# CHAPTER 15
# MANAGING CURRENT ASSETS

**(Difficulty: E = Easy, M = Medium, and T = Tough)**

## Multiple Choice: Conceptual

### *Easy:*

**Working capital** **Answer: c Diff: E**

1. Other things held constant, which of the following will cause an increase in working capital?

   a. Cash is used to buy marketable securities.
   b. A cash dividend is declared and paid.
   c. Merchandise is sold at a profit, but the sale is on credit.
   d. Long-term bonds are retired with the proceeds of a preferred stock issue.
   e. Missing inventory is written off against retained earnings.

**Working capital** **Answer: d Diff: E N**

2. Which of the following statements is most correct?

   a. The current ratio is calculated as net working capital divided by current liabilities.
   b. Gross working capital represents current assets used in operations.
   c. Net working capital is defined as current assets minus current liabilities.
   d. Statements b and c are correct.
   e. Statements a, b, and c are correct.

**Cash conversion cycle** **Answer: b Diff: E**

3. Helena Furnishings wants to sharply reduce its cash conversion cycle. Which of the following steps would reduce its cash conversion cycle?

   a. The company increases its average inventory without increasing its sales.
   b. The company reduces its DSO.
   c. The company starts paying its bills sooner, which reduces its average accounts payable without reducing its sales.
   d. Statements a and b are correct.
   e. All of the statements above are correct.

**Cash budget** **Answer: e Diff: E**

4. Which of the following is typically part of the cash budget?

   a. Payments lag.
   b. Payment for plant construction.
   c. Cumulative cash.
   d. Statements a and c are correct.
   e. All of the above statements are correct.

**Cash budget** **Answer: a Diff: E**

5. Which of the following statements concerning the cash budget is correct?

   a. Depreciation expense is not explicitly included, but depreciation effects are implicitly included in estimated tax payments.
   b. Cash budgets do not include financial expenses such as interest and dividend payments.
   c. Cash budgets do not include cash inflows from long-term sources such as bond issues.
   d. Statements a and b are correct.
   e. Statements a and c are correct.

**Cash budget** **Answer: d Diff: E**

6. Which of the following items should a company explicitly include in its monthly cash budget?

   a. Its monthly depreciation expense.
   b. Its cash proceeds from selling one of its divisions.
   c. Interest paid on its bank loans.
   d. Statements b and c are correct.
   e. All of the statements above are correct.

**Cash management** **Answer: a Diff: E**

7. Which of the following statements is most correct?

   a. A cash management system that minimizes collections float and maximizes disbursement float is better than one with higher collections float and lower disbursement float.
   b. A cash management system that maximizes collections float and minimizes disbursement float is better than one with lower collections float and higher disbursement float.
   c. The use of a lockbox is designed to minimize cash theft losses. If the cost of the lockbox is less than theft losses saved, then the lockbox should be installed.
   d. Other things held constant, a firm will need a smaller line of credit if it can arrange to pay its bills by the 5th of each month than if its bills come due uniformly during the month.
   e. None of the statements above is correct.

**Cash management** **Answer: d Diff: E**

8. Which of the following statements about current asset management is most correct?

   a. A positive net float means that a company has more cash available for its use than the amount shown in the company's books.
   b. Use of a lockbox reduces the possibility that petty cash will be lost.
   c. Depreciation has an impact on the cash budget.
   d. Statements a and c are correct.
   e. All of the statements above are correct.

**Cash management** **Answer: e Diff: E**

9. Which of the following statements is most correct?

   a. A good cash management system would minimize disbursement float and maximize collections float.
   b. If a firm begins to use a well-designed lockbox system, this will reduce its customers' net float.
   c. In the early 1980s, the prime interest rate hit a high of 21 percent. In 2000 the prime rate was considerably lower. That sharp interest rate decline has increased firms' concerns about the efficiency of their cash management programs.
   d. If a firm can get its customers to permit it to pay by wire transfers rather than having to write checks, this will increase its net float and thus reduce its required cash balances.
   e. A firm that has such an efficient cash management system that it has positive net float can have a negative checkbook balance at most times and still not have its checks bounce.

**Lockbox** **Answer: d Diff: E**

10. A lockbox plan is

   a. A method for safe-keeping of marketable securities.
   b. Used to identify inventory safety stocks.
   c. A system for slowing down the collection of checks written by a firm.
   d. A system for speeding up a firm's collections of checks received.
   e. Not described by any of the statements above.

**Marketable securities** **Answer: a Diff: E**

11. Which of the following is not a situation that might lead a firm to hold marketable securities?

   a. The firm has purchased a fixed asset that will require a large write-off of depreciable expense.
   b. The firm must meet a known financial commitment, such as financing an ongoing construction project.
   c. The firm must finance seasonal operations.
   d. The firm has just sold long-term securities and has not yet invested the proceeds in earning assets.
   e. None of the statements above is correct. (All of the situations might lead the firm to hold marketable securities.)

**Monitoring receivables** **Answer: b Diff: E**

12. Analyzing days sales outstanding (DSO) and the aging schedule are two common methods for monitoring receivables. However, they can provide erroneous signals to credit managers when

   a. Customers' payments patterns are changing.
   b. Sales fluctuate seasonally.
   c. Some customers take the discount and others do not.
   d. Sales are relatively constant, either seasonally or cyclically.
   e. None of the statements above is correct.

**Credit policy** **Answer: e Diff: E**

13. Which of the following is not commonly regarded as being a credit policy variable?

a. Credit period.
b. Collection policy.
c. Credit standards.
d. Cash discounts.
e. All of the statements above are credit policy variables.

**Credit policy** **Answer: d Diff: E**

14. If easing a firm's credit policy lengthens the collection period and results in a worsening of the aging schedule, then why do firms take such actions?

a. It normally stimulates sales.
b. To meet competitive pressures.
c. To increase the firm's deferral period for payables.
d. Statements a and b are correct.
e. All of the statements above are correct.

**Inventory management** **Answer: d Diff: E**

15. In the text, the "red-line method" refers to

a. The policy of drawing a red line around certain neighborhoods on a map and then refusing to sell on credit to people who live within those areas.
b. Restrictions imposed by companies that insure credit risks.
c. The use in Dun & Bradstreet's reports of a red line to show the maximum amount of credit that should be extended to a given customer; companies using this limit when they screen customers' orders are said to be using the "red-line method."
d. A method of controlling inventories by drawing a red line on the inside of a bin.
e. A method of controlling receivables by drawing a red line on invoices of companies that are expected to pay late.

**Inventory management** **Answer: e Diff: E**

16. Which of the following might be attributed to efficient inventory management?

a. High inventory turnover ratio.
b. Low incidence of production schedule disruptions.
c. High total assets turnover.
d. Statements a and c are correct.
e. All of the statements above are correct.

**Miscellaneous working capital concepts** **Answer: e Diff: E N**

17. Which of the following statements is most correct?

a. Working capital management involves both setting working capital policy and carrying out that policy in day-to-day operations.
b. The aging schedule is the cycle in which a firm purchases inventory, sells goods on credit, and then collects accounts receivable.
c. The best and most comprehensive picture of a firm's liquidity position is shown by its cash budget, which forecasts cash inflows and outflows.
d. Statements a, b, and c are correct.
e. Statements a and c are correct.

## *Medium:*

**Cash conversion cycle** **Answer: d Diff: M**

18. Ignoring cost and other effects on the firm, which of the following measures would tend to reduce the cash conversion cycle?

a. Maintain the level of receivables as sales decrease.
b. Buy more raw materials to take advantage of price breaks.
c. Take discounts when offered.
d. Forgo discounts that are currently being taken.
e. Offer a longer deferral period to customers.

**Cash conversion cycle** **Answer: d Diff: M**

19. Which of the following actions are likely to reduce the length of a company's cash conversion cycle?

a. Adopting a new inventory system that reduces the inventory conversion period.
b. Reducing the average days sales outstanding (DSO) on its accounts receivable.
c. Reducing the amount of time the company takes to pay its suppliers.
d. Statements a and b are correct.
e. All of the statements above are correct.

**Cash balances** **Answer: c Diff: M**

20. Which of the following statements is most correct?

a. The cash balances of most firms consist of transactions, compensating, precautionary, and speculative balances. The total desired cash balance can be determined by calculating the amount needed for each purpose and then summing them together.
b. The easier a firm's access to borrowed funds the higher its precautionary balances will be, in order to protect against sudden increases in interest rates.
c. For some firms, holding highly liquid marketable securities is a substitute for holding cash because the marketable securities accomplish the same objective as cash.
d. Firms today are more likely to rely on cash than on reserve borrowing power or marketable securities for speculative purposes because of the need to move quickly.
e. None of the statements above is correct.

**Cash budget** **Answer: e Diff: M**

21. Which of the following statements is most correct?

a. Shorter-term cash budgets, in general, are used primarily for planning purposes, while longer-term budgets are used for actual cash control.
b. The cash budget and the capital budget are planned separately and although they are both important to the firm, they are independent of each other.
c. Since depreciation is a non-cash charge, it does not appear on nor have an effect on the cash budget.
d. The target cash balance is set optimally such that it need not be adjusted for seasonal patterns and unanticipated fluctuations in receipts, although it is changed to reflect long-term changes in the firm's operations.
e. The typical actual cash budget will reflect interest on loans and income from investment of surplus cash. These numbers are expected values and actual results might turn out different.

**Cash management** **Answer: e Diff: M**

22. A lockbox plan is most beneficial to firms that

a. Send payables over a wide geographic area.
b. Have widely disbursed manufacturing facilities.
c. Have a large marketable securities account to protect.
d. Hold inventories at many different sites.
e. Make collections over a wide geographic area.

**Marketable securities portfolio** **Answer: d Diff: M**

23. Which of the following statement completions is most correct? If the yield curve is upward sloping, then a firm's marketable securities portfolio, assumed to be held for liquidity purposes, should be

a. Weighted toward long-term securities because they pay higher rates.
b. Weighted toward short-term securities because they pay higher rates.
c. Weighted toward U. S. Treasury securities to avoid interest rate risk.
d. Weighted toward short-term securities to avoid interest rate risk.
e. Balanced between long- and short-term securities to minimize the effects of either an upward or a downward trend in interest rates.

**Float** **Answer: a Diff: M**

24. Which of the following statements is most correct?

a. Poor synchronization of cash flows that results in high cash management costs can be partially offset by increasing disbursement float and decreasing collections float.
b. The size of a firm's net float is primarily a function of its natural cash flow synchronization and how it clears its checks.
c. Lockbox systems are used mainly for security purposes as well as to decrease the firm's net float.
d. If a firm can speed up its collections and slow down its disbursements, it will be able to reduce its net float.
e. A firm practicing good cash management and making use of positive net float will bring its check book balance as close to zero as possible, but must never generate a negative book balance.

**Compensating balances** **Answer: c Diff: M**

25. Which of the following statements is most correct?

a. Compensating balance requirements apply only to businesses, not to individuals.
b. Compensating balances are essentially costless to most firms, because those firms would normally have such funds on hand to meet transactions needs anyway.
c. If the required compensating balance is larger than the transactions balance the firm would ordinarily hold, then the effective cost of any loan requiring such a balance is increased.
d. Banks are prohibited from earning interest on the funds they force businesses to keep as compensating balances.
e. None of the statements above is correct.

**Receivables management** **Answer: b Diff: M**

26. Which of the following statements is most correct?

a. A firm that makes 90 percent of its sales on credit and 10 percent for cash is growing at a rate of 10 percent annually. If the firm maintains stable growth it will also be able to maintain its accounts receivable at its current level, since the 10 percent cash sales can be used to manage the 10 percent growth rate.
b. In managing a firm's accounts receivable it is possible to increase credit sales per day yet still keep accounts receivable fairly steady if the firm can shorten the length of its collection period.
c. If a firm has a large percentage of accounts over 30 days old, it is a sign that the firm's receivables management needs to be reviewed and improved.
d. Since receivables and payables both result from sales transactions, a firm with a high receivables-to-sales ratio should also have a high payables-to-sales ratio.
e. None of the statements above is correct.

**Credit policy and seasonal dating** **Answer: b Diff: M**

27. Which of the following statements is most correct?

a. If credit sales as a percentage of a firm's total sales increases, and the volume of credit sales also increases, then the firm's accounts receivable will automatically increase.
b. It is possible for a firm to overstate profits by offering very lenient credit terms that encourage additional sales to financially "weak" firms. A major disadvantage of such a policy is that it is likely to increase uncollectible accounts.
c. A firm with excess production capacity and relatively low variable costs would not be inclined to extend more liberal credit terms to its customers than a firm with similar costs that is operating close to capacity.
d. Firms use seasonal dating primarily to decrease their DSO.
e. Seasonal dating with terms 2/15, net 30 days, with April 1 dating, means that if the original sale took place on February 1st, the customer can take the discount up until March 15th, but must pay the net invoice amount by April 1st.

**DSO and aging schedule** **Answer: c Diff: M**

28. Which of the following statements is most correct?

a. If a firm's volume of credit sales declines then its DSO will also decline.
b. If a firm changes its credit terms from 1/20, net 40 days, to 2/10, net 60 days, the impact on sales can't be determined because the increase in the discount is offset by the longer net terms, which tends to reduce sales.
c. The DSO of a firm with seasonal sales can vary. While the sales per day figure is usually based on the total annual sales, the accounts receivable balance will be high or low depending on the season.
d. An aging schedule is used to determine what portion of customers pay cash and what portion buy on credit.
e. Aging schedules can be constructed from the summary data provided in the firm's financial statements.

**Days sales outstanding (DSO)** **Answer: c Diff: M**

29. Which of the following statements is most correct?

a. Other things held constant, the higher a firm's days sales outstanding (DSO), the better its credit department.
b. If a firm that sells on terms of net 30 changes its policy and begins offering all customers terms of 2/10, net 30, and if no change in sales volume occurs, then the firm's DSO will probably increase.
c. If a firm sells on terms of 2/10, net 30, and its DSO is 30 days, then its aging schedule would probably show some past due accounts.
d. Statements a and c are correct.
e. None of the statements above is correct.

**Working capital policy** **Answer: d Diff: M**

30. Which of the following statements is incorrect about working capital policy?

a. A company may hold a relatively large amount of cash if it anticipates uncertain sales levels in the coming year.
b. Credit policy has an impact on working capital since it has the potential to influence sales levels and the speed with which cash is collected.
c. The cash budget is useful in determining future financing needs.
d. Holding minimal levels of inventory can reduce inventory carrying costs and cannot lead to any adverse effects on profitability.
e. Managing working capital levels is important to the financial staff since it influences financing decisions and overall profitability of the firm.

**Miscellaneous concepts** **Answer: e Diff: M**

31. Which of the following statements is most correct?

a. Depreciation is included in the estimate of cash flows (Cash flow = Net income + Depreciation), so depreciation is set forth on a separate line in the cash budget.
b. If cash inflows and cash outflows occur on a regular basis, such as the situation where inflows from collections occur in equal amounts each day and most payments are made regularly on the 10th of each month, then it is not necessary to use a daily cash budget. A cash budget prepared at the end of the month will suffice.
c. Lockboxes are more important for fast food retailers such as McDonald's, which deal primarily with cash, than for manufacturers such as Xerox, which are generally paid by check.
d. Statements b and c are correct.
e. None of the statements above is correct.

## Multiple Choice: Problems

### *Easy:*

**Sales collections** **Answer: d Diff: E**

32. The Danser Company expects to have sales of $30,000 in January, $33,000 in February, and $38,000 in March. If 20 percent of sales are for cash, 40 percent are credit sales paid in the month following the sale, and 40 percent are credit sales paid 2 months following the sale, what are the cash receipts from sales in March?

a. $55,000
b. $47,400
c. $38,000
d. $32,800
e. $30,000

**Float** **Answer: d Diff: E**

33. Jumpdisk Company writes checks averaging $15,000 a day, and it takes five days for these checks to clear. The firm also receives checks in the amount of $17,000 per day, but the firm loses three days while its receipts are being deposited and cleared. What is the firm's net float in dollars?

a. $126,000
b. $ 75,000
c. $ 32,000
d. $ 24,000
e. $ 16,000

**Accounts receivable balance** **Answer: a Diff: E R**

34. If Hot Tubs Inc. had sales of $2,027,773 per year (all credit) and its days sales outstanding was equal to 35 days, what was its average amount of accounts receivable outstanding? (Assume a 365-day year.)

a. $194,444
b. $ 57,143
c. $ 5,556
d. $ 97,222
e. $212,541

**Inventory conversion period** **Answer: b Diff: E N**

35. A firm has $5,000,000 of inventory on average and annual sales of $30,000,000. Assume there are 365 days per year. What is the firm's inventory conversion period?

a. 30.25 days
b. 60.83 days
c. 45.00 days
d. 72.44 days
e. 55.25 days

**Payables deferral period** **Answer: c Diff: E N**

36. Ammer Products has an average accounts payable balance of $850,000 and its annual cost of goods sold is $8,750,000. Assume there are 365 days per year. What is Ammer's payables deferral period?

a. 25.50 days
b. 30.50 days
c. 35.46 days
d. 42.33 days
e. 50.00 days

**Cash conversion cycle** **Answer: d Diff: E**

37. Spartan Sporting Goods has $5 million in inventory and $2 million in accounts receivable. Its average daily sales are $100,000. The company's payables deferral period (accounts payable divided by daily purchases) is 30 days. What is the length of the company's cash conversion cycle?

a. 100 days
b. 60 days
c. 50 days
d. 40 days
e. 33 days

**Cash conversion cycle** **Answer: a Diff: E R**

38. For the Cook County Company, the average age of accounts receivable is 60 days, the average age of accounts payable is 45 days, and the average age of inventory is 72 days. Assuming a 365-day year, what is the length of the firm's cash conversion cycle?

a. 87 days
b. 90 days
c. 65 days
d. 48 days
e. 66 days

**Inventory turnover ratio and DSO** **Answer: a Diff: E N**

39. Bowa Construction's days sales outstanding is 50 days (on a 365-day basis). The company's accounts receivable equal $100 million and its balance sheet shows inventory equal to $125 million. What is the company's inventory turnover ratio?

a. 5.84
b. 4.25
c. 3.33
d. 2.75
e. 7.25

## *Medium:*

**Cash budget** **Answer: c Diff: M**

40. Chadmark Corporation's budgeted monthly sales are $3,000. Forty percent of its customers pay in the first month and take the 2 percent discount. The remaining 60 percent pay in the month following the sale and don't receive a discount. Chadmark's bad debts are very small and are excluded from this analysis. Purchases for next month's sales are constant each month at $1,500. Other payments for wages, rent, and taxes are constant at $700 per month. Construct a single month's cash budget with the information given. What is the average cash gain or (loss) during a typical month for Chadmark Corporation?

a. $2,600
b. $ 800
c. $ 776
d. $ 740
e. $ 728

**ROE and working capital policy** **Answer: c Diff: M**

41. Jarrett Enterprises is considering whether to pursue a restricted or relaxed current asset investment policy. The firm's annual sales are $400,000; its fixed assets are $100,000; debt and equity are each 50 percent of total assets. EBIT is $36,000, the interest rate on the firm's debt is 10 percent, and the firm's tax rate is 40 percent. With a restricted policy, current assets will be 15 percent of sales. Under a relaxed policy, current assets will be 25 percent of sales. What is the difference in the projected ROEs between the restricted and relaxed policies?

a. 0.0%
b. 6.2%
c. 5.4%
d. 1.6%
e. 3.8%

**Inventory conversion period** **Answer: d Diff: M R**

42. On average, a firm sells $2,000,000 in merchandise a month. It keeps inventory equal to one-half of its monthly sales on hand at all times. If the firm analyzes its accounts using a 365-day year, what is the firm's inventory conversion period?

a. 365.0 days
b. 182.5 days
c. 30.3 days
d. 15.2 days
e. 10.5 days

**Cash conversion cycle** **Answer: e Diff: M N**

43. Biondi Manufacturing Company (BMC) has an average accounts receivable balance of $1,250,000, an average inventory balance of $1,750,000, and an average accounts payable balance of $800,000. Its annual sales are $12,000,000 and its cost of goods sold represents 80 percent of annual sales. Assume there are 365 days in a year. What is BMC's cash conversion cycle?

a. 84.15 days
b. 53.23 days
c. 72.28 days
d. 100.55 days
e. 60.83 days

**Cash conversion cycle** **Answer: d Diff: M R**

44. Porta Stadium Inc. has annual sales of $80,000,000 and keeps average inventory of $20,000,000. On average, the firm has accounts receivable of $16,000,000. The firm buys all raw materials on credit, its trade credit terms are net 35 days, and it pays on time. The firm's managers are searching for ways to shorten the cash conversion cycle. If sales can be maintained at existing levels but inventory can be lowered by $4,000,000 and accounts receivable lowered by $2,000,000, what will be the net change in the cash conversion cycle? Use a 365-day year. Round to the closest whole day.

a. +105 days
b. -105 days
c. +27 days
d. -27 days
e. -3 days

**Cash conversion cycle** **Answer: e Diff: M R**

45. You have recently been hired to improve the performance of Multiplex Corporation, which has been experiencing a severe cash shortage. As one part of your analysis, you want to determine the firm's cash conversion cycle. Using the following information and a 365-day year, what is your estimate of the firm's current cash conversion cycle?

- Current inventory = $120,000.
- Annual sales = $600,000.
- Accounts receivable = $157,808.
- Accounts payable = $25,000.
- Total annual purchases = $365,000.
- Purchases credit terms: net 30 days.
- Receivables credit terms: net 50 days.

a. 49 days
b. 193 days
c. 100 days
d. 168 days
e. 144 days

**Cash conversion cycle** **Answer: b Diff: M**

46. Kolan Inc. has annual sales of $36,500,000 ($100,000 a day on a 365-day basis). On average, the company has $12,000,000 in inventory and $8,000,000 in accounts receivable. The company is looking for ways to shorten its cash conversion cycle, which is calculated on a 365-day basis. Its CFO has proposed new policies that would result in a 20 percent reduction in both average inventories and accounts receivables. The company anticipates that these policies will also reduce sales by 10 percent. Accounts payable will remain unchanged. What effect would these policies have on the company's cash conversion cycle?

a. -40 days
b. -22 days
c. -13 days
d. +22 days
e. +40 days

**Cash conversion cycle** **Answer: e Diff: M R**

47. Gaston Piston Corp. has annual sales of $50,735,000 and maintains an average inventory level of $15,012,000. The average accounts receivable balance outstanding is $10,008,000. The company makes all purchases on credit and has always paid on the 30th day. The company is now going to take full advantage of trade credit and pay its suppliers on the 40th day. If sales can be maintained at existing levels but inventory can be lowered by $1,946,000 and accounts receivable lowered by $1,946,000, what will be the net change in the cash conversion cycle? (Assume there are 365 days in the year.)

a. -14.0 days
b. -18.8 days
c. -28.0 days
d. -25.6 days
e. -38.0 days

**Lockbox** **Answer: e Diff: M**

48. Cross Collectibles currently fills mail orders from all over the U.S. and receipts come in to headquarters in Little Rock, Arkansas. The firm's average accounts receivable (A/R) is $2.5 million and is financed by a bank loan with 11 percent annual interest. Cross is considering a regional lockbox system to speed up collections that it believes will reduce A/R by 20 percent. The annual cost of the system is $15,000. What is the estimated net annual savings to the firm from implementing the lockbox system?

a. $500,000
b. $ 30,000
c. $ 60,000
d. $ 55,000
e. $ 40,000

**Changes in working capital and free cash flow** **Answer: b Diff: M N**

49. Allen Brothers is interested in increasing its free cash flow (which it hopes will result in a higher EVA and stock price). The company's goal is to generate $180 million of free cash flow over the upcoming year. Allen's CFO has made the following projections for the upcoming year:

- EBIT is projected to be $850 million.
- Gross capital expenditures are expected to total $360 million, and its depreciation expense is expected to be $120 million. Thus, its net capital expenditures are expected to total $240 million.
- The firm's tax rate is 40 percent.

The company forecasts that there will be no change in its cash and marketable securities, nor will there be any changes in notes payable or accrued liabilities. Which of the following will enable the company to achieve its goal of generating $180 million in free cash flow?

a. Accounts receivable increase $470 million, inventory increases $230 million, and accounts payable increase $790 million.
b. Accounts receivable increase $470 million, inventory increases $230 million, and accounts payable increase $610 million.
c. Accounts receivable decrease by $500 million, inventory increases by $480 million, and accounts payable decline by $80 million.
d. Accounts receivable decrease by $400 million, inventory increases by $480 million, and accounts payable increase by $80 million.
e. Accounts receivable increase by $500 million, inventory increases by $100 million, and accounts payable decline by $480 million.

**Aging schedule** **Answer: b Diff: M N**

50. Short Construction offers its customer's credit terms of 2/10, net 30 days, while Fryman Construction offers its customer's credit terms of 2/10, net 45 days. The aging schedules for each of the two companies' accounts receivable are reported below:

| | Short Construction | | Fryman Construction | |
|---|---|---|---|---|
| Age of Account (Days) | Value of Account | Percentage of Total Value | Value of Account | Percentage of Total Value |
| 0-10 | $58,800 | 60% | $ 73,500 | 50% |
| 11-30 | 19,600 | 20 | 29,400 | 20 |
| 31-45 | 14,700 | 15 | 29,400 | 20 |
| 46-60 | 2,940 | 3 | 10,290 | 7 |
| Over 60 | 1,960 | 2 | 4,410 | 3 |
| Total Receivables | $98,000 | | $147,000 | |

Which company has the greatest percentage of overdue accounts and what is their percentage of overdue accounts?

a. Fryman; 50% overdue.
b. Short; 20% overdue.
c. Fryman; 30% overdue.
d. Fryman; 3% overdue.
e. Short; 40% overdue.

## *Tough:*

**Cash conversion cycle** **Answer: c Diff: T R**

51. Jordan Air Inc. has average inventory of $1,000,000. Its estimated annual sales are $10 million and the firm estimates its receivables conversion period to be twice as long as its inventory conversion period. The firm pays its trade credit on time; its terms are net 30 days. The firm wants to decrease its cash conversion cycle by 10 days. It believes that it can reduce its average inventory to $863,000. Assume a 365-day year and that sales will not change. By how much must the firm also reduce its accounts receivable to meet its goal of a 10-day reduction in its cash conversion cycle?

a. $ 101,900
b. $1,000,000
c. $ 136,986
d. $ 333,520
e. $ 0

## *Multiple Part:*

*(The following information applies to the next three problems.)*

Callison Airlines is deciding whether to pursue a restricted or relaxed current asset investment policy. Callison's annual sales are expected to total $3.6 million, its fixed assets turnover ratio equals 4.0, and its debt and common equity are each 50 percent of total assets. EBIT is $150,000, the interest rate on the firm's debt is 10 percent, and the firm's tax rate is 40 percent. If the company follows a restricted policy, its total assets turnover will be 2.5. Under a relaxed policy, its total assets turnover will be 2.2.

**Current asset investment policy** **Answer: c Diff: M N**

52. If the firm adopts a restricted policy, how much will it save in interest expense (relative to what it would be if Callison were to adopt a relaxed policy)?

a. $ 3,233
b. $ 6,175
c. $ 9,818
d. $ 7,200
e. $10,136

**Current asset investment policy and ROE** **Answer: b Diff: M N**

53. What is the difference in the projected ROEs between the restricted and relaxed policies?

a. 2.24%
b. 1.50%
c. 1.00%
d. 0.50%
e. 0.33%

**Current asset investment policy and ROE** **Answer: a Diff: M N**

54. Assume now the company expects that if it adopts a restricted policy, its sales will fall by 15 percent, EBIT will fall by 10 percent, but its total assets turnover, debt ratio, interest rate, and tax rate will remain the same. In this situation, what is the difference in the projected ROEs between the restricted and relaxed policies?

a. 2.24%
b. 1.50%
c. 1.00%
d. 0.50%
e. 0.33%

# CHAPTER 15
# ANSWERS AND SOLUTIONS

**1. Working capital** **Answer: c Diff: E**

**2. Working capital** **Answer: d Diff: E N**

The correct answer is statement d. The current ratio is calculated as current assets divided by current liabilities.

**3. Cash conversion cycle** **Answer: b Diff: E**

Statement a is false. If inventory increases, and sales do not, more cash is being "tied up" in inventory so the cash conversion cycle is increased, not reduced. Statement b is true. If the company reduces its DSO, it is collecting its accounts receivables more efficiently, so it reduces the cash conversion cycle. Statement c is false. If the company pays its bills sooner, it uses its cash to pay off accounts payable, which increase its cash conversion cycle.

**4. Cash budget** **Answer: e Diff: E**

**5. Cash budget** **Answer: a Diff: E**

**6. Cash budget** **Answer: d Diff: E**

Statement a is false because depreciation is not a cash item. (Although depreciation will affect taxes, depreciation itself will not be included in the cash budget. The question asks "explicitly.") Statement b is true because this is a cash transaction, so it should be included in the cash budget. Statement c is true because this is a cash transaction and should be included in the cash budget. Since statements b and c are correct, statement d is the correct choice.

**7. Cash management** **Answer: a Diff: E**

Net float = Disbursements float - Collections float; therefore the larger the disbursements float and the lower the collections float the better the cash management system. A lockbox is used to speed cash collections. If a firm's outflows come due early in the month rather than uniformly this will necessitate a large line of credit.

**8. Cash management** **Answer: d Diff: E**

Statements a and c are correct; therefore, statement d is the appropriate choice. A lockbox speeds collections of receivables; it doesn't ensure that petty cash will be safe. Although depreciation is a noncash expense, it does affect taxes, which are a cash expense.

**9. Cash management** **Answer: e Diff: E**

A very efficient cash management system could allow a firm to operate with positive net float where the firm has a negative checkbook balance at most times but still does not bounce its checks. The other statements are false. A good cash management system maximizes disbursement float and minimizes collections float. A well-designed lockbox system minimizes collections float which would increase a firm's net float. Increases in interest rates raise the opportunity cost of idle cash. A firm prefers to write checks, maximizing its disbursement float and increasing its net float.

**10. Lockbox** **Answer: d Diff: E**

**11. Marketable securities** **Answer: a Diff: E**

**12. Monitoring receivables** **Answer: b Diff: E**

**13. Credit policy** **Answer: e Diff: E**

**14. Credit policy** **Answer: d Diff: E**

**15. Inventory management** **Answer: d Diff: E**

**16. Inventory management** **Answer: e Diff: E**

**17. Miscellaneous working capital concepts** **Answer: e Diff: E N**

The correct answer is statement e. The cash conversion cycle is the cycle in which a firm purchases inventory, sells goods on credit, and then collects accounts receivable.

**18. Cash conversion cycle** **Answer: d Diff: M**

**19. Cash conversion cycle** **Answer: d Diff: M**

Statements a and b are correct; therefore, statement d is the appropriate choice. Delaying payments to suppliers increases the length of the cash conversion cycle.

**20. Cash balances** **Answer: c Diff: M**

**21. Cash budget** **Answer: e Diff: M**

**22. Cash management** **Answer: e Diff: M**

**23. Marketable securities portfolio** **Answer: d Diff: M**

**24. Float** **Answer: a Diff: M**

**25. Compensating balances** **Answer: c Diff: M**

**26. Receivables management** **Answer: b Diff: M**

**27. Credit policy and seasonal dating** **Answer: b Diff: M**

**28. DSO and aging schedule** **Answer: c Diff: M**

**29. Days sales outstanding (DSO)** **Answer: c Diff: M**

**30. Working capital policy** **Answer: d Diff: M**

Statements a, b, c and e are all correct statements. Statement d is incorrect, and thus the correct choice. Holding minimal levels of inventory may result in lost sales.

**31. Miscellaneous concepts** **Answer: e Diff: M**

**32. Sales collections** **Answer: d Diff: E**

$$\text{March receipts} = (0.20)(\$38{,}000) + (0.40)(\$33{,}000) + (0.40)(\$30{,}000) = \$32{,}800.$$

**33. Float** **Answer: d Diff: E**

Positive disbursement float = $15,000(5) = $75,000.
Negative collections float = $17,000(3) = $51,000.
Net float = $75,000 - $51,000 = $24,000.

**34. Accounts receivable balance** **Answer: a Diff: E R**

Accounts receivables = DSO × Sales per day = 35($2,027,773/365) = $194,444.

**35. Inventory conversion period** **Answer: b Diff: E N**

$$\text{Inventory conversion period} = \frac{\text{Inventory}}{\text{Sales/365}} = \frac{\$5{,}000{,}000}{\$30{,}000{,}000/365} = 60.83 \text{ days.}$$

**36. Payables deferral period** **Answer: c Diff: E N**

$$\text{Payables deferral period} = \frac{\text{Payables}}{\text{Cost of goods sold/365}} = \frac{\$850{,}000}{\$8{,}750{,}000/365} = 35.46 \text{ days.}$$

**37. Cash conversion cycle** **Answer: d Diff: E**

Facts given: Payables deferral period = 30 days; Inv = $5,000,000; Rec. = $2,000,000; ADS = $100,000.

$$\text{Cash conversion cycle} = \text{Inv. conversion period} + \text{Rec. collection period} - \text{Pay. deferral period}.$$

Step 1: Determine the inventory conversion period:

$$\begin{aligned}\text{Inventory conversion period} &= \text{Inventory/Daily sales}\\ &= \$5,000,000/\$100,000\\ &= 50 \text{ days.}\end{aligned}$$

Step 2: Determine the receivables collection period:

$$\begin{aligned}\text{Receivables collection period} &= \text{Receivables/Daily sales}\\ &= \$2,000,000/\$100,000\\ &= 20 \text{ days.}\end{aligned}$$

Step 3: Given data and information calculated above, determine the firm's cash conversion cycle:

$$\begin{aligned}\text{Cash conversion cycle} &= 50 + 20 - 30\\ &= 40 \text{ days.}\end{aligned}$$

**38. Cash conversion cycle** **Answer: a Diff: E R**

$$\text{Cash conversion cycle} = \text{Inv. conversion period} + \text{Rec. collection period} - \text{Pay. deferral period}$$

$$= 72 + 60 - 45 = 87 \text{ days.}$$

**39. Inventory turnover ratio and DSO** **Answer: a Diff: E N**

Step 1: Determine sales level using the DSO equation.

$$\begin{aligned}\text{DSO} &= \frac{\text{Receivables}}{\text{Sales}/365}\\ 50 &= \frac{\$100,000,000}{\text{Sales}/365}\\ \$100,000,000 &= \frac{50(\text{Sales})}{365}\\ \$36,500,000,000 &= 50(\text{Sales})\\ \$730,000,000 &= \text{Sales.}\end{aligned}$$

Step 2: Calculate inventory turnover ratio.

$$\begin{aligned}\text{Inv. turnover} &= \frac{\text{Sales}}{\text{Inv.}}\\ \text{Inv. turnover} &= \frac{\$730,000,000}{\$125,000,000}\\ \text{Inv. turnover} &= 5.84.\end{aligned}$$

**40. Cash budget** **Answer: c Diff: M**

Construct a simplified cash budget:

| | | |
|---|---|---|
| Sales | $3,000 | |
| Collections (same month's sales) | 1,176 | (0.98 × 0.40 × $3,000) |
| Collections (last month's sales) | 1,800 | (1.00 × 0.60 × $3,000) |
| Total collections | 2,976 | |
| Purchases payments | 1,500 | |
| Other payments | 700 | |
| Total payments | 2,200 | |
| Net cash gain (loss) | $ 776 | |

**41. ROE and working capital policy** **Answer: c Diff: M**

Construct simplified comparative balance sheets and income statements for the restricted and relaxed policies:(In thousands)

| | 15% of Sales Restricted | 25% of Sales Relaxed |
|---|---|---|
| Current assets | $ 60 | $100 |
| Fixed assets | 100 | 100 |
| Total assets | $160 | $200 |
| Debt | 80 | 100 |
| Equity and retained earnings | 80 | 100 |
| Total liabilities and equity | $160 | $200 |
| EBIT | 36 | 36 |
| Less: Interest (10%) | (8) | (10) |
| EBT | 28 | 26 |
| Less: Taxes (40%) | ( 11.2) | ( 10.4) |
| Net income | $ 16.8 | $ 15.6 |

ROE = NI/Equity; $16.8/$80 = 0.21; $15.6/$100 = 0.156.
ROE (restricted policy) = 21.0%.
ROE (relaxed policy) = 15.6%.
Difference in ROEs = 0.21 - 0.156 = 0.054 = 5.4%.

**42. Inventory conversion period** **Answer: d Diff: M R**

$$\text{Inventory conversion period (ICP)} = \frac{\text{365 days}}{\text{Sales/Inventory}}.$$

Annual sales = 12 × $2 million = $24 million.
Inventory = 0.5 × $2 million = $1 million.

$$\text{ICP} = \frac{365}{\$24/\$1} = 15.2 \text{ days}.$$

**43. Cash conversion cycle** **Answer: e Diff: M N**

$$\text{CCC} = \text{Inventory conversion period} + \text{Receivables collection period} - \text{Payables deferral period}.$$

$$\text{Inventory conversion period} = \frac{\text{Inventory}}{\text{Sales}/365} = \frac{\$1{,}750{,}000}{\$12{,}000{,}000/365} = 53.23 \text{ days}.$$

$$\text{Receivables collection period} = \frac{\text{Receivables}}{\text{Sales}/365} = \frac{\$1{,}250{,}000}{\$12{,}000{,}000/365} = 38.02 \text{ days}.$$

$$\text{Payables deferral period} = \frac{\text{Payables}}{\text{COGS}/365} = \frac{\$800{,}000}{(0.8)(\$12{,}000{,}000)/365} = 30.42 \text{ days}.$$

CCC = 53.23 days + 38.02 days - 30.42 days
= 60.83 days.

**44. Cash conversion cycle** **Answer: d Diff: M R**

| Old | | With Change | |
|---|---|---|---|
| $\text{ICP} = \frac{365}{\frac{\$80}{\$20}} = \frac{365}{4}$ | 91.25 | $\frac{365}{\frac{\$80}{\$16}} = \frac{365}{5}$ | 73.000 |
| + | | + | |
| $\text{DSO} = \frac{\frac{\$16}{\$80}}{365}$ | 73.00 | $\frac{\frac{\$14}{\$80}}{365}$ | 63.875 |
| DP = 35 days | -35.00 | DP | -35.000 |
| CCC = | 129.25 days | New CCC = | 101.875 days |

Change in CCC = 101.875 – 129.25 = -27.375 days ≈ -27 days.
Net change is –27 days (CCC is 27 days shorter).

**45. Cash conversion cycle** **Answer: e Diff: M R**

Calculate each of the three main components of the cash conversion cycle:

Inventory Conversion period (ICP):

$$ICP = \frac{\$120,000}{\$600,000/365} = \frac{\$120,000}{\$1,643.8356} = 73 \text{ days.}$$

Days sales outstanding (DSO):

$$DSO = \frac{\$157,808}{\$600,000/365} = \frac{\$157,808}{\$1,643.8356} = 96 \text{ days.}$$

Payables deferral period (PDP):

$$PDP = \frac{\$25,000}{\$365,000/365} = \frac{\$25,000}{\$1,000} = 25 \text{ days.}$$

Cash conversion cycle (CCC):
CCC = ICP + DSO − PDP = 73 + 96 − 25 = 144 days.

**46. Cash conversion cycle** **Answer: b Diff: M**

$$\text{Cash conversion cycle} = \text{Inv. conversion period} + \text{Rec. collection period} - \text{Pay. deferral period}.$$

For this problem we are only interested in the change in the CCC. We may therefore ignore the Payables Deferral Period since it is assumed to remain unchanged.

Old CCC (ignore payables) = \$12,000,000/\$100,000 + \$8,000,000/\$100,000
= 120 + 80 = 200 days.

New CCC = \$9,600,000/\$90,000 + \$6,400,000/\$90,000
= 106.67 + 71.11 = 177.78 days.

Change in CCC = New CCC − Old CCC
= 177.78 − 200
= -22.22 days. Round to 22 days shorter.

**47. Cash conversion cycle** **Answer: e Diff: M R**

First, calculate Sales/Day = \$50,735,000/365 = \$139,000.

Then, calculate the old inventory conversion period:
Inventory/Sales per day = \$15,012,000/\$139,000 = 108 days.

Then, find the new inventory conversion period:
\$13,066,000/\$139,000 = 94 days.
We have cut the inventory conversion period by 108 − 94 = 14 days.

Then, calculate the old DSO:
Accts. Rec./Sales per day = \$10,008,000/\$139,000 = 72 days.

Then, find the new DSO = \$8,062,000/\$139,000 = 58 days.
We have cut the DSO by 72 − 58 = 14 days.

Finally, find the total net change = -14 + (-14) − 10 = -38 days.

**48. Lockbox** **Answer: e Diff: M**

Calculate the net reduction in A/R:
Current A/R = $2,500,000. New A/R with 20% reduction:
$2,500,000 - 0.20($2,500,000) = $2,000,000.
Net reduction in A/R = $500,000.
Calculate the interest savings and net savings:
Interest savings = $500,000(0.11) = $55,000.
Net savings = Interest savings - Annual lockbox cost
= $55,000 - $15,000 = $40,000.

**49. Changes in working capital and free cash flow** **Answer: b Diff: M N**

$$\begin{aligned} \text{FCF} &= \text{EBIT}(1 - \text{T}) + \text{DEP} - \text{CapExp} - \Delta\text{NOWC} \\ \$180{,}000{,}000 &= \$850{,}000{,}000(0.6) + \$120{,}000{,}000 - \$360{,}000{,}000 - \Delta\text{NOWC} \\ \$180{,}000{,}000 &= \$510{,}000{,}000 + \$120{,}000{,}000 - \$360{,}000{,}000 - \Delta\text{NOWC} \\ \$180{,}000{,}000 &= \$270{,}000{,}000 - \Delta\text{NOWC} \\ -\$90{,}000{,}000 &= -\Delta\text{NOWC} \\ \Delta\text{NOWC} &= \$90{,}000{,}000. \end{aligned}$$

Net operating working capital needs to increase by $90 million, so we need to find the response that shows working capital increasing by that amount. Statement a is false because ΔNOWC = $470,000,000 + $230,000,000 - $790,000,000 = -$90,000,000. Statement b is true because ΔNOWC = $470,000,000 + $230,000,000 - $610,000,000 = +$90,000,000. Statement c is false because ΔNOWC = -$500,000,000 + $480,000,000 – (-$80,000,000) = +$60,000,000. Statement d is false because ΔNOWC = -$400,000,000 + $480,000,000 - $80,000,000 = $0. Statement e is false because ΔNOWC = $500,000,000 + $100,000,000 – (-$480,000,000) = $1,080,000,000.

**50. Aging schedule** **Answer: b Diff: M N**

Short's credit policy is 2/10, net 30 days, so customers' receivables are overdue after 30 days. The percentage of accounts overdue (after 30 days) is 15% + 3% + 2% = 20%. Fryman's credit policy is 2/10, net 45 days, so customers' receivables are overdue after 45 days. The percentage of accounts overdue (after 45 days) is 7% + 3% = 10%. Thus, Short has the greatest percentage of overdue accounts at 20%. (Note that you could also use the dollar amounts to develop the total percentage of overdue accounts, but you would arrive at the same answer.)

Alternative solution using dollar amounts of receivables:

$$\text{Short: } \frac{(\$14{,}700 + \$2{,}940 + \$1{,}960)}{\$98{,}000} = 20\%.$$

$$\text{Fryman: } \frac{(\$10{,}290 + \$4{,}410)}{\$147{,}000} = 10\%.$$

**51. Cash conversion cycle** **Answer: c Diff: T R**

ICP = 365 days/($10 million/$1 million) = 36.5 days.
DSO = 2.0 × ICP = 73 days.

Solve for accounts receivable:
DSO = 73 = Accounts receivable/Sales per day
= (A/R)/($10/365) = $2 million.

Calculate new ICP, change in CCC, and new DSO required to meet goal:
New ICP = 365/($10/$0.863) = 365/11.5875 = 31.5 days.
Net change in ICP = -5 days.

Total reduction in CCC required = 10 days.
Reduction in DSO needed = 10 − 5 = 5 days.
New DSO required = 73 − 5 = 68 days.

Solve for new receivables level:
DSO = 68 = [(A/R)/($10,000,000/365)]
A/R = 68 × $27,397.26 = $1,863,014.
Old A/R = $2,000,000. New A/R = $1,863,014.
Reduction required in A/R = $2,000,000 - $1,863,014 = $136,986.

**52. Current asset investment policy** **Answer: c Diff: M N**

Step 1: Calculate net fixed assets, which will be the same under either policy.

$$\text{FA turnover} = \frac{S}{NFA}$$

$$4.0 = \frac{\$3{,}600{,}000}{NFA}$$

$$NFA = \$900{,}000.$$

Step 2: Determine total assets under each policy, given the total assets turnover ratio for each one.

Restricted: $\text{Total assets turnover} = \frac{S}{TA}$

$$2.5 = \frac{\$3{,}600{,}000}{TA}$$

$$TA = \$1{,}440{,}000.$$

Relaxed: $2.2 = \frac{\$3{,}600{,}000}{TA}$

$$TA = \$1{,}636{,}364.$$

Step 3: Develop balance sheets for each policy to determine the debt level.

| | Restricted | Relaxed |
|---|---|---|
| Current assets | $ 540,000 | $ 736,364 |
| Fixed assets | 900,000 | 900,000 |
| Total assets | $1,440,000 | $1,636,364 |
| | | |
| Debt | $ 720,000 | $ 818,182 |
| Equity | 720,000 | 818,182 |
| Total liabilities & equity | $1,440,000 | $1,636,364 |

Step 4: Determine interest under each policy:
Restricted: $720,000 × 0.10 = $72,000.
Relaxed: $818,182 × 0.10 = $81,818.

Step 5: Calculate the difference in interest expense (the savings) between the 2 policies:
$81,818 - $72,000 = $9,818.

**53. Current asset investment policy and ROE** **Answer: b Diff: M N**

Step 1: From the previous problem we can now set up an income statement for each policy.

| | Restricted | Relaxed |
|---|---|---|
| EBIT | $150,000 | $150,000 |
| Interest (10%) | 72,000 | 81,818 |
| EBT | $ 78,000 | $ 68,182 |
| Taxes | 31,200 | 27,273 |
| Net income | $ 46,800 | $ 40,909 |

Step 2: Calculate ROE using common equity as calculated in the prior problem for each policy.

Restricted: $ROE = \frac{\$46{,}800}{\$720{,}000} = 6.5\%.$ Relaxed: $ROE = \frac{\$40{,}909}{\$818{,}182} = 5.0\%.$

Step 3: Calculate the difference in ROEs.
$\Delta ROE = 6.5\% - 5.0\% = 1.5\%.$

**54. Current asset investment policy and ROE** **Answer: a Diff: M N**

From the prior two problems, we know that the ROE for the relaxed policy is 5%. Now, we need to calculate the new ROE under the restricted policy.

Step 1: Calculate the new sales and EBIT levels.
New sales = $3,600,000 × 0.85 = $3,060,000.
New EBIT = $150,000 × 0.90 = $135,000.

Step 2: Calculate the new level of assets under the restricted policy.
S/TA = 2.5
$3,060,000/2.5 = $1,224,000.

Step 3: Develop the firm's balance sheet under the restricted policy.

| | |
|---|---|
| Total assets | $1,224,000 |
| Debt | $ 612,000 |
| Equity | 612,000 |
| Total liabilities & equity | $1,224,000 |

Step 4: Develop the firm's income statement under the restricted policy.

| | |
|---|---|
| EBIT | $135,000 |
| Interest (10%) | 61,200 |
| EBT | $ 73,800 |
| Taxes (40%) | 29,520 |
| Net income | $ 44,280 |

Step 5: Calculate the firm's ROE under the restricted policy.
ROE = NI/E = $44,280/$612,000
ROE = 7.24%.

Step 6: Calculate the difference in ROEs between the 2 policies.
$\Delta ROE = 7.24\% - 5\% = 2.24\%.$