



مجموعة جامعة
الجميع الذكية
للتعليم القابضة

Working Capital Management

Lecture 5

MGM424 Financial Management

Prepared by

Dr. Mohamed Hamouda

Chapter

5

Working Capital Management



Outlines

Chapter

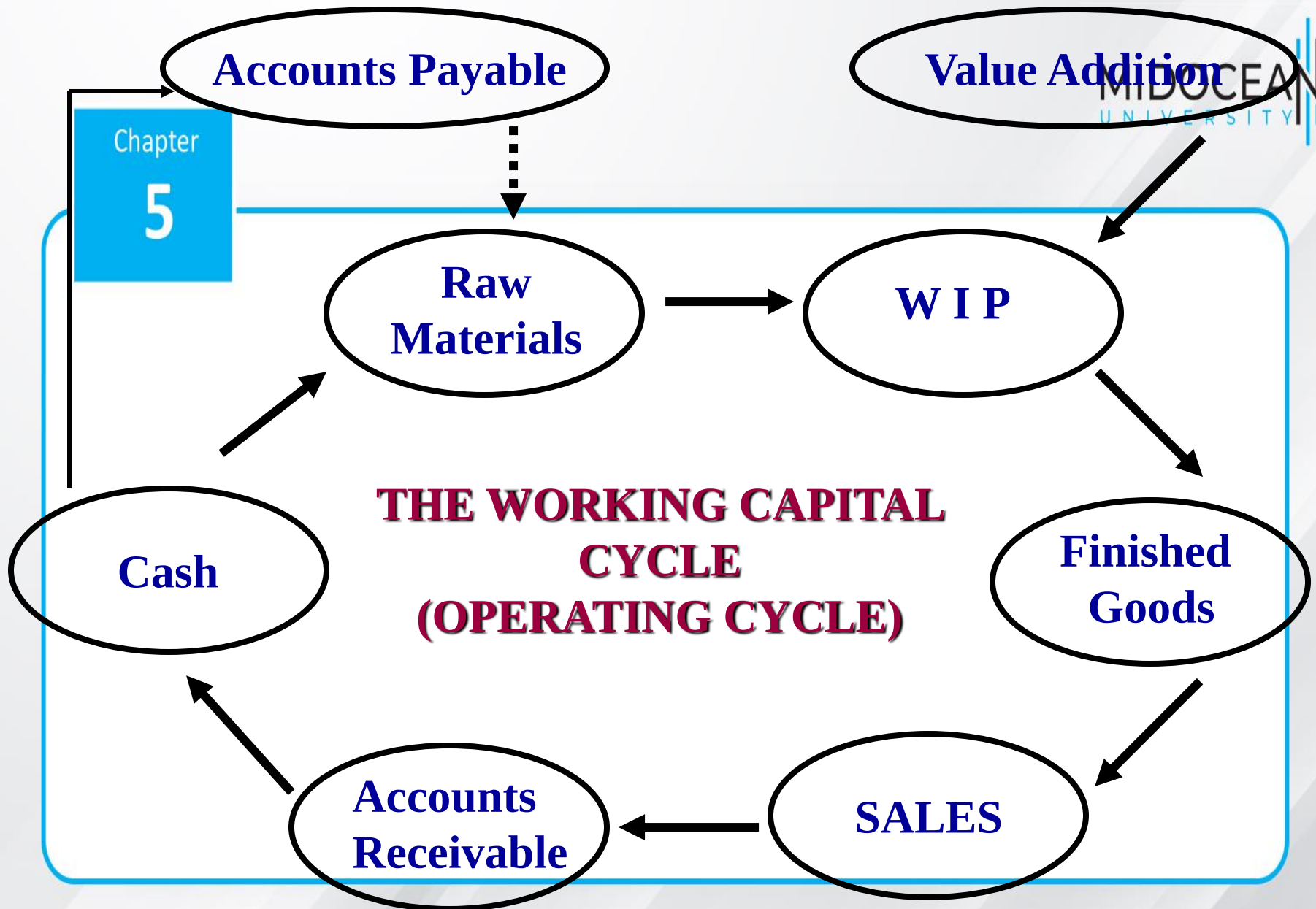
5

- Definition
- Current Assets Management
 - Cash
 - Inventory
 - Receivable/Debtors
- Current Liabilities Management
 - payables
 - Bank overdrafts

Definition

- Working capital management refers to a company's managerial accounting strategy designed to monitor and utilize the **two** components of working capital, **current assets** and **current liabilities**, to ensure the most financially **efficient operation** of the company. The primary purpose of working capital management is to make sure the company always maintains **sufficient cash flow to meet its short-term operating costs and short-term debt obligations.**

•



Basic Definitions

- Gross working capital:
Total current assets.
- Net working capital:
Current assets - Current liabilities.
- Net operating working capital (NOWC):
Operating CA – Operating CL =
(Cash + Inv. + A/R) – (Accruals + A/P)

(More...)

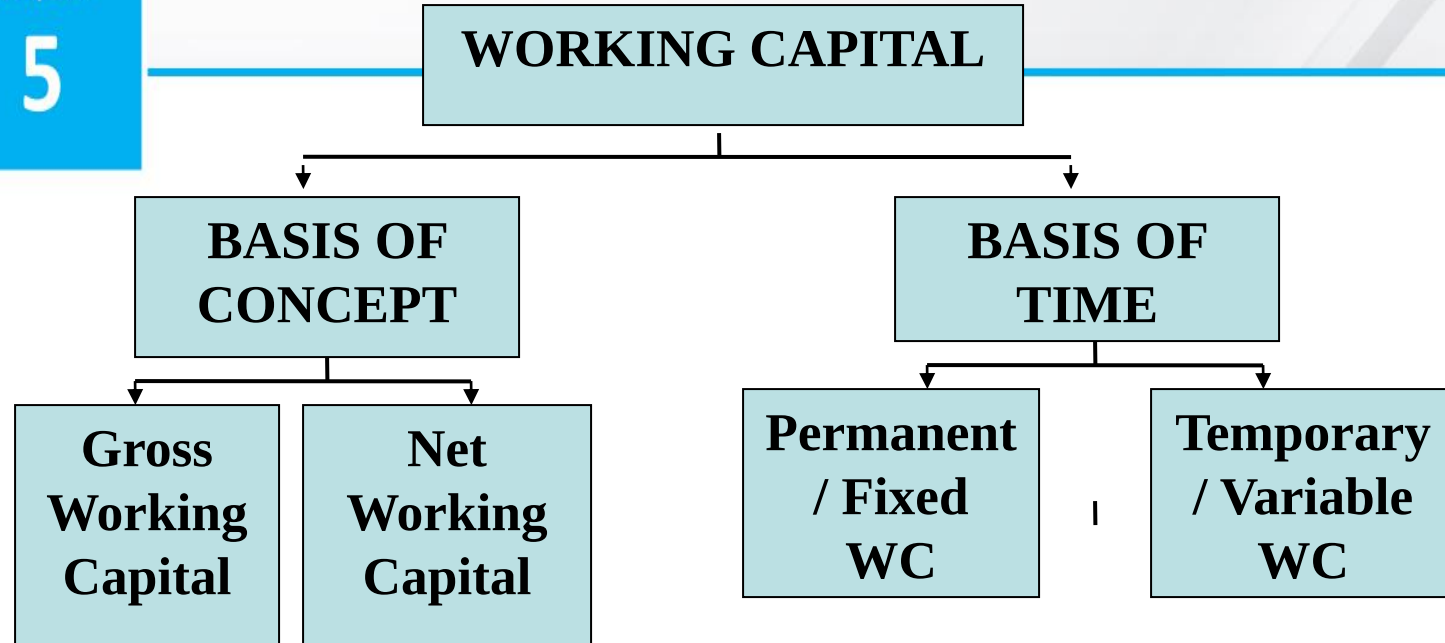
Definitions (Continued)

- Working capital management:
Includes both establishing working capital policy and then the day-to-day control of cash, inventories, receivables, accruals, and accounts payable.
- Working capital policy:
 - The level of each current asset.
 - How current assets are financed.

TYPES OF WORKING CAPITAL

Chapter

5



Working Capital Financing Policies

Chapter

5

- **Moderate:** Match the maturity of the assets with the maturity of the financing.
- **Aggressive:** Use short-term financing to finance permanent assets.
- **Conservative:** Use permanent capital for permanent assets and temporary assets.

Disadvantages or Dangers of Inadequate or Short Working Capital

- Can't pay off its short-term liabilities in time.
Economies of scale are not possible.
- Difficult for the firm to exploit favorable market situations
- Day-to-day liquidity worsens
- Improper utilization of the fixed assets and
ROA/ROI falls sharply

Disadvantages or Dangers of Inadequate or Short Working Capital

- Can't pay off its short-term liabilities in time.
- Economies of scale are not possible.
- Difficult for the firm to exploit favorable market situations
- Day-to-day liquidity worsens
- Improper utilization the fixed assets and ROA/ROI falls sharply

Management of Cash

Chapter

5

- **Firms hold cash balances in checking accounts.**
Why?
- 1. **Transaction motive:** *Firms maintain cash balances to conduct normal business transactions.* For example,
 - Payroll must be met
 - Supplies and inventory purchases must be paid
 - Trade discounts should be taken if financially attractive
 - Other day-to-day expenses of being in business must be met

Management of Cash a

2. **Precautionary motive:** Firms maintain cash balances to meet precautionary liquidity needs.
3. **Speculative motive:** Firms maintain cash balances in order to “speculate” – that is, to take advantage of unanticipated business opportunities that may come along from time to time.

Management of Cash

4. **Firms using bank debt are required to maintain a compensating balance with the bank from which they have borrowed the money.**
- **Compensating balance:** when a bank makes a loan to a firm, the bank requires this *minimum balance in a non-interest-earning checking account* equal to a specified percentage of the amount borrowed
 - Common arrangement is a compensating balance equal to 5-10% of amount of loan
 - Bankers maintain that existence of compensating balance prevents firms from overextending cash flow position because it forces them to maintain a reasonable minimum cash balance.

Management of Cash

- **Compensating balance raises effective interest rate on loan.**
- Numerical example:
 - Bank charges 14% interest on \$250,000 loan but requires \$25,000 compensating balance.
 - Loan amount available to borrowers is \$225,000 (\$250,000 - \$25,000), but interest is charged on \$250,000.
 - Monthly interest payment rate: 1.167% ($14\%/12$ months)
 - Monthly interest cost: \$2,917.50 ($0.01167 \times \$250,000$)
 - Effective monthly interest rate: 1.297% ($\$2,917.50/\$225,000$)
 - Annual percentage rate: 15.56% (1.297×12 months)

Management of Cash

- **Marketable securities:** short-term, high-quality debt instruments that can be easily converted into cash.
- In order of priority, three primary criteria for selecting appropriate marketable securities to meet firm's anticipated short-term cash needs (particularly those arising from precautionary and speculative motives):
 1. Safety
 2. Liquidity
 3. Yield

Management of Cash

1. Safety

- Implies that there is negligible risk of default of securities purchases
- Implies that marketable securities will not be subject to excessive market fluctuations due to fluctuations in interest rates

Management of Cash

2. Liquidity

- Requires that marketable securities can be sold quickly and easily with no loss in principal value due to inability to readily locate purchaser for securities

3. Yield

- Requires that the highest possible yield be earned and is consistent with safety and liquidity criteria
- Least important of three in structuring marketable securities portfolio

Management of Cash

- *Safety, liquidity, and yield criteria severely restricts range of securities acceptable as marketable securities.*
- **Most major corporations meet marketable securities needs with U.S. Treasury bills or with corporate commercial paper carrying highest credit rating.**
 - *These securities are short-term, highly liquid, and have reasonably high yields.*
 - Treasury bills are default-risk free.
 - High-quality commercial paper carries miniscule default risk.
- Firms that have sought to achieve higher potential yields via **money market funds invested in asset-backed securities** have learned that *those higher potential yields carried higher risk.*

Management of Cash

Improving Cash Flow

- **Actions firm may take to improve cash flow pattern:**
 1. **Attempt to synchronize cash inflows and cash outflows**
 - Common among large corporations
 - E.g. Firm bills customers on regular schedule throughout month and also pays its own bills according to a regular monthly schedule. This enables firm to match cash receipts with cash disbursements.

Management of Cash

Improving Cash Flow

2. **Expedite check-clearing process, slow disbursements of cash, and maximize use of “float” in corporate checking accounts**
 - Three developments in financial services industry have changed nature of cash management process for corporate treasurers

Management of Cash

Improving Cash Flow

1. Impact of electronic funds transfer systems (EFTS) and online banking

- Includes so-called “remote capture” technology for quickly depositing checks without visiting a bank branch
- Radically reduced amount of time necessary to turn customer’s check into available cash balance on corporate books
- Sharply reduced amount of float available, as corporation’s own checks clear more rapidly

Management of Cash

Improving Cash Flow

2. **Expanded use of money market mutual funds (as substitute for conventional checking accounts)**

- Funds sell shares at constant price of \$1.00 per share
- Proceeds of sales are invested in short-term money market instruments
- Interest earned is credited daily
- Fluctuations in market values are credited/debited daily
- Since large funds hold broadly diversified portfolio of short-term securities, market-value fluctuations of overall portfolio are normally small relative to interest earned
- Checks written against money market funds continue to earn interest until check clears fund. Available float is continually earning interest for account.

Management of Cash

Improving Cash Flow

3. Growth in cash management services offered by commercial banks

- These systems efficiently handle firm's cash management needs at very competitive price.

Accounts Receivable Management

- **Accounts receivable management requires balance between cost of extending credit and benefit received from extending credit.**
- *No universal optimization model* to determine credit policy for all firms since each firm has *unique operating characteristics* that affect its credit policy.
- However, there are numerous *general techniques* for credit management.

Accounts Receivable Management

- **Industry conditions**

- Manufacturing firms and wholesalers generally extend credit terms
- Retailers commonly extend consumer credit, either through store-sponsored charge plan or acceptance of external credits cards
- Small retailers cannot afford cost of maintaining credit department and thus do not offer store-sponsored charge plans

Accounts Receivable Management

- **“Five Cs” of credit analysis**” used to decide whether or not to extend credit to particular customer:
 1. **Character:** moral integrity of credit applicant and whether borrower is likely to give his/her best efforts to honoring credit obligation
 2. **Capacity:** whether borrowing firm has financial capacity to meet required account payments
 3. **Capital:** general financial condition of firm as judged by analysis of financial statements
 4. **Collateral:** existence of assets (i.e. inventory, accounts receivable) that may be pledged by borrowing firm as security for credit extended
 5. **Conditions:** operating and financial condition of firm

Accounts Receivable Management

- **Commercial credit services**
 - National credit services (e.g. Dun and Bradstreet) provide credit reports on potential new accounts that summarize firm's financial condition, past history, and other key business information
 - Local credit associations

Accounts Receivable Management

- **Three types of cost:**
 1. **Financing accounts receivable**
 2. **Offering discounts**
 3. **Bad-debt losses**
 - Must analyze relationship of these costs to profitability
 - Marginal cost of credit must be compared to expected marginal profit resulting from credit terms

Accounts Receivable Management

Example

- Credit Policy A (see Exhibit 10.1)
 - Credit terms: 2/10, net 60
 - Average collection period: 50 days
 - Expected sales: \$75,000,000
 - Income after tax: \$8,700,000
 - Return on sales: 11.6%
 - Return on investment: 17.3%
 - Return on equity: 34.4%

Accounts Receivable Management

Example (continued)

- Credit Policy B (see Exhibit 10.2) – preferable to Policy A
 - Tighter collection policy and shorter payment terms: 2/10, net 30
 - Lower expected sales: \$70,000,000
 - Higher quality of accounts receivable and reduced bad-debt losses
 - Reduced interest expense since lower level of financing for accounts receivable
 - Reduced operating expenses: 15.7% → 15.2%
 - Increased return on sales: 11.9%
 - Increased return on investment: 19.0%
 - Increased return on equity: 37.3%

Accounts Receivable Management

- **Supervising collection of accounts receivable**
 - Requires close monitoring of average collection period and aging schedule
 - Aging schedule groups accounts by age and then identified quantity of past due accounts
 - Credit manager must develop some skills of diplomacy: balance need to collect account with need to maintain customer goodwill (unless all efforts fail and account cannot pay)

Inventory Management

- **Cost of maintaining inventory:**
 1. **Carrying costs:** *all costs associated with carrying inventory*
 - Storage, handling, loss in value due to obsolescence and physical deterioration, taxes, insurance, financing
 2. **Ordering costs:**
 - *Cost of placing orders for new inventory* (fixed cost: same dollar amount regardless of quantity ordered)
 - *Cost of shipping and receiving new inventory* (variable cost: increase with increases in quantity ordered)

Inventory Management

- **Total inventory maintenance costs (carrying costs plus ordering costs) vary inversely.**
 - *Carrying costs increase with increases in average inventory levels* and therefore argue in favor of low levels of inventory in order to hold these costs down.
 - *Ordering costs decrease with increases in average inventory levels* and therefore firm wants to carry high levels of inventory so that it does not have to reorder inventory as often as it would if it carried low levels of inventory.

Inventory Management

- **Economic order quantity (EOQ) model:** mathematical model designed to determine optimal level of average inventory that firm should maintain to minimize sum of carrying costs and ordering costs (total cost inventory maintenance cost)
 - Explains inventory control problem
 - $EOQ = \sqrt{2FS/CP}$

Inventory Management

- EOQ model determines equation of **total cost curve**.
 - **Minimum point** indicates optimal average inventory.
 - **Optimal average inventory** level dictates how much inventory should be ordered on each order to maintain average inventory level.

Inventory Management

- **Basic EOQ model assumes that inventory is used up uniformly and that there are no delivery lags** (inventory is delivered instantaneously). Thus, two modifications:
 1. **Establish reorder point** that allows for delivery lead times.
 - Ex. If 2,700 units are ordered every 3 months and normal delivery time is one month after order is placed, then EOQ should be ordered when on-hand amount drops to 900 units.
 2. **Add quantity of safety stock to base average inventory** that allows for uncertainty of estimates used in model and possibility of non-uniform usage.
 - This added quantity is dependent on degree of uncertainty of demand, cost of stockouts, level of carrying costs, and probability of shipping delays
 - Ex. Adequate level of safety stock is 500 units. Reorder point would be increased to 1,400 units ($900+500$) and new order would be placed each time on-hand quantity reached 1,400.

Inventory Management

- EOQ model can be applied to **current asset management**.
- EOQ can also be used to manage other types of “inventories,” such as **cash and accounts receivable**.
 - Cost of maintaining these assets can be divided into “ordering” and “carrying” costs, and optimal assets levels can be determined.

Sources of Short-term Financing

- **Three major sources of short-term financing:**
 1. Trade credit (accounts payable)
 2. Commercial bank loans
 3. Commercial paper

Sources of Short-term Financing

1. **Trade credit** (“spontaneous financing”): form of “free” financing in the sense that no explicit interest rate is charged on outstanding accounts payable
 - Accounts payable arise spontaneously during normal course of business
 - Commercial firms buy inventory and supplies in open account from their suppliers on whatever credit terms are available rather than cash payments.
 - **Two costs associated with trade credit:**
 1. **Cost of missed discounts**
 2. **Cost of financing outstanding accounts receivable** (firm offers trade credit) increases cost of doing business over what it would be if firm sold on cash terms only.

Sources of Short-term Financing

2. Commercial bank loans

- Employed to finance inventory and accounts receivable
- Used as source of funds to enable firm to take discounts on accounts payable when cost of missed discounts exceeds interest cost of bank debt

Current Liabilities Management

- **Credit Policy** : Creditors are a vital part of effective cash management and should be managed carefully to enhance the cash position.
- **Taxes and other Paybles**

WC Management :Comparison

- Government: Recurrent Expenses and Capital Expenditure
- Public Enterprise: As per Financial Procedure regulations
- Private Companies: Effective way(company specific)

Thank You