity and (2) companies that have no excess capacity.

    LO: 6 Type: RC

    Answer:
    Opportunity cost is the benefit forgone by taking a particular action. Technically, companies that have excess capacity are not forgoing profits from business that has been rejected; thus, the opportunity cost is zero. In contrast, if a transfer is made in a firm that has no excess capacity, the firm will have to give up profits on selected outside transactions. These profits are measured by computing the contribution margin on lost sales in external marketplaces.

Negotiated Transfer Prices

81. Although the general rule for transfer prices is the outlay cost plus opportunity cost, many companies instead use negotiated prices to price their goods and services. When are negotiated transfer prices used? Are such prices consistent or inconsistent with responsibility accounting? Explain.

    LO: 7 Type: RC, N

    Answer:
    Negotiated transfer prices can be used when no market price exists for the transferred product or when a buying division can obtain a cheaper price outside of the organization.

    Negotiated prices are typically consistent with responsibility accounting; they generally do not require intervention by top management and thus help to preserve divisional autonomy. This is important since the divisional structure is predicated on the advantage of giving managers a high degree of responsibility for their unit operations.