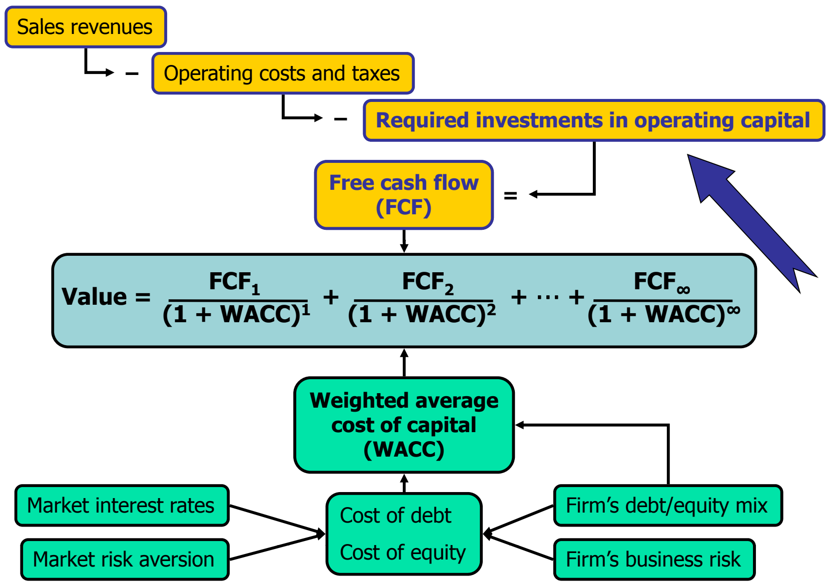
CHAPTER 16

Working Capital Management

Topics in Chapter

- Alternative current operating assets investment and financing policies
- Cash, inventory, and A/R management
- Accounts payable management
- Short-term financing
- Bank loans, their costs, and commercial paper

Determinants of Intrinsic Value: Working Capital and FCF



Basic Definitions

- Working capital:
  - Total current assets used in operations.
- 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.

Selected Ratios for SKI

	SKI	Industry
Current	1.75	2.25
Quick	0.92	1.16
TL/Assets	58.76%	50.00%
Turnover of Cash	16.67	22.22
DSO(365-day year)	45.63	32.00
Inv. Turnover	6.00	8.00
F.A. Turnover	7.75	13.22
T.A. Turnover	2.08	3.00
Profit Margin	2.07%	3.50%
ROE	10.45%	21.00%
Payables deferral	30.00	33.00

How does SKI's working capital policy compare with the industry?

- Working capital policy is reflected in a firm's current ratio, quick ratio, turnover of cash and securities, inventory turnover, and DSO.
- These ratios indicate SKI has large amounts of working capital relative to its level of sales. Thus, SKI is following a relaxed policy.

Is SKI inefficient or just conservative?

- A relaxed policy may be appropriate if it reduces risk more than profitability.
- However, SKI is much less profitable than the average firm in the industry. This suggests that the company probably has excessive working capital.

Cash Conversion Cycle

The cash conversion cycle focuses on the time between payments made for materials and labor and payments received from sales:

$$\text{Cash Conversion Cycle} = \text{Inventory Conversion Period} + \text{Average Collection Period} - \text{Payables Deferral Period}$$

Cash Conversion Cycle (Cont.)

- Data:
  - Annual sales = $660,000
  - COGS/Sales = 90%
  - Inventory turnover = Sales/Inventory = 6.
- Inventory = $660,000/6 = $110,000.
- COGS = (0.9)($660,000) = $594,000.
- Inv. Conv. = $110,000/($594,000/365)
- = 67.6 days.

Cash Conversion Cycle (Cont.)

$$\text{CCC} = \text{Inventory conversion period} + \text{Days sales outstanding} - \text{Payables deferral period}$$

CCC = 67.6 + 45.6 – 30

CCC = 83.2 days.

Cash Management: Cash doesn't earn interest, so why hold it?

- Transactions (Routine): Must have some cash to pay current bills.
- Transactions (Precaution): "Safety stock." But lessened by credit line and marketable securities.
- Compensating balances: For loans and/or services provided.
- Essential that the firm have sufficient cash to take trade discounts.

What's the goal of cash management?

Minimize the cash amount the firm must hold for conducting its normal business activities, yet, at the same time, have a sufficient cash reserve to:

- take trade discounts.
- pay promptly and maintain its credit rating.
- meet any unexpected cash needs.

Minimizing Cash

- Increase forecast accuracy to reduce the need for a cash "safety stock."
- Hold marketable securities instead of a cash "safety stock."
- Negotiate a line of credit (also reduces need for a "safety stock").

Cash Budget: The Primary Cash Management Tool

- Purpose: Uses forecasts of cash inflows, outflows, and ending cash balances to predict loan needs and funds available for temporary investment.
- Timing: Daily, weekly, or monthly, depending upon budget's purpose. Monthly for annual planning, daily for actual cash management.

Data Required for Cash Budget

- Sales forecast.
- Information on collections delay.
- Forecast of purchases and payment terms.
- Forecast of cash expenses: wages, taxes, utilities, and so on.
- Initial cash on hand.
- Target cash balance.

SKI's Cash Budget for January and February

	Net Cash Inflows	
	January	February
Collections	$67,651.95	$62,755.40
Purchases	44,603.75	36,472.65
Wages	6,690.56	5,470.90
Rent	2,500.00	2,500.00
Total Payments	$53,794.31	$44,443.55

Cash Budget (Continued)

	January	February
Cash on hand at start of forecast	$3,000.00	
Net CF (Coll – Pymt)	13,857.64	18,311.85
Cumulative NCF	$16,857.64	$35,169.49
– Target cash	1,500.00	1,500.00
Surplus cash	$15,357.64	$33,669.49

Should depreciation be explicitly included in the cash budget?

- No. Depreciation is a noncash charge. Only cash payments and receipts appear on cash budget.
- However, depreciation does affect taxes, which do appear in the cash budget.

What are some other potential cash inflows besides collections?

- Proceeds from fixed asset sales.
- Proceeds from stock and bond sales.
- Interest earned.
- Court settlements.

How can interest earned or paid on short-term securities or loans be incorporated in the cash budget?

- Interest earned: Add line in the collections section.
- Interest paid: Add line in the payments section.
- Found as interest rate x surplus/loan line of cash budget for preceding month.
- Note: Interest on any other debt would need to be incorporated as well.

How could bad debts be worked into the cash budget?

- Collections would be reduced by the amount of bad debt losses.
- For example, if the firm had 3% bad debt losses, collections would total only 97% of sales.
- Lower collections would lead to lower surpluses and higher borrowing requirements.

Cash budget forecasts the company's cash holdings to exceed targeted cash balance every month, except for October and November.

- Cash budget indicates the company probably is holding too much cash.
- SKI could improve its EVA by either investing its excess cash in more productive assets or by paying it out to the firm's shareholders.

Why might SKI want to maintain a relatively high amount of cash?

- If sales turn out to be considerably less than expected, SKI could face a cash shortfall.
- A company may choose to hold large amounts of cash if it does not have much faith in its sales forecast, or if it is very conservative.
- The cash may be there, in part, to fund a planned fixed asset acquisition.

Is SKI holding too much inventory?

- SKI's inventory turnover (6.00) is considerably lower than the industry average (8.00). The firm is carrying a lot of inventory per dollar of sales.
- By holding excessive inventory, the firm is increasing its operating costs which reduces its NOPAT. Moreover, the excess inventory must be financed, so EVA is further lowered.

If SKI reduces its inventory, without adversely affecting sales, what effect will this have on its cash position?

- Short run: Cash will increase as inventory purchases decline.
- Long run: Company is likely to then take steps to reduce its cash holdings.

Accounts Receivable Management: Do SKI's customers pay more or less promptly than those of its competitors?

- SKI's days' sales outstanding (DSO) of 45.6 days is well above the industry average (32 days).
- SKI's customers are paying less promptly.
- SKI should consider tightening its credit policy to reduce its DSO.

Elements of Credit Policy

- Cash Discounts: Lowers price. Attracts new customers and reduces DSO.
- Credit Period: How long to pay? Shorter period reduces DSO and average A/R, but it may discourage sales.

(More…)

Credit Policy (Continued)

- Credit Standards: Tighter standards reduce bad debt losses, but may reduce sales. Fewer bad debts reduces DSO.
- Collection Policy: Tougher policy will reduce DSO, but may damage customer relationships.

Does SKI face any risk if it tightens its credit policy?

- YES! A tighter credit policy may discourage sales. Some customers may choose to go elsewhere if they are pressured to pay their bills sooner.

If SKI succeeds in reducing DSO without adversely affecting sales, what effect would this have on its cash position?

- Short run: If customers pay sooner, this increases cash holdings.
- Long run: Over time, the company would hopefully invest the cash in more productive assets, or pay it out to shareholders. Both of these actions would increase EVA.

Is there a cost to accruals? Can firms control accruals?

- Accruals are free in that no explicit interest is charged.
- Firms have little control over the level of accruals. Levels are influenced more by industry custom, economic factors, and tax laws.

What is trade credit?

- Trade credit is credit furnished by a firm's suppliers.
- Trade credit is often the largest source of short-term credit, especially for small firms.
- Spontaneous, easy to get, but cost can be high.

SKI buys $200,000 of materials net, on terms of 1/10, net 30 but pays on Day 40. Find free and costly trade credit.

- Net daily purchases = $200,000/365
  = $547.94.
- Ann. gross purch.= $200,000/(1 – 0.01)
  = $202,020.

Gross/Net Breakdown

- Company buys equip worth $200,000. That's the equipment's cash price.
- The firm must pay $2,020 more if it doesn't take discounts.
- Think of the extra $2,020 as a financing cost similar to the interest on a loan.
- Want to compare that cost with the cost of a bank loan.

Free and Costly Trade Credit

Payables level for equipment if take discount:
Payables = $547.94(10) = $5,479.

Payables level if don't take discount:
Payables = $547.94(40) = $21,918.

Total trade credit	=	$21,918
Free trade credit	=	5,479
Costly trade credit	=	$16,439

Nominal Cost of Costly Trade Credit, r_{NOM}

Firm loses 0.01($202,020) = $2,020 of discounts to obtain $16,439 in extra trade credit, so:

$$\boxed{r_{NOM} = \frac{\$2{,}020}{\$16{,}439} = 0.1229 = 12.29\%}$$

But the $2,020 is paid all *during* the year, not at year-end, so effective annual rate is higher.

Nominal Cost Formula, 1/10, net 40

$$r_{NOM} = \frac{\text{Discount \%}}{1 - \text{Discount \%}} \times \frac{\text{365 days}}{\text{Days Taken} - \text{Discount Period}}$$

$$= \frac{1}{99} \times \frac{365}{30} = 0.0101 \times 12.1667$$

$$= 0.1229 = 12.29\%$$

Pays 1.01% 12.167 times per year.

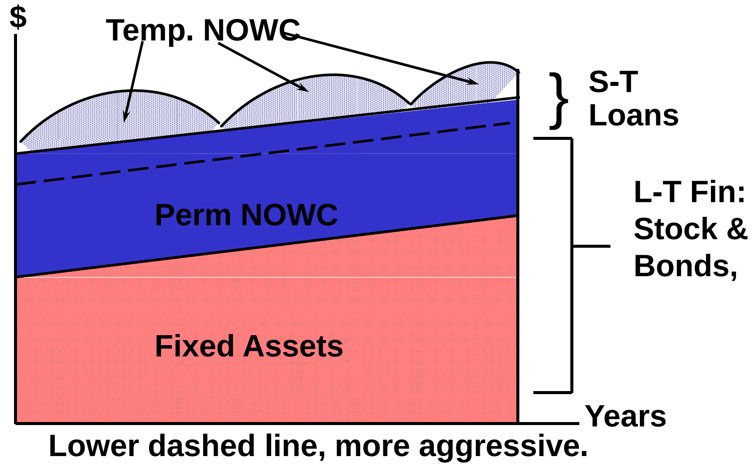
Effective Annual Rate (EAR), 1/10, net 40

- Periodic rate = 0.01/0.99 = 1.01%.
- Periods/year = 365/(40 – 10)
  = 12.1667.
- EAR = $(1 + \text{Periodic rate})^n - 1.0$
  = $(1.0101)^{12.1667} - 1.0$
  = 13.01%.

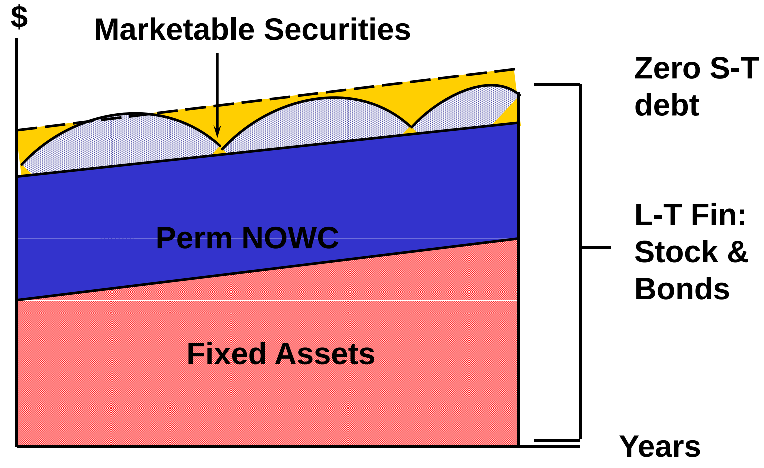
Current Operating Assets Financing Policies

- 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.

Moderate Financing Policy



Conservative Financing Policy



What are the advantages of short-term debt vs. long-term debt?

- Low cost-- yield curve usually slopes upward.
- Can get funds relatively quickly.
- Can repay without penalty.

What are the disadvantages of short-term debt vs. long-term debt?

- Higher risk. The required repayment comes quicker, and the company may have trouble rolling over loans.

Commercial Paper (CP)

- Short term notes issued by large, strong companies. SKI couldn't issue CP--it's too small.
- CP trades in the market at rates just above T-bill rate.
- CP is bought with surplus cash by banks and other companies, then held as a marketable security for liquidity purposes.