

# CORPORATE FINANCIAL MANAGEMENT

---

## PART V WORKING CAPITAL MANAGEMENT (chapter 15-17)

# Chapter 15

## FINANCIAL FORECASTING AND WORKING CAPITAL POLICY

# Introduction

1. Financial forecasting
2. Working capital policy

# 1. Financial forecasting

- Financial forecasting methods
  - Percent of sales
  - Cash budgets
  - Pro forma statement of cash flow
  - Computerized financial forecasting models
  - Forecasting with financial ratios

# Continued...

- Percent of sales: Relies on a forecast of sales  
/Obtains estimates of variables as a % of sales

$$\text{Total Financing Needed} = \text{Forecasted Asset Increases} - \text{Forecasted Current Liability Increases}$$

Tied to a sales increase

$$\text{Increased Retained Earnings} = \text{Forecasted EAT} - \text{Dividends}$$

A portion of financing needed generated internally

Additional financing needed: the difference between the total financing needed and the internal financing provided

$$\begin{aligned} &\text{Additional} \\ &\text{Financing} \\ &\text{Needed} \\ &\text{External} \end{aligned} = [ A/S( S) - CL/S( S) ] - [ EAT - D ]$$

## ● Cash budgeting

- A financial plan
- Projects receipts and disbursements over future periods of time
  - Receipts on credit sales lag projected sales
  - Payments for purchases depend on
    - ✓ How much the purchase precedes the sale
    - ✓ Credit terms
  - Other scheduled *receipts* and *disbursements*

## ● Pro-Forma Statement of Cash Flows

- Measure the increases and ( decreases ) in cash and cash equivalents
  - CF's expected from operations
  - CF's expected from investing activities
  - CF's expected from financing activities
- Add cash and cash equivalents at the beginning of year = expected cash and cash equivalents end of year



- Computerized Forecasting and Financial Planning

- Deterministic model

Uses single-value forecasts of each financial variable

- Probabilistic models

Utilize probability distributions for input data

- Optimization models

Choose the optimal levels of some variables

- Forecasting With Financial Ratios
  - Forecasting bankruptcy with discriminant analysis(5 ratios)
    - Net working capital/ Total assets
    - Retained earnings/ Total assets
    - EBIT/ Total assets
    - Market value equity/ Book value total debt
    - Sales/ Total assets

# 2. Working Capital Policy

- Working capital policy: Involves decisions about a company's current assets ( C/A ) and current liabilities (C/L )
  - What they consist of
  - How they are used
  - How their mix affects the risk-return characteristics of the company
- Working capital management
  - Firm's optimal level of C/A
  - Optimal mix of S-T and L-T debt
  - Level of investment in each type of C/A
  - Specific sources and mix of S-T credit the firm should employ

## ● Working capital

- Represents assets that flow through the firm
  - Turned over at a rapid rate
  - Usually recovered during the **operating cycle** when inventories are sold and receivables are collected
- Needed because of the asynchronous nature of cash receipts and disbursements

- Operating Cycle: Characterized by the time intervals between the following dates:

Date 1	Purchase of resources	Operating cycle = 1 to 4
Date 2	Pay for resource purchases	Inventory conversion period = 1 to 3
Date 3	Sell product on credit	Receivables conversion period = 3 to 4
Date 4	Collect receivables	Payables deferral period = 1 to 2 Cash conversion cycle = 2 to 4

# Continued...

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

$$\text{Inventory Conversion Period} = \frac{\text{Average Inventory}}{\text{Cost of Sales} / 365}$$

$$\text{Receivables Conversion Period} = \frac{\text{Accounts Receivable}}{\text{Annual Credit Sales} / 365}$$

# Continued...

$$\text{Payables Deferral Period} = \frac{\text{Accounts Payable} + \text{Salaries, Benefits \& Payroll Taxes Payable}}{\left( \text{Cost of Sales} - \text{Selling, Gen, Admin Exp} \right) / 365}$$

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

- Appropriate Level of Working Capital

	<u>Conservative</u>	<u>Aggressive</u>
<u>C/A</u>	More	Less
<u>Profitability</u>	Lower	Higher
<u>Risk</u>	Lower	Higher

More conservative policies often result in lost sales due to restrictive credit policies

Optimal level of working capital investment is the level which is expected to maximize shareholder wealth



- Optimal Level of S-T and L-T Debt
  - Term structure of interest rates
  - Higher risk with S-T debt
    - Refund
    - Fluctuating S-T interest rates
  - Permanent C/A
    - Are not affected by seasonal or cyclical demand
  - Fluctuating C/A
    - Are affected by seasonal or cyclical demand
  - Matching maturity of debt and assets
    - **Conservative Vs Aggressive**

# Chapter 16

## THE MANAGEMENT OF CASH AND MARKETABLE SECURITIES

# Introduction

1. Basic Concepts
2. Cash management function
3. Reasons for holding liquid assets
4. Contents of cash management
5. Marketable securities management

# 1. Basic Concepts

- Cash: consists of currency and deposits in checking accounts
- Marketable securities: consist of S-T investments made with idle cash

# 2. Cash Management Function

- Determining:

- The optimal size of a firm's liquid asset balance
- The most efficient methods of controlling the collection and disbursement of cash
- The appropriate types and amounts of S-T investments

**Consider risk versus expected return trade-offs from alternative policies**

# 3. Reasons for Holding Liquid Assets

- Transactions
- Precautionary
- Future requirements
- Speculative
- Compensating balances

# 4. Contents of cash management

## ● Cash budget

- Required because cash inflows and outflows are seldom synchronized
- First step in cash management
- Show forecasted receipts and disbursements
- Show forecast of any cumulative shortages or surpluses
- Series of cash budgets

**Daily      Weekly      Monthly**

- Bank service
  - Maintenance of disbursement and payroll accounts
  - Collection of deposits
  - Lines of credit
  - Term loans
  - Handling of dividend payments
  - Registration and transfer of stock
  - Supply credit information
  - Consulting advice



- Determination of the optimal liquid asset balance
  - Compensating balance requirements establish lower limit
  - Holding excess liquid assets results in an opportunity cost
  - Inadequate liquid balances result in shortage costs
    - Missing cash discounts
    - Deterioration of the firm's credit rating
    - Higher interest costs
    - Risk of insolvency

## ● Cash collection

- Opportunities to increase the available cash balance
  - Float
  - Decentralized collection system
  - Lock -box
  - Wire transfers
  - Depository transfer check ( DTC )
  - Electronic depository transfer check ( EDTC )
  - Courier service
  - Preauthorized check ( PAC )

## – Float

- Positive - balance at bank  $>$  firm's balance
- Negative - firm shows a higher balance than bank's
- Management's goal - speed collection / slow disbursements
- Components of float
  - ✓ Mail float
  - ✓ Processing float
  - ✓ Check clearing float
- A number of systems can be used to reduce the float

- Lock box system Local bank
  - Firm makes disbursements of funds in excess of compensating balances
  - Involve significant fees
  - More beneficial for small number of larger deposits
  - Evaluation involves comparison of costs versus benefits of faster collection

## – Slowing Cash Disbursements

### ○ Zero-balance system

- ✓ Transfers cash in the exact amount required for the cleared checks

### ○ Drafts

- ✓ Deposit funds only after the draft is presented for payment

### ○ Synchronize deposits with check clearings

- ✓ Requires accurate estimates of float

# 4. Contents of cash management

- Choosing Marketable Securities
  - Default risk
    - Lowest on U.S. Treasury securities
    - Risk and expected return inversely related
  - Marketability
    - Sold quickly without significant price concession
  - Maturity
    - Shorter maturities have less risk of price fluctuation
  - Rate of return
    - Least important consideration

- Types of marketable securities

T-Bills

Treasury  
Issues

Fed Agency

S-T Municipal  
Securities

Negotiable  
CD's

Commercial  
Paper

Repurchase  
Agreements

Banker's  
Acceptance

Eurodollar  
Deposits

Money Market

Money Market

Money market

P/S

Mutual Funds

Accounts

# Chapter 17

## MANAGEMENT OF ACCOUNTS

## RECEIVABLE AND INVENTORY



# Introduction

1. Accounts receivable management
2. Inventory management

# 1.accounts receivable management

## ● Accounts Receivable (A/R)

- Large investment for most companies
- Essentially an investment decision
- Extend credit whenever the marginal returns from extending credit exceed the marginal costs
- Liberal credit policy provides returns in the form of increased sales and gross profit
- Costs
  - Cost of funds    Costs of credit checking    Increase in bad debt
- Trade credit/ Consumer credit

- Credit policy
  - Credit standards
    - Criteria used to screen credit applications
    - Controls the quality of accounts
  - Credit terms
    - Conditions under which credit extended must be repaid
  - Collection efforts
    - Methods employed in an attempt to collect payment on past due accounts

- Credit standards

- Quality

- Time a customer takes to repay
      - Probability a customer will fail to repay
- Default risk

- Measures of quality

- Average collection period
    - Bad-debt ratio

## Net Change in Pretax Profits From Granting Credit

Marginal profitability of additional sales  
= Profit contribution ratio  $\times$  Additional sales

Additional investment in A/R =  
Additional ave. daily sales  $\times$  Ave. collection period

Cost of additional investment in A/R =  
Additional investment in A/R  $\times$  Pretax required return

## Net Change in Pretax Profits From Granting Credit

Additional bad-debt loss =

Bad- debt loss ratio  $\times$  Additional sales

Cost of additional investment in inventory =

Additional inventory  $\times$  Pretax required return

Net change in pretax profits =

Marginal returns - Marginal costs

## ● Credit terms

### – Credit period

- Time allowed for payment

### – Cash discount

- Allowed if payment is made within a specific period of time
- Specified as % of the invoiced amount
- Granted to speed up collection of A/R

### – Seasonal dating

- Offered to retailers on seasonal merchandise
- Accept delivery well ahead of peak season
- Pay shortly after peak sales

- Collection efforts

- Balance between leniency and alienating customers

- Monitoring status

- Aging of accounts      **Analysis**

- ✓ Classifying accounts into categories according to the number of days they are past due

- ✓ Changes in the age composition of accounts may reveal changes in the quality of A/R



- Analysis of a change in credit policy
  - Increase in the credit period
    - Increase the quantity of goods sold
  - Liberalization of cash discount
    - Increase in sales & pretax profit contribution
    - Reduction in A/R balance
      - ✓ Additional income from alternative investments
      - ✓ Decrease in cost of funds
      - ✓ Reduction in cash revenue
  - Increase in collection effort
    - Reduced sales and pretax profit contribution
    - Increased collection expenses
    - Reduced bad-debt losses

- Evaluation of credit applications
  - Gathering information
  - How much dose the analysis cost ?
  - Numerical scoring system
  - Five C's of credit
    - Character – Capacity – Capital
    - Collateral – Conditions

# 2.inventory management

## ● Inventory(INV)

- Buffer in the procurement-production-sales cycle
- Flexibility
  - Timing the purchase of raw materials
  - Scheduling production facilities & employees
  - Meeting fluctuating & uncertain demand
- Investment of funds
- Benefits & costs of holding inventory

- Types of inventory
  - Raw materials inventory
    - Stores of items used in production
    - Quantity discounts
    - Assure supply in times of scarcity
  - Work-in-process inventory
    - Items at some intermediate state of completion
    - Allows for asynchronous schedules
    - Size related to length and complexity of production cycle
  - Finished goods inventory
    - Items ready and available for sale
    - Permits prompt filling of orders
    - Economies of scale

- Costs associated with an inventory policy
  - Ordering costs
    - Costs of placing and receiving an order of goods
  - Carrying costs
    - Costs of holding inventory for a given period of time
      - ✓ Expressed as cost per unit per period
      - ✓ A % of the inventory value per period
  - Stockout costs
    - Incurred when a firm is unable to fill an order
      - ✓ Lost sales – Rescheduling production – Placing and expediting special orders

## Inventory Control Models

- Inventory control models
  - ABC Inventory Classification
  - Basic EOQ Model
  - Extensions of Basic EOQ Model
    - Nonzero lead time
    - Probabilistic inventory control methods
  - Just-in-time inventory systems

## EOQ ( $Q^*$ )

Total costs = Ordering costs + Carrying costs

Total costs = ( # of orders per year  $\times$  Cost per order ) +  
( Ave INV  $\times$  annual carrying cost per unit )

Total costs = (  $D/Q \times S$  ) + (  $Q/2 \times C$  )

$$Q^* = \sqrt{\frac{2SD}{C}}$$

$$T^* = \frac{Q^*}{D/365} \quad \text{or} \quad \frac{365 \times Q^*}{D}$$

