

Working Capital Management

- The management of short-term (ST) assets (ST investments) and short-term (ST) liabilities (ST financing sources).
- Net Working Capital =
 - Current assets - current liabilities
 - Amount of current assets financed by long-term liabilities

Working Capital Management

- Working Capital Policy
 - Target levels for each current asset account
 - How current assets will be financed
- Working capital only includes current liabilities that are specifically used to finance current assets.

The Cash Conversion Cycle

- The length of time from the payment for purchases of raw materials used to manufacture a product until the collection of accounts receivable associated with the sale of the product.
 - ❑ Inventory conversion period (ICP)
 - ❑ Receivables collection period (DSO)
 - ❑ Payables deferral period (DPO)

The Inventory Conversion Period (ICP)

- Length of time required to convert materials into finished goods and then to sell those goods.
- The amount of time the product remains in inventory in various stages of completion.

$$\begin{aligned} \text{ICP} &= \frac{\text{Inventory}}{\text{Cost of goods sold per day}} = \frac{\text{Inventory}}{\left(\frac{\text{Cost of goods sold}}{360 \text{ days}}\right)} \\ &= \frac{360 \text{ days}}{\left(\frac{\text{Cost of goods sold}}{\text{Inventory}}\right)} = \frac{360 \text{ days}}{\text{Inventory turnover}} \end{aligned}$$

The Receivables Collection Period (DSO)

- Average length of time required to convert the firm's receivables into cash; also called days sales outstanding (DSO)

$$\begin{aligned} \text{DSO} &= \frac{\text{Receivables}}{\text{Daily credit sales}} = \frac{\text{Receivables}}{\left(\frac{\text{Annual credit sales}}{360 \text{ days}} \right)} \\ &= \frac{360 \text{ days}}{\left(\frac{\text{Annual credit sales}}{\text{Receivables}} \right)} = \frac{360 \text{ days}}{\text{Receivables turnover}} \end{aligned}$$

The Payables Deferral Period (DPO)

- Average length of time between the purchase of raw materials and labor and the payment of cash for them.

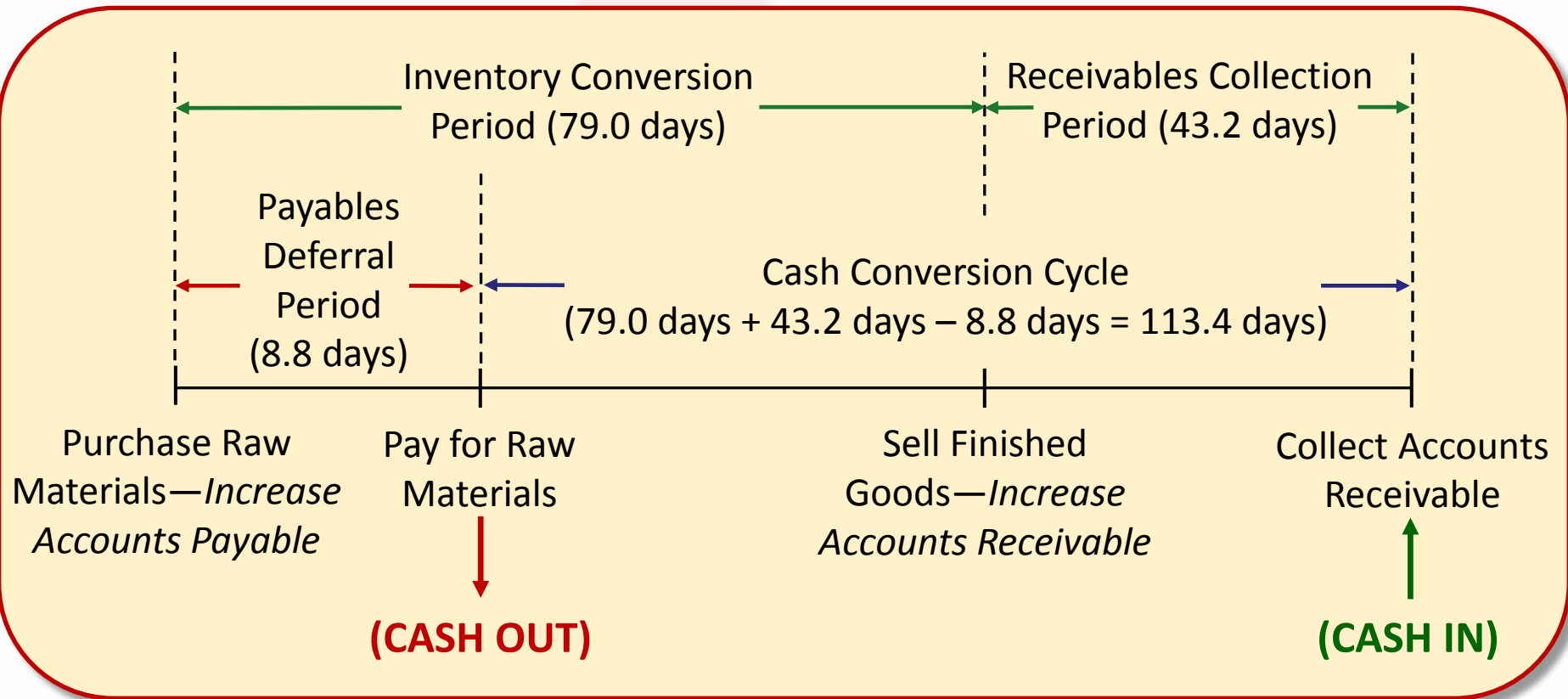
$$\begin{aligned} \text{DPO} &= \frac{\text{Accounts payable}}{\text{Daily credit purchases}} = \frac{\text{Payables}}{\left(\frac{\text{Cost of goods sold}}{360 \text{ days}} \right)} \\ &= \frac{360 \text{ days}}{\left(\frac{\text{Cost of goods sold}}{\text{Payables}} \right)} = \frac{360 \text{ days}}{\text{Payables turnover}} \end{aligned}$$

The Cash Conversion Cycle

- Average length of time a dollar is tied up in current assets.

$$\begin{array}{l} \text{Cash} \\ \text{conversion} = \text{ICP} + \text{DSO} - \text{DPO} \\ \text{cycle} \end{array}$$

The Cash Conversion Cycle for Unilate Textiles



Current Asset Financing Policies

- Basic question: How should current assets be financed?
- Permanent current assets versus temporary current assets:
 - Permanent CA—level that remains stable no matter seasonal or economic conditions (some minimum level of CA).
 - Temporary CA—level that fluctuates according to seasonal or economic conditions.

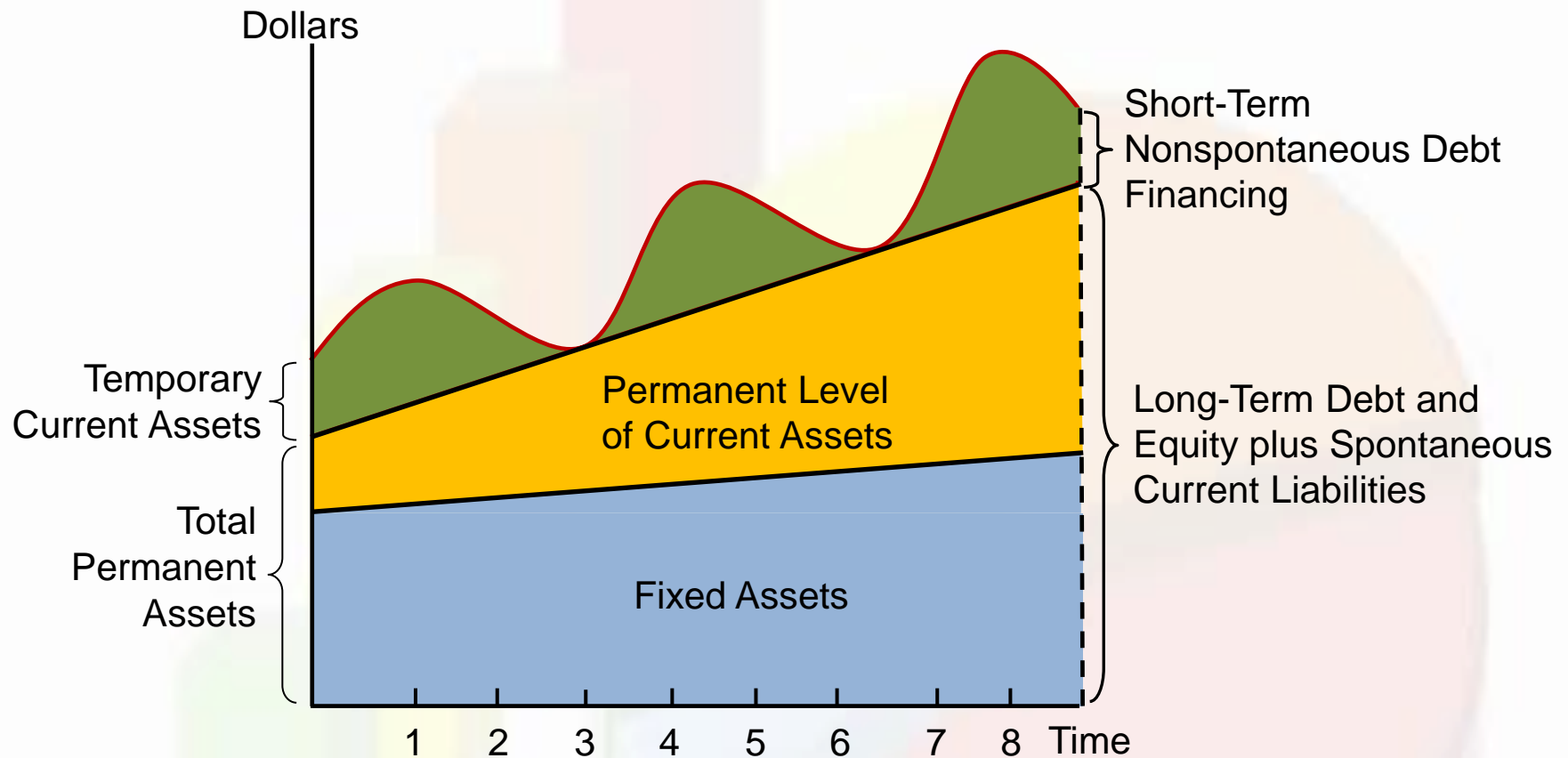
Alternative Current Asset Financing Policies

- Maturity Matching Approach
- Conservative Approach
- Aggressive Approach

Alternative Current Asset Financing Policies—Maturity Matching Approach

- “Self-liquidating”, because the idea is to match liabilities’ maturities with assets’ maturities.
- If maturities can be matched, the firms that use this approach should not have difficulty paying maturing obligations.
- Some assets’ lives are uncertain.
- Moderate approach.

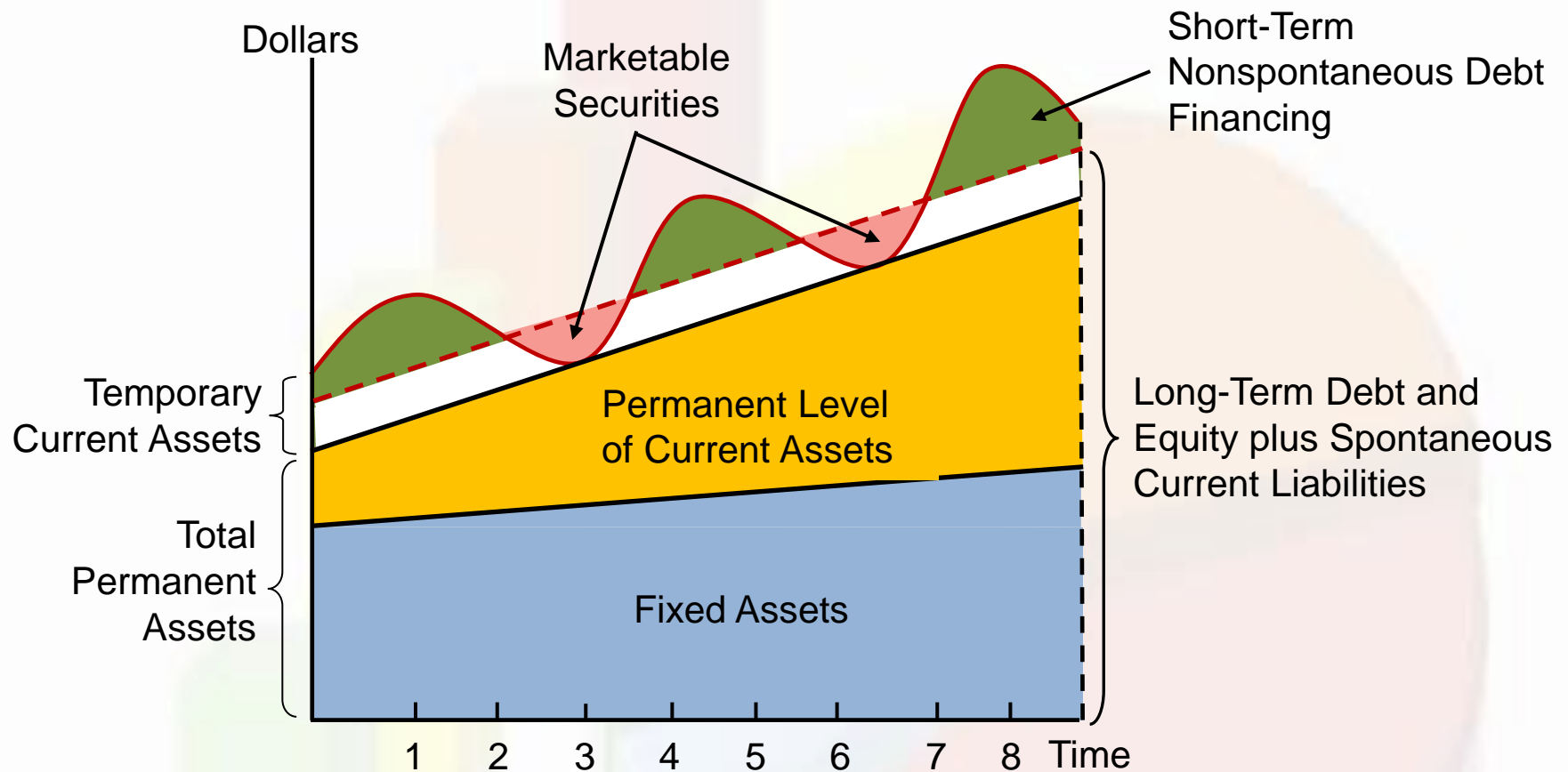
Alternative Current Asset Financing Policies—Maturity Matching Approach



Alternative Current Asset Financing Policies—Conservative Approach

- Use permanent (long-term) capital to finance all permanent assets and some seasonal, temporary needs.
- Use spontaneous, short-term debt to finance the rest of the temporary assets (seasonal needs).
- Store liquidity during the off season.
- Least profitable, but also least risky approach

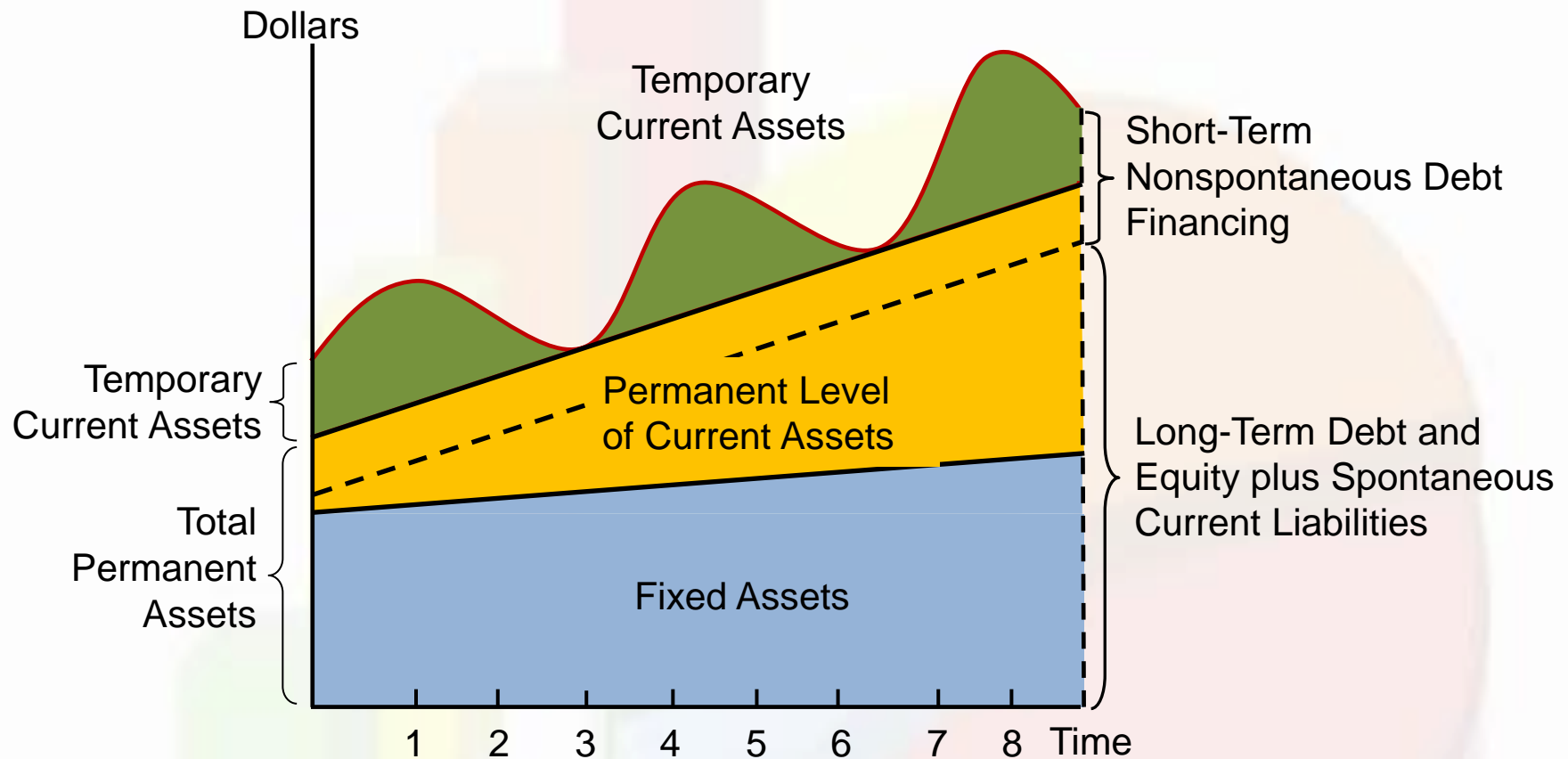
Alternative Current Asset Financing Policies—Conservative Approach



Alternative Current Asset Financing Policies—Aggressive Approach

- Finance all temporary assets with short-term, spontaneous debt, and finance all fixed assets and some permanent assets with long-term, non-spontaneous funds.
- Riskiest approach.
- Most profitable approach.

Alternative Current Asset Financing Policies—Aggressive (Somewhat) Approach



Using Short-Term Financing

- Maturity—short-term debt generally is defined as a liability originally scheduled for repayment within one year.
- Speed—a short-term loan can be obtained much faster than long-term credit.
- Cost—short-term debt generally is less expensive (interest rate is lower) than long-term debt.
- Risk—short-term debt is considered riskier than long-term debt.

Sources of Short-Term Financing

- Accruals
 - ❑ Continually recurring short-term liabilities.
 - ❑ Liabilities, such as wages and taxes, that increase spontaneously with operations.
- Accounts Payable (Trade Credit)
 - ❑ Credit created when one firm buys on credit from another firm.

Sources of Short-Term Financing (cont.)

- Short-Term Bank Loans
 - Maturity typically 90 days or less
 - Promissory notes specify terms and conditions, including amount, interest rate, repayment schedule, collateral, and any other agreements.

Sources of Short-Term Financing (cont.)

- Short-Term Bank Loans
 - ❑ Compensating Balance (CB) of 10 to 20 percent might be required to be maintained in a checking account.
 - ❑ Line of credit (LOC) can be arranged—specified maximum amount of funds available
 - Revolving line of credit—line of credit where funds are committed
 - ❑ Commitment fee—fee charged on the unused balance of a revolving credit agreement

Sources of Short-Term Financing (cont.)

- Commercial Paper
 - ❑ Unsecured short-term promissory notes (IOUs) issued by large, financially sound firms to raise funds.
 - ❑ Discounted financial instrument—investors purchase for less than face value.
 - ❑ Maturity is 270 days or less.

Sources of Short-Term Financing (cont.)

- Secured Loans (collateralized)
 - ❑ Generally secured by short-term assets, especially accounts receivable and inventory.
 - ❑ Loan will not be for 100 percent of asset's value.
 - ❑ Accounts receivable financing:
 - Pledging receivables—receivables are used as collateral for loans.
 - Factoring receivables—receivables are sold to a factor.

Sources of Short-Term Financing (cont.)

○ Secured Loans (collateralized)

□ Inventory financing:

- Blanket lien—lien against all inventory; generally used when inventory is low-priced, fast moving.
- Trust receipt—inventory held in trust for lender; items can be identified by serial numbers or some other unique feature.
- Warehouse receipt—inventory used as collateral is physically separated from borrower's other inventory.

Principal Amount versus Required Amount

- Suppose a firm needs \$50,000 to support operations. The firm plans to raise the funds by borrowing from the bank. The loan would be for three months, its interest rate would be 9 percent, and a 20 percent compensating balance would be required. The firm has no money in the bank.
- To use \$50,000, the firm must borrow more than \$50,000, because some of the loan must be put in the compensating balance.

Principal Amount versus Required Amount

- Firm needs \$50,000; interest is 9 percent; compensating balance requirement is 20 percent of the amount borrowed.

$$\text{Principal amount} = \frac{\text{Usable funds}}{1 - \left(\begin{array}{l} \% \text{ reductions from} \\ \text{principal amount} \end{array} \right)} = \frac{\$50,000}{1 - 0.20} = \$62,500$$

- If the firm borrows \$62,500, it will be able to use \$50,000 = \$62,500(1 – 0.2) after satisfying the compensating balance requirement

Principal Amount versus Required Amount

- Firm needs \$50,000; interest is 9 percent; compensating balance requirement is 20 percent of the amount borrowed.

$$r_{\text{PER}} = \frac{\$62,500 \times \left[0.09 \times \left(\frac{3}{12} \right) \right]}{\$62,500 - \$62,500(0.20)} = \frac{\$1,406.25}{\$50,000} = 0.0281 = 2.81\%$$

$$\text{APR} = 2.81\% \times \left(\frac{12}{3} \right) = 11.24\%$$

$$\text{EAR} = r_{\text{EAR}} = (1 + 0.0281)^{\left(\frac{12}{3} \right)} - 1 = 0.1172 = 11.72\%$$

Multinational Working Capital Management

- How Working Capital Policies of U.S. Firms Differ from European Firms:
 - ❑ Average cash conversion cycle of European firms more than twice that of U.S. firms.
 - ❑ U.S. firms follow more conservative working capital policies than European firms do.

Alternative Current Asset Investment Policies

- Relaxed current asset investment policy
- Restricted current asset investment policy
- Moderate current asset investment policy

Alternative Current Asset Investment Policies (cont.)

- Relaxed Current Asset Investment Policy
 - Relatively large amounts of cash and marketable securities and inventories are carried and sales are stimulated by a liberal credit policy that results in a high level of receivables.

Alternative Current Asset Investment Policies (cont.)

- Restricted Current Asset Investment Policy
 - Holdings of cash and marketable securities and inventories are minimized.
- Moderate Current Asset Investment Policy
 - A policy that is between relaxed and restricted policies.

Cash Management

- The goal is to minimize the amount of cash the firm must hold for use in conducting its normal business activities, but sufficient to:
 - ❑ Pay creditors
 - ❑ Maintain its credit rating
 - ❑ Meet unexpected cash needs

Firms Hold Cash For:

- Transaction Balance
 - ❑ Cash balance necessary for day-to-day operations.
 - ❑ The balance associated with routine payments and collections.
- Compensating Balance
 - ❑ Deposit to meet bank loan requirements.

Firms Hold Cash For:

- Precautionary Balance
 - ❑ Cash balance held in reserve for unforeseen fluctuations in cash flows.
 - ❑ Access to line of credit can reduce need for precautionary balances.
- Speculative Balance
 - ❑ Cash balance held to enable the firm to take advantage of any bargain purchases that might arise.

The Cash Budget

- A schedule showing cash receipts, cash disbursements, and cash balances for a firm over a specified period of time.
- Target Cash Balance
 - The minimum cash balance a firm desires to maintain to conduct business.
- Disbursements and Receipts Method
 - The net cash flow is determined by estimating the cash disbursements and the cash receipts expected to be generated each period.

Cash Management Techniques

- Synchronized Cash Flows
 - Cash inflows coincide with cash outflows, permitting a firm to hold low transaction balances.
- Check Clearing
 - The process of converting into cash a check that has been written and mailed, into the payee's (receiver's) account.

Cash Management Techniques (cont.)

○ Float

- The difference between the balance shown in a checkbook and the balance on the bank's records.

Cash Management Techniques (cont.)

○ Disbursement Float

- ❑ The value of checks that have been written and disbursed but have not fully cleared through the banking system; have not been deducted from the bank account.

○ Collection Float

- ❑ The total amount from checks that have been received and deposited but that have not yet been credited to the bank account.

Cash Management Techniques (cont.)

- Net Float
 - = disbursement float – collection float
 - = checkbook balance – bank balance

Acceleration of Receipts

- Lockbox Arrangement
 - Reduces float by having payments sent to post office boxes located near customers
 - Faster mail delivery
 - Faster check clearing within the same Federal Reserve district

Acceleration of Receipts (cont.)

- Preauthorized Debit System
 - Allows a customer's bank to periodically transfer funds from that customer's account to a selling firm's bank account for the payment of bills.
- Concentration Banking
 - A technique used to move funds from many bank accounts to a more central cash pool to more effectively manage cash.

Disbursement Control

- Payables Concentration
 - More control, but can delay payments.
- Zero-Balance Account (ZBA)
 - A disbursement account that has a balance of zero when there is no activity.
- Controlled Disbursement Accounts (CDA)
 - Checking accounts in which funds are not deposited until checks are presented for payment, usually on a daily basis.

Marketable Securities

- Securities that can be sold on short notice, generally without loss of principal or original investment.
 - ❑ Little risk
 - ❑ Substitute for cash balances
 - ❑ Temporary investments
 - Finance seasonal or cyclical operations.
 - Build funds to meet financial requirements in the near future.

Characteristics of Marketable Securities

- Maturity—short-term
- Low risk
- Very liquid
- Low return (Yield), because risk is low

Credit Management

○ Credit Policy

- Includes a firm's credit standards, credit terms, methods used to collect credit accounts, and credit monitoring procedures.

○ Credit Standards

- Indicate the minimum financial strength a customer must have to be extended credit and how much credit will be extended to that customer.

Credit Management (cont.)

○ Terms of Credit

- ❑ The payment conditions offered to credit customers.
- ❑ Length of credit period and any cash discounts offered.

○ Credit Period

- ❑ The length of time for which credit is granted.
- ❑ After that time, the credit account is considered delinquent.

Credit Management (cont.)

- Cash Discount

- A reduction in the invoice price of goods.
- Encourages early payment.

- Collection Policy

- The procedures followed by a firm to collect its accounts receivables.

Credit Management— Receivables Monitoring

- The process of evaluating the credit policy and payment patterns to determine whether a shift in the customers' payment pattern has occurred.
- If payment patterns have shifted, perhaps the credit policy needs modifications.

Credit Management— Receivables Monitoring (cont.)

- Days Sales Outstanding (DSO)
 - ❑ The average length of time required to collect accounts receivable.
 - ❑ Also called the average collection period (ACP).
- Aging Schedule
 - ❑ Report showing how long accounts receivable have been outstanding.
 - ❑ Shows the proportion of receivables that are current and the proportion that are past due for given lengths of time.

Unilate Textiles Aging Schedule, 2016

Age of Account (days)	Net Amount Outstanding (\$ millions)	Percent of Total Receivables	Average Days
0 – 30	\$72.0	40%	18
31 – 60	90.0	50	55
61 – 90	10.8	6	77
Over 90	<u>7.2</u>	<u>4</u>	97
	\$180.0	100%	

$$\begin{aligned} \text{DSO} &= 0.40(18 \text{ days}) + 0.50(55 \text{ days}) + 0.06(77 \text{ days}) + 0.04(97 \text{ days}) \\ &= 43.2 \text{ days} \end{aligned}$$

Analyzing Proposed Changes in Credit Policy

- Marginal Costs and Benefits
 - Change in sales
 - Change in variable operating costs
 - Change in average collection period
 - Change in carrying cost of receivables
- Proposed changes should be evaluated the same as capital budgeting projects.
- Change policy only if $NPV_{\text{Proposal}} > 0$.

Inventory Management

- Raw Materials—inventories purchased from suppliers that will ultimately be transformed into finished goods.
- Work In-Process—inventory in various stages of completion.
- Finished Goods—inventories that have completed the production process and are ready for sale.

Optimal Inventory Level

- Sustain operations at lowest possible inventory cost.
- Inventory Costs
 - Carrying Costs—storage, insurance, use of funds, depreciation, and so forth.
 - Ordering Costs—costs of placing an order; the cost of each order is generally fixed regardless of the average size of inventory.

Optimal Inventory Level

- Economic Order Quantity (EOQ)
 - The optimal quantity that should be ordered.
 - It is the quantity that will minimize the total inventory costs.

Multinational Working Capital Management

- Cash Management—same as for a domestic firm:
 - ❑ Speed up collections and slow down disbursements.
 - ❑ Shift cash as rapidly as possible to those areas where it is needed.
 - ❑ Put temporary cash balances to work earning positive returns.