

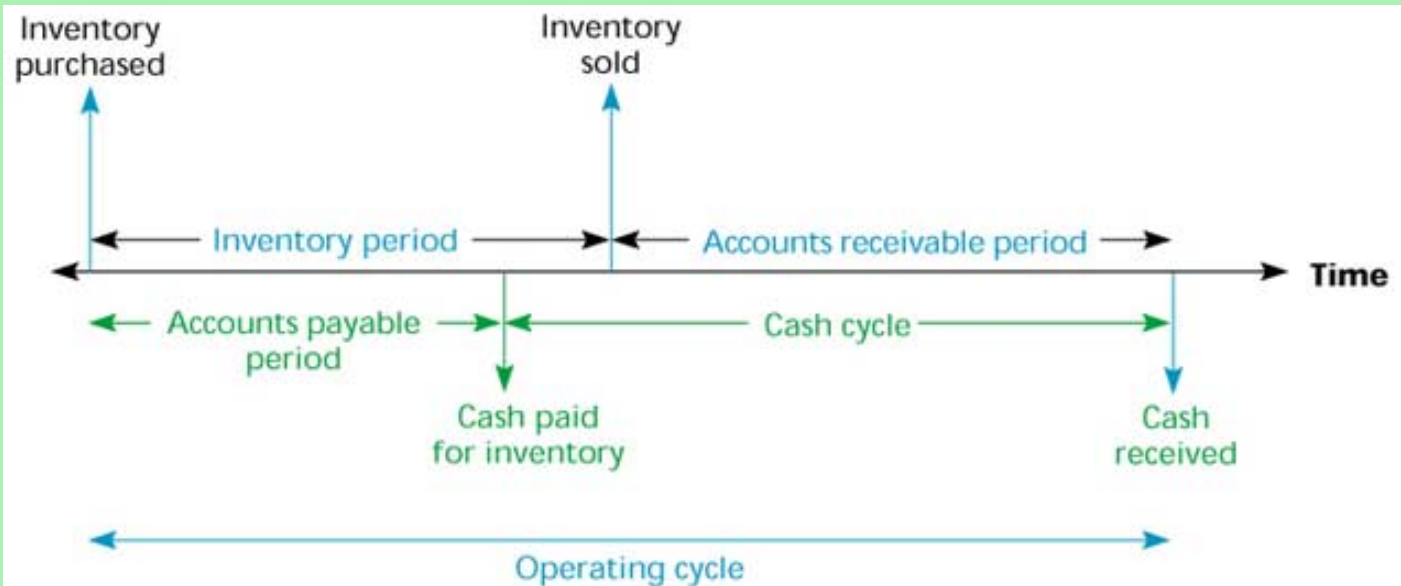
Chapter 18

Short-Term Finance and Planning

Chapter Organization

- 18.1 Tracing Cash and Net Working Capital
- 18.2 The Operating Cycle and the Cash Cycle
- 18.3 Some Aspects of Short-Term Financial Policy
- 18.4 The Cash Budget
- 18.5 A Short-Term Financial Plan
- 18.6 Short-Term Borrowing
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T18.2 Cash Flow Time Line (Figure 18.1)



The operating cycle is the time period from inventory purchase until the receipt of cash. (The operating cycle may not include the time from placement of the order until arrival of the stock.) The cash cycle is the time period from when cash is paid out to when cash is received.

T18.3 Managers Who Deal with Short-Term Financial Problems (Table 18.1)

Title of manager	Duties related to short-term financial management	Assets/liabilities influenced
Cash manager	Collection, concentration, disbursement; short-term investments; short-term borrowing; banking relations	Cash, marketable securities, short-term loans
Credit manager	Monitoring and control of accounts receivable; credit policy decisions	Accounts receivable
Marketing manager	Credit policy decisions	Accounts receivable
Purchasing manager	Decisions on purchases, suppliers; may negotiate payment terms	Inventory, accounts payable
Production manager	Setting of production schedules and materials requirements	Inventory, accounts payable
Payables manager	Decisions on payment policies and on whether to take discounts	Accounts payable
Controller	Accounting information on cash flows; reconciliation of accounts payable; application of payments to accounts receivable	Accounts receivable, accounts payable

Source: Ned C. Hill and William L. Sartoris, *Short-Term Financial Management*, 2nd ed. (New York Macmillan, 1992), p. 15.

T18.4 Survey: The Importance of Short-Term Finance and Planning

Long-term investment decisions (capital budgeting) and long-term financing decisions are characterized by the facts that they (a) generally involve large amounts of money, and (b) are relatively infrequent occurrences.

Decisions that come under the heading “short-term finance” are equally important, because, while typical decisions often don’t involve as much money, decisions are much more frequent. This is suggested in the results of a recent survey of CFOs.

Activity	Ranked Greatest Importance	Average Time Allocated
Financial Planning	59%	35%
Working Capital Mgmt.	27%	32%
Capital Budgeting	9%	19%
Long-Term Financing	5%	14%
Total	100%	100%

T18.5 Hermetic, Inc., Operating Cycle

- 1. The operating cycle
 - a) Finding the inventory period

$$\text{Inventory turnover} = \frac{\text{COGS}}{\text{Avg. inventory}}$$

$$= \frac{\$480}{\$352.5} = 1.362 \text{ times}$$

$$\text{Inventory period} = \frac{365}{1.362 \text{ times}} = 268 \text{ days}$$

T18.5 Hermetic, Inc., Operating Cycle (concluded)

b) Finding the accounts receivable period

$$\text{Receivables turnover} = \frac{\text{Credit sales}}{\text{Avg. receivables}}$$

$$= \frac{\$710}{\$285} = 2.491 \text{ times}$$

$$\text{Receivables period} = \frac{365}{2.491 \text{ times}} = 147 \text{ days}$$

$$\begin{aligned} \text{Operating cycle} &= \text{Inventory period} + \text{Receivables period} \\ &= 268 + 147 = 415 \text{ days} \end{aligned}$$

T18.6 Hermetic, Inc., Cash Cycle

- 1. The cash cycle
 - a) Finding the payables turnover

$$\text{Payables turnover} = \frac{\text{COGS}}{\text{Avg. payables}}$$

$$= \frac{\$480}{\$235} = 2.043 \text{ times}$$

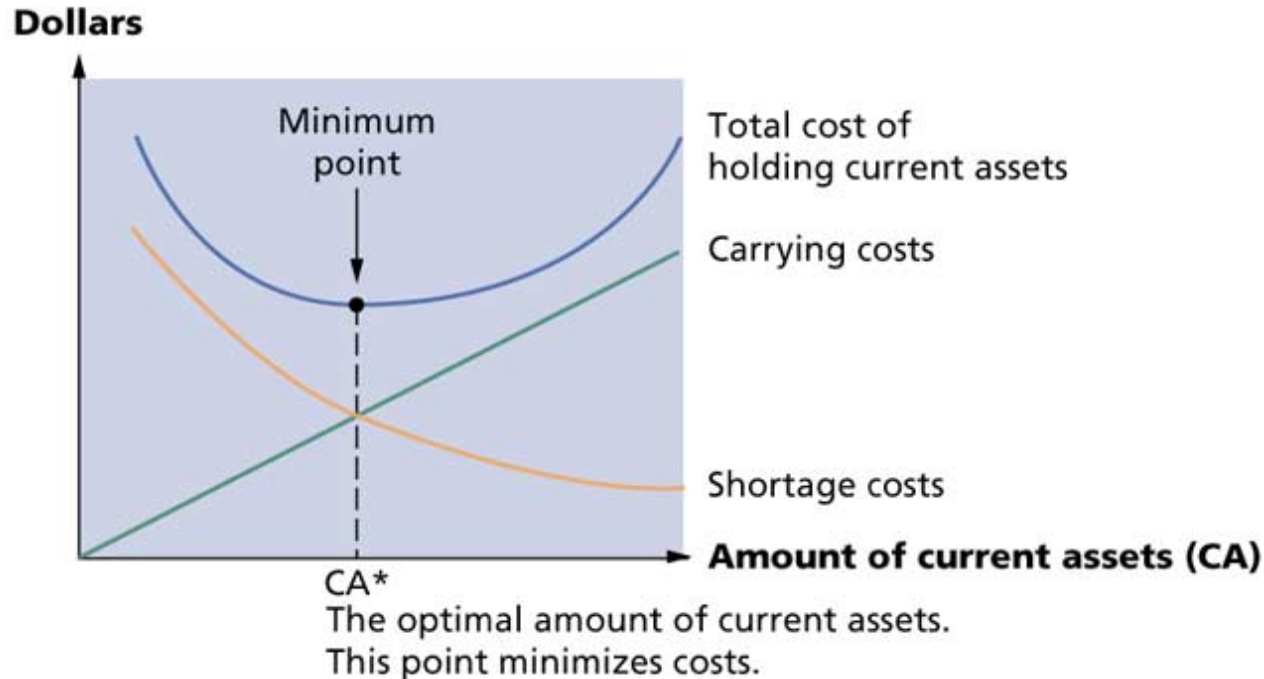
$$\text{Payables period} = \frac{365}{2.043 \text{ times}} = 179 \text{ days}$$

$$\begin{aligned} \text{Cash cycle} &= \text{Operating cycle} - \text{Payables period} \\ &= 415 - 179 = 236 \text{ days} \end{aligned}$$

T18.7 The Size of the Firm's Investment in Current Assets

- The size of the firm's investment in current assets is determined by its short-term financial policies.
- **Flexible** policy actions include:
 - ◆ Keeping large cash and securities balances
 - ◆ Keeping large amounts of inventory
 - ◆ Granting liberal credit terms
- **Restrictive** policy actions include:
 - ◆ Keeping low cash and securities balances
 - ◆ Keeping small amounts of inventory
 - ◆ Allowing few or no credit sales

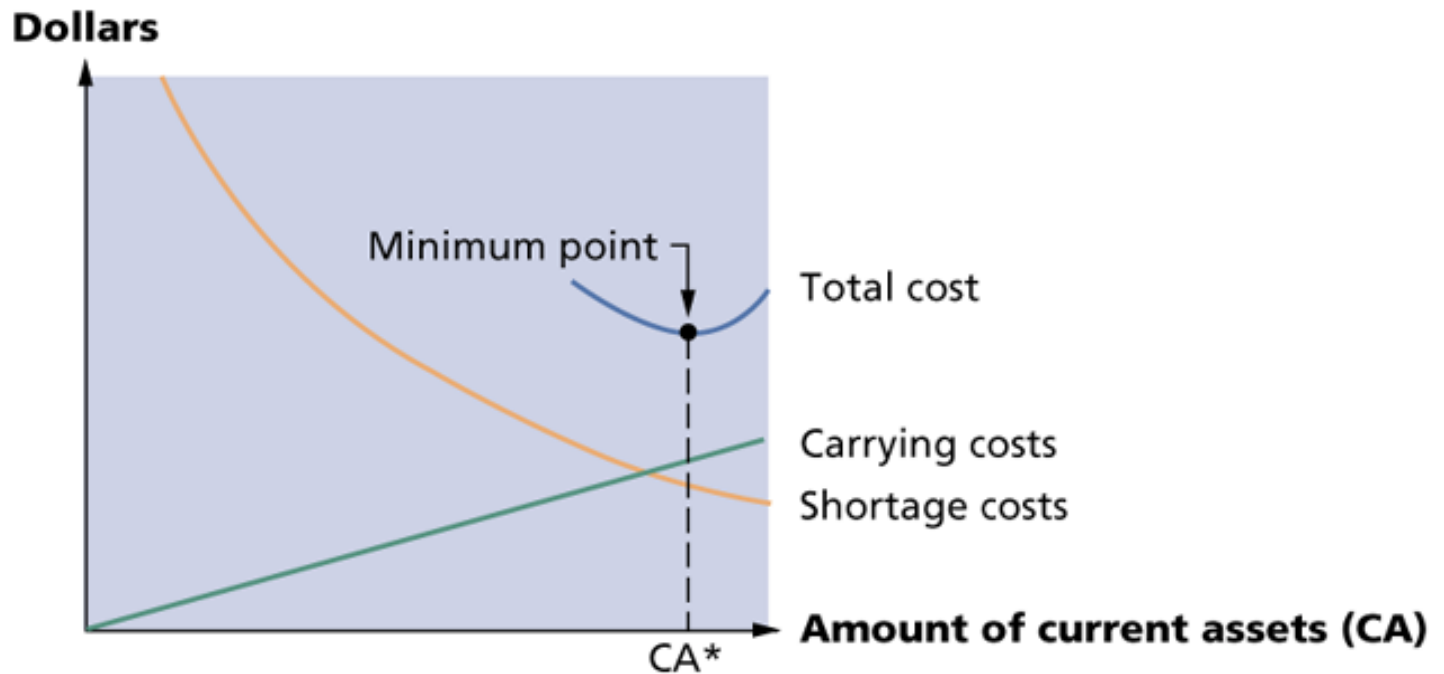
Short-term financial policy: the optimal investment in current assets.



Carrying costs increase with the level of investment in current assets. They include the costs of maintaining economic value and opportunity costs. Shortage costs decrease with increases in the level of investment in current assets. They include trading costs and the costs related to being short of the current asset (for example, being short of cash). The firm's policy can be characterized as flexible or restrictive.

T18.8 Carrying Costs and Shortage Costs (Figure 18.2)

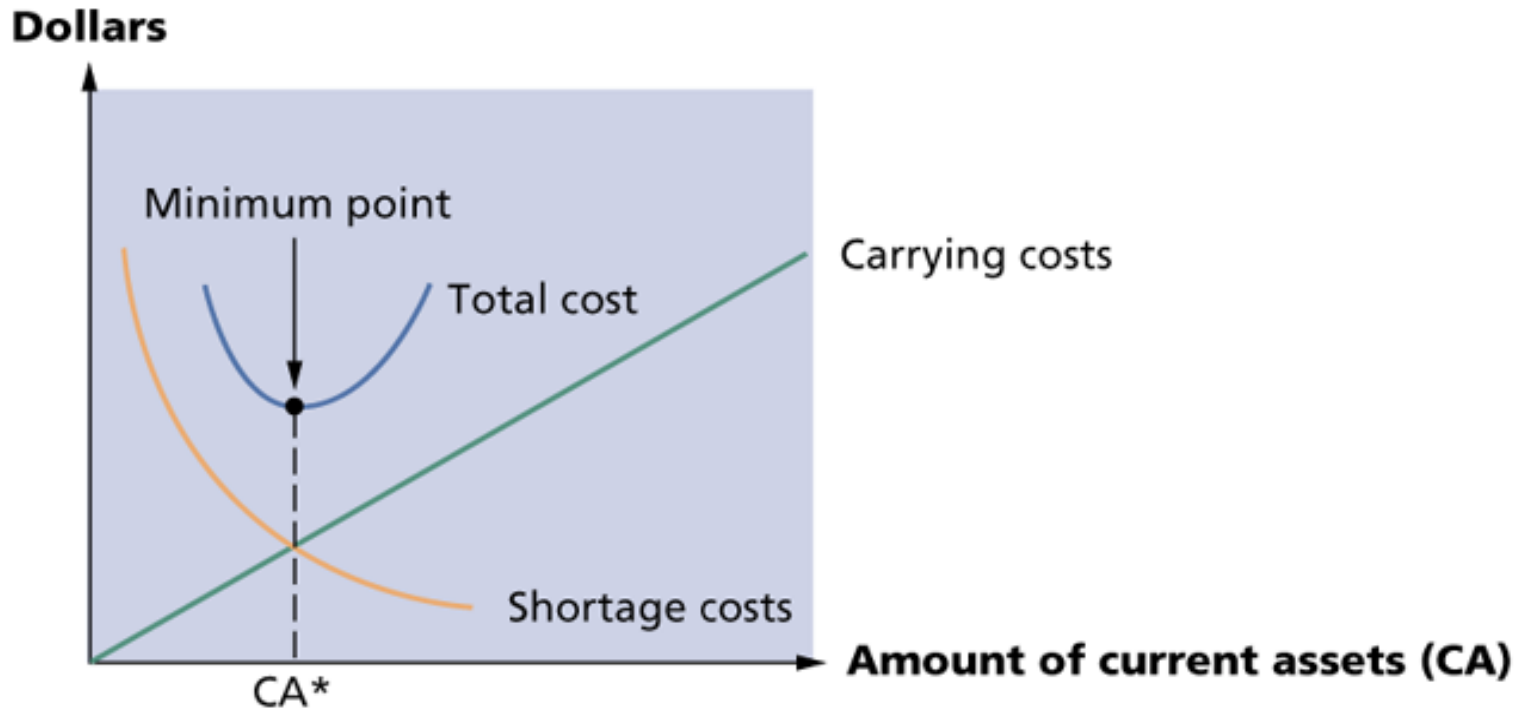
A. Flexible policy



A flexible policy is most appropriate when carrying costs are low relative to shortage costs.

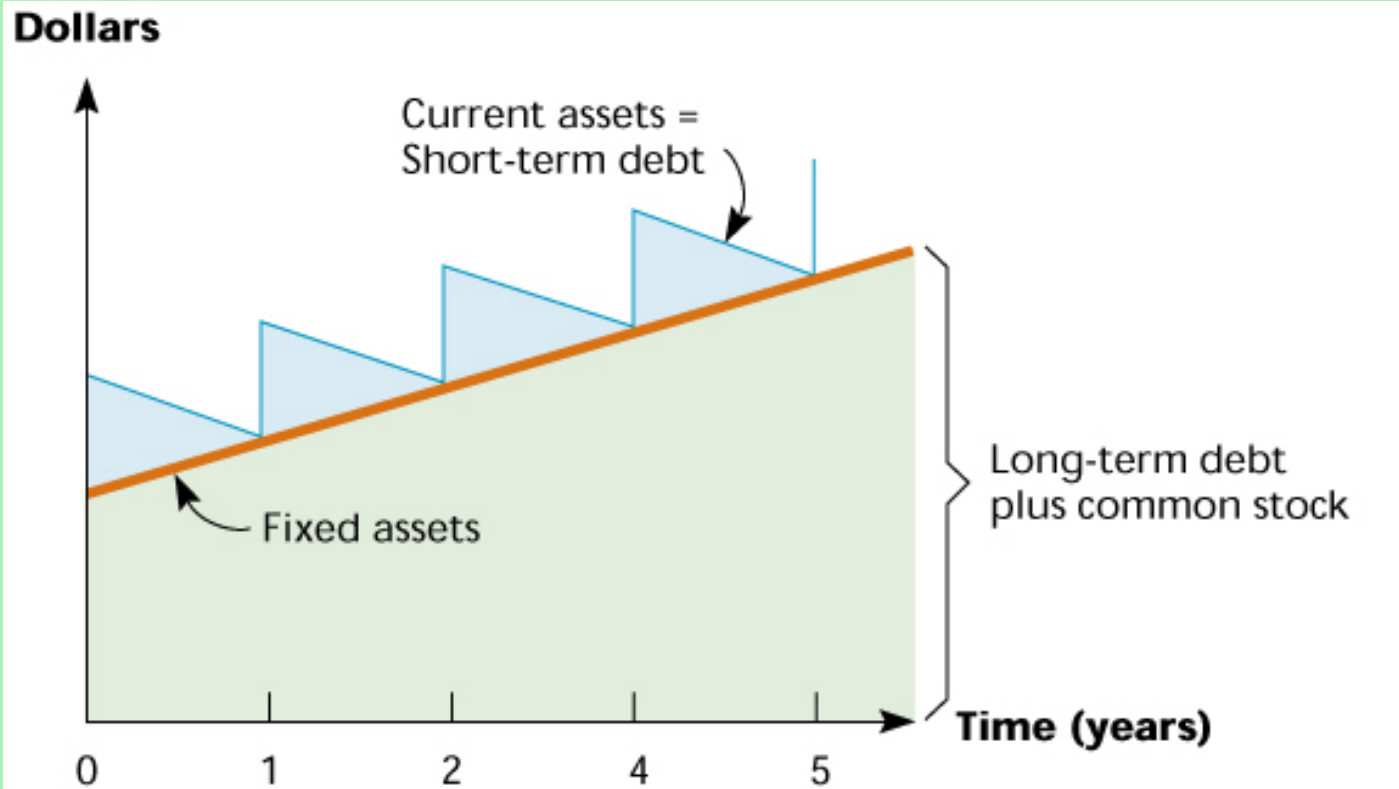
T18.8 Carrying Costs and Shortage Costs (Figure 18.2)

B. Restrictive policy



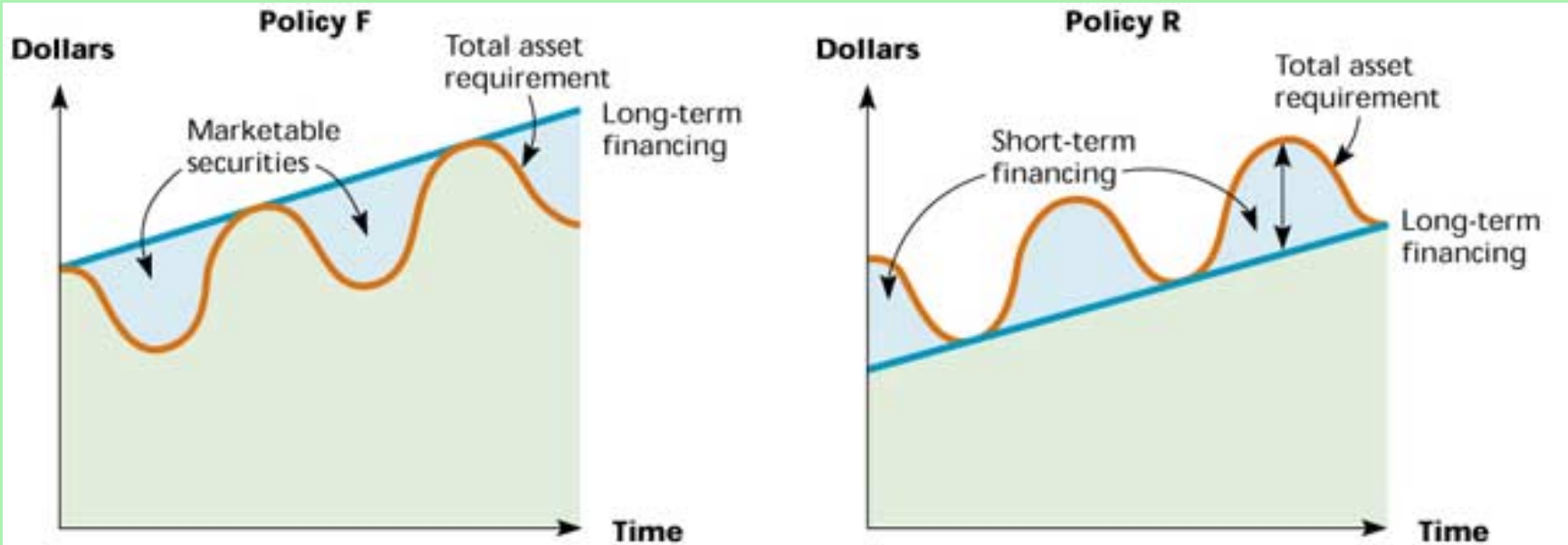
A restrictive policy is most appropriate when carrying costs are high relative to shortage costs.

T18.9 Financing Policy for an “Ideal” Economy (Figure 18.3)



In an ideal world, net working capital is always zero because short-term assets are financed by short-term debt.

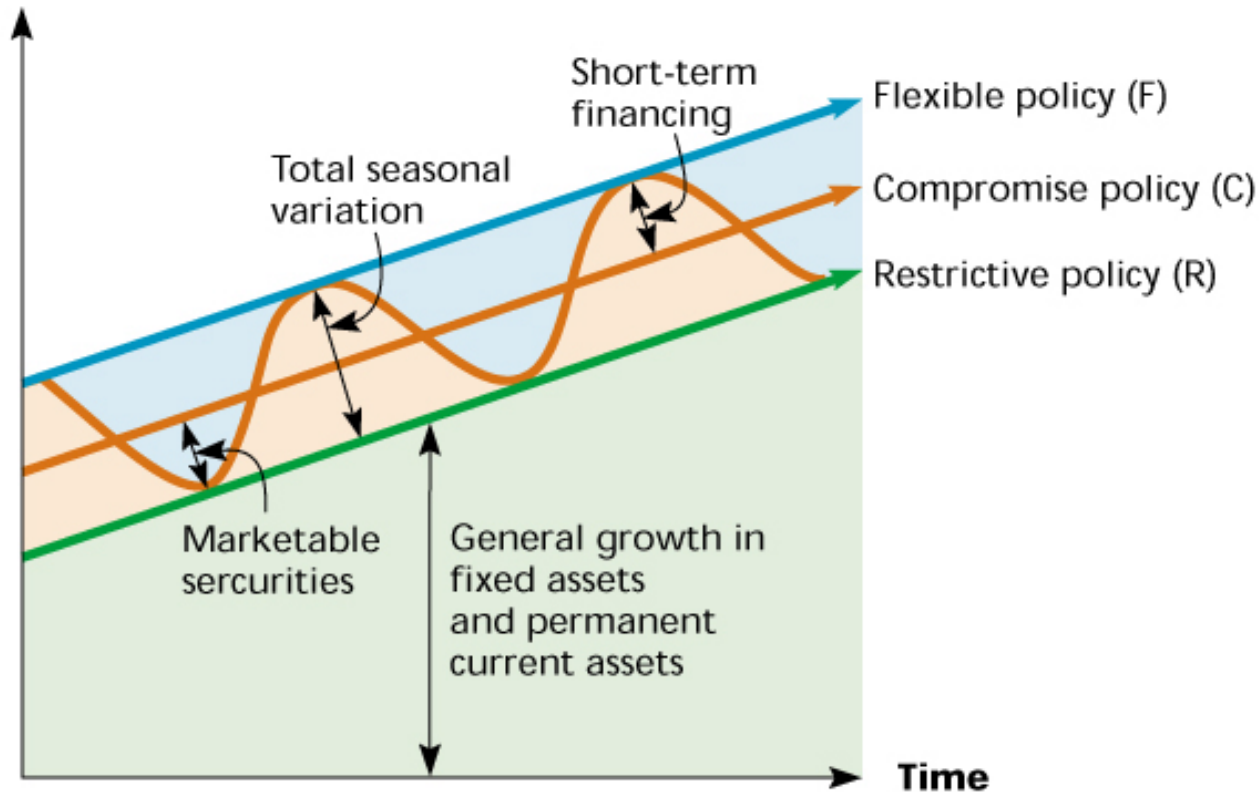
T18.10 Alternative Asset Financing Policies (Figure 18.5)



Policy F always implies a short-term cash surplus and a large investment in cash and marketable securities.

Policy R uses long-term financing for permanent asset requirements only and short-term borrowing for seasonal variations.

Dollars T18.11 A Compromise Financing Policy (Figure 18.6)

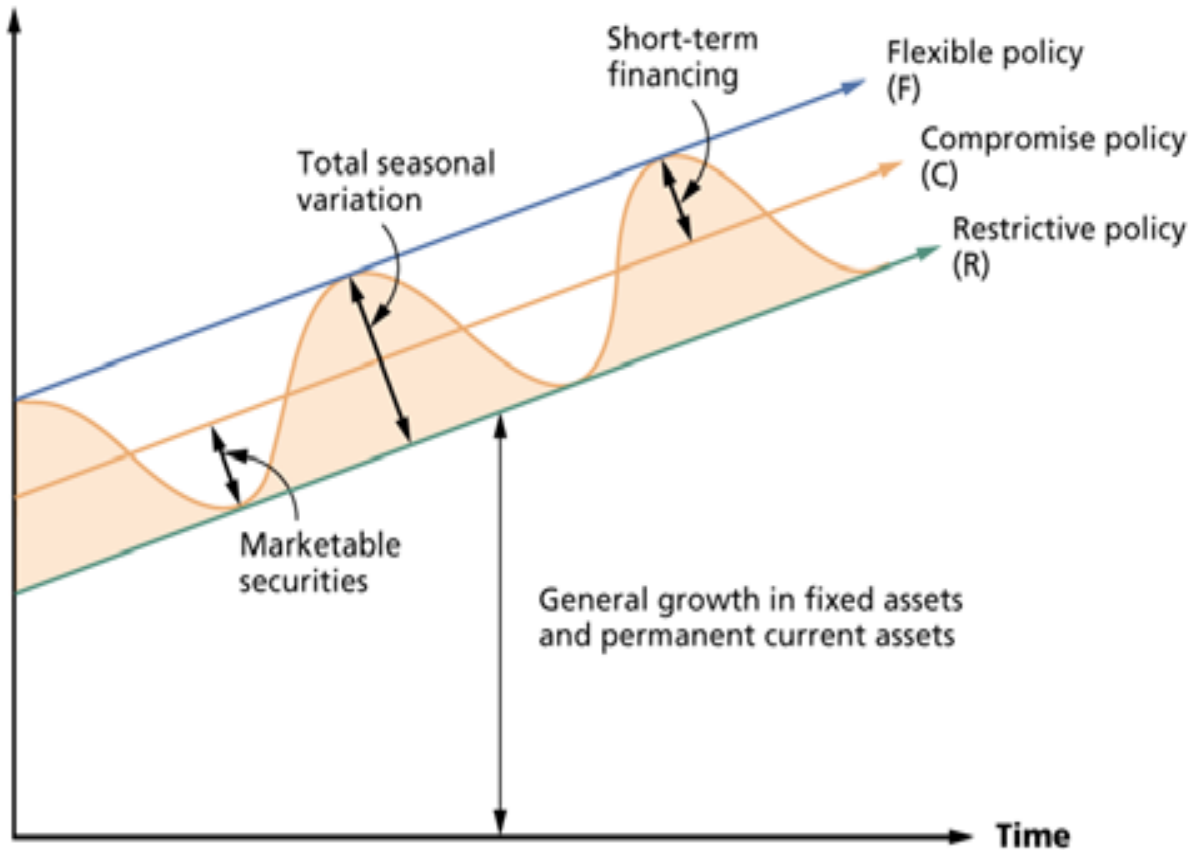


With a compromise policy, the firm keeps a reserve of liquidity that it uses to initially finance seasonal variations in current asset needs. Short-term borrowing is used when the reserve is exhausted.

Dollars **T18.11 A Compromise Financing Policy (Figure 18.6)**

Figure 18.6

A compromise financing policy



With a compromise policy, the firm keeps a reserve of liquidity, which it uses to initially finance seasonal variations in current asset needs. Short-term borrowing is used when the reserve is exhausted.

T18.12 Example: Cash Budget for Ajax Company

- All sales on credit
- December sales were \$95,000
- December 31 receivables were \$135,000
- The average accounts receivable period is 45 days
- Wages, taxes, and other expenses are 30% of sales
- Raw materials are ordered two months in advance of sales
- Raw materials are 50% of sales
- All purchases on trade credit
- An annual dividend of \$100,000 is expected to be paid in March
- No capital expenditures are planned for the first quarter
- The beginning cash balance is \$41,000
- The minimum cash balance is \$25,000

T18.12 Example: Cash Budget for Ajax Company (continued)

- Cash collections for Ajax
(all figures rounded to the nearest dollar)

	JAN	FEB	MAR
Beginning receivables	\$135,000	\$102,500	\$ 92,500
Sales	55,000	65,000	65,000
Cash collections	87,500	75,000	60,000
Ending receivables	\$102,500	\$ 92,500	\$ 97,500

T18.12 Example: Cash Budget for Ajax Company (continued)

- Cash disbursements for Ajax

	JAN	FEB	MAR
Payment of accounts (50% of next month's sales)	\$ 32,500	\$32,500	\$30,000
Wages, taxes, and other	16,500	19,500	19,500
Capital expenditures	0	0	0
Long-term financing expenses	0	0	100,000
Total	\$ 49,000	\$52,000	\$149,500

T18.12 Example: Cash Budget for Ajax Company (continued)

- Net cash inflow for Ajax

	JAN	FEB	MAR
Total cash collections	\$ 87,500	\$ 75,000	\$ 60,000
Total cash disbursements	49,000	52,000	149,500
Net cash inflow	\$ 38,500	\$23,000	-\$ 89,500

T18.12 Example: Cash Budget for Ajax Company (concluded)

- Cash balance for Ajax

	JAN	FEB	MAR
Beginning cash balance	\$ 41,000	\$79,500	\$102,500
Net cash inflow	<u>38,500</u>	<u>23,000</u>	<u>-89,500</u>
Ending cash balance	\$ 79,500	\$102,500	\$ 13,000
Minimum cash balance	<u>- 25,000</u>	<u>- 25,000</u>	<u>- 25,000</u>
Cumulative surplus (deficit)	\$ 54,500	\$ 77,500	-\$ 12,000

T18.13 Short-Term Borrowing

Sources of Short-Term Financing

Unsecured borrowing

- Line of credit
 - ◆ committed
 - ◆ uncommitted

Secured borrowing

- Accounts receivable financing
 - ◆ assignment
 - ◆ factoring
- Inventory
 - ◆ blanket lien
 - ◆ trust receipt
 - ◆ field warehousing
- Other
 - ◆ commercial paper
 - ◆ trade credit

T18.14 Chapter 18 Quick Quiz

1. What is “short-term finance”?

Involves cash inflows and outflows that occur in a year or less.

2. What is the importance of the cash cycle to the financial manager attempting to increase firm value?

A longer cash cycle implies greater financing needs, and, therefore, greater financing costs. Further, a longer cash cycle suggests greater investment in inventories and receivables, reducing total asset turnover and ROA.

3. Why are interest rate levels important to the short-term financial manager?

Interest rate levels affect the firm's costs (actual and opportunity), as well as its revenues from marketable securities investments.

T18.15 Solution to Problem 18.6

- Consider the following financial statement information for the Lakehurst Corporation:

Item	Beginning	Ending
Inventory	\$6,521	\$8,319
Accounts receivable	4,226	4,787
Accounts payable	6,291	7,100
Net Sales	\$62,311	
Cost of goods sold	50,625	

T18.15 Solution to Problem 18.6 (continued)

■ a. What is the operating cycle?

i) Inventory turnover = Cost of Goods Sold/Avg. inventory
= $\$50,625 / [(\$6,521 + \$8,319)/2]$
= 6.823 times

Inventory period = $365/\text{Inventory turnover}$
= $365/6.823$
= 53.50 days

ii) Receivables turnover = Sales/Avg. receivables
= $\$62,311 / [(\$4,226 + \$4,787)/2]$
= 13.83 times

Receivables period = $365/\text{Receivables turnover}$
= $365/13.83$
= 26.39 days

iii) Operating cycle = Inventory pd. + Receivables pd.
= 53.50 days + 26.39 days
= 79.89 days

T18.15 Solution to Problem 18.6 (concluded)

■ b. What is the cash cycle?

i) Payables turnover = COGS/Avg. payables
= $\$50,625 / [(\$6,291 + \$7,100) / 2]$
= 7.56 times

Payables period = $365 / \text{Payables turnover}$
= $365 / 7.56$ times
= 48.27 days

ii) Cash cycle = Operating cycle - Payables period
= 79.89 days - 48.27 days
= 31.62 days

T18.16 Solution to Problem 18.9

- The Heather Corp.'s purchases from suppliers in a quarter are equal to 75% of the next quarter's forecasted sales. The payables period is 60 days. Wages, taxes and expenses are 30% of sales, while interest and dividends are \$60 per quarter. No capital expenditures are planned. Calculate Heather's cash outlays.
- Projected quarterly sales are:

	Q1	Q2	Q3	Q4
Projected Sales	\$600	\$800	\$750	\$300

Sales in the first quarter of next year are projected at \$510.

- Projected purchases are:

	Q1	Q2	Q3	Q4
Projected purchases	\$600	\$563	\$225	\$383

T18.16 Solution to Problem 18.9 (concluded)

- Cash outlays are as follows.

	Q1	Q2	Q3	Q4
Payment of accts.	\$500	\$587.50	\$450	\$277.50
Wages, etc.	180	240	225	90
Interest and dividends	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>
Total outlays	\$740	\$887.50	\$735	\$427.50

T18.17 Solution to Problem 18.12

- You've worked out a line of credit that allows you to borrow up to \$50 million at any time. The interest rate is .65% per month. In addition, 3% of the amount you borrow must be deposited in a non-interest-bearing account. Assume your bank uses compound interest on its line of credit loans.
 - a. What is the effective annual interest rate on this lending arrangement?

Assume \$50 million borrowed for one month.

- i) Interest = $(\$50 \text{ M})(1.0065) - \50 M
= \$325,000
- ii) Usable funds = $(\$50 \text{ mil})(.97)$
= \$48.5 million
- iii) EAR = $[1+(\$325,000/48.5\text{M})]^{12} - 1$
= 8.34%

T18.17 Solution to Problem 18.12 (concluded)

b. Suppose you need \$5 million today and you repay it in six months. How much interest will you pay?

$$\begin{aligned} \text{i) Amt. borrowed} &= \text{Usable funds}/.97 \\ &= \$5\text{M}/.97 \\ &= \$5,154,639 \end{aligned}$$

$$\begin{aligned} \text{ii) Interest} &= (\$5,154,639)(1.0065)^6 - \$5,154,639 \\ &= \$204,326.13 \end{aligned}$$