FINANCIAL MANAGEMENT

WORKING CAPITAL MANAGEMENT

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“If you take control of your finances today, then you won’t be a victim of them tomorrow.”
Emily G. Stroud
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@EmilyGStroud
EGS

Principles Applied in This Chapter

1. Working Capital Management and the Risk-Return Tradeoff
2. Working Capital Policy
3. Operating and Cash
4. Managing Current Liabilities
5. Managing the Firm’s Investment in Current Assets

Learning Objectives

1. **Describe the risk-return tradeoff** involved in managing a firm's working capital.
2. Explain the principle of self-liquidating debt as a tool for managing firm liquidity.
3. **Use the cash conversion cycle to measure the efficiency** with which a firm manages its working capital.
4. Evaluate the cost of financing as a key determinant of the management of a firm's use of current liabilities.
5. **Understand** the factors underlying a firm ' s investment in cash and marketable securities, accounts receivable, and inventory.

WORKING CAPITAL

- Working Capital = Current assets – Current liabilities
- It measures how much in liquid assets a company has available to build its business.
- Positive working capital is required to ensure that a firm is able to continue its operations and that it has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses.
- The management of working capital involves managing inventories, accounts receivable, accounts payable and cash.

Working Capital Management

- **Decisions** relating to working capital and short term financing are referred to as working capital management.
- If current assets are less than current liabilities, an entity has a working capital deficiency, also called a working capital **deficit**. CA < CL (less than 1)
- These involve managing the relationship between a firm's short-term assets and its short-term liabilities.

Goal of Working Capital Management

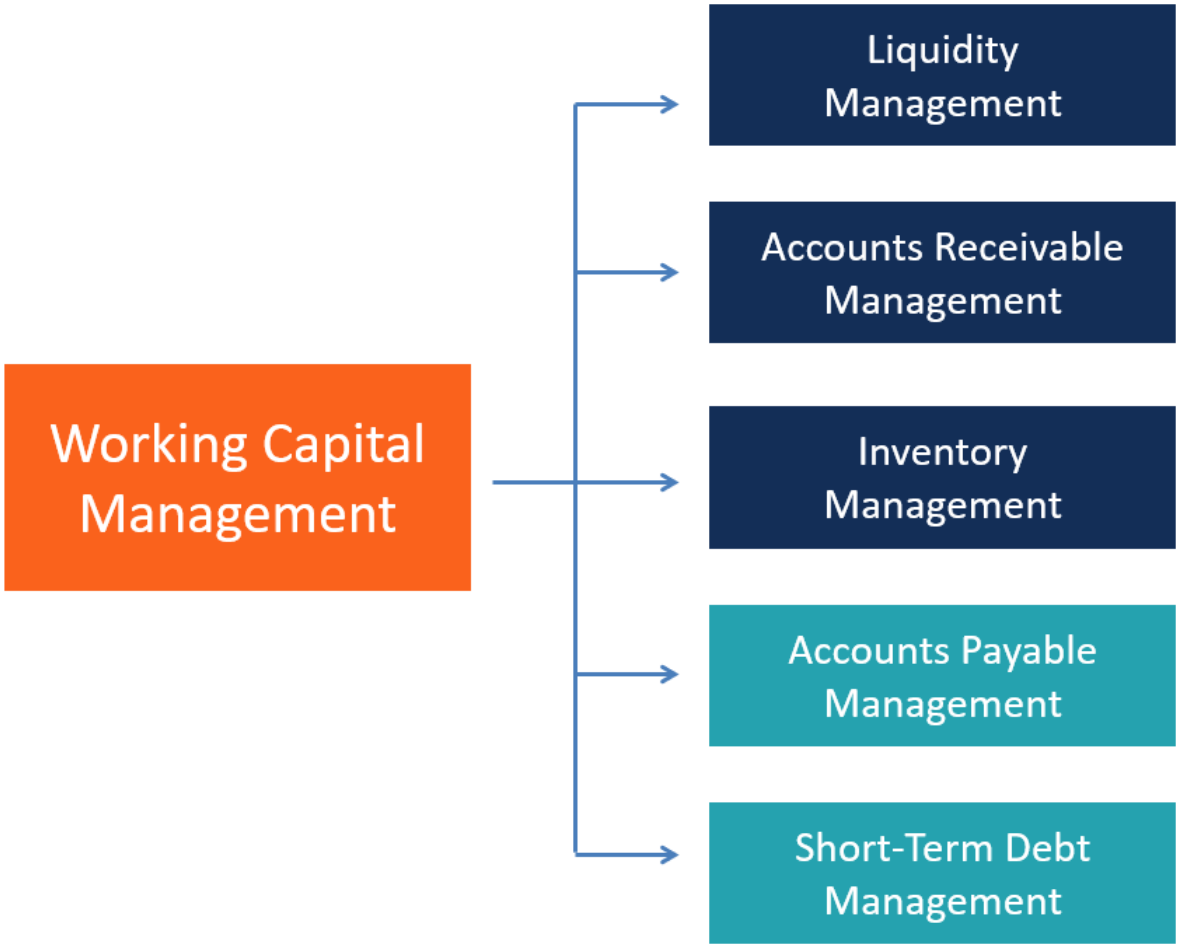
- The goal of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses.

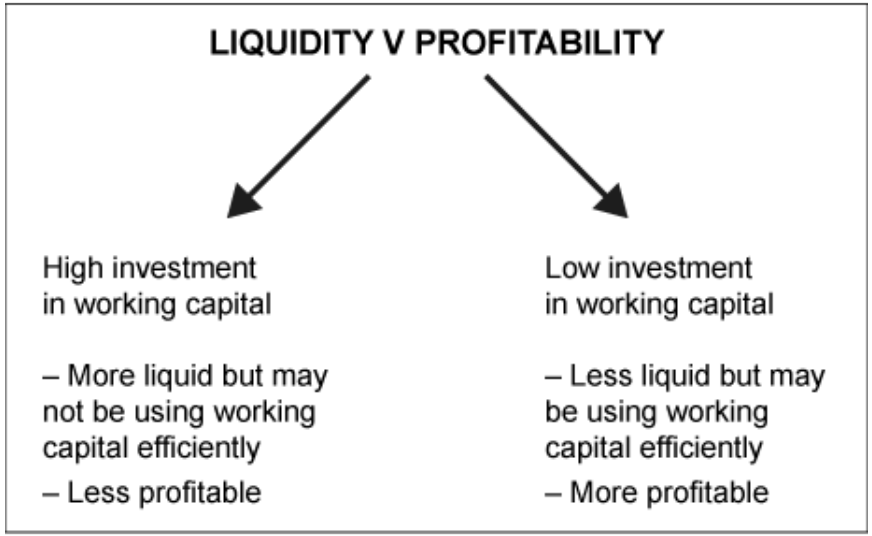
- Businesses face ever increasing pressure on costs and financing requirements as a result of intensified competition on globalized markets.

- When trying to attain greater efficiency, it is important not to focus exclusively on income and expense items, but to also take into account the capital structure, whose improvement can free up valuable financial resources.

Principles of Working Capital Management

- The fundamental principles of working capital management are reducing the capital employed and improving efficiency in the areas of receivables, inventories and payables.


Working Capital Management
Liquidity Management
Accounts Receivable Management
Inventory Management
Accounts Payable Management
Short-Term Debt Management



- The **current ratio** and **net working capital** are two measures of liquidity. To manage liquidity, managers must balance the firm's investments in current assets in relation to its current liabilities.

- This can be accomplished by minimizing the use of current assets, by seeking out the most favorable accounts payable terms, and by monitoring its use of short-term borrowing.

Consider the effect on Ford's liquidity of the firm having the opportunity to enter into a long-term financing arrangement to borrow $2 million, which could be used to reduce the firm's 2011 accounts payable.

	2008	2011
Total Current Assets	$36,832,000	$50,232,000
Total Current Liabilities	$78,158,000	$63,093,000

What would be the effect of this event on the firm's liquidity measures?

PROBLEM

Step 1: Picture the Problem

We are given the following information:

	2008	2011
Total Current Assets	**$36,832,000**	**$50,232,000**
Total Current Liabilities	**$78,158,000**	**$63,093,000**

Step 2: Decide on a Solution Strategy

Firm's **liquidity** can be measured by computing the following two measures:

1. Current Ratio (Current Assets ÷ Current Liabilities)

2. Working capital (Current Assets – Current Liabilities)

Step 3: Solve

- Current Ratio (2011)
  = Current Assets ÷ Current Liabilities
  = $50,232,000 ÷ $61,093,000 = **0.82**

- Working capital
  = Current Assets – Current Liabilities
  = $50,232,000 - $61,093,000
  = ($10,861,000)

** $63,093,000 - $2,000,000 = $61,093,000*

Step 4: Analyze

The long-term financing arrangement for $2 million improves the liquidity measures by increasing the current ratio from 0.80 to 0.82.

A company has negative working capital if its ratio of current assets to liabilities is less than one.
Positive working capital indicates that a company can fund its current operations and invest in future activities and growth

Working Capital Calculation		
Current Assets:		
Cash	$	20,000.00
Accounts Receivable		15,000.00
Inventories		45,000.00
		80,000.00
Current Liabilities:		
Accounts Payable	$	25,000.00
Short-term borrowings		5,000.00
Accrued liabilities		10,000.00
		40,000.00
Working Capital	**$**	**40,000.00**

Current Asset – Current Liabilities

Risk-Return Tradeoff

- What is Risk-Return Tradeoff? The risk-return tradeoff states **that the potential return rises with an increase in risk**.

- Working capital decisions will change the firm's liquidity and involve a risk-return tradeoff.

- For example, a firm can *enhance its profitability* by reducing its investments in low-yielding money market securities, but this may mean lack of access to liquid funds and higher risk of default (investing in higher risk investment to increase profitability)

- **Money market securities** is a great example of a low-risk investment. Money is locked away for a period of time. **Shares** are a classic example of a high risk, high return investment.

Risk-return Tradeoff Involved in Managing Working Capital

- **Invest in Current Assets** reduces the company's risk of illiquidity at the expense of lowering rate of return of investment in assets.

- **Use of Current Liabilities** (short term financing) by using long term sources enhance company's liquidity, however, it reduce company's profitability.

WORKING CAPITAL POLICY

Managing the firm’s working capital involves deciding on an investment strategy for financing the firm ’ s current assets and liabilities, by considering the advantages and disadvantages of each financing source.

The Principle of Self-Liquidating Debt

- This principle states that the maturity of the source of financing should be matched with the length of time that the financing is needed.

- Thus a seasonal increase in inventories prior to festival season like Hari Raya Aidilfitri season must be financed with a short-term loan.

Permanent and Temporary Asset Investments

- **Temporary investments in assets** include current assets (such as cash, accounts receivable) that will be liquidated and not replaced within the current year.

- **Permanent investments** are composed of investments in assets (such as minimum level of inventories) that the firm expects to hold for longer than one year.

- This include the company's minimum level of current assets as company needs to continue operations such as inventory, accounts receivable.

Spontaneous, Temporary, and Permanent Sources of Financing

- **Spontaneous sources of financing** arise spontaneously out of the day-to-day operations of the business and consist of trade credit and other forms of accounts payable (such as wages payable).

- **Temporary sources of financing** typically consist of current liabilities the firm incurs on a discretionary basis (such as short-term bank loans).

- **Permanent sources of financing** are called permanent since the financing is available for a longer period of time than a current liability. For example, intermediate term loans, bonds, preferred stock and common equity.

Terminology Underlying the Principle of Self-Liquidating Debt

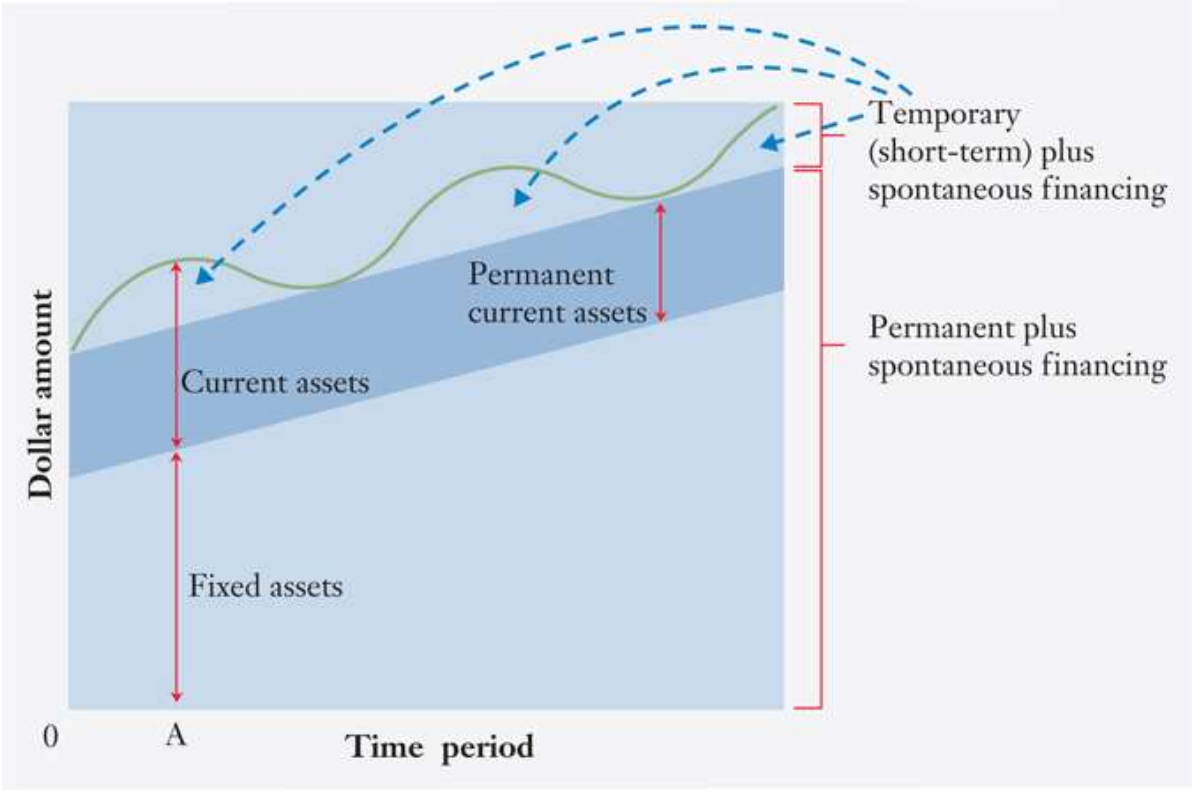
(Panel A) Classification of Types of Investments in Assets

Types of Investments in Assets	Definition and Examples
Temporary	Definition—assets that will be liquidated and not replaced within the current year. Examples—typically current assets such as inventories and accounts receivable.
Permanent	Definition—assets that the firm expects to hold for a period longer than one year. Examples—typically fixed assets such as plant and equipment, although the minimum level of investment in current assets is considered a permanent asset investment as well.

(Panel B) Classification of Types of Sources of Financing

Types of Sources of Financing	Definition and Examples
Spontaneous	Definition—financing sources that arise naturally or spontaneously out of the day-to-day operations of the business. Examples—trade credit or accounts payable, accrued expenses related to wages and salaries, as well as interest and taxes.
Temporary	Definition—current liabilities the firm incurs on a discretionary basis. Unlike spontaneous sources of financing, the firm's management must make an overt decision to use one of the various sources of temporary financing. Examples—unsecured bank loans and commercial paper, as well as loans secured by the firm's inventories or accounts receivable.
Permanent	Definition—long-term sources of discretionary financing used by the firm. Examples—intermediate-term loans, long-term debt (e.g., installment loans and bonds), preferred stock, and common equity.

Working Capital Policy: The Principle of Self-Liquidating Debt



What Is The Working Capital? - You Will See, Finance Is Easy!

Understanding Working Capital for an Organization

https://youtu.be/7JBwhhrwUCk

What did you learn from the video?

Share your thoughts.

1)

2)

3)

EXERCISE

Exercise 1

Nura Food Innovation
Balance Sheet
December 31, 2020

	RM		RM
Cash	32,000	Current liabilities	72,000
Accounts receivable	40,000	Long-term liabilities	48,000
Inventories	48,000	Common equity	120,000
Total current assets	120,000		
Net fixed assets	120,000		
Total	240,000	Total	240,000

The firm earned RM28,000 after taxes based on net sales of RM480,000.

a. Calculate the current ratio and net working capital.
b. Assume that the company uses RM20,000 of its cash to reduce current liabilities. Recompute the current ratio and net working capital.
c. What effect, if any, does the change proposed in question b have on the company's liquidity?

	RM		RM
Cash	32,000	Current liabilities	72,000
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Inventories	48,000	Common equity	120,000
Total current assets	120,000		
Net fixed assets	120,000		
Total	240,000	Total	240,000

The firm earned RM28,000 after taxes based on net sales of RM480,000.

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b. Assume that the company uses RM20,000 of its cash to reduce current liabilities. Recompute the current ratio and net working capital.

c. What effect, if any, does the change proposed in question b has on the company's liquidity?

Solution

a. Current ratio = (RM120,000)/(RM72,000) = 1.67 times
Net working capital = RM120,000 - RM72,000 = RM48,000

b. Current ratio = (RM100,000)/(RM52,000) = 1.92 times
Net working capital = RM100,000 - RM52,000 = RM48,000

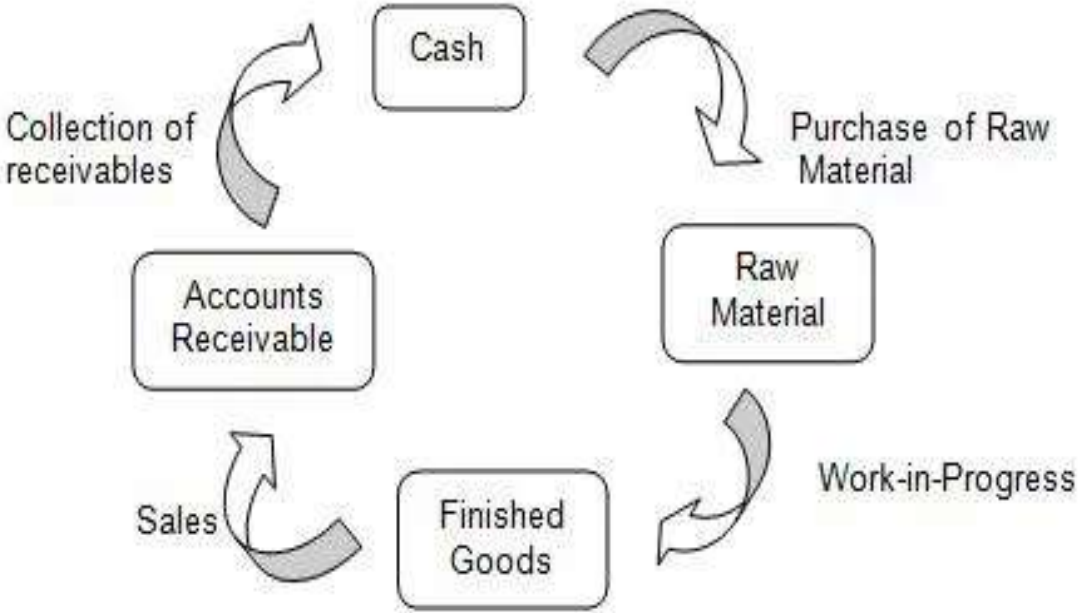
c. Yes, the firm's liquidity position as measured by the current ratio improves slightly but the amount of current asset (cash) is lesser. The composition of Nura Food Innovation's current assets is less liquid than before because cash is the most liquid asset.

Operating and Cash Conversion Cycles

Cash Conversion Cycle (CCC)

The operations of corporations typically follow a three-step cycle which commences with the purchase of inventory, followed by the sale of goods on credit and ends with the collection of accounts receivable. The cycle is referred to as the cash conversion cycle (CCC).

The CCC aims to establish the time required for a corporation to convert cash invested in its operations to cash received as a result of its operations. The cycle is linked to the management of the corporation current assets and current liabilities.


Cash
Purchase of Raw Material
Raw Material
Work-in-Progress
Finished Goods
Sales
Accounts Receivable
Collection of receivables

Operating and Cash Conversion Cycles

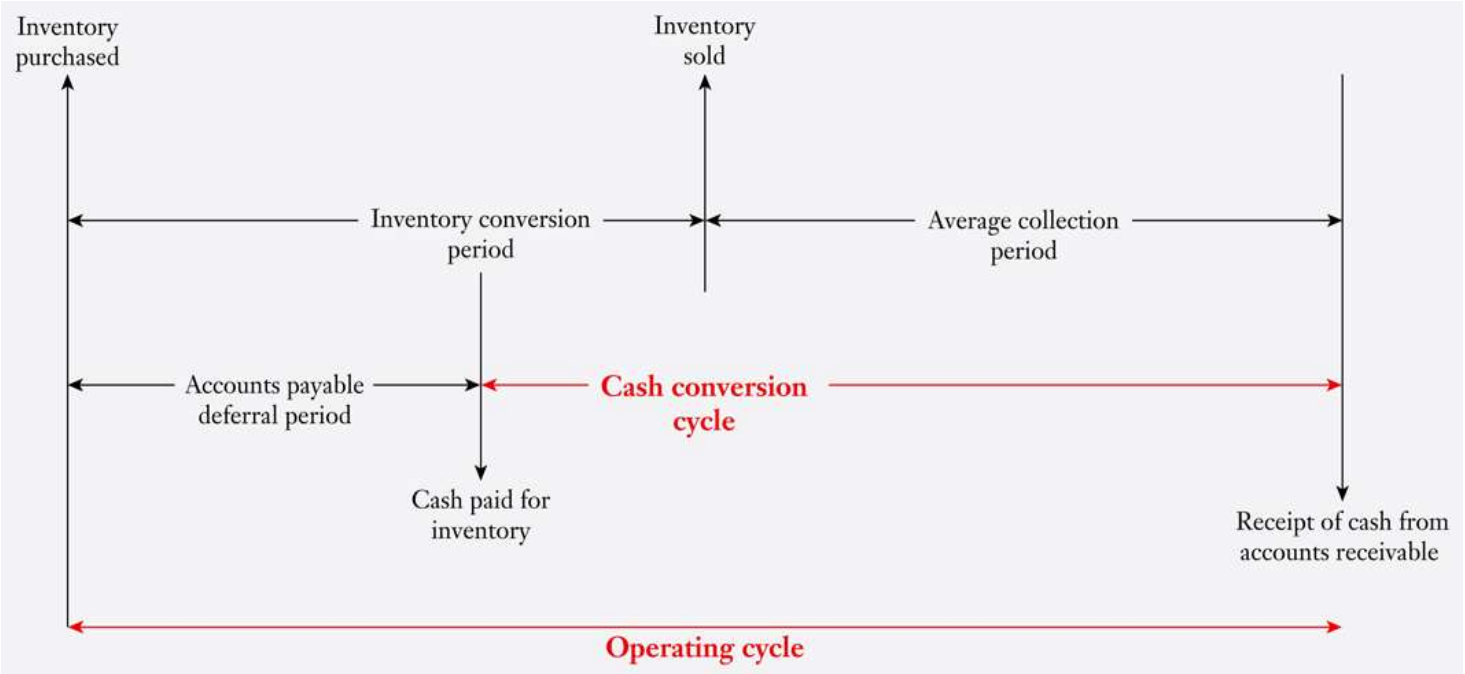
Operating cycle and cash conversion cycle determine how effectively a firm has managed its working capital. The shorter the cycles, the more efficient is the firm's working capital management.

Measuring Working Capital Efficiency

The **operating cycle** measures the time period that elapses from the date that an item of inventory is purchased until the firm collects the cash from its sale.

$$\text{Operating Cycle} = \text{Inventory Conversion Period} + \text{Average Collection Period}$$

The Cash Conversion Cycle



Measuring Working Capital Efficiency (cont.)

Accounts payable deferral period - When the firm is able to purchase items of inventory on credit, cash is not tied up for the full length of its operating cycle.

$$\text{Accounts Payable Deferral Period} = \frac{365}{\left(\text{Cost of Goods Sold} \div \text{Accounts Payable}\right)}$$

Measuring Working Capital Efficiency (cont.)

Cash conversion cycle is shorter than the operating cycle as the firm does not have to pay for the items in its inventory for a period equal to the length of the account payable deferral period.

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts Payable Deferral Period}$$

The Cash Conversion Cycle (cont.)

Formulas:

$$\text{Operating Cycle} = \text{Inventory Conversion Period} + \text{Average Collection Period} \quad \textbf{(18–1)}$$

$$\text{Accounts Payable Deferral Period} = \frac{365}{\left(\text{Cost of Goods Sold} \div \text{Accounts Payable}\right)} \quad \textbf{(18–2)}$$

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts Payable Deferral Period} \quad \textbf{(18–3)}$$

$$\text{Inventory Conversion Period} = \frac{365}{\text{Inventory Turnover Ratio}} \quad \textbf{(18–4)}$$

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Inventory}} \quad \textbf{(18–5)}$$

$$\text{Average Collection Period} = \frac{\text{Accounts Receivable}}{\text{Daily Credit Sales}} = \frac{\text{Accounts Receivable}}{\left(\text{Annual Credit Sales} \div 365\right)} \quad \textbf{(18–6)}$$

Calculating the Operating and Cash Conversion Cycle

The financial information of a company as below:

	$
Annual credit sales	15 million
Cost of goods sold	12 million
Inventory	3 million
Accounts receivable	3.5 million
Accounts payable outstanding	2 million

Calculating the Operating and Cash Conversion Cycle (cont.)

The *inventory conversion period* = # of days to convert its inventory to credit sales. *Average collection period* = # of days to convert accounts receivable to cash

$$\text{Inventory Conversion Period} = \frac{365}{\text{Inventory Turnover Ratio}} = \frac{365}{4.0} = 91 \text{ days}$$

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Inventory}} = \frac{\$12{,}000{,}000}{\$3{,}000{,}000} = 4.0$$

Operating Cycle

- Operating Cycle = Inventory Conversion Period + Average Collection Period

  = 91 + 85 = 176 days

Calculating the Operating and Cash Conversion Cycle (cont.)

$$\text{Accounts Payable Deferral Period} = \frac{365}{\left(\text{Cost of Goods Sold} \div \text{Accounts Payable}\right)}$$

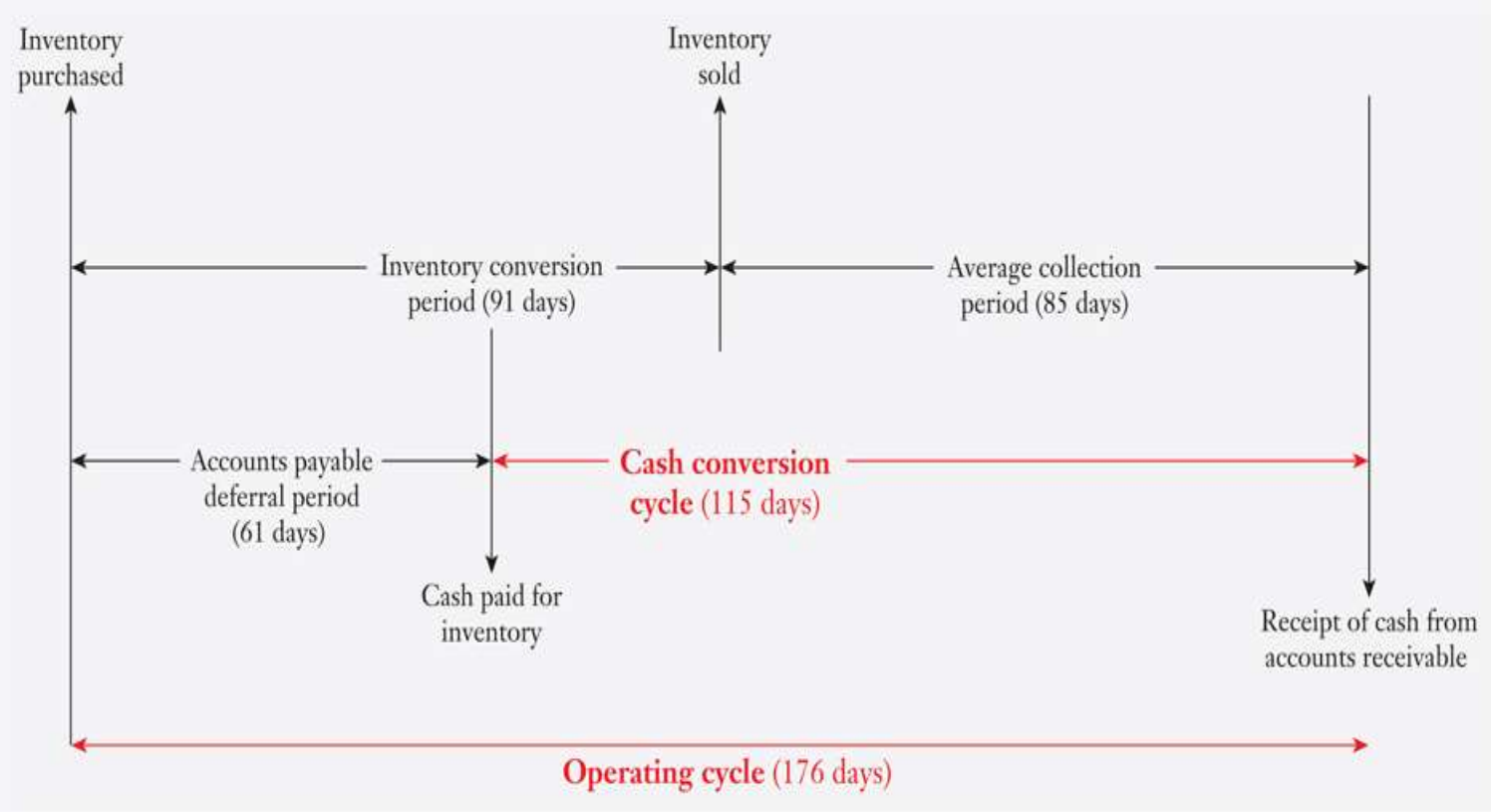
$$\text{Average Collection Period} = \frac{\text{Accounts Receivable}}{\text{Daily Credit Sales}} = \frac{\$3{,}500{,}000}{\$15{,}000{,}000/365} = 85 \text{ days}$$

Cash Conversion Cycle

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts Payable Deferral Period}$$

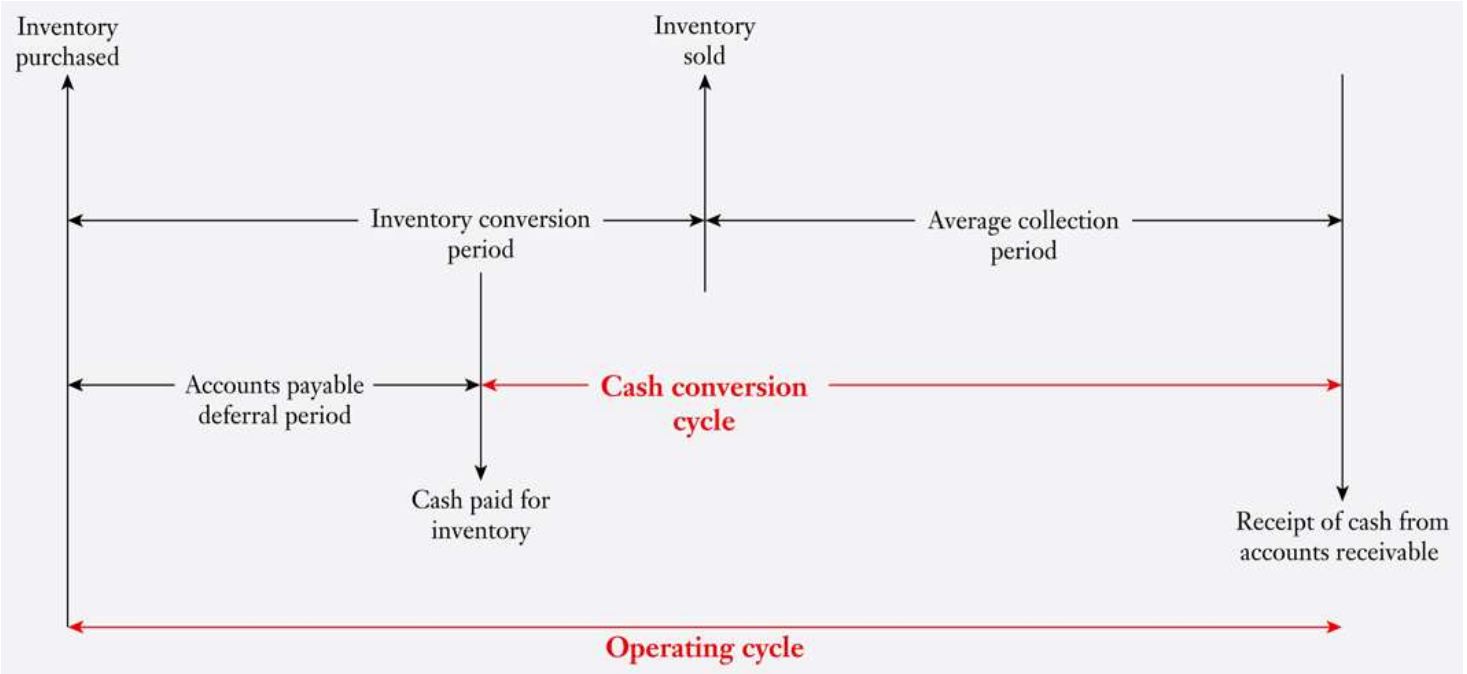
= 176 – 61 = 115 days

The Cash Conversion Cycle



If the company were to have an average collection period of 24.16 days, an inventory conversion period of 39.84 days and accounts payable deferral period of 131.42 days, what would its operating and cash conversion cycles be?

Step 1: Picture the Problem



Step 2: Decide on a Solution Strategy

The firm's operating cycle and cash conversion cycle are defined as follows:

$$\text{Operating Cycle} = \text{Inventory Conversion Period} + \text{Average Collection Period}$$

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts Payable Deferral Period}$$

Step 3: Solve (cont.)

Operating Cycle = Inventory Conversion Period + Average Collection Period

Operating Cycle = 39.84 days + 24.16 days
= **64 days**

Average collection period = 24.16 days
Inventory conversion period = 39.84 days
Accounts payable deferral period = 131.42 days

Step 3: Solve (cont.)

$$\text{Accounts Payable Deferral Period} = \frac{365}{\left(\frac{\text{Cost of Goods Sold}}{\text{Accounts Payable}}\right)}$$

$$\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts Payable Deferral Period}$$

= 64 days – 131.42 days

= -67.42 days

Average collection period = 24.16 days
Inventory conversion period = 39.84 days
Accounts payable deferral period = 131.42 days

Step 4: Analyze

- We observe that the operating cycle for the company is 64 days which indicates that 64 days elapse from the date an item of inventory is purchased until the company collects the cash from its sale.

- The cash conversion cycle is negative as the company is able to defer making payments on its account payable.

Company may shorten its CCC in four ways:

(a) It reduces its inventory conversion period by manufacturing and selling its more quickly;
(b) It reduces its receivable collection period by speeding up collection;
(c) It lengthens the payables deferral period by slowing down its own payments to suppliers; and
(d) It manages its processing and clearing time to reduce it when collecting receivables from customers and to increase it when paying to suppliers.

Company can take any of the options available as long as it does not increase its costs or depress its sales.

EXERCISE

Financial information for Dell Computer Corporation:

	RM ('000)
Sales	62,071
Cost of Goods Sold	48,260
Accounts Receivables	9,803
Inventories	1,404
Accounts Payable	15,590
Current Assets	29,448
Current Liabilities	22,001

Compute the operating cycle and cash conversion cycle.

EXERCISE 2

Financial information for Dell Computer Corporation:

	RM ('000)
Sales	62,071
Cost of Goods Sold	48,260
Accounts Receivables	9,803
Inventories	1,404
Accounts Payable	15,590
Current Assets	29,448
Current Liabilities	22,001

Compute the operating cycle and cash conversion cycle.

Average Collection Period = 9,803/(62,071/365) = **57.65 days**
Inventory Conversion Period = 365/(48,260/1,404) = **10.62 days**
Accounts Payable Deferral Period = 365/(48,260/15,590) = **117.91 days**

Operating Cycle = 68.26 days **Cash Conversion Cycle = (49.65 days)**
Effective use of working capital management practice

Solution 2

1) King Co.'s inventory turnover ratio is 12. Its inventory conversion period is

2) Prince Co.’s cost of goods sold is $5,000 and its inventory is RM2,000. What is the company’s inventory turnover?

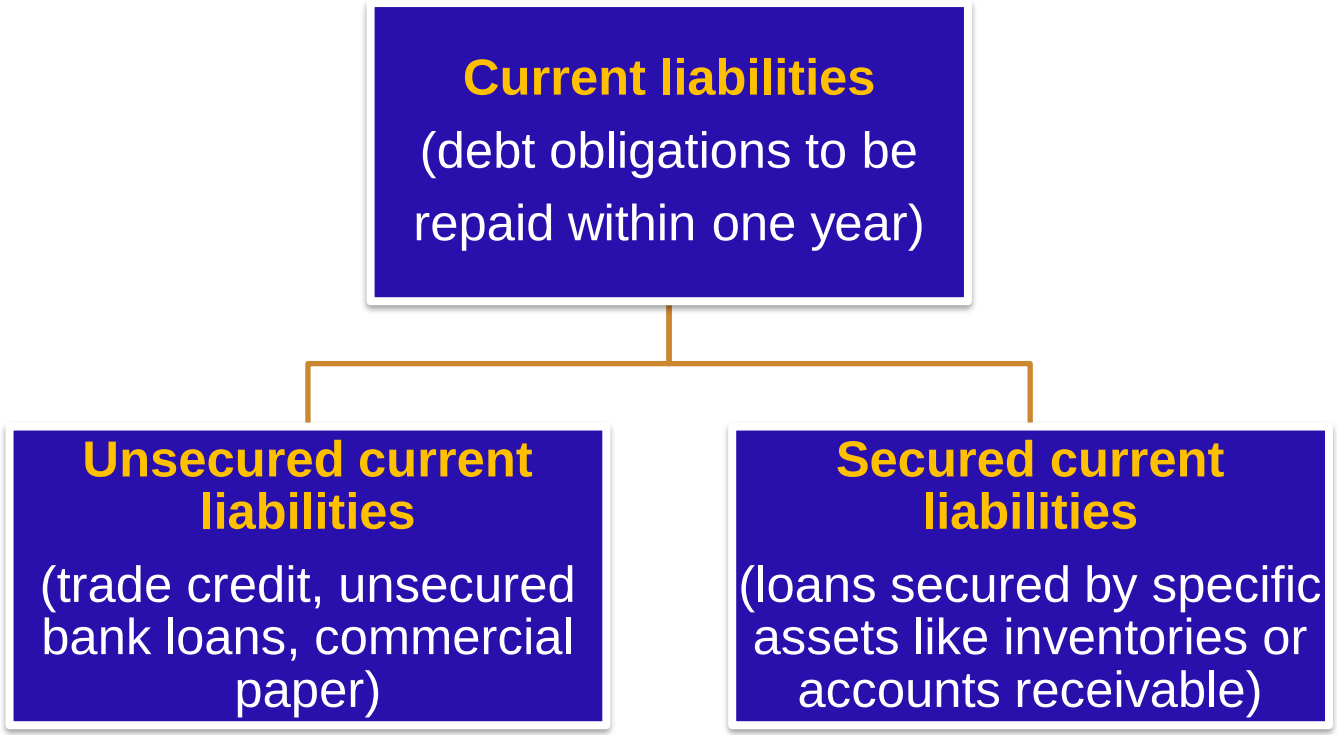
3) Queen Co.'s balance in accounts receivable is $240,000. Annual credit sales are $2,880,000. Queen's average collection period is

Exercise 3

30.4, 2.5x, 30.4

Managing Current Liabilities

Managing Current Liabilities



Calculating the Cost of Short-term Financing

The cost of short-term credit is given by:

Interest = Principal × Rate × Time

Example What will be the interest payment on a 4-month loan for $35,000 that carries an annual interest rate of 12%?

Interest = Principal × Rate × Time

= $35,000 × 0.12 × 4/12 = **$1,400**

Calculating the Cost of Short-term Financing (cont.)

- The Annual Percentage Rate (APR) is computed as follows:

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal} \times \text{Time}}$$

or

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal}} \times \frac{1}{\text{Time}}$$

Calculating the Cost of Short-term Financing (cont.)

- Example Rio Corporation plans to borrow $35,000 for a 120-day period and repay $35,000 principal amount plus $1,400 interest at maturity. What is the APR?

APR = ($1400/$35000) × 1/(120/365)
= 12.167%

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal} \times \text{Time}}$$

or

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal}} \times \frac{1}{\text{Time}}$$

Sources of Short-Term Credit

(Panel A) Unsecured Sources of Credit:

Trade Credit

Accounts payable arises out of the normal course of business when the firm purchases from its suppliers, who allow the firm to make payment after the delivery of the merchandise or services.

Line of Credit

A **line of credit** is generally an informal agreement or understanding between the borrower and the bank about the maximum amount of credit that the bank will provide the borrower at any one time. Under this type of agreement there is no legal commitment on the part of the bank to provide the stated credit. In a revolving credit agreement, which is a variant of this form of financing, a legal obligation is involved. The line of credit agreement generally covers a period of one year corresponding to the borrower's fiscal year.

Bank Transaction Loans

Bank transaction loans are a form of unsecured short-term bank credit made for a specific purpose. This type of loan is commonly associated with bank credit and is obtained by signing a promissory note.

Commercial Paper

Commercial paper is a short-term debt obligation that is issued by the most creditworthy firms and is bought and sold in the money market. One of the advantages of commercial paper is that it generally carries a lower rate than do bank loans and comparable sources of short-term financing.

(Panel B) Secured Sources of Credit:

Pledging Accounts Receivable (or Inventories)

Under the pledging accounts receivable (or inventories) arrangement, the borrower simply pledges accounts receivable (inventory) as collateral for a loan obtained from either a commercial bank or a finance company. The amount of the loan is stated as a percentage of the face value of the receivables (inventory) pledged. If the firm provides the lender with a general line on its receivables (inventory), then all of the borrower's accounts (inventories) are pledged as security for the loan.

(Panel C) Raising Cash by Selling Accounts Receivables:

Factoring Accounts Receivable

Factoring accounts receivable involves the outright sale of a firm's accounts to a financial institution called a factor. A **factor** is a firm that acquires the receivables of other firms. The factoring institution may be a commercial finance company that engages solely in the factoring of receivables (known as an old-line factor) or it may be a commercial bank. The factor, in turn, bears the risk of collection and, for a fee, services the accounts. The fee is stated as a percentage of the face value of all receivables factored (usually 1 to 3 percent).

Evaluating the Cost of Trade Credit

Trade credit given by firm's suppliers generally include discount for early payment.

For example,
Credit terms of **3/10, net 30**
means that a 3% discount is offered for payment within 10 days or the full amount is due in 30 days.
Thus, 3% is the penalty incurred if not paying within 10 days or for delaying payment from 10^{th} to 30^{th} day (20 days)

What is the cost of not taking the 3% discount if the invoice is $100?

Evaluating the Cost of Trade Credit (cont.)

The 3% cash discount is the interest cost of extending the payment period an additional 20 days. For a $100 invoice, the cost is computed as follows:

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal} \times \text{Time}}$$

or

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal}} \times \frac{1}{\text{Time}}$$

APR = ($3/$97) × 1/(20/365) = 56.44%

The annualized cost of passing up 3% discount for 20 days is 56.44%, it is expensive compared to the borrowing of short term loan.

Evaluating the Cost of Bank Loans (cont.)

A **line of credit** entitles the firm to borrow up to the stated amount. In exchange, the firm is generally required to maintain a minimum balance (known as *compensating balance*).

The compensating balance increases the annualized cost of loan to the borrower.

Assume that your firm has a $1,000,000 line of credit that requires a compensating balance equal to 20 percent of the loan amount.
The rate paid on the loan is 12 percent per annum, $500,000 is borrowed for a six-month period.
To accommodate the cost of the compensating balances requirement, assume that the added funds will have to be borrowed.

What would the annualized rate on this loan be with the compensating balance requirement?

Calculating Annual Percentage Rate (APR) for a Line of Credit

Step 1: Picture the Problem

- Since there is a compensating balance requirement (to maintain a minimum balance = 20%), the amount actually borrowed (B) will be larger than the $500,000 needed.

- $500,000 will constitute 80% of the total borrowed funds because of the 20 percent compensating balance requirement.

  Hence, 0.80B = $500,000

Step 1: Picture the Problem (cont.)

If 0.80B = $500,000

- Amount borrowed (B) = $500,000/0.80
  = $625,000

- Interest is paid on a $625,000 loan, of which only $500,000 is available for use by the firm.
- Compensating balance = $625,000 - $500,000 = $125,000

Step 2: Decide on a Solution Strategy

We can solve for APR:

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal} \times \text{Time}}$$

or

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal}} \times \frac{1}{\text{Time}}$$

Step 3: Solve

Here interest is paid on a loan of $625,000 for 6 months at 12 percent.

Interest = Principal x Rate x Time

$$= \$625{,}000 \times 0.12 \times \tfrac{1}{2} \textit{ (6/12 months)}$$
$$= \$37{,}500$$

Step 3: Solve (cont.)

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal} \times \text{Time}}$$

or

$$\text{Annual Percentage Rate } (APR) = \frac{\text{Interest}}{\text{Principal}} \times \frac{1}{\text{Time}}$$

$$\text{APR} = (\$37{,}500 \div \$500{,}000) \times \frac{1}{(6/12)}$$

$$= 0.15 \text{ or } 15\%$$

Step 4: Analyze

- We observe that the presence of a compensating balance requirement increases the cost of credit from 12% to 15%.

- This results from the fact that the firm pays interest on $625,000 but it gets the use of $37,500 less, or
  $500,000 - $37,500 = $462,500.

EXERCISE

Calculate the annual cost for not taking up the cash discount and payment is made on the net due date.

a. 2/15, net 30

b. 2/15, net 45

EXERCISE

a. ($0.02/$0.98) × [1/(15/365)] = 0.50
b. ($0.02/$0.98) × [1/(30/365)] = 0.25

** 15 days = 30-15; 30 days = 45-15*

The annualized cost of passing up the discount period **decreases** as the length of time between the end of the discount period and the end of the net due period increases.

Solution

MANAGING THE FIRM'S INVESTMENT IN CURRENT ASSETS

Managing the Firm’s Investment in Current Assets

The primary types of current assets that most firms hold are:

- Cash and Marketable securities
- Accounts receivable
- Inventories

Cash and Marketable Securities

Cash and marketable securities are held to pay the firm’s bills on a timely basis.

Tradeoff - Holding too little could lead to default. However, holding excessive cash and marketable securities is costly since they earn very low rates of return.

Cash and Marketable Securities (cont.)

Problem #1: Maintaining a Sufficient Balance

To maintain an adequate balance requires an accurate forecast of firm's cash receipts and disbursements. This is accomplished through a cash budget.

Problem #2: Managing the composition of the firm's marketable securities portfolio

Firms prefer to hold cash reserves in **money market securities.** These securities mature in less than 1 year, have low or no default probability, and are highly liquid.

Features of Selected Money Market Instruments

Instruments	Denominations	Maturities	Basis	Liquidity	Taxability
U.S. Treasury bills—direct obligations of the U.S. government	$1,000 and increments of $1,000	28 days, 91 days, and 182 days	Discount	Excellent secondary market	Exempt from state and local income taxes
Federal agency securities—obligations of corporations and agencies created to effect the federal government's lending programs	Wide variation; from $1,000 to $1 million	5 days to more than 10 years	Discount or coupon; usually on coupon	Good for issues of "largest federal" agencies	Generally exempt at local level
Bankers' acceptances—drafts accepted for future payment by commercial banks	No set size; typically range from $25,000 to $1 million	Predominantly from 30 to 180 days	Discount	Good for acceptances of large "money market" banks	Taxed at all levels of government
Negotiable certificates of deposit—marketable receipts for funds deposited in a bank for a fixed time period	$25,000 to $10 million	1 to 18 months	Accrued interest	Fair to good	Taxed at all levels of government
Commercial paper—short-term unsecured promissory notes	$5,000 to $5 million; $1,000 and $5,000 multiples above the initial offering size are sometimes available	3 to 270 days	Discount	Poor; no active secondary market in usual sense	Taxed at all levels of government
Repurchase agreements—legal contracts between a borrower (security seller) and lender (security buyer). The borrower will repurchase at the contract price plus an interest charge	Typical sizes are $500,000 or more	According to terms of contract	Not applicable	Fixed by the agreement; that is, borrower will repurchase	Taxed at all levels of government
Money market mutual funds—holders of diversified portfolios of short-term, high-grade debt instruments	Some require an initial investment as small as $1,000	Shares can be sold at any time	Net asset value	Good; provided by the fund itself	Taxed at all levels of government

Managing Accounts Receivable

Cash flow from sales cannot be invested until accounts receivable are collected.

Efficient collection policies and procedures will improve firm profitability and liquidity.

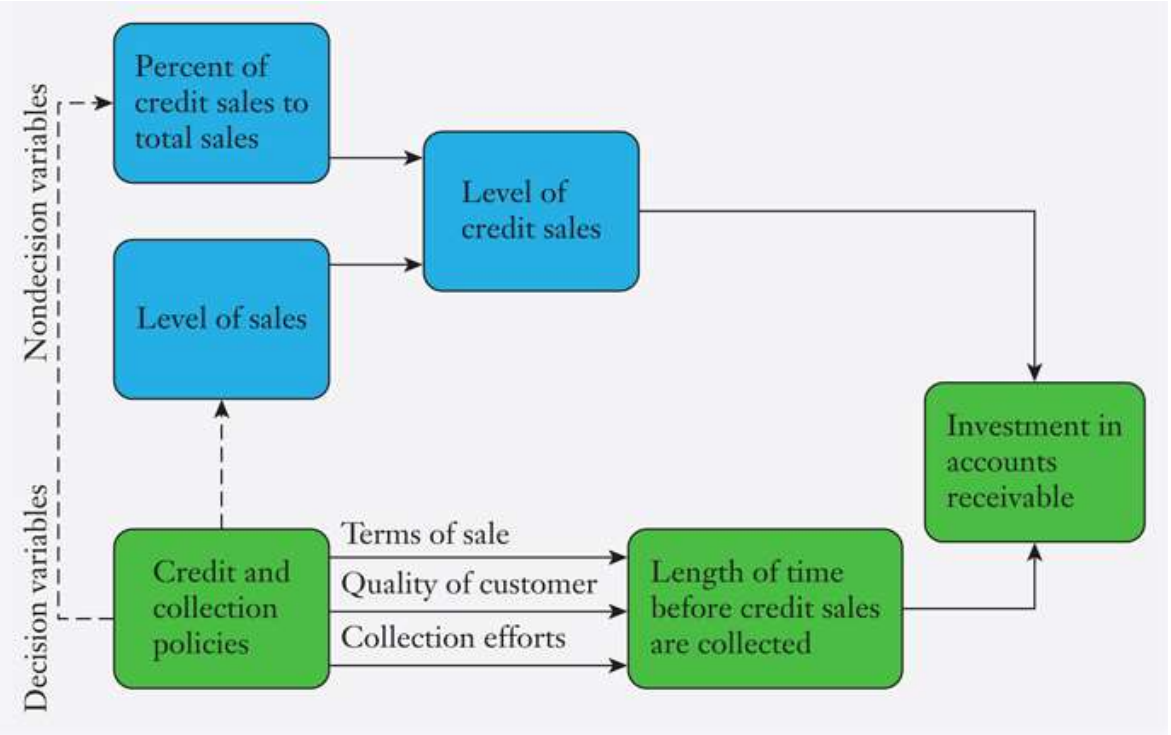
Determinants of the Size of a Firm’s Investment in Accounts Receivable

1. The level of credit sales as a percentage of total sales.

2. The level of sales. Higher the sales, greater the accounts receivable.

3. The credit and collection policy.

Determinants of Investment in Accounts Receivable



Terms of Sale

Terms of sale identify the possible discounts for early payment, the discount period, and the total credit period. It is generally stated in the form a/b, net c.

For example 1/10, net 30, means the customer can deduct 1% if paid within 10 days, otherwise the account must be paid within 30 days.

Terms of Sale (cont.)

What is the opportunity cost of passing up this 1% discount in order to delay payment for 20 days?

$$\text{Annualized Opportunity Cost of Forgoing the Discount} = \frac{a}{1-a} \times \frac{365}{c-b}$$

= 0.01/(1-0.01) × 365/(30-10)

= .1843 or 18.43%

Customer Quality

As the quality of customer declines, it increases the costs of credit investigation, default costs, and collection costs.

To determine customer quality, firm can analyze the liquidity ratios, other obligations, and overall profitability of the firm.

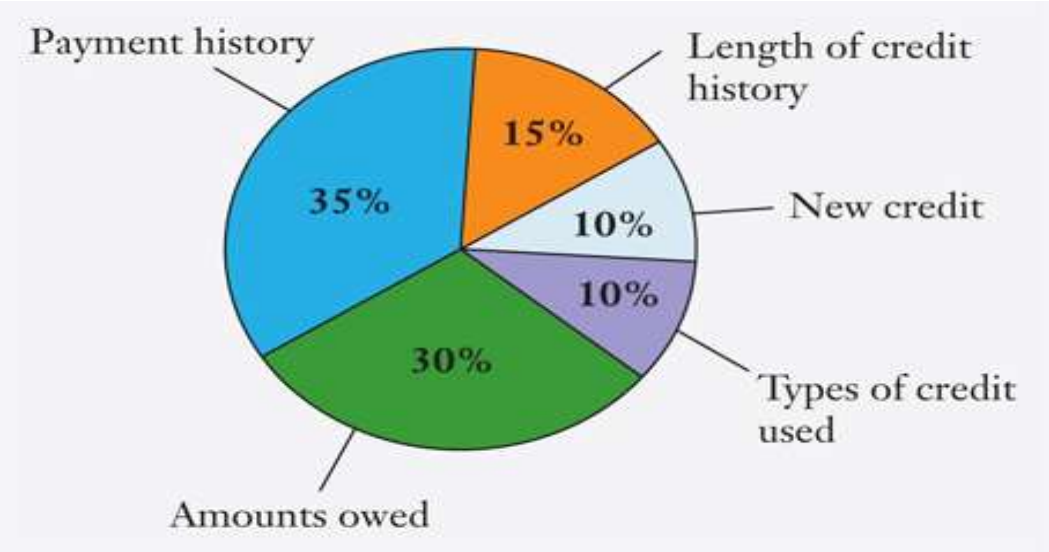
Credit score is also a popular way to evaluate the credit risk of individuals and firms. Credit score is a numerical evaluation of each applicant based on the applicant's current debts and history of making payments on a timely basis.

Collection Efforts

- Control of accounts receivables focuses on the control and elimination of past-due receivables. This can be done by analyzing various ratios such as average collection period.

- The manager can also perform “ aging of accounts receivable” to determine in dollars and percentage the proportion of receivables that are past due.

Factors That Determine Your Credit Score



Aging Accounts Receivable

Age of Accounts Receivable (Days)	Dollar Value (00)	Percent of Total
0–30	$2,340	39%
31–60	1,500	25
61–90	1,020	17
91–120	720	12
Over 120	420	7
Total	$6,000	100%

Managing Inventories

- **Inventory management** involves the control of assets that are produced to be sold in the normal course of the firm's operations. It includes raw materials inventory, work-in-process inventory, and finished goods inventory.

- How much inventory a firm carries depends upon the target level of sales, and the importance of inventory.

EXERCISE

1) A company which foregoes the discount when credit terms are 4/15, net 70 is essentially borrowing money from his supplier for an additional _____ days.

2) A firm buys on terms of 2/10, net 30. What is the annualized opportunity cost of forgoing the discount?

EXERCISE

1) 55 days (70 – 15 days).

2) Annualized Opportunity Cost of Forgoing the Discount $= \frac{a}{1-a} \times \frac{365}{c-b}$

0.02/(1-0.02) × 365/(30-10)

= **.3724 or 37.24%**

Solution

SOMETIMES IT'S NOT ABOUT THE MONEY, BUT RATHER THE PROCESS OF MANAGING THE MONEY.

Credits

Thank you to Telkom University, the lecturers and students (Telkom University, Universitas Islam Bekasi, STT Wastukancana and Multimedia University.