

Understanding Financial Management: A Practical Guide

Guideline Answers to the Concept Check Questions

Chapter 6

Working Capital Management

Concept Check 6.1

1. **What is the meaning of the terms *working capital management*, *gross working capital*, and *net working capital*?**

Working capital management involves determining the firm's policy for managing its working capital, i.e., the firm's current assets and current liabilities. It involves managing the firm's cash, marketable securities, receivables, inventories, accounts payable, and other short-term payables. *Gross working capital* refers to the firm's current assets used in operations, including such items as cash, marketable securities, accounts receivable, and inventory. *Net working capital* refers to a firm's current assets minus its current liabilities.

2. **What is the tradeoff between profitability and liquidity and profitability and risk in working capital management?**

Since current assets typically earn a lower return than long-term fixed assets, an overly strong liquidity position could lower firm profitability. An effective working capital policy carefully balances the need to have sufficient liquidity with the need to earn an attractive return on invested capital. Firms may adopt more aggressive working capital management policies that have less of a drag on firm profitability, but at higher levels of risk.

Concept Check 6.2

1. **What are the similarities and differences among the maturity-matching, conservative, and aggressive approaches for managing working capital?**

The nature of many businesses may cause seasonal variations in a firm's current assets. Working capital management approaches differ in terms of how the firm finances these seasonal variations in current assets. Three common ways of dealing with such seasonal variations are the maturity-matching, conservative, and aggressive approaches.

- Under the *maturity-matching approach*, the firm finances long-term assets (fixed assets and all permanent current assets) with long-term sources of funds (long-term debt and equity). By matching its seasonal variations in current assets with current

liabilities of the same maturity, the firm essentially hedges against changes in short-term interest rates.

- Under the *conservative approach*, the firm finances long-term assets, all permanent current assets, and some temporary current assets with long-term sources of funds. This approach relies more heavily on long-term financing than do the other approaches.
- Under the *aggressive approach*, the firm finances all temporary current assets and some of its permanent current assets with short-term sources of financing. This approach relies more heavily on short-term financing than do the other approaches.

2. **How would an increase in short-term interest rates affect a firm under the conservative, maturity-matching, and aggressive approaches to managing working capital?**

- Under the *conservative approach*, the firm uses more long-term financing and less short-term financing to finance current assets and is therefore less vulnerable to increases in short-term rates than under the other approaches. If short-term interest rates rise, the firm has fewer short-term sources that it will need to refinance at the higher rates.
- Under the *maturity-matching approach*, the firm has essentially hedged against unexpected changes in short-term interest rates. If short-term interest rates increase, the increases in the return earned on an equal amount of short-term current assets should offset the increased cost of short-term funds.
- Under the *aggressive approach*, increases in short-term interest rates will require the firm to refinance more current assets at the new higher rates. The firm could be in jeopardy of being shutoff by suppliers.

Concept Check 6.3

1. **What is a firm's operating cycle? How is it calculated?**

The *operating cycle* is the period between the acquisition of inventory and the collection of cash from accounts receivable that arises from the credit sale of the finished goods produced from that inventory. Calculating the operating cycle involves adding a firm's average receivable collection period and its average inventory-processing period.

2. **What is a firm's cash conversion cycle? How is it calculated?**

The *cash conversion cycle* is the number of days between receiving the payment of accounts receivable and receiving cash from accounts payable. By adjusting the operating cycle to account for the financing a firm receives by paying its suppliers on credit, the cash conversion cycle represents the length of time that a firm has cash tied up in the business. Computing a firm's cash conversion cycle involves summing the average receivable collection period and the average inventory processing period, and then subtracting the accounts payable payment period.

3. **How can a manager lower a firm's cash conversion cycle?**

Managers can reduce their firm's cash conversion cycle and free up cash for other activities by collecting receivables more promptly, reducing the inventory processing time, or lengthening the time taken to pay suppliers.

- A firm can reduce its accounts receivables collection period by more aggressively collecting outstanding receivables or by tightening its credit policy.
- A firm can reduce its inventory processing period by employing more effective inventory management techniques that involve better forecasting of future demand and by working more closely with its suppliers.
- A firm can increase the accounts payable payment period by delaying payment to its suppliers or by increasing its disbursement float. The firm must balance any delays in paying its suppliers with potential damages in its relationships with suppliers and with the loss of any discounts received by paying sooner.

Concept Check 6.4

1. **What are three major decision areas involving cash management?**

Three major decision areas involving cash management are determining the appropriate cash balances, investing idle cash, and managing collections and disbursements.

2. **Why do firms hold cash balances?**

Three reasons for holding cash include a speculative motive, precautionary motive, and transaction motive. Firms often need cash to meet compensating balance requirements at commercial banks.

- Firms have a *speculative motive* to hold cash so that they can take advantage of bargain purchases that may arise, attractive interest rates, and favorable exchange rate fluctuations.
- A firm's *precautionary motive* for holding cash arises from the need for a safety supply of cash to act as a financial reserve.
- Firms have a *transaction motive* for holding cash because perfect synchronization does not exist between their cash inflows and cash outflows. Thus, firms need cash balances to pay wages, trade debts, taxes, and dividends.
- Firms also hold cash as *compensating balances* at commercial banks to compensate for banking services the firm receives. Such a compensating balance requirement requires a firm to hold a minimum level of cash.

3. **How does the Baumol cash management model differ from the Miller-Orr cash management model?**

The key difference between the two models is that the Baumol cash management model determines a firm's optimal cash balance level by assuming that cash disbursements are spread evenly over time, while the Miller-Orr cash management model assumes that

daily cash flows fluctuate randomly from day to day. Thus, the Miller-Orr model incorporates the uncertainty of future cash flows.

4. **What are compensating balances and how do they affect a firm's cash balances?**

A *compensating balance* is the demand deposit balance maintained by a corporate borrow to compensate for bank expenses in servicing a loan or line of credit. Thus, a compensating balance increases a firm's cash balances in the form of demand deposits.

5. **What are five different types of marketable securities?**

Marketable securities are securities that are easily sold. On a firm's balance sheet, marketable securities are assets that the firm can readily convert into cash. Marketable securities include government securities such as US Treasury bills, short-term tax-exempt instruments, commercial paper, negotiable certificates of deposit, and repurchase agreements. Bankers' acceptances are another type of marketable security.

6. **What is the meaning of the terms *disbursement float*, *collection float*, and *net float*? Does a firm benefit from an increase or decrease in its net float?**

Disbursement float is the lapse in time between when a firm deducts a payment from its checking account and when funds are actually withdrawn from its account. *Collection float* is the delay in time between when a payer deducts a payment from its checking account and when the payee actually receives the funds in a spendable form. *Net float* is the difference between the disbursement float and the collection float. A firm benefits by reducing its net float. For example, suppose a firm could reduce its net float by \$25 million and the firm can earn a rate of 6 percent per year on short-term funds. The firm can earn (or save) $\$25 \text{ million} (0.06) (1/365) = \$4,110$ per day.

7. **How does a lockbox system speed up a firm's collections?**

Under a lockbox system, customers send incoming checks to a special post office box maintained by a local bank. The lockbox collection system eliminates processing float and reduces the firm's internal processing costs because the bank handles the clerical work for a fee. The local bank typically provides a daily record of the receipts electronically in a format that easily facilitates updating the firm's accounts receivable records.

8. **What are three advantages of using electronic funds transfers?**

Electronic funds transfer (EFT) refers to the transfer of funds between accounts by electronic means rather than conventional paper-based payment methods such as check writing. EFTs can save time for a firm, lower its personnel and material costs, and reduce errors by eliminating paper documents and mail delivery.

9. **How can a firm use payable through drafts and zero balance accounts to control disbursements?**

Payables through draft (PTD) refers to a draft payable through a designated bank, drawing funds from the issuer's own account. PTDs are not payable on demand. To receive payment, the bank must present the PTD to the issuing firm. This process allows

the firm to delay depositing the necessary funds to cover payment and the firm can keep smaller cash balances. Corporations often use PDFs to pay freight bills.

A *zero balance account* (ZBA) is a checking account that corporations use to accelerate collections of funds from subsidiaries or to control funds disbursed to pay trade creditors. Thus, a firm can establish a zero-balance collection account or a zero-balance disbursing account. For example, under a zero balance disbursing account, a firm creates one master disbursement account to service multiple subsidiary accounts at the bank. These subsidiary accounts are separate accounts that are set up for payroll, payables, and other purposes. The bank automatically transfers enough funds from the master disbursement account to the subsidiary accounts each day to cover all checks that holders presented to that bank on that day. Only the master account maintains a cash balance; each subsidiary account carries a zero balance each day by eliminating idle cash.

10. **What is electronic data interchange (EDI)? How does EDI affect the way in which firms manage their working capital?**

EDI is the exchange of information electronically by computers. EDI can lower a firm's personnel costs, material costs, and costs due to errors by eliminating paper documents and mail delivery. EDI savings are so substantial that some firms now charge fees for using paper documents. EDI has dramatically changed the way many firms conduct business and will continue to affect how firms manage their working capital.

Concept Check 6.5

1. **How can managers and analysts use a credit scoring model to assess a customer's credit?**

A credit scoring model is a statistical model used to predict the creditworthiness of credit applicants. When a firm uses credit scoring, it assigns a numerical rating to a customer based on certain company-specific information. The firm bases its decision to grant or refuse credit on the numerical credit score.

2. **List and discuss the five Cs of credit. Which Cs would be more important for commercial customers? Consumers? Why?**

Credit analysts generally take into consideration at least five factors when determining whether to grant credit including character, capacity, capital, collateral, and conditions. Capacity, conditions, and collateral would be more important for commercial customers. Character and capital would be more important for consumers. An applicant's prior payment history is generally the best indicator of character. Credit granting firms often consider the customer's debt-to-equity ratio and interest coverage ratio.

3. **Explain two ways a firm can monitor its accounts receivable.**

Common methods used to monitor accounts receivable include developing an aging schedule and determining the average age of receivables. An *aging schedule* classifies

the firm's receivables by the number of days outstanding (the age of the receivable). Determining the *average age of receivables* involves computing the weighted average of all individual outstanding receivables. The weight for each individual receivable is the dollar amount of that receivable divided by the total dollar amount of outstanding receivables.

4. **What is the tradeoff involved between the carrying cost and opportunity cost in determining a firm's optimal amount of credit?**

A firm's optimal credit policy involves a tradeoff between (1) the incremental cash flows received from the additional credit sales that the firm would not otherwise realize and (2) the incremental costs of carrying the increase in accounts receivable. The cost of carrying accounts receivable includes the opportunity cost of earning interest on the funds in accounts receivable.

Concept Check 6.6

1. **What is an ABC system of inventory management?**

An *ABC inventory management system* classifies inventory into three classes based on the value of that inventory. The "A" group typically includes about 20 percent of total inventory, but comprises as much as 80 percent of total inventory value. Managers devote most of their attention to managing these high-value inventory items.

2. **What is an economic order quantity (EOQ)? How is it calculated? What are the assumptions underlying the EOQ model?**

The *economic order quantity* (EOQ) is the order size for inventory that minimizes total inventory cost. The EOQ model specifies both the costs of ordering and carrying inventories, and then combines them to obtain the total costs associated with inventory holdings. Optimizing the total cost equation provides the optimum order quantity and corresponding inventory level that minimizes total cost.

The basic EOQ model assumes that a firm removes items from inventory at a constant rate (S); incurs a carrying cost (C) to hold a unit of inventory for one period; and incurs a fixed reordering cost (F) per order that is independent of the number of items reordered.

The formula for computing EOQ is:

$$EOQ = \sqrt{\frac{2FS}{C}}$$

The total annual cost is equal to ordering costs plus carrying cost.

- The ordering costs are the cost per order (F) times the number of orders per year (S/Q).
- The total annual carrying cost is C (Q/2), which is the carrying cost per unit (C) times the average inventory level (Q/2).

3. **How do safety stock levels and reorder points to allow time for delivery affect the basic EOQ model?**

Firms typically establish a minimum level of inventory, known as a *safety stock*, to prevent losing sales due to stockouts. If suppliers immediately delivered inventory when a firm placed an order, the firm would reorder inventory whenever the inventory level fell to the safety stock level. To allow for delivery time, a firm needs to reorder inventory before the inventory level reaches the critical safety stock level. The *reorder points* represent the times when the firm actually places its inventory order. The pace of inventory depletion and the length of time for inventory delivery after placing order affect reorder points.

4. **What is a just-in-time (JIT) inventory system? What type of relationship and level of cooperation must exist between manufacturers and suppliers for a JIT system to work effectively?**

In a just-in-time (JIT) system, materials arrive in the production process exactly when needed. JIT inventory systems became popular and necessary in some production processes in the 1980s when high interest rates increased the opportunity costs of carrying high levels of inventory.

JIT systems require care in the planning and scheduling of inventory by managers. The success of a JIT system depends heavily on extensive cooperation with the firm's suppliers. Because of the extensive planning involved, JIT systems often rely on relatively few suppliers, and they usually require frequent deliveries from these suppliers of the exact amounts needed and in a specific order. Delivery schedules, quantities, quality, and instantaneous communication with suppliers are essential factors in a successful JIT system.

5. **What is a materials requirement planning (MRP) system? What types of products are most suited for an MRP system?**

In a *materials requirement planning (MRP) system*, managers order and schedule production of inventories essentially backwards through the production process. Managers first determine the desired finished goods inventory level. From this, they determine the appropriate levels of work-in-progress inventories that the firm needs to produce the finished goods. Next, they determine the quantity of raw materials needed to have on hand. These computer-based MRP systems are most effective for the production of complicated goods that require numerous inventory components.