Cash Cycle / Cash Conversion Period

Problem 1:

Income Statement Data		Balance Sheet Data		
	Year Ending, First Quarter 1999		End of First Quarter 1998	End of First Quarter 1999
Sales	$3,968	Inventory	$470	$468
Cost of goods sold	3,518	Accounts receivable	471	481
		Accounts payable	304	303

a) Suppose that each year the company spends total cash for overall operations at $5,475 billion. How much minimum cash does the company need to have?

b) Suppose United States manufacturers are able to reduce inventory levels to a year average value of $250 billion and average accounts receivable to $300 billion. By how many days will this reduce the cash conversion cycle?

c) Suppose that with the same level of inventories, accounts receivable, and accounts payable, United States manufacturers can increase production and sales by 10 percent. What will be the effect on the cash conversion cycle?

Problem 2:

MAX Company, a producer of paper dinnerware, has annual sales $10 million and a cost of goods sold of 75% of sales. MAX has an average age of inventory of 60 days, an average collection period 40 days, and an average payment period of 35 days.

Find - Cash that MAX needs to use in cash conversion cycle
- If MAX could reduce average collection period by 5 days

Problem 3:

The Zocco Corporation has an inventory conversion period of 60 days, an average collection period of 38 days, and a payables deferral period of 30 days. Assume that cost of goods sold is 75% of sales.

a) What is the length of the firm's cash conversion cycle?

b) If Zocco's annual sales are $3,421,875 and all sales are on credit, what is the firm's investment in accounts receivable?

c) How many times per year does Zocco turn over its inventory?

Problem 4:

Garrett Industries turns over its inventory 6 times each year; it has an average collection period of 45 days and an average payment period of 30 days. The firm's annual operating-cycle investment is $3 million. Assume a 360-day year.

a) Calculate firm's operating cycle, cash conversion cycle, its daily cash operating expenditure, and the amount of resources needed to support its cash conversion cycle.
b) Find the firm's cash conversion cycle and resource investment requirement if it makes the following changes simultaneously.
   (2) Shortens the average age of inventory by 5 days.
   (3) Speeds the collection of accounts receivable by an average 10 days.
   (4) Extends the average payment period by 10 days.
c) Discuss possible management that might be able to reduce the cash conversion cycle.

Problem 5:

Costs of Alternative Sources of Short-term Financing. On March 1, 20X1, National Corporation purchased $100,000 worth of inventory on credit with terms of 1/20, net/60. In the past, National has always followed the policy of making payment 1 month (30 days) after the goods are purchased.

A new member of National's staff has indicated that the company she had previously worked for never passed up its cash discounts, and she wonders if that is not a sound policy. She has also pointed out to National that if it does not take advantage of the cash discount, it should wait the entire 60-day period to pay the full bill rather than paying within 30 days.

If National were to take advantage of the discount and pay the bill on March 20 rather than on March 30, the firm would have to borrow the necessary funds for the 10 extra days. National's borrowing terms with a local bank are estimated to be at 9 percent (annual rate), with a 15 percent compensating balance for the term of the loan. Most members of National's staff feel that it makes little sense to take out an 9 percent loan with a compensating balance of 15 percent in order to save 1 percent on its $100,000 by paying the account 10 days earlier than it had planned.

a) Just in terms of true interest cost, would it be to National's advantage to take the 1 percent discount by paying the bill 10 days earlier than usual if to do this it borrowed the necessary amount on the above-mentioned terms?

b) If National ordinarily paid 60 days after purchase (instead of 30 days); would the company benefit by taking the discount if it had to borrow the money on the above-mentioned terms?
c) Compare your answers to (a) and (b) and explain what makes the discount more (less) desirable under the conditions stated in (b) than in (a).

Cost of Bank Loan

Problem 6:

Suppose that Dynamic Mattress needs to raise $20 million for 6 months. Bank A quotes a simple interest rate of 7 percent but requires the firm to maintain an interest-free compensating balance of 20 percent. Bank B quotes a simple interest rate of 8 percent but does not require any compensating balances. Bank C quotes a discount interest rate of 7.5 percent and also does not require compensating balances. What is the effective (or compound) annual interest rate on each of these loans?

Problem 7:

Jackie Corp. turns over its inventory 9 times during the year, and its days sales outstanding was 36 days. Under regular payment policy, the company payables deferral period is 40 days. Jackie's daily operating cash is around $64,000. Assume a 360-day year.

a) Calculate firm's cash conversion period and the amount of resources or minimum cash needed to support its cash conversion cycle.
b) Jackie normally buys inventory on account with credit term of 2/15, net 40. If the company decides to take cash discount, what effect will this have on the cash cycle and the minimum cash required?
c) If Jackie decides to take 2 percent cash discount, it has to make short-term bank loan at 15 percent cost and 25 percent compensating balance. How much does it need to pay to suppliers and apply for total loan with commercial bank?
d) Will it be better for Jackie to take 2 percent discount when short-term bank loan costs 15%? Please calculate and compare the opportunity cost rate of foregoing cash discount and the actual interest rate to make decision.

Cash budget

The following data are from the budget of OMG Company. Half the company's sales are transacted on a cash basis. The other half are paid for with a 1-month delay. The company pays all of its credit purchases with a 1-month delay. Credit purchases in January were $30 and total sales in January were $180.

	February	**March**	**April**
Total sales	200	220	180
Cash purchases	70	80	60
Credit purchases	40	30	40
Labor and administrative expenses	30	30	30
Taxes, interest, and dividends	10	10	10
Capital expenditures	100	0	0

Complete the following cash budget:

	February	**March**	**April**
Sources of cash			
Collections on current sales			
Collections on accounts receivable			
Total sources of cash			
Uses of cash			
Payments of accounts payable			
Cash purchases			
Labor and administrative expenses			
Capital expenditures			
Taxes, interest, and dividends			
Total uses of cash			
Net cash inflow			
Cash at start of period	100		
+ Net cash inflow			
= Cash at end of period			
- Minimum operating cash balance	100	100	100
= Cumulative short-term financing required			