

Rural Management - Financial Management



Rural Management Financial Management

First Edition



MoE | Government of India
Ministry of Education

Editorial Board

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First Edition: 2021

ISBN:

Price: ₹ 750/-

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Published by: Mahatma Gandhi National Council of Rural Education (MGNCRE), Hyderabad

About the Book

Financial Management is in itself a broad topic and the vastness of this subject is beyond the scope of a single book to cover. However, in the limited range of this book, it tries to address the plethora of activities coming under the ambit of financial management. Before even starting at the reasons to study financial management, we would look at the etymology that it holds financial management is a combination of two words: finance and management. Finance is the way in which an organization works towards an increased earning and management is a way towards the development of a better spending mechanism. Any decision on financial management consists of three parts: the decision related to the investment of money earned, the decision to spend the money on further generation of income that is financing future projects opening up avenues for further generation of finances. The third way financial management comes to rescue is in providing returns to the people who have made investment in your venture and are looking for a return from their investment. As the profit increase, a certain share of profit needs to be distributed among the investors which is known as dividend sharing. We would then have a brief look at the ways to maximize business profits. We would further get deeper into the aspects of profitability and how to sustain a business in form of having enough disposable cash in hand to run day to day operations. We would look at the various aspects a financial manager can look at while handling the role

We take into consideration of the objective role of financial managers in an organization. Next, we see the scope of financial management. We then take on the topic of profit maximization and wealth maximization and draw comparatives in it. We then look at three kinds of financial statements crucial to understand the financial position of the organization. Next, we move on to different ratios of profitability, liquidity and solvency ratios. We understand how different ratios and their significance in terms of understanding the financial health of the organization. We then took up the understanding of long term and short term financing mechanisms. We took a look at various kinds of fundraising mechanism with shares as the primary focus. We looked at the kinds of shares that can be considered and the advantages and disadvantages of the same. The financial manager needs to understand the right mix of debt and equity. As a manager, firstly we looked at the methodology to understand the kinds of equity to be raised. Then we looked at the book value of shares and market value of shares, we tried to understand the differences of the two and how the two differ and how they impact the organization. We then tried to take a look at the credit policies in place to regulate the working capital and how different modes of working capital management work in tandem to regularize and streamline cash inflow and outflow for an organization. We then look into various kinds of inventory and their management techniques. We further looked into cash and receivable management for an organization along with the various factors and forms of cash and receivable management.

I thank Arman Mohapatra, XSRM Bhubaneswar for this unique contribution and systematic approach to this book. I would like to thank MGNCRE Team Members for extending extreme support in completing this book.

Dr W G Prasanna Kumar
Chairman MGNCRE

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Chapter 1 Introduction to Financial Management

Introduction

Financial Management is in itself a broad topic and the vastness of this subject is beyond the scope of a single book to cover. However, in the limited range of this book, it tries to address the plethora of activities coming under the ambit of financial management. Before even starting at the reasons to study financial management, we would look at the etymology that it holds. Financial management is a combination of two words: finance and management. Finance is the way in which an organization works towards an increased earning and management is a way towards the development of a better spending mechanism. Any decision on financial management consists of three parts: the decision related to the investment of money earned, the decision to spend the money on further generation of income that is financing future projects opening up avenues for further generation of finances. The third way financial management comes to rescue is in providing returns to the people who have made investment in your venture and are looking for a return from their investment. As the profit increase, a certain share of profit needs to be distributed among the investors, it is known as dividend sharing. We would then have a brief look at the ways to maximize business profits. We would further get deeper into the aspects of profitability and how to sustain a business in form of having enough disposable cash in hand to run day to day operations. We would look at the various aspects a financial manager can look at while handling the role.

Objectives

- To be able to appreciate the need of financial management
- To be able to predict the scope and utilization of financial management
- To be able to develop parameters for a sustainable model
- To be able to develop an understanding of liquidity and profitability
- To be able to develop intrigue and interest in financial activities of any organization

Structure

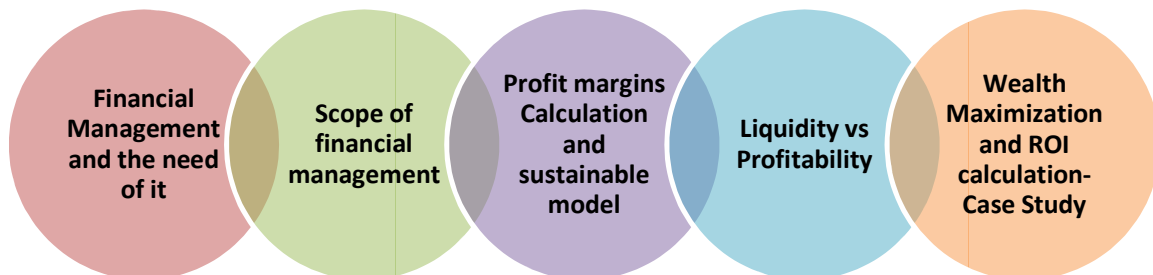


Fig-1.1- Structure of the Chapter

1.1. Financial Management and its Importance

The world of finance is vast and has a multitude of affairs under its ambit to deal with. Financial management is the cornerstone for the sustenance of any organization in the long run. It starts with the basic decision of investing money in a particular project. There are a few basic goals of financial management.

Table-1.1- Financial principles and features

Principles	Features
Risk vs Return Analysis	Increase opportunities of future return Minimum return expected on delayed consumption by investors As the risk pertaining to any investment goes up the return must go up proportionately to compensate any expected losses
Time Value of Money	Money received today has more value than money received after a duration of time Money loses its value over time as is caused by the increasing rate of inflation Changes the perspective of evaluation on investment for future projects
Higher profits	Value of an investment comes from the amount of profit that it generates Profits generated would be a measure of the cash flow, higher the cash flow, higher the profits in general sense Cash flows provide the timing of benefits
Incremental Cash flows	The loss or profit that the organization can incur by taking decision to invest in a project or not For any investment to be made, the profits that can be made over time from an investment should be higher over its alternative
Competitive markets	Understanding the mechanism of valuation of firms To be able to speculate a steady rate of return from an ever expanding marketplace Markets with ease of entry barriers lead to a reduction in rate of return over time whereas a strong entry barrier would discourage the organization to enter providing no scope for lucrative return
Efficient capital markets	Develop a framework for efficient market conditions Depends on the rate of flow of information leading to drawing in investors faith for future investments
Agency problem	Leads to a conflict of interests There should be a different agent controlling the management and the ownership of the firm leading to firm decision making mechanisms No specific costs can be measured, however a hindered decision making leads to inadvertent loss in profits
Tax as a hindrance to profits	Taxing regulations eat up the profit of a firm and as a financial manger, we need to find an optimum as well as ethical benefit and taxation measure, that keeps a cap on the expenses of tax from the profits earned
Measure of the market risks	All the risk is not unavoidable; some of them can be easily avoided by diversification of risks. For example as a financial manager it's the responsibility to decide investment portfolios and to make informed decisions
Ethical Behavior	The financial manager needs to keep the investor informed about the financial portfolios of the organization

Source- *Titman and Keown (2013)*

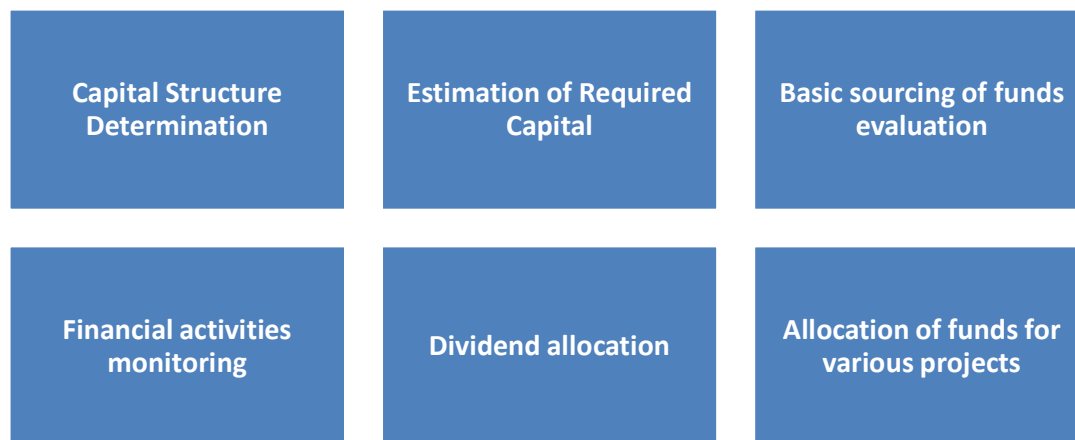


Fig-1.2-Functions of financial management

Source- Azam (2020)

Table-1.2- Functions of a financial manager

Activities	Roles of Financial Manager
Capital Structure Determination	Providing a forecast for different types of funding to be taken up Provide a suitable mix of capital instruments for raising capital Objective is to provide shareholder maximum return and in turn increasing the valuation of the organization
Estimation of Required Capital	Provide a near exact estimation of required funds for setting up any venture Have to look at the dimensions of expansion, establishment and bringing in new trades into the ecosystem leading to an increased generation of revenue
Basic Sourcing of Funding Evaluation	Choosing the appropriate leveraging mechanism Choosing a risk free source of funds Assessing the risk associated with each form of fund Keeping an optimum balance of debt and equity as well manage the short and long term debt ratios
Financial Activities Monitoring	Keeping a track of the dynamic business position of the organization with respect to the industry Strategy of keeping the business afloat as well as being competitive in the marketplace
Dividend Allocation	The proportion of profit to be redistributed in form of profits for the investors The proportion of profits to be reinvested in the business for future growth
Allocation of funds for various projects	Sharing of funds across various avenues of business Allocation of funds for venturing into newer domains , product development and research

Source- Azam (2020)



Fig-1.3-Goals of financial management
 Source: Jilli'ow (2016)

Scope of Financial Management

Before getting in depth into the scope of finance, we need to understand the types of finance.

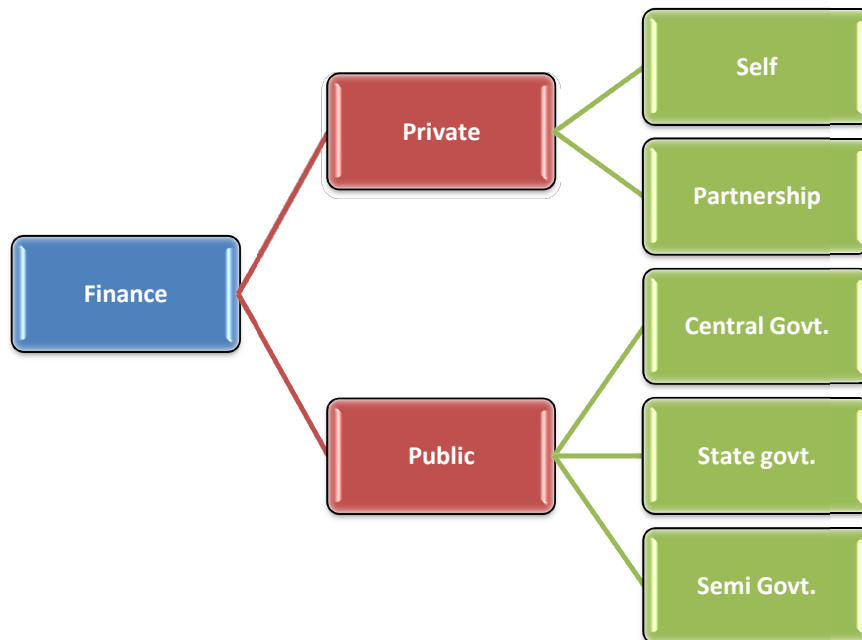


Fig-1.4-Types of financing mediums
 Source- Paramasivan and Subramanian (2009)

In terms of scope of financial management, we will look at how different forms of business connect with finance and the action of financial management in handling different operations:

Table-1.3- Domains and the scope of finance

Domains	Features
Economics	<p>Microeconomics and Macroeconomics are inherent components of financial management</p> <p>Investment decisions, macro and micro economic policy changes affects the financial management dimensions</p> <p>Involves calculations of money value discount factor, economic order quantity</p>
Accounting	<p>Provides financial information for business concerns</p> <p>Separate but interrelated domains of studies</p>
Mathematics	<p>Uses a lot of tools and techniques to develop models to forecast the future of business</p> <p>'Helps to elaborate the story behind numbers lucidly</p> <p>Statistical models help forecasting future financial turnarounds</p>
Production	<p>Production leads to a scaling of revenues which in turn is the prime mover of finance in any organization. Operations are a key to production and thus have a hand to play in finances of any organization</p>
Marketing	<p>It is an approach to reach out market to generate more sales and more revenue would lead to financial gains over time</p> <p>Finance as a department should allocate ample resources to marketing division to penetrate deep into its sectors</p>
Human resources	<p>Allocation of finances for bringing in appropriate people on the board for appropriate job can ultimately lead to efficacy at work leading to more productivity</p> <p>More productivity leads to increased production and thus increased profitability thus increased management of finances</p>

Source- Paramasivan & Subramanian (2009)

Table-1.4- Domains of maximization

Building Blocks	Advantages	Disadvantages
Maximization of Profit	<p>Main goal of any organization is to cash in as much profit as possible and it takes care of that aspect</p> <p>It is parametric scale providing an insight into the growth of business</p> <p>It helps in the risk reduction for any associated business entity</p> <p>It provides fuel to the growth of the organization</p> <p>Looks ahead to meet the social needs of the community. The more profitable an organization becomes, in principle the more it can spend on the support of impoverished communities in its vicinity</p>	<p>Sometimes the goal to maximize profit turns the organization blind and makes it lose its humane aspect</p> <p>Many a times leads the organization to adopt corrupt means overlooking the ethics and integrity in the process</p> <p>Leads to a growing behavior of inequality amongst the various stakeholders in the organization</p> <p>Is immaterial to calculate</p> <p>Doesn't consider the time value of money as it provides for no scope of inclusion of the same in the calculation</p> <p>Negative externalities of businesses isn't taken into account for calculations</p>
Maximization of wealth	<p>Takes into account of the major flaw in calculation of maximization of profit i.e. calculates the net present value of money thereby including any inflations in the course of time</p> <p>Value vs cost is calculated giving the true value of every investment</p> <p>Time and risk factor associated is calculated w.r.t. every investment</p> <p>Provides a clear idea as to how to allocate resources for any project to make optimum efficiency out of it</p> <p>Provides a scope of economic and efficient growth of the business</p>	<p>Presents a prescriptive picture of future business growth and thus, is sometimes less effective in modern day businesses</p> <p>It is considered to be profit maximization in disguise</p> <p>Provides ambiguity over clashing interest between a management and ownership group</p> <p>Wealth maximization works in favor of business concerns as and when the profitability of business is on a rise</p>

Source- Paramasivan & Subramanian (2009)

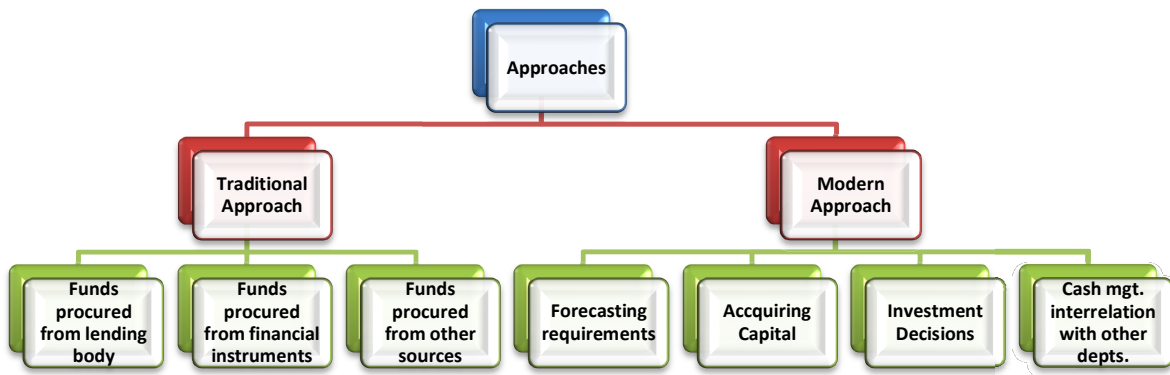


Fig-1.5- Approaches of financial manager
 Source- Paramasivan & Subramanian (2009)

Table-1.5-5A's of financial management

Components	Features
Anticipation	Estimation of financial needs of an organization
Acquisition	Collection of funds from varied sources
Allocation	Funds division for capital assets and current assets
Appropriation	Division of company profit among the various stakeholders starting from raw material procurement chain to shareholders
Assessment	Control of expenses and cost functions in an organization

Source-Saxena (2015)

Wealth Maximization Model

(i) $W = V - C$

Where,

W= Net present Worth

V= Gross Present Wealth

C= Cost accrued/ Investment made for long or short-term investment

(ii) $V = E/K$

Where,

E= Volume of benefits accrued by the suppliers over the input capital

K= Discount rate with respect to timing and benefit from E

(iii) $E=G-(M+T+I)$

Where,

G= Average future flow of gross earnings from investments not taking expenses into consideration

M= Average annual reinvestment of profit to maintain the growth rate G

T=Expected expenditure on taxes

I= Incoming flow of payments from interest on various investments

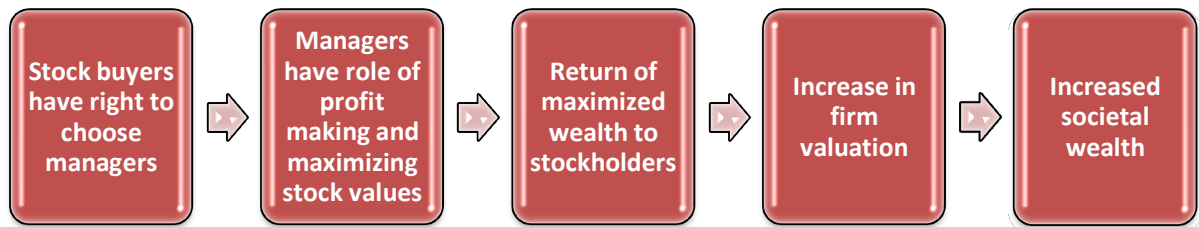


Fig-1.6- Stock buyers approach to profit and wealth maximization

Source: Paramasivan & Subramanian (2009)

1.2. Profit Margin Calculations and Sustainable Model

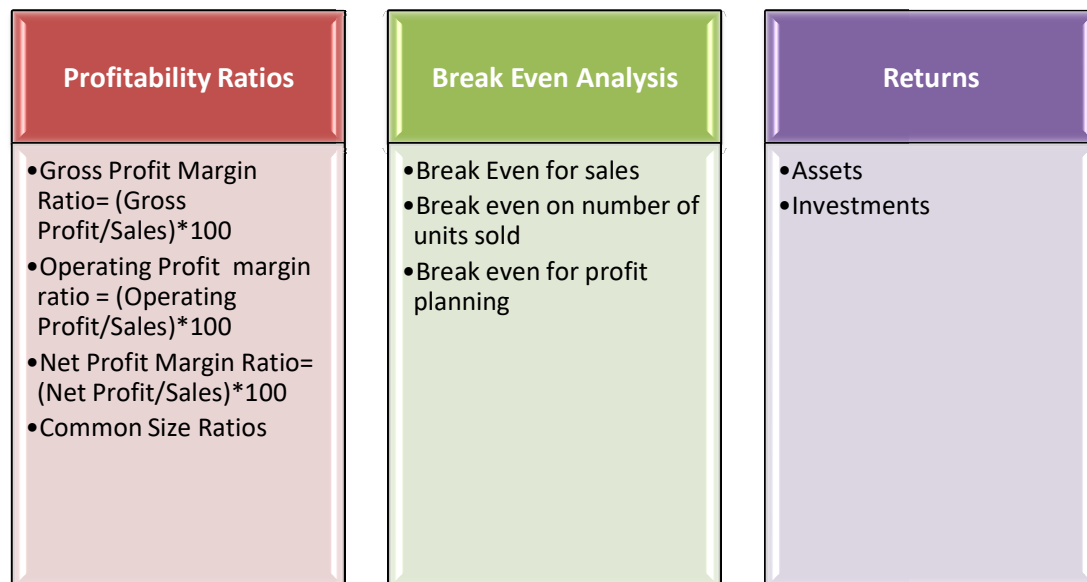


Fig-1.7- Profitability calculations Source- Griffin (1992)

We will take an example to calculate a few profitability ratios.

Example-1.1- We take up an income statement (In the Woods) having a rural production unit for producing bamboo chairs and teapots

Sales	8158
Cost of Sales/Revenue	4895
Gross profit	3263
Administrative Expenses	367
Rent	188
Personnel Expense	816
Bad Debt	33
Operational Expense	1468
Total Operating Expense	2872
Net Operating Profit	391
Interest Expense	122
Total Operating Income	-122
Net Profit	269

(value in lacs)

Solution- Firstly, we will look at the Gross Profit Margin Ratio. Gross Profit is the amount left with the organization after the amount spent over the sales of produce known as 'cost of sales' have been deducted. However, it doesn't include operational expenses. Gross Profit Margin is a measure of profitability. It is the ratio of the gross profit to the amount of sales as percentage.

$$\text{Gross Profit Margin Ratio} = (\text{Gross Profit}/\text{Sales}) * 100 = (3263/8168) * 100 = 40\%$$

It is a measure of company's inflows and outflows. The gross profit margin ratio needs to be stable as a fluctuating ratio is an indicator of the instability in the underlying price policies of the organization and would generally deflate investors trust.

Operating Profit Margin

Operating profit margin is the measure of the organization's earning from its ongoing operations. It is a measure of company's cash flow and an increasing profit margin of the company provides a picture of healthy growth of the organization. A lowering operating profit margin should be a cause of concern for the organization. It is also an indicator for the organization to search for other sources of liquid capital to run day to day expenses. It is used as a company's measure of competitiveness with respect to other competitors within the industry.

$$\text{Operating Profit Margin} = (\text{Operating Profit}/\text{Sales}) * 100 = 391000/8158000 = 4.8\%$$

It is measure of more objective indication of profitability than net profit margin ratio.

$$\text{Net Profit Margin Ratio} = (\text{Net Profit}/\text{Sales}) * 100 = (269,000/8158000) * 100 = 3.3\%$$

In common size ratio, various small industries this is one of the most important competitive parameters. The simple way to go about it is to calculate the ratio of each line item with respect to sales to be used as a parameter.

Break-Even Analysis is the point of inflexion at which the revenue generated from sales is equal to the cost of production

Break Even Point for sales is dependent on three factors

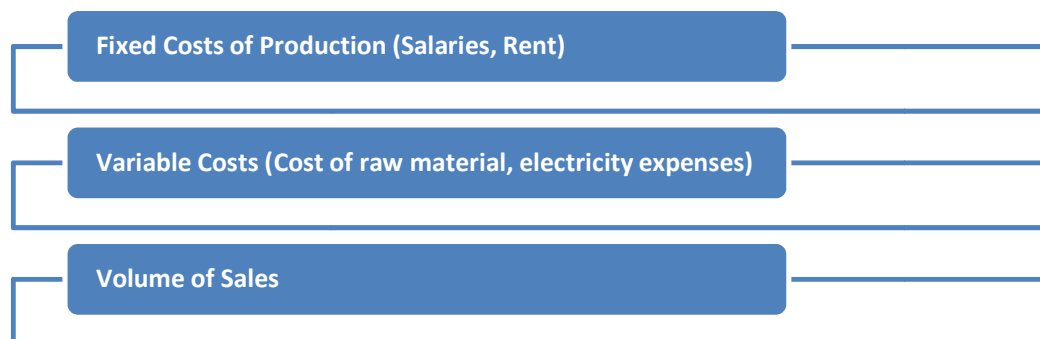


Fig-1.8- Parameters for Break-Even Point for Sales

Source- Griffin, 1992

Breakeven point for sales includes only variable costs as these are the only costs of goods sold.

$$\text{Sales at Break Even Point} = \text{Fixed Costs} + \text{Variable Costs}$$

For using sales as a medium of expected profit can be calculated using Break-Even Point of Sales calculation.

$$\text{Sales at Break-Even Point} = \text{Fixed Costs} + \text{Variable Costs as a fraction of sales} + \text{Expected Net Income.}$$

As the numbers in terms of revenues are to be generated by sales revenue, break even calculation needs to consider the number of units sold.

$$\text{Break-Even for Units to be sold} = \text{Fixed Cost} / (\text{Sales Price for Each Unit} - \text{Variable Cost per Unit})$$

Return on Assets

Return of Assets is used to compare the relationship between the profits that the company produces over the value of assets that are used for the generation of profits.

$$\text{Return on Assets} = (\text{Net Profit Before Taxes}/\text{Total Assets}) * 100$$

The lower the return on assets the better would be the efficiency of the organization. Among, the organizations of similar industry, generally the lowest return on assets will have highest efficiency of operations.

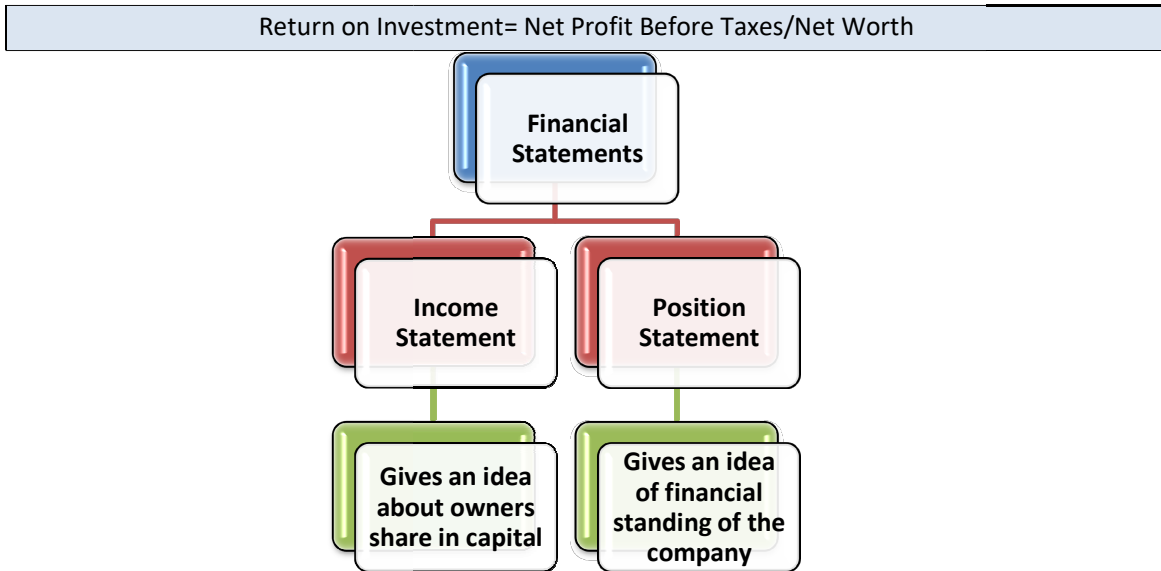


Fig-1.9-Financial Statements

Source- Paramasivan & Subramanian (2009)

Table-1.6- Financial Statements and features

Kinds of Financial Statement	Indicative Features
Income Statement	Known as profit and loss account Provides the level of operation in the firm during a particular time frame Provides information about total revenue generated by the organization Provides information about gross profit and loss of the organization Provides detail of financial strength and weakness of the organization Provides a detail of revenue generated from operations
Position Statement	Balance Sheet Provides financial position at the end of each financial year Provides details of total assets, liabilities and capital for the firm
Statement of Change in owner's Equity	Provides an idea of earning retained by the organization Provides the level of equity controlled by the owners Not-so-familiar statement
Statement of Change in Financial Position	Provides a state of change of financial position from one time frame to another time frame as a comparative

Source- Paramasivan & Subramanian (2009)

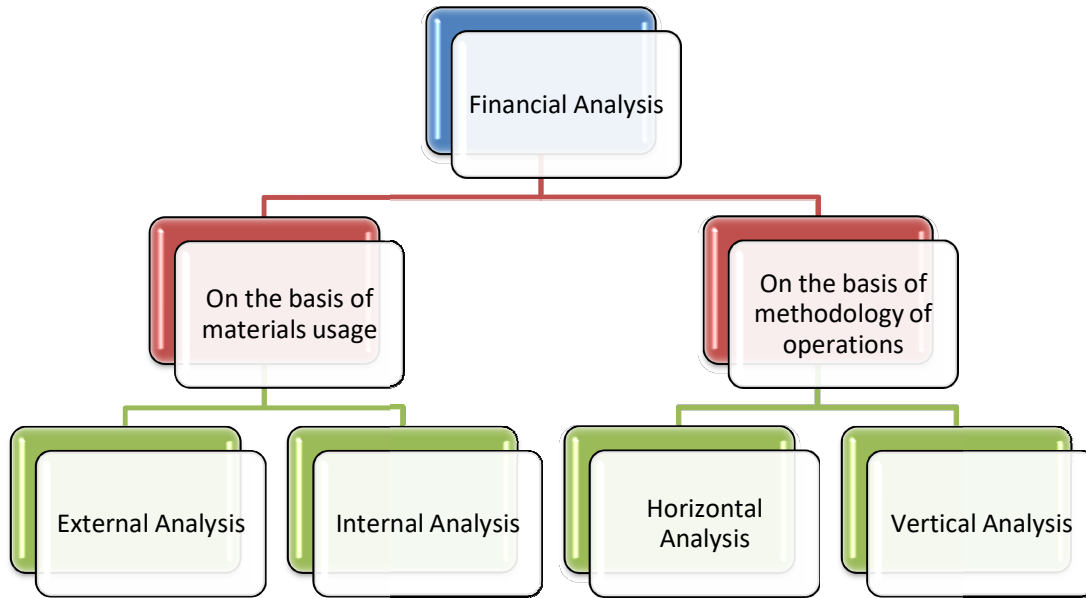


Fig-1.10- Types of Financial Analysis

Source- Paramasivan & Subramanian (2009)

Table-1.7- Basis and Kinds of Financial Analysis

Basis of Analysis	Kinds of Analysis	Features
Usage of Materials	External Analysis	Provides an analysis to the external agents affected by the business (investors, creditors) Used to understand the financial and operational environment of a business Responsibility of business to disclose qualitative information to maintain transparency Provides a limited scope of information to the external world
	Internal Analysis	Disclose important information for internal decision making on key issues Used to gain information about operational avenues of each department within the organization Helps in key decision making and future trend analysis and planning
Methodology of Operations	Horizontal Analysis	Same parameters from financial statements are measured across various years in a year by year analysis to get the growth and decline of the organization on the same parameter scale A base year is set and dynamic changes are taken into account
	Vertical Analysis	Considered as part of static analysis Different parameters of same financial year is taken into account and required inferences are drawn

Source- Paramasivan & Subramanian (2009)

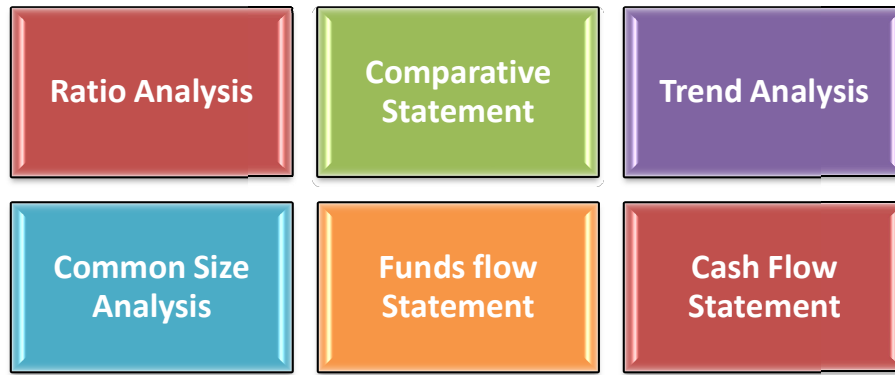


Fig-1.11- Techniques of Financial Statement Analysis

Source- Paramasivan & Subramanian (2009)

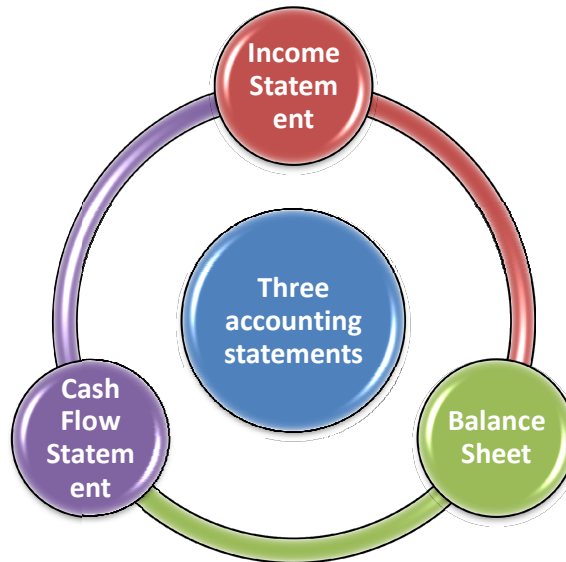


Fig-1.12- Accounting Statements

Source- Griffin, 1992

Table-1.8- Usability of each financial analysis

Financial Analysis	Features
Comparative Statement Analysis	Comparison of financial statements at different phases Divided into two sections- Comparative Profit Analysis and Comparative Loss Analysis
Comparative Balance Sheet Analysis	Balance sheet to be analyzed at different points of time Assets, Liabilities and Capital state is considered across time intervals
Comparative Profit Loss Analysis	Profit and loss accounts of the year taken into consideration is compared with the profit and loss of the organization for a base year
Trend Analysis	Comparative of trend series for any bit of information Provide a directional trend with the base fixed at 100% Base can be taken as index number to show the relative change in each parameter

Source- Paramasivan & Subramanian (2009)

Table-1.9- Difference in fund flow and cash flow analysis

Fund Flow Analysis	Cash Flow Analysis
Provides Information about movement of funds or flow of working capital	Provides Information about utility of cash by the organization
Provides methodologies of raising the working capital and its usage	Provides the specific details of cash inflow and cash outflow
Provides information about mobilization of funds	Provides a basis for the cash inflow and outflow
Provides direct inference of benefits obtained from the financial management	Factors leading to a reduction in cash balance and incline or decline in the profits
Level of increase and decrease in the working capital is recorded	Cash receipt and payment balance form the basis of cash flow analysis
No provision for recording of opening and closing balances in the statement	Provision of opening and closing balance provided in the cash flow analysis

Source- Paramasivan & Subramanian (2009)

Liquidity vs. Profitability

We have to take a look at a way of financial analysis in terms of functional ratios, so that we can understand the concept of liquidity and profitability within an organization and the organization's financial health. It's an index measurement for health of the organization. It provides a relationship between two heads of the statements to provide an indicative value. For each ratio and across each industry there is a level of ratio that serves as an indicator for the health, a considerable range is provided for depicting the health, any number above or below the range portrays a problem that needs to be addressed by the management. We will look at several such ratios that will provide the idea of sustenance of the organization.



Fig-1.12- Types of Ratios

Source- Paramasivan & Subramanian (2009)

Table-1.10- Ratios and their significance

Ratios	Significance
Liquidity Ratio	Short-Term Ratio Helps to gather information about liquidity of organization i.e. the capacity of the organization to fulfill its current debt obligations. Major ratios are Current Ratio and Quick ratio
Activity Ratio	Turnover Ratio Level of efficiency of current assets and liabilities Provides the level of performance of business concern
Solvency Ratio	Leverage Ratio Ability to address long term debt concern of the organization Status of usage of long-term capital. Debt-Equity Ratio, Proprietary Ratio and Interest Coverage Ratio are major solvency ratios
Profitability Ratio	Measures the profitability of the organization Gross Profit Ratio, Net Profit Ratio, Operating Profit Ratio, Return on Investment are major profitability ratios

Source- Paramasivan & Subramanian (2009)

Table-1.11- Ratios and its Values

Ratios	Values
Current Ratio	Current Assets/Current Liabilities (2:1 is the significant number as for most industries this is considered a stable current ratio) Current Assets are the assets to be used within the present financial year Current liabilities are the liabilities to be obliged by the organization over the time frame of present financial year
Quick Ratio	Quick Assets/Quick (Current) Liabilities (1:1 is the significant number in terms of quick ratio as per stable industry standards) Quick assets are the assets convertible to liquid cash within 90 days and similarly Quick liabilities are the liabilities that are to be obliged within 90 days
Stock Turnover Ratio	Cost of Sales/Average Inventory Average Inventory is the average of the stock at the beginning of the financial year and the stock at the end of the financial year
Debtors Turnover Ratio	Credit Sales/Average Debtors Credit sales is the sale of products by an organization for which the payment is not made at the time of purchase Average debtors is the value of total debt owed by an organization
Credit Turnover Ratio	Credit Purchase/Average Creditors Average Creditors is the value of total credit owed to the organization by users of its service
Working Capital Turnover Ratio	Sales/Net Working Capital
Debt-Equity Ratio	External Equity/Internal Equity External Equity is the amount of money as compensation compared to the external organizations Internal Equity is the comparative of pay scales within the organization
Proprietary Ratio	(Shareholder/Shareholder's Fund)/Total Assets Shareholders Fund is the amount of equity being invested in the organization by shareholders. It's the difference between total assets and total liabilities
Interest Coverage Ratio	EBIT/Fixed Interest Charges The ratio depicts the ability of the organization to serve its current obligations in case of solvency Fixed Interest charges are the cost to be covered by its revenue before paying up taxes
Gross Profit Ratio, Net Profit Ratio, Operating Profit Ratio	These are all profitability ratios that are depicted in the previous unit
Return On Investment	This will be taken up in a separate unit

We would now look at three accounting statements and the features of the three accounting statements from which these ratios are established and the features that they encompass.

Three Types of Accounting Statements

Balance Sheet

- Net worth of the organization from its book value
- Gives perspective to the basic accounting equation
- $\text{Assets} + \text{Liabilities} = \text{Equity}$ and thus, the balance sheet is divided into three categories measuring assets, liabilities and equity of the organization
- $\text{Book value of an organization} = \text{Assets} - \text{Liabilities}$
- Provides an idea of long term liabilities of the organization
- Used to calculate assets turnover ratio, quick ratio, debt to equity ratio

Income Statement

- Provides information about the amount of revenue generated and the amount of expenses incurred
- Records direct and indirect expenses. Direct expenses are a record of the costs incurred for sales of goods
- Indirect expenses are other expenses incurred from any revenue generating activity of the organization
- $\text{Cost of Sales} - \text{Revenue} = \text{Gross Profit}$
- $\text{Gross Profit} - \text{Indirect Expenses} = \text{Operating expenses}$
- Income statement leads the way in generating other two statements with the net income of the current financial year turning into short term assets
- Provides a rough idea of the operational efficiency of the organization
- Ratios extracted from the income statement are gross margin, operating margin, bet margin, tax ratio efficiency and interest coverage ratio

Cash Flow Statement

- Provides a clear picture about the liquidity status of an organization by maintaining a record of the day to day transactions of the organization
- Cash flow statement has three functional heads showing operational, investment and financing costs incurred by the organization with an increase or decrease under respective heads
- Includes depreciation, amortization and any bad debts or receivables.
- Provides an idea of stocks issue or dividends paid in each financial year

Decline in terms of net income

Working capital increment or decrement

Fig-1.13- Changes in cash flow, Source- Beers, B. (2020, April 6). What Factors Decrease Cash Flow From Operating Activities?

Example-1.2- We will take up a balance sheet of ABC farmer producer organization and will study the various ratios to contemplate the financial state of the organization.

Liabilities	Value in Rupees	Assets	Value in Rupees
Equity Share Capital	10,000	Fixed Assets	36,000
Preference Share capital @7%	2,000	Depreciation	(10,000)
Reserves and Surplus	8,000	Fixed Assets less depreciation	26,000
Mortgage Debentures @6%	14,000	Current Assets	
Current Liabilities		Cash	1,000
Creditors	1,200	Investments @10%	3,000
Bills Payable	2,000	Debtors	4,000
Outstanding Expenses	200	Stock	6,000
Tax Provisions	2600		
Total	40,000		40,000

Subsidiary Information	Value in Rupees
Net Sales	60,000
COGS(Cost of Goods Sold)	51,600
Net Income before tax	4,000
Net Income after tax	2,000

Solution- Current Ratio= Current Assets/Current Liabilities = 14,000/6000 = 2.33:1

Liquid Ratio = Liquid Ratio/Current Liabilities = 8000/6000 = 1.33:1

Proprietary Ratio = Proprietor's Fund/Total Assets = 20,000/40,000 = 0.5

Shareholder's Fund = Equity Share Capital + Preference Share Capital + Reserves and Surplus = 10,000 + 8,000 + 2,000 = 20,000

Debt-Equity Ratio = External Equity/ Internal Equity = 20,000/20,000 = 1:1

Interest Coverage Ratio = EBIT/ Fixed Interest Charges = 4000+ 840/840 =5.7:1

Fixed Interest Charges = 6% of debentures with value of Rs 14,000 = Rs 840

(We will see what we mean by debentures in the next chapter)

Stock Turnover Ratio = Cost of sales/Average Inventory =51,600/6000 = 8.6:1

(In case of no mention of opening inventory, closing inventory would be taken as average inventory)

Debtors Turnover Ratio = Credit Sales/ Average Debtors = 60,000/6000 = 10:1

(When the data of credit sales or no opening debtors, total sales is taken to be credit sales and closing debtors as average debtors)

Creditors turnover ratio = Credit Purchases/Average Creditors = 43000/1200 = 36:1

(When there is no record of purchases are obtained, COGS-Gross Profit become credit purchases and if no opening creditors, closing creditors are considered as average creditors)

Gross Profit Ratio = (Gross Profit/ sales)*100 = (8400/60000)*100 = 14%

Net Profit Ratio = (Net profit/ Sales)*100 = (2000/60000)*100 = 3.3%

(If there is no non-operating income then operating profit is same as net profit ratio)

1.3. Wealth Maximization and ROI Calculation

Shareholders wealth maximization is the attempt by business managers to maximise the wealth of the firm. In this article, we suggest necessary steps to enlarge ABC Woodworks wealth. To make our case, we used capital structure and trend analysis. Their problem is uncontrollable expenses

Wealth maximization is the way ahead to financial management in modern times. Maximization of profit was considered to be a prime mover for a business and financial management till the concept of wealth maximization came into being. It is the ulterior motive as compared to profit maximization as it takes broader arena into consideration.

Wealth maximization is defined as the present value of the expected returns in future to the shareholders of the woodworks companies in turn the shareholders. These returns can be in form of periodic dividend payments and/or returns generated from the sale of the stock.

Shareholders wealth maximization is the attempt by business managers to maximize the wealth of the firm they run (since managers are appointed by shareholders for their acumen to generate higher returns, which results in rising stock prices that increases the net worth of shareholders). It is for any general company.

ABC Woodworks- Case Study

ABC Woodworks is an Indian woodworks producer company. It is known to be one of largest wooden craftsmen producing company in the country. The company's headquarters are located in Kerala, India, and it operates over 4,400 branches throughout the country. Outside India, ABC Woodworks has established in the Sri Lanka, the Maldives, and the United Arab Emirates. The target market of ABC Woodworks includes small businesses, vendors, shareholders, traders, wooden craftsmen, and so on.

Shareholders are the anonymous title holder of the company. They have a total control over company's wealth. Shareholders themselves being the shareholders try to maximize the produce. Eventually, the shareholders wealth increases proportionate to the increase in the wealth of the company. When the company's wealth is maximized, it is benefited for the shareholders. ABC Woodworks is one of the trusted wooden works producer diversified brand in the country. They are specially designed for the working for the wealth of the shareholder. They also have an option for trading in huge sums of credit being offered by banking institutions. On those crucial grounds we make choice to designate a project on this company.

This study mainly attempts to analyse the financial performance of the company. The present study develops a financial analysis for owner's equity and its development. The study forecast to evaluate how to increase the company profit.

- To determine the value of trend for past 5 years.
- To compare the income statement and Balance sheet of ABC Woodworks for the past 5 years.
- To study the financial position of the business using comparative statement and trend Analysis.

The problem taken for this research is that due to the fluctuations in the market price of corn. It is essential to measure the wealth created by the organisation. In this research six financial tools

have been used to analyse the data. Finally, based on the analysis the researcher has compared wealth creations on selected organisations.

Trend analysis involves the collection of information from multiple time periods and plotting the information on a horizontal line for further review. The intent of this analysis is to spot actionable patterns in the presented information.

When trend analysis is being used to predict the future, keep in mind that the factors formerly impacting a data point may no longer be doing so to the same extent. This means that an extrapolation of a historical time series will not necessarily yield a valid prediction of the future. Thus, a considerable amount of additional research should accompany trend analysis when using it to make predictions.

The above trend table state that there is no rise in share capital as up to 2019 and it's gradually increased in the year 2018 & 2019 from 100% to 107.33%.

As profit is trend is concerned from 2013 there was a great increase in profit to 12% but while seeing 2017 & 2018 there is a steep decrease in the profit ratio to 75.17%. But in 2019 again the profit is boosted up to 90.75.

It shows that share capital trend is in increasing point and profit trend is at fluctuations of increasing and decreasing.

Year	Share Capital		Net Profit	
	Rs.	Trend percentage	Rs.	Trend percentage
2014-2015	371.71	100	892.02	100
2015-2016	371.71	100	1004.24	112.58
2016-2017	371.71	100	780.07	87.45
2017-2018	392.97	105.71	670.52	75.17
2018-2019	399.00	107.33	809.55	90.75

Planning the capital structure is an important area of financial decision making. The finance manager has to select long-term sources of funds in such a way that the capital structure is optimum. The raising of more debt may help to improve the return to shareholders. But it will increase the risk and the fixed interest charges. On the other hand, raising of funds through equity capital will bring in more permanent funds. The risk to the firm is also less, but the shareholders expect higher returns. Therefore, the finance manager has to strike a balance between various long-term sources with a view to minimise the overall cost of capital.

Here, the capital structure is found out to know about the value of the firm.

$$V=S+D$$

Here, V = value of the firm

S = market value of equity shares D = market value of debt

To calculate v,

Earnings available to equity holders = EBIT – interest

Cost of equity (K_e) = earnings per share / market value per share

Market value of equity shares = earnings available to equity share / cost of equity

Year	Earnings available to equity holders	Capitalization rate (%)	market value of equity shares	market value of debt	Value of the firm
2014-2015	1364.17	8.9	153.45	19376	19530
2015-2016	1556.89	9	173.76	24081	24542
2016-2017	1241.02	5.8	212.5	19478	19690
2017-2018	1111.98	6.3	176.23	19436	19612
2018-2019	1074.27	7.02	153.03	18567	18862

The value of share capital has been increased by 7.33%. And the value of net profit has been decreased by 9.26%. The value of the firm has been increased in the year 2016 about 25.66%. And then it has been decreased from 25.66% to 23.14%.

Return on Investment is the intrinsic value gained out of any investment. The metric value can be measured by the following value = (Net Profit/Cost of Investment)*100

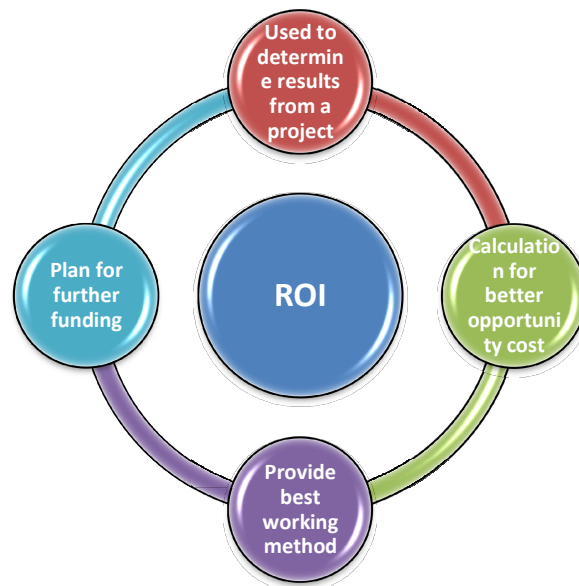


Fig-1.13- Reasons for Calculating ROI

Source- Krauser and Bellville (2015)

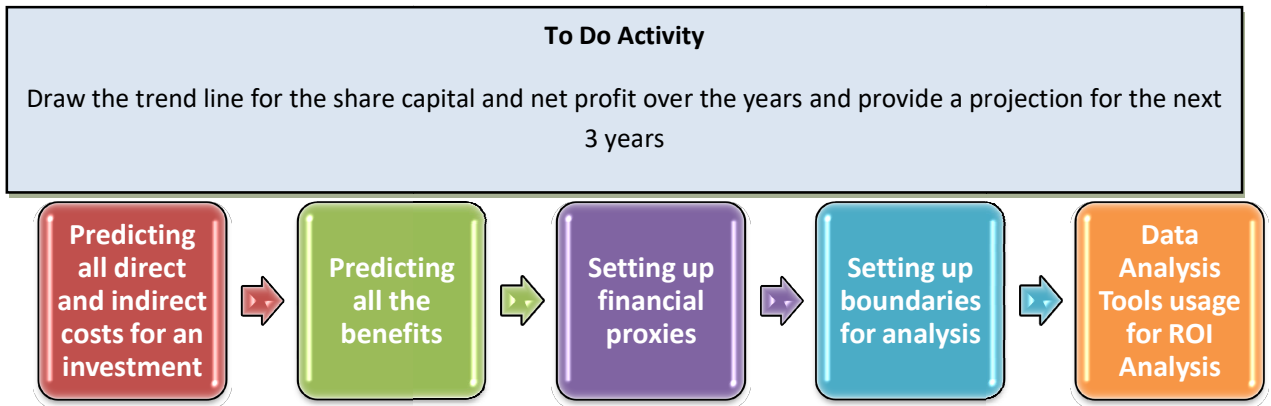


Fig-1.14- Steps to ROI Analysis

Source- Krauser and Bellville (2015)

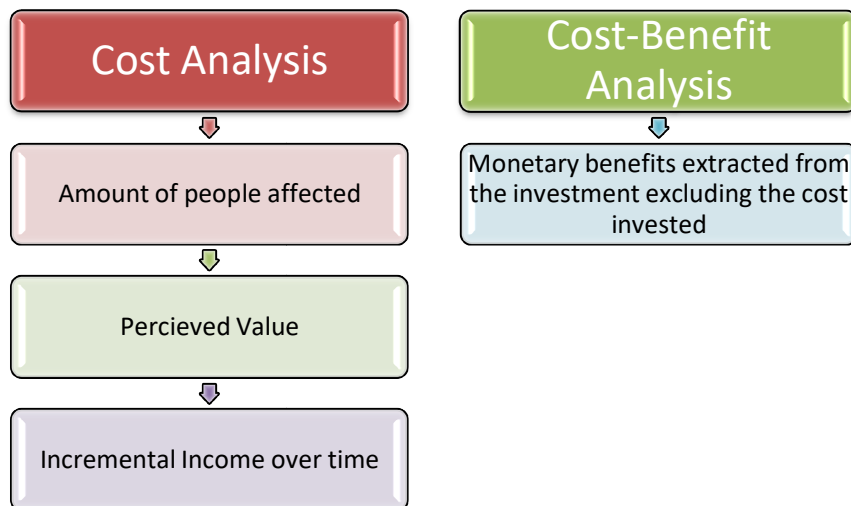


Fig-1.15- Types of ROI Analysis

Source- Krauser and Bellville (2015)

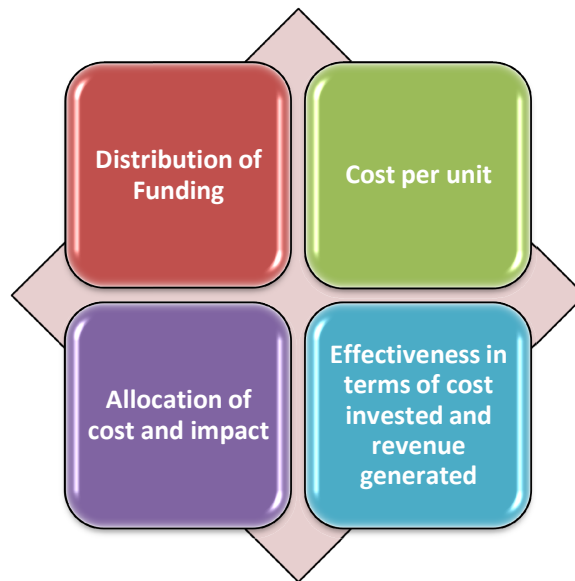


Fig-1.16- Questions to be answered by cost analysis

Source- Krauser and Bellville (2015)

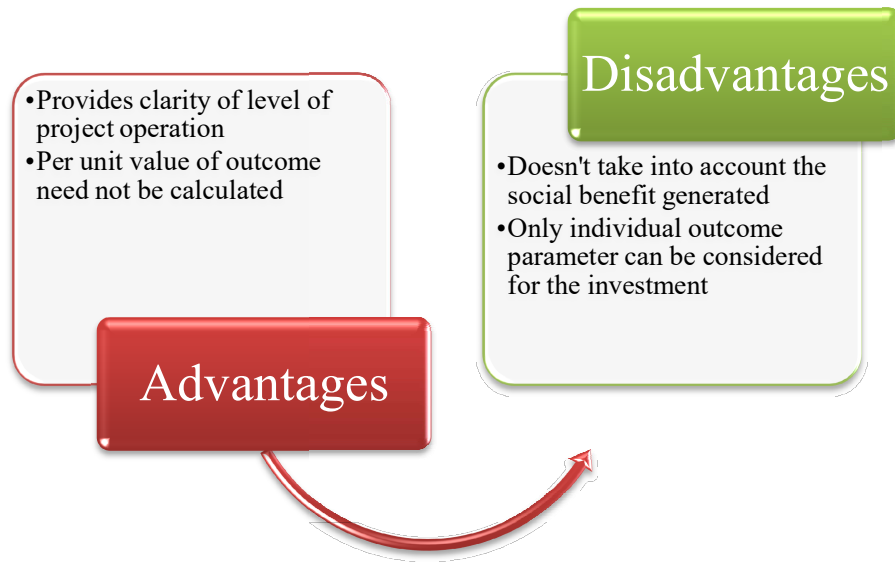


Fig-1.17- Advantages and disadvantages of cost analysis
 Source- Krauser and Bellville (2015)

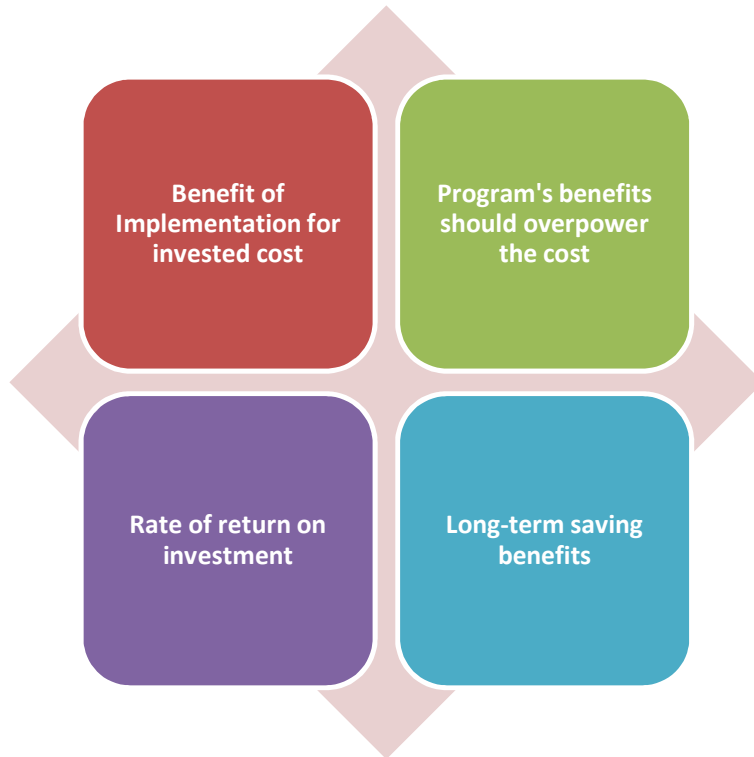


Fig-1.18- Questions to be answered by cost benefit analysis
 Source- Krauser and Bellville (2015)

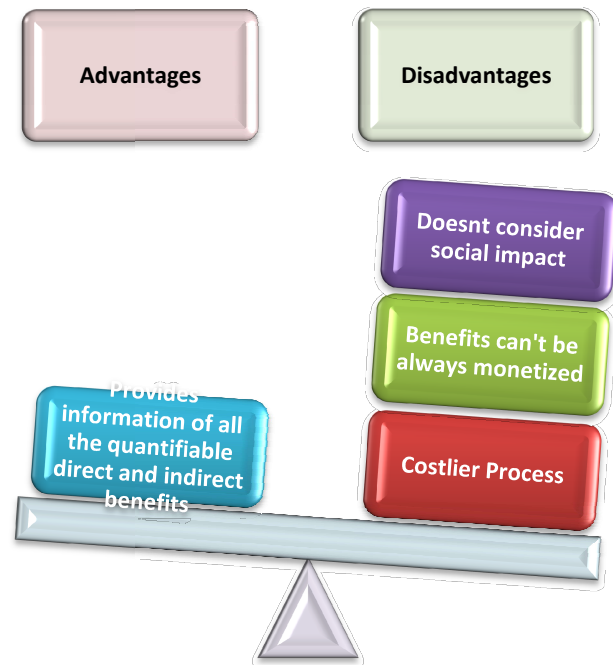


Fig-1.19- Advantages and disadvantages of cost-benefit analysis

Source- Krauser and Bellville (2015)

Summary

This chapter serves as an entry point into the domain of financial management. We firstly, look at the need of financial management for rural managers. We take into consideration of the objective role of financial managers in an organization. Next, we see the scope of financial management. We then take on the topic of profit maximization and wealth maximization and draw comparatives in it. We then look at three kinds of financial statements crucial to understand the financial position of the organization. Next, we move on to different ratios of profitability, liquidity and solvency ratios. We understand how different ratios and their significance in terms of understanding the financial health of the organization. We then take a look at the concept of return on investment as a case study to understand the methods of analysis of different methods of return on investment calculation and the issues it addresses.

Questions

1. Explain the approaches to financial management.
2. You are deployed as a manager of the Gerua Grameen Bank. On the first day of the job you are presented the deposit-advance copy of the bank. You are asked to present your inferences from the trend analysis of the same and provide projections for the business of the bank for next 3 years.

Year	Deposit	Credit Issued	Profits
2009	2,05,59, 718	79, 81, 345	3, 70, 721
2010	2,78, 83, 561	89. 97. 762	4, 80, 445
2011	3,11,57,763	73, 46, 653	3,52,678
2012	4, 15, 65,665	99,00, 876	6, 54, 326
2013	5, 19, 78, 567	1,97,99,891	6, 66, 561
2014	5,67,72,263	2, 17, 87, 675	7, 19, 543

3. The balance sheet of the ANZ firm is provided below. Find out all the ratios from the balance sheet

Liabilities	Value in Rupees	Assets	Value in Rupees
Equity Share Capital	15,000	Fixed Assets	35,000
Preference Share capital @9%	2,000	Depreciation	(12,000)
Reserves and Surplus	8,000	Fixed Assets less depreciation	23,000
Mortgage Debentures @6%	1500	Current Assets	
Current Liabilities		Cash	4,000
Creditors	1,500	Investments @12%	6,000
Bills Payable	2,000	Debtors	3,000
Outstanding Expenses	2000	Stock	2,000
Tax Provisions	6000		
Total	40,000		38,000

Subsidiary Information	Value in Rupees
Net Sales	80,000
COGS(Cost of Goods Sold)	61,600
Net Income before tax	7,000
Net Income after tax	4,000

4. Describe the types of ratio analysis.
5. Duvidha Niwaran, an NGO working for the underprivileged in the region of eastern Uttar Pradesh spend Rs. 5,00,000 for the financial counseling and creating financial awareness among the community having 7200 participants. Calculate the return on investment for this project.

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Chapter 2 Sources of Financing

Introduction

In the previous chapter, we saw the vastness of the financial management as a subject. As a financial manager, we have seen the vast multitude of operations and responsibilities undertaken. Now, we would look into bit detail at each perspective and responsibility. One of the major roles of a finance manager is to arrange for finances. Finance manager needs to get into deep detail for the requirement of finance. For each source of fund, the manager needs to predict the risks and returns associated with it. We will look at each medium of finance, and the application of each medium. We will look at various financial institutions, the terms and conditions associated with each form of finance and financial institutions. We will look at various ways in which the financial manager needs to manage the funds to add credibility to the organization. We would look at other subsidiary activities of a finance manager. We would also look at the need of financing and various long and short-term measures of financing. We would also look at various new methods of generating capital for the organization. We would understand the difference in the significance of each form of credit. We would also look at the drawbacks of generating credit by certain methods and to find out the ratio of various kinds of funds to be utilized for sustenance of the organization. We would look at the share of debt and equity in the total funds for the organization. We would also look at the duration till which each mode of finance can be obtained and used. The benefits and drawbacks of the long, medium and short-term finance and would end with the lead to capital structure.

Objectives

- To appreciate the need of financing for an organization.
- To be able to appreciate the intricacies of book keeping, book building and maintaining a healthy creditworthy score.
- To familiarize the different modes of financing
- To develop an understanding of new modes of financing
- To be able to predict the need and applicability of long-term and short-term financing methods

Structure

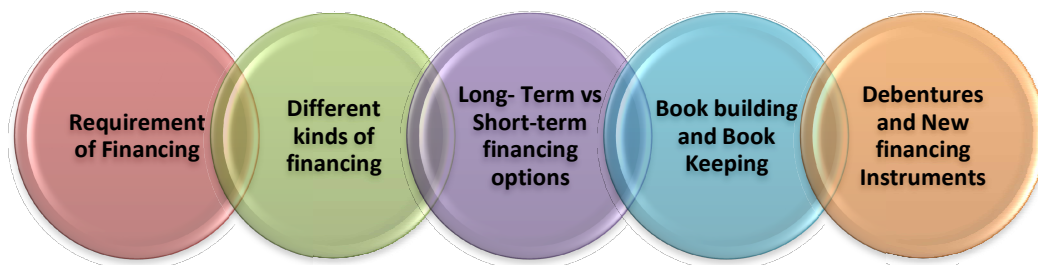


Fig-2.1- Structure of the Chapter

2.1. Requirements of Financing

Before getting into the requirement for financing activities, we would need to understand the activities that require cash flow.

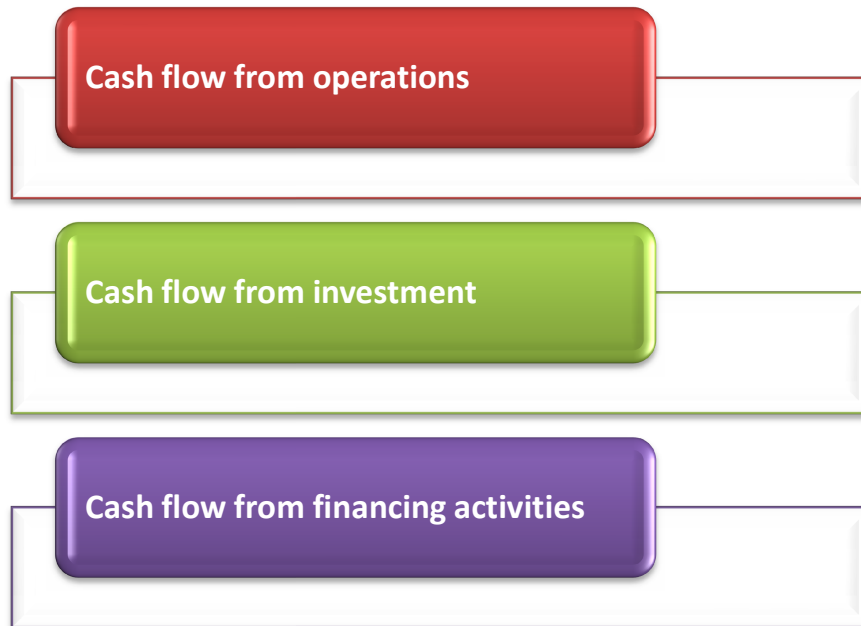


Fig-2.2- Cash flows

Source- Omag, 2016

Cash Flows from Financing Activities: Evidence from the Automotive Industry. *International Journal of Academic Research in Accounting, Finance and Management Sciences*

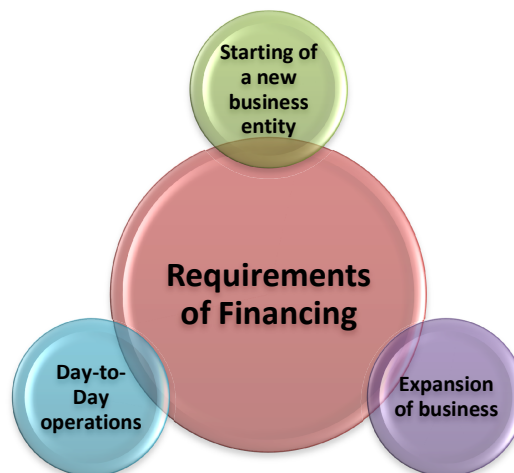


Fig-2.3- Requirements of Financing

Source- BBC, UK. (n.d.).

Sources of Finance

Now, we need to look at the various financial institutions from which these different forms of financial institutions and their significance in terms of supporting financial managers in their quest of raising funds.

Table-2.1 Different financial institutions and significance

Financial Institutions	Features
Central Banks	Responsible for overlooking the action of other formal financial institutions Provides guidelines for preparing broad monetary policy and acts as a guide for other financial institutions to follow due diligence Individuals and retail consumers don't have a reach or need to reach the central bank
Retail and Commercial Banks	Has a role in offering financial products and services Commercial banks provide lending services to large commercial organizations Provide deposits, savings and other financial instruments for public usage Provides Internet platform for basic banking services
Credit Unions	Serve a specific region and the operation is provided by the members of a particular group Is a form of informal credit
Investment Banks	Don't work as normal retail or commercial bank They help commercial organizations to raise capital through different lending mechanisms or raising capitals They help access of credit from pooled funds like mutual funds or capital markets
Brokerage firms	Help commercial organizations to raise capital through sale of securities or bonds assisting the organizations in raising funds through trading support Provides support in financial investments to generate future returns adding to future opportunities for capital generation and increment.
Insurance Companies	Indirect support to the investments by sharing or transferring the risk for investments or methods of raising capital The insurance companies also act as an investment mechanism for raising the capital through investments
Mortgage companies	Provides scope for raising capital in return for control over assets of matching valuation

Source- Horton (2020)

As far as our country is concerned, we have a large number of small scale industries. As a financial manager, we need to understand the financing mechanism for the small scale industries.

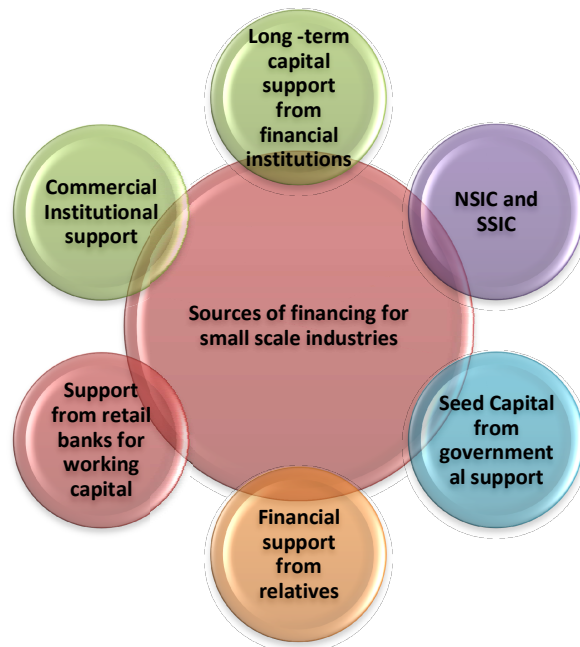


Fig-2.4- Sources of financing for small scale industries

Source- Patra (2002)



Fig-2.5- Support provided by Financial Institutions

Source- Patra (2002)

We will now take a look at few financing institutions who work primarily in support of the small scale industries in our country.

Financial Institutions Supporting Small Scale Industries (Source- Horton, 2020)

Small Industries Development Bank of India

- Setup by Special Act of Parliament in 1989 as a subsidiary to Industrial Development Bank of India
- Smooth financial flow in small scale industries sector
- Support in technological advancement and modernization of services and systems of small scale industries
- Establish and sustain strong market linkages and supply chains for the marketing and smooth flow of products from production units to markets enabling life into small scale industries
- Enabling large scale employment opportunities for the youth thus reducing the rate of unemployment matching skills with requisite activities
- It acts mostly as a refinancing institution limiting its contact with direct consumers rather acting as a medium for flow of funds through commercial banks
- Launching schemes through Govt. of India for credit strengthening for small scale industries

Commercial Banks

- Includes a range of commercial banks, nationalized banks, private sector banks
- Started with SBI acting as a lead bank with partnership of RBI in 1956 for providing institutional and financial support to help in the incubation of small scale industries
- Act as major credit/ lending partners for short term capital exigencies and providing support for working capital shortages
- Providing support to new commercial concerns to help their sustenance
- They are generally limited to providing only short term credit as long term and large volume of the credit needs to be financed by a consortium (to be taken up in later half of the unit)
- Review of credit limits at regular intervals to increase or decrease the limit as per the requirement of the financed projects
- Preventing the small scale industries to be trapped by informal credit mechanisms and leading them to develop trust and ease of lending through formal mechanisms
- Cash flow projections of any new commercial unit or previous cash flow status can be used as a security for lending by formal institutions
- Interest is to be charged for the amount of credit and number of days for which the amount is lent.
- Act as a medium to develop commercial deposits by the small scale industries and boost their credit scores.
- Develop policy planning for each region by expanding branches across the country
- Regional Rural banks
- Act as an institutional lender for financing agricultural activities and artisan activities in the rural regions
- Works on policy guidelines framed by NABARD
- They are responsible for preventing informal credit trap
- Restructuring of RRBs' in the view of changing credit norms and requirements of lenders

Cooperative Banks

- Acts as a comparative mechanism between private and public ownership
- Present mostly in rural areas
- Is familiarized by non-exploitative nature of financial support, voluntary nature of membership, one man one vote and effective decentralization mechanisms
- The goal is to be not exploitative in terms of profit making approaches

- Issues concerning long overdues weakening the structure of the bank
- Marred by issues of weaker management structures, lack of adequate funds and structural reforms

State Financing Corporations

- Authorised capital limits within 50 lakhs to 5 crores as set by the state govt. of respective states
- Organizations which are to be supported by SFCs'
- Manufacturing, processing of goods
Mining Activities
- Generation and distribution of electricity
- Hospitality and travel sector
- Maintenance and testing services for various machineries
- Fisheries and development of land for setting up of industries
- Its functions include:
 - Providing loans to industrial concerns for a period extending up to 20 years
 - Underwriting for issuance of stocks, bonds for large industries within the state
 - Long term loans to manufacturing and industrial units for a time frame of 20 years
 - Refinancing activities as well as subscription of shares
 - Serving as agencies for state and central banks

Funding of MSME's

- Entrusted with credit guarantee schemes
- State Industrial Development Corporations
- Setup under Companies Act 1966 as an undertaking of state govt.
- Promote and establish MSMEs'
- Provide financial support in form of rupee loans and underwriting activities and helps in developing entrepreneurial activities
- Provides a host of technological and financial services package to bolster support of MSMEs'
- State Small Industrial Development Corporations
- Established under Companies Act, 1956
- Support in sourcing of raw materials for small scale industrial production
- Machinery sourcing and leasing support
- Establishment of supply chain and market linkages for small scale industries
- Infrastructure development and maintenance support for small scale industries
- Providing the initial seed capital to small scale industries on the basis of need based financing approach
- Support in management expertise of these industries as per requirement

National Bank for Agricultural and Rural Development

- Set up by a special act of parliament on July 12, 1982
- Apex Bank for development and agricultural refinancing activities
- Acts as a backbone of support to the commercial banks for financing agricultural activities as well as support the govt. in policy framework guidelines
- Acts as a medium for long term credit activities
- Provides medium term credit financing to state cooperative banks
- Small amount refinancing activities for non-farm sectors

National Small Industries Corporation

- Technological support to small scale industries on a hire purchase basis
- Assistance to small scale enterprises in support stores purchase program of Central Govt.
- Small scale industries to be developed as ancillary units
- Production of spare parts for the small scale industries
- Production and training establishments for prototype production for small scale industries
- Acting as a support system for small scale industries

2.2. Different Kinds of Financing



Fig-2.6- Kinds of financing

Source- Hayes (2019)

Table-2.2- Kinds of Financing

Features	Debt Financing	Equity Financing
Advantages	<p>Provides no control of ownership and hence provides no opportunity to participate in decision making</p> <p>After the payback period ends, there is an end to the relationship between the lender and debtor</p> <p>Interest paid helps to reduce tax expenses</p> <p>Monthly or a regular payment schedule provides a forecasting model for future revenue</p> <p>Is a source of capital funding for newer industries as they don't need a strong creditworthiness</p>	<p>No obligation to return the initial capital invested</p> <p>Owners and stakeholders come from this kind of investment approach</p> <p>In case of bankruptcy of the organization, the shareholders' wealth is considered to be lost</p> <p>Provides the necessary liquidity for operations as there is no obligation for monthly returns</p> <p>Returns over investment is over a long period of time as it provides stability for business</p>
Disadvantages	<p>If a large debt is leveraged, then a huge chunk of cash inflow is used up to pay up the debt, it can cause a financial turmoil for small scale industries</p> <p>Small scale industries find it hard to gather qualified financiers for debt financing as they need to develop a considerable creditworthiness for lending capital</p>	<p>Ownership is diluted as the stakes are transferred to stakeholders</p> <p>Investors are to be asked for opinions for making a business decision and this would sometimes lead to hindrance in taking strategic decisions</p>

Source- Hayes(2019)

Shri Vishal Kurchoo is the Sole Proprietor of M/s Kurchoo Enterprises. Mr.Kurchoo has passed BE Chemical Engineering from North Odisha University, in first class in the year 2007. He has also passed his MBA from North Odisha University in the year 2009. He started his own manufacturing unit in May 2011 under the firm name of M/s Kurchoo Enterprises.

He is on the approved list of manufacturers for supply of personal protective equipment for hospitals during the Covid-19 crisis. The hospitals in the region have to purchase the PPE only from the approved list. To that extent the competition is limited. This provides a suggestive list of expenditures to be carried out by Mr. Kurchoo

Sr.No	Particulars	Amount in Lacs
1	Land	5.00
2	Construction of premises and electricity	9.00
3	Margin money for working capital	2.00
	Total	16.00

Means of financing

Sr.No	Particulars	Amount (Lacs)
1	Money to be planned from Equity (80% of the project cost)	12.80
2	Term Loan from Bank (20% of the cost)*	3.20
	Total	16.00

Profitability Estimates

Amount In lacs

S No	Profit and Loss A/c for	31-3-19	31-3-20	31-3-21
1	Sales	9.46	11.70	13.46
2	Interest/other income	0.00	0.00	0.00
3	Total income	9.46	11.70	13.46
4	Manufacturing expenses	6.14	7.97	9.29
5	Selling and Administrative expenses	0.52	0.59	0.77
6	Depreciation	1.37	1.28	1.25
7	Total Interest	0.34	0.78	0.72
8	Profit before tax	1.09	1.08	1.43
9	Provision for tax	0.01	0.01	0.04
10	Net profit	1.08	1.07	1.39

Projected balance sheet:			
As on	31-3-19	31-3-20	31-3-21
Liabilities	Actual	Estimated	Projected
Capital and Reserves	6.90	7.12	7.44
Total Term loans	5.26	4.80	4.29
Total current liabilities	1.62	1.63	1.64
Total Liabilities	13.78	13.55	13.37
Assets	31-3-19	31-3-20	31-3-21
	Actual	Estimated	Projected
Total Fixed assets	11.85	10.57	10.32
Total Non -current assets	0.00	0.50	0.20
Debtors	0.45	0.65	0.75
Inventory	1.42	1.76	2.02
Cash and Bank Balance	0.06	0.07	0.08
Other Current Assets	0.00	0.00	0.00
Total Assets	13.78	13.55	13.37

M/s Kurchoo Enterprises had bought a term loan of Rs. 5 lacs from a bank at a rate of 12.25%, which was to be repaid in five years. They have incurred the following expenses in connection with the loan:

Mortgage expenses :
 10,000 Processing fees of the
 bank: 5,000 Consultant's
 charges :
 5,000 Stamp Duty :
 5,000 Miscellaneous
 expenses: 5,000 Total :
 30,000

$$12.25\% + \frac{30,000}{5} \times 100 = 12.25 + 2.4 = 14.65\%$$

$$(5,00,000/2)$$

A company calculates the cost of equity, cost of preference cost of debenture and cost of term loans to compare them and to choose the most optimum mix of the capital. The mix of capital when the weighted average cost of capital is the lowest is the optimum mix.

Cost of Equity = PAT/Equity = 1.08/6.9 =15.65%

Weighted Average Cost of Capital = Proportion of equity x cost of equity + Proportion of debt x cost of debt = (6.8/12.16) X .1565 + (5.26/12.16) X .1465 = 15.08%

Here we need to develop an understanding of the role of weighted average cost of capital to better understand the method of determination of gathering capital for financing any project. The cost of capital is not a cost per se; it is in fact the return of an investment for any projects undertaken and the opportunity cost for losing other projects.

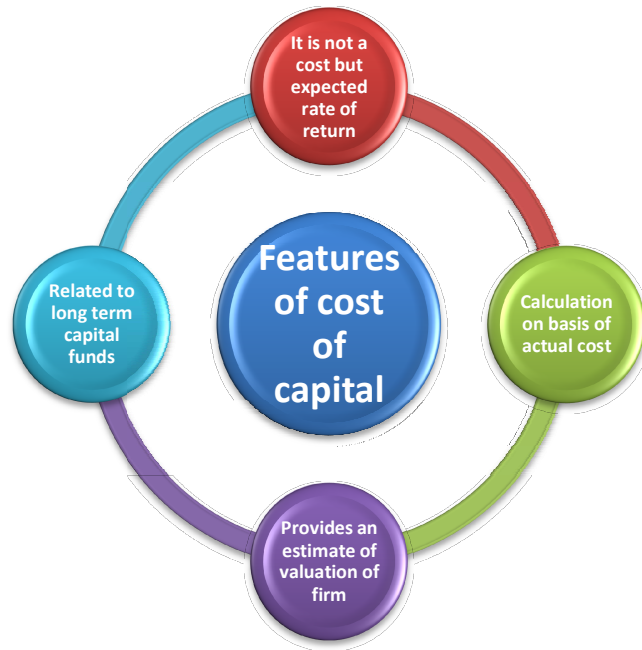


Fig-2.7- Cost of Capital¹



Fig-2.8- Components of cost of capital¹

¹ *Cost of Capital*. (n.d.). Retrieved from <http://egyankosh.ac.in/bitstream/123456789/16092/1/Unit-5.pdf>



Fig- 2.9- Significance of cost of capital¹

Table-2.3-Types of cost of capital²

Types of Cost of Capital	Significance
Explicit Cost	Discount Rate = Valuation of funds received by the firm including the cost of underwriting as compared to present value of expected future cash outflows Related to funds raising
Implicit Cost	Rate of return for firm from the best investment opportunity available that would be lost if the investment is done on the present project Related with the funds usage
Average Cost	Average cost for each component of funds Assessment of risk and designation of risk to each component of capital
Marginal Cost	Weighted average of the costs of the funds that is actually raised by the firm
Future Cost	Projection of costs involved in the project based on the previously ascertained cost
Historical Cost	Earlier developed projects already provide a picture to the finance manager of costs involved in such related projects
Specific Cost	Costs involved in raising each specific cost of capital
Combined Cost	Average Cost = Total cost of capital from all sources For taking any budgeting decisions , it is used as a basis parameter for accepting and rejecting the proposals

² *Cost of Capital*. (n.d.). Retrieved from <http://egyankosh.ac.in/bitstream/123456789/16092/1/Unit-5.pdf>

2.3. Long-Term Vs Short-Term Capital

Before diving deep into the concepts, we need to understand the need of long term vs short term finance. Firstly, we take a look at long term finance and its features. Long term finance is usually provided to organizations for generating long term capital assets.

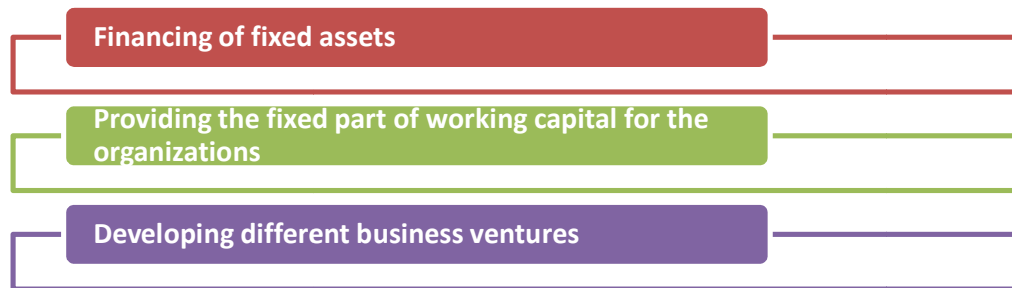


Fig-2.10 Reasons for long-term financing³

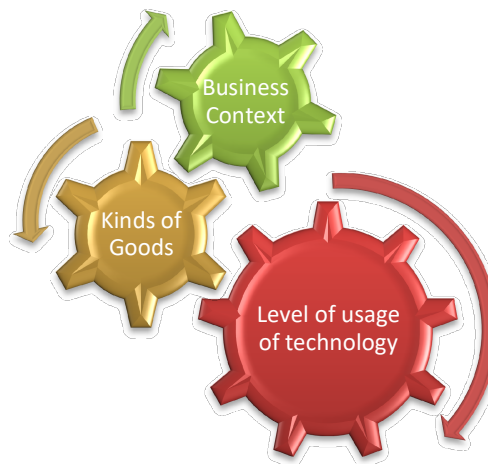


Fig-2.11- Factors for long-term financing⁴

Source of Long-Term Financing Mechanisms⁴

Shares

- Is the form of finance in which the organization goes to general public for raising funds
- The bait provided here is that as the shareholders are considered as an option to gather financial resources, they are provided a share in the stakes of the organization. They are provided ownership in decision making of the organization
- There are two kinds of shares: Equity and Preference shares
- They are provided timely returns as well as they would have to bear the impact of financial losses of the organization

³ Sources of Long-term Finance, Retrieved from <http://docshare01.docshare.tips/files/4987/49872408.pdf>

⁴ Sources of Long-term Finance, Retrieved from <http://docshare01.docshare.tips/files/4987/49872408.pdf>

- Sometimes, as deemed fit, shareholders timely paid dividend is retained and reinvested for the growth of the organization

Debentures

- This is also a kind of financing method where funds are raised from general public.
- The basic difference between shares and debentures is that shareholders are provided with ownership of the organization, however debenture provides no control in decision making of the organization.
- Debentures are basically debt from the public sector and have to be timely repaid.
- The relation between a debtor and the organization is limited to the repayment of loan
- Debentures need to be repaid and given higher priority in terms of financial return to the debenture providers irrespective of the state of the organization
- They are provided a fixed rate of return irrespective of the profit and loss of the organization.
- In case of insolvency, priority of returning funds is provided to debentures holder but not shareholders

Public Deposits

- Public is requested to deposit the funds for a fixed rate of return
- Generally can be called for only by credible organizations
- A fixed amount of interest is paid periodically as per the due-date

Retained Earnings

- The company retains a part of its profits to be reinvested for business expansion
- Term Loans from Banks Medium and long term loans for three to five years can be sought from commercial banks or institutional finance organizations

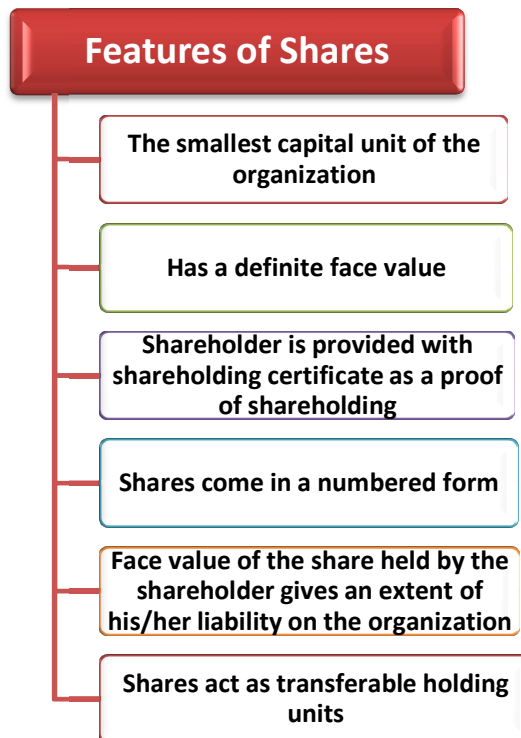


Fig-2.12-Features of a share⁵

⁵ Sources of Long-term Finance, Retrieved from <http://docshare01.docshare.tips/files/4987/49872408.pdf>

Table- 2.4 – Difference in preference or equity shares⁵

Basis for Difference	Preference Shares	Equity Shares
Choice of Provision	No compulsion for provision of preferential shares	Compulsion as the administration is bound to issue equity shares
Provision for dividend payment	First priority of dividend payment is given to preference shares rather than equity shares	After prioritizing the preference share holders the dividend is paid on to equity share holders
Provision for return of capital funds	When the organization reaches the state of solvency, the base capital is returned to preference share holders	Just like payment of dividend, the capital is refunded after the provision of return for preference shares

Table- 2.5 – Merits and demerits of equity shares⁶

	Merits	Demerits
Shareholders	<p>The higher the profit for any financial year, the better is the dividend return for the shareholders</p> <p>With increase in profits, the total valuation of equity shares goes up and thus, the valuation of each shareholder increases</p> <p>Tradable smoothly through share markets</p> <p>Have a share in decision making process</p>	<p>There is always a looming uncertainty about the payment of dividends to the equity shareholders as they are the last on the priority list and at times, also depends on the will of the stakeholders, in case of expansion of the business, the profits are reinvested and a provision is present that no dividends are provided</p> <p>The higher the number of debentures and preference shareholders the lower the amount of dividend comes in the ambit of equity shareholders</p> <p>Highly fluctuating in terms of word of mouth in the trading market leading to a chance reduction in worth of the shares of the organization</p> <p>In case of raising more funds than required (over-capitalization) reduces the net value of shares</p> <p>Not all shareholders technically take part in decision making process of the organization, they nominate a set of able individuals who act in the direction of raising the capitalization of the organization in the market</p> <p>They have the highest amount of risk associated with the capital invested as in case of insolvency of the organization, the equity share holders have no right over invested capital</p>
Management	<p>Have a limit to the fixed capital that can be raised through the equity share medium without making any changes in the long-term assets of the organization</p> <p>No liability of the organization limited to paying up the initial</p>	<p>Have to provide higher return to equity shareholders as a premium for the risk undertaken. However in case of lower equity shares as compared to preference shares or debentures, the organization has a lower capability of raising debt capital as equity shares act for the credibility of the</p>

⁶ Sources of Long-term Finance, Retrieved from <http://docshare01.docshare.tips/files/4987/49872408.pdf>

	<p>capital invested and it would be returned only in case the organization becomes insolvent. The priority order for returning of funds is first any form of debt, followed by debentures, preference shares and finally wrapping up with equity shares. The higher the capital raised in form of equity, the better the leverage gained from debtors in gaining debt for further expansion.</p>	<p>organization in return for no obligation of capital repayment. Conflict of interests of equity shareholders may influence the voting rights and thus this conflict would lead to a slower strategic decision move.</p>
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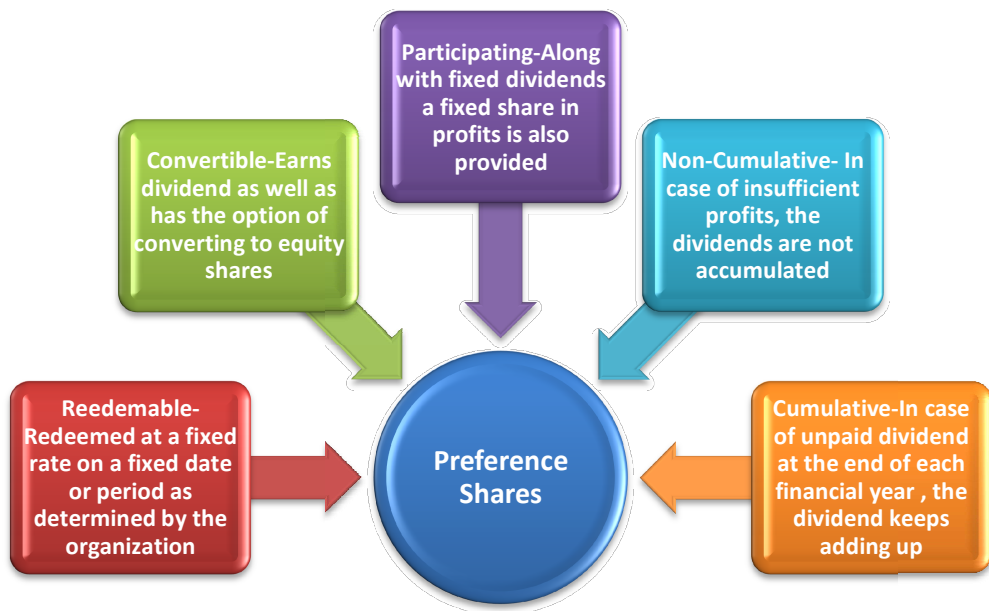


Fig-2.13- Features of Preference Shares



Fig-2.14- Nature of Preference Shares⁷

⁷ Source- Johannesburg Stock Exchange. (n.d.). *Preference Shares*. Retrieved from <https://www.jse.co.za/content/JSEEducationItems/PreferenceShares.pdf>

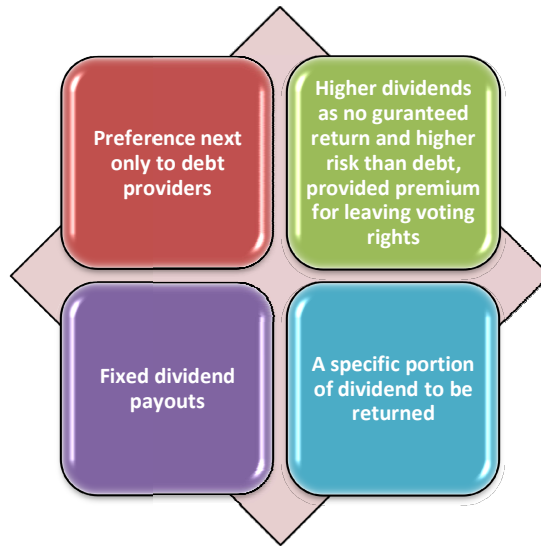


Fig-2.15- Benefits of Preference⁷



Fig-2.16- Drawbacks of preference shares

Source- Paramasivan & Subramanian (2009)

Since, short-term lending mechanisms work mostly on debt and financial instruments; we will look at debt mechanisms in a later part of the chapter.

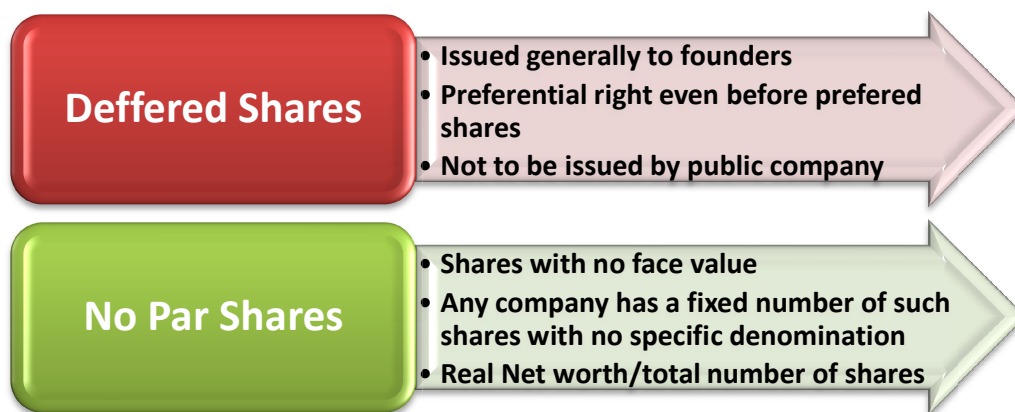


Fig-2.17- No Par and deferred shares

Source- Paramasivan & Subramanian (2009)

2.4. Book Building and Loan Syndication

Let's look at the types of book building to start with.

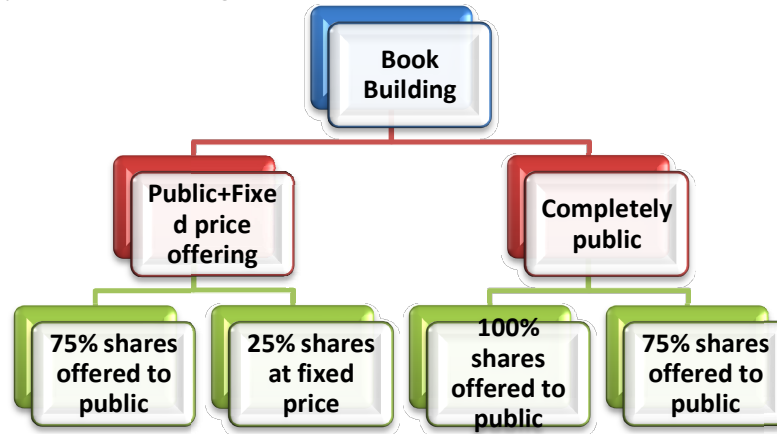


Fig-2.18- Kinds of book building ⁸

Table-2.6- Difference between Book building and fixed price offering ⁹

Book Building	Fixed Price Offering
<p>Used for public issue</p> <p>Pricing is demand suggestive which means as the demand for share increases, its trading value increases and price of underwriting security is assessed</p> <p>Based on a fixed price band for the share price</p> <p>Redherring prospectus is issued.</p> <p>Investors are selected based on bidding for the public price above a fixed point</p> <p>Payment is made once allocation is complete</p> <p>Allocation of 50% of total shares are meant for qualified institutional buyers. Of the total remaining share, 35% of the shares are for small investors and the remaining shares are to be distributed among other investors</p>	<p>Used for public issue with a fixed price</p> <p>Relatively lower price</p> <p>Price transparency before allocation</p> <p>Payment is completely made in advance with a refund guarantee of total allocation</p> <p>Of the total shares allocated for fixed price offerings 50% goes to investors below 2 lakhs</p>

Now, we would look at financing mechanisms for project in form of loan syndication. We would look at book building measures.

⁸ *Book Building*. (n.d.). Retrieved from <https://kb.icai.org/pdfs/PDFFile5b28cbad75db10.11058940.pdf>

⁹ *Book Building*. (n.d.). Retrieved from <https://kb.icai.org/pdfs/PDFFile5b28cbad75db10.11058940.pdf>

Table-2.7- Steps in Book building

Steps	Significance
Investment banker on the scene	<p>The process starts with bringing in the lead banker who would negotiate the deal for shares release</p> <p>Scrutiny of the organization is conducted by the investment bank</p> <p>Provide a price proposal for the selling of shares</p> <p>Issue of prospectus with the range of prices</p> <p>Sets up the base price (floor price) and puts up a maximum range of price (ceiling price)</p> <p>The price at which the share is sold ultimately is the cut-off price</p>
Bid Collection Method	<p>Request release for the investors to bid for the shares of the newly public organization</p> <p>Small token money is to be included and deposited to the lead investment bank</p> <p>The investment bankers with the lead bank cannot participate in the bidding process</p>
Exploring the price of shares	<p>Price is fixed after the total bids are aggregated</p> <p>Pricing is based on the weighted average of all the bids to reach a cut-off price</p> <p>Usually the ceiling price is taken to be the cut-off price in most of the cases</p>
Public information about the shares	<p>All the bids are to be made public</p> <p>Lead investment bank is endowed with the responsibility of making the bids public</p> <p>Bids are to be verified by the regulatory agency</p>
Settlement of shares	<p>The final price is settled, and the application money is used to distribute and allocate the shares according to the application money</p>

Source: Juneja (n.d)

Next up, we take loan syndication as an issue. The basic understanding of loan syndication is basically limited to large loans and in a way is an amalgamation of different banks coming together for a loan proposal and often for project. There are various kinds of loan specific to the project. We would now look at two different kinds of loan.

Table-2.8- Recourse vs Non-recourse loans

Recourse Loan	Non-Recourse Loan
<p>A collateral is required to primarily taken up from the borrower for providing the loan</p> <p>However, apart from the collateral in case the collateral doesn't suffice to recover the cost of the loan, entire cost of the loan is to recovered from the remaining assets or cash flow of the borrower</p> <p>It is provided to the borrowers who are deemed to be pretty risky and less creditworthy and thus recourse is considered as a safeguard against the risk</p> <p>In case of lower risk assessment, the lender can reduce the collateral in terms of value</p> <p>Since the loan is collateralized, it comes up with a lower interest rate and hence acts a lucrative medium of lending for project financiers</p> <p>Comes to rescue of the borrower as other mediums are closed</p>	<p>Non-recourse loan has the liability limited to recovery of cost to lender only till the collateralized assets cover the costs leading to a higher probability of loss for the lender</p> <p>Borrowers prefer these loans over recourse loans as there is a scope of limited liability</p> <p>Due to limited liability, non-recourse loans come with a higher rate of interest</p> <p>The default on the non-recourse loan is generally market as a default in the credit history leading to lowering of credit score</p>

Source- Clark (2020)

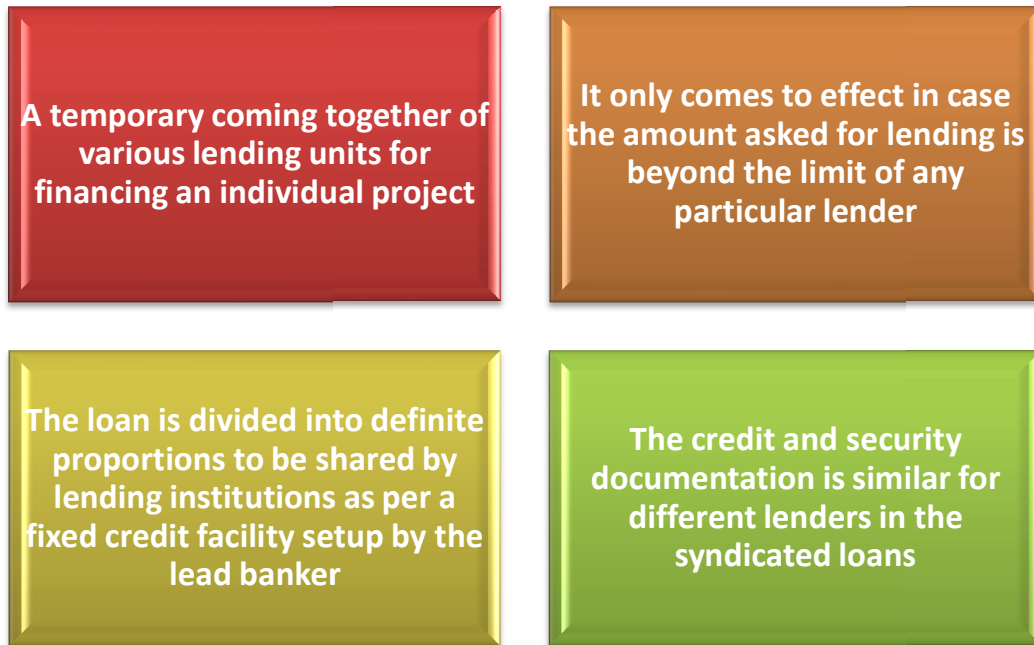


Fig-2.19-Features of syndicated loan
 Source: Prime Bank Limited (n.d)

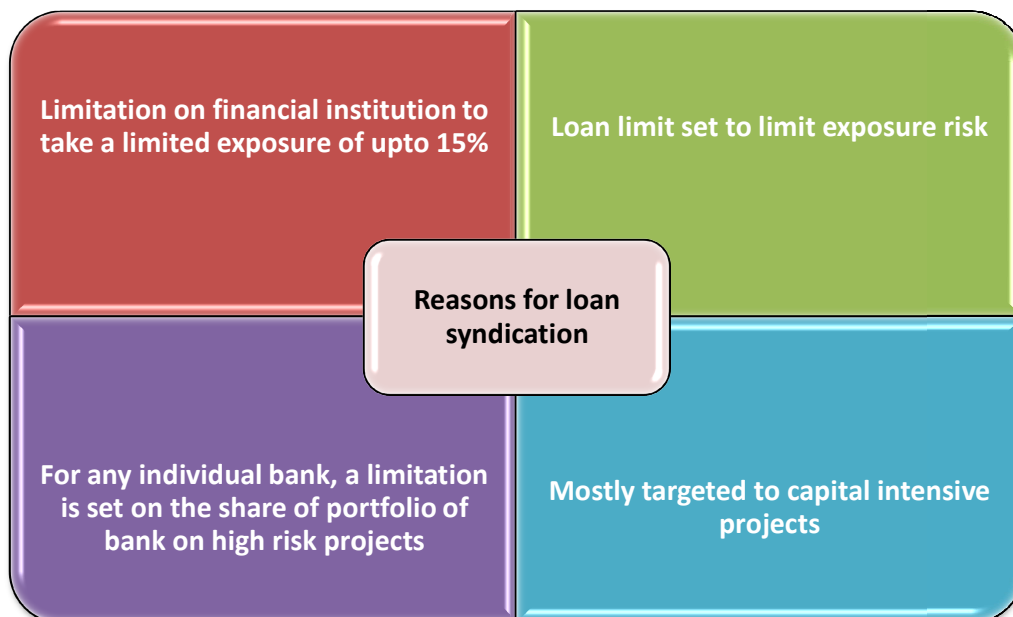


Fig-2.20-Reasons for syndicated loan
 Source- Prime Bank Limited. (n.d.)

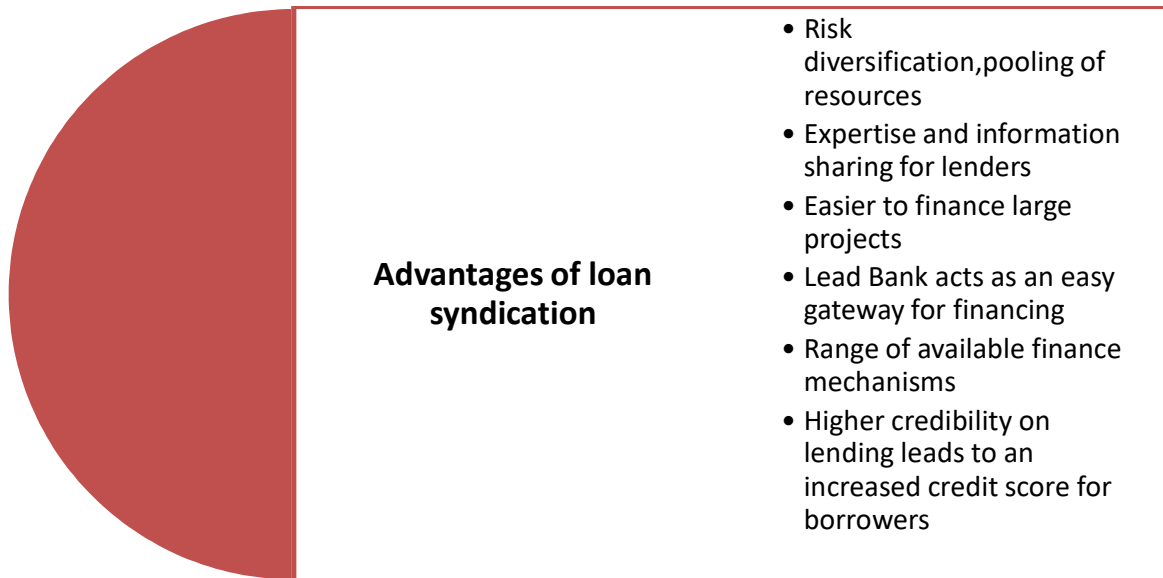


Fig-2.21-Advantages of syndicated loan

Source- Prime Bank Limited. (n.d.)

Table-2.9-Parties of syndicated loan

Parties	Role
Borrower	Raises a requirement of funds for an obligation to repay the debt Has the option to give mandate a lead bank to carry forward the syndication process
Lead Arranger	Is provided with the responsibility of arranging funds as well as bringing in other financial institutions in the scene Sets up the deal and regulations for lending activity Setting up loan parameters as well as payment structure Needs to make the loan lucrative enough to keep the borrower hooked Acts as the authority answerable to both stakeholders to manage an optimum balance
Agent	Acts as security, documentation and service provider Acts as a medium of voice for all the banks in the syndication Plays a key role in carrying out key functions such as collection and disbursement Serves as a medium of re-negotiation of terms amongst the lending agents Carrying on the audit and the circulation of the report amongst the participating financial institutions Acts as a watchdog recording the development of the project for which the funding is provided Carrying out timely review meetings amongst both the stakeholders
Participating Bank	Group of banks which serve as acting members deciding to pitch in as part contributors to the lending deal
Joint-Arranger	The financial institution that serves the mandate to raise funds alongside the lead arranger bank

Source- Prime Bank Limited. (n.d.)

Table-2.10-Fees of syndicated loan

Fees	Features
Loan Processing Fee	A non-refundable amount to be arranged and paid by the lead bank to undertake processing of loans
Arranger's Fees	Lead Arrangement financial institution is provided a fees by the borrower for its services of organizing and bringing together different financial institutions for lending activity
Agency Fee	A fee charged by the agent bank which is provided with a minimal fee for carrying up the agency activities of documentation and negotiation among the lending partners
Participation Fee	A minimal fee provided to the different lending partners who have come together to participate in the lending process
Commitment Fee	The amount charged over the part of the lent amount that remains unused for the time being of the loan period
L/C Commission Fee	L/C account opening is the responsibility of the main lending agent Keep a part of earning as their fee and the rest of the fee is shared as per the sharing of risk in the lending process

, Source- Prime Bank Limited. (n.d.)

Table-2.11-Steps of syndicated loan

Steps	Significance
Pre-Signing Stage	<p>The customer credibility is tested in this phase</p> <p>The lead bank undertakes discussion and negotiation for providing the entire structure to the loan document and deciding on the tenure</p> <p>The term sheet is created outlining the terms and conditions as well as outcomes of the discussion. It serves as a legal document enforcing the terms mentioned in the document</p> <p>A mandate document ensures that the lead bank is provided with the authority to serve the purpose of borrower</p> <p>It is followed by preparation of Information Memorandum (IM)</p> <p>Publicity of a syndication deal</p> <p>Selling the deal and visit to the site of the project</p> <p>Working on Commitment in Principle</p> <p>Taking the final approval and acting as a negotiator to both parties</p> <p>Allocation of the loan on a pro-rata basis</p>
Information Memorandum	<p>Provides a complete details of all the stakeholders, terms and conditions of lending as well as scheduling of repayment</p> <p>Provides additional information to strengthen the deal. It includes various analysis reports that support the loan.</p>
Classification, Rescheduling, Provisioning and Write-off	<p>All these activities will be similar to any other forms of corporate loans</p> <p>Due-mode of recovery and debt coverage is also similar to corporate loans</p>

Source- Prime Bank Limited. (n.d.)



Fig-2.22-Information Memorandum Components of syndicated loan

Source- Prime Bank Limited (n.d.)

To-Do-Activity

Find out about club financing and how is it different from loan syndication

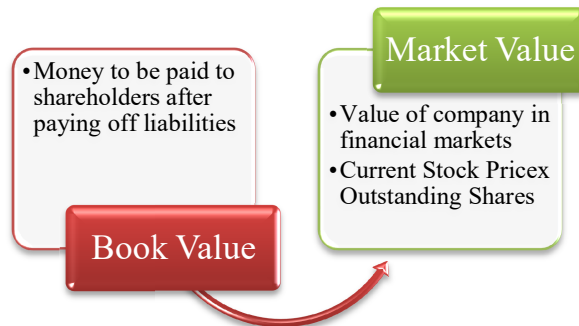


Fig-2.23- Book Value and Market Value

Source- Paramasivan & Subramanian (2009)

2.5. Debentures and Other Financial Instruments

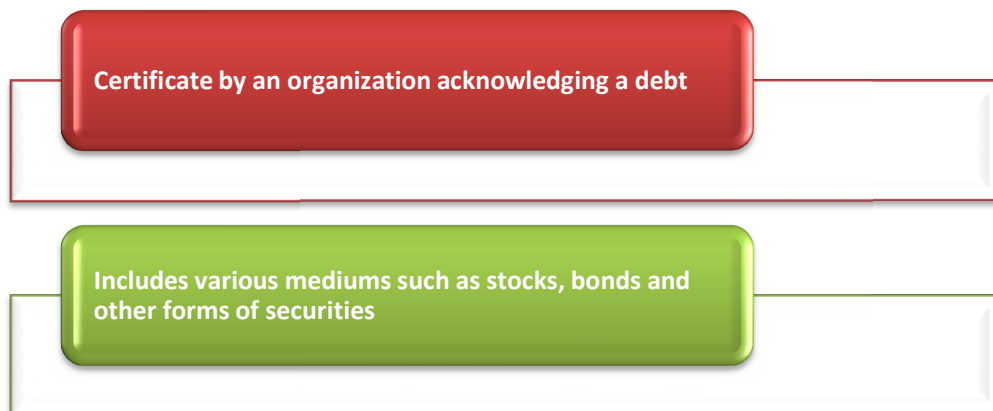


Fig-2.24- Debentures

Table-2.12- Types of Debentures

Types	Features
Unsecured Debentures	<p>Come up with no security for the assets of the organization</p> <p>Provided as the company is going onto the mode of insolvency</p>
Secured Debentures	<p>Are backed with security of assets of the organization</p> <p>The assets support the collateral form of lending</p>
Redeemable Debentures	<p>Can be converted at the end of expiry period</p> <p>Interest on the debentures is paid in a fixed period of time</p> <p>Investment is paid back after a fixed tenure</p>
Irredeemable Debentures	<p>As long as the business is a going concern the debentures are not to be repaid to the investors</p>
Convertible debentures	<p>The investors are provided with an optional conversion to whole or partial shares</p> <p>Completely convertible to equity shares</p> <p>Three kinds of convertible debentures:</p> <ul style="list-style-type: none"> Non-Convertible Debentures Fully Convertible Debentures Partially Convertible Debentures

Source- Paramasivan & Subramanian(2009)



Fig-2.25-Features of Debentures

Source- Paramasivan & Subramanian (2009)

Table-2.13- Advantages and Disadvantages of Debentures

Advantages	Disadvantages
Provides a long term perennial source of finance reaching up to 20 years of funding source	When the company doesn't earn profit it becomes difficult for the organization to provide a fixed return to the debenture holders
Rate of interest is usually fixed and lower than other sources of financing and is beneficial to the organization	Debenture holders have no control over the decision making process as they are provided no voting rights
A combination of debentures provides a higher earnings per share as debentures can be traded for equity shares	They are provided a fixed return but no share in profit as they are not shareholders instead debtors of the organization
The tax load is reduced on the organization as the payment on debentures is tax deductible	Debentures add a risk factor to the organization on the verge of dilution
SEBI regulates the debentures and protects the interest of debenture holders	There is a limit to the amount of credit an organization can raise through debentures

Source- Paramasivan & Subramanian (2009)

Depreciation Funds

- Used as a fund for working capital
- Decrease in value of asset over time
- Charged at fixed rate per year
- Acts to reduce taxes and also the profitability takes a dip in the process

Retained Earnings

- Profit to be accumulated by the organization over expansion and diversification activities
- Limit on retention of profit

Fig-2.26-Retained Earnings and Depreciation funds

Source- Paramasivan & Subramanian (2009)

Table-2.14- Advantages and Disadvantages of Retained Earnings

Advantages	Disadvantages
A source fund for diversification and expansion of business	Sometimes there is a lack of transparency in terms of reasons for retained earning
Most easily procured and low-costing finance	Overcapitalization leads to dilution of shares for the organization as this increases the burden of retained earning
Comes from equity shareholders reinvestment of profit and thus carries no obligation on it	
Provides flexibility in terms of lending and thus reduces the distress of loans and the obligation of loan repayment	
Leads to a reduction in taxes	
Provides an increased capability of earning	

Source- Paramasivan & Subramanian (2009)

Table-2.15- Other Financial Instruments

Financial Instruments	Features
Certificate of Deposit	A fixed sum of money left without usage for a financial organization that generates an obligation for return at a fixed rate of interest Generally provides a higher interest rate than savings account
Depositories	Dematerialized securities to be held for a fixed interval of time in physical or electronic form Allotment of shares is made in dematerialized form with reduced chances of financial corruption Reduced delivery and trading time
Venture Capital	Usually used for funding in high risk investments Comes with a comparative risk-return Is the source of finance for unlisted companies Potential for extraordinary return as well as fear of huge downside losses
Credit Rating	Provides a brief overview of the debtor's capability to return the seed fund in further stages No specific mathematical source but based on experience, expertise, existing market factors as well as sustenance of plan in the current level of competition within the industry Is a litmus test to predict the probability of an investment failure Moody's , S&P, Fitch are major credit rating agencies Higher credit rating improves the overall image of internal operations of the organizations Reduces the cost of borrowing considerably as a higher credit rating adds credibility to the organization However, newer startups face credit difficulties due to a lesser established credit history
Stock Investment	Basis of investment is built on business parameters such as sales, profit margin, historical dividend policy Used by the organization as a common popular way to raise funds from open market in lieu of sharing of control Earning for investors come from dividend, appreciation in value of stocks and division of more stocks PEG Ratio= Price-earnings ratio/Annual EPS growth Total Return= Current return + Capital Gain
Global Depository Receipts	Issued by depository bank for purchase of shares in foreign organizations Price based on value associated with share and are traded and settled independently Allows investors to trade in capital markets outside the home region
American Depository Receipts	Issued by Indian Companies listed in US Stock exchanges

Source- Paramasivan & Subramanian (2009)

To-Do Activity
Find out about (i) Cash Credit and (ii) Overdraft

We took up the discussion on financing requirements and funding eligibilities from the last unit and continued in this unit. We started with looking at the need and significance of financing. We then looked at various financial institutions serving the funding needs. We then took a closer look at various methods to be considered for financing and what are the different funding mechanisms with significance of each of them. We then took up the understanding of long term and short term financing mechanisms. We took a look at various kinds of fundraising mechanism with shares as the primary focus. We looked at the kinds of shares that can be considered and the advantages and disadvantages of the same. We then move on to the role of financial manager of the organization in terms of raising funds from the public and looked at the methods of book building and book keeping. In the final sub-unit, we took up debt mechanisms to raise funds known as debenture, the various kinds of it along with the advantages and disadvantages of debentures. We finally ended up looking at other modern alternative mechanisms of funding.

Questions

1. List out the merits and demerits of preference shares and deferred shares.
2. Provide a brief of debentures and their role in financing models.
3. List out major internal sources of funding
4. Differentiate between book value and market value of shares
5. List out the steps to raise an IPO.

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Chapter 3 Capital Structure

Introduction

In the last chapter, we looked at the various financial models and financial methodologies to derive capital from the market or from financial institutions. We then move onto the next step in the process of financial planning. This unit will further strengthen our understanding in financial decision making and planning of financial goals and developing a financing structure. The financing structure should be a mix of debt and equity but it can't be any combination of debt and equity. We have to understand the nuances of capital structure financing model. We will go through fundamentals of capital structure that would provide a brief estimate of the capital to be raised for any particular organization. Then we would further appreciate the kind of securities that can provide backing required to support the amount of debt funding. As a financial manager, it's a part of the work profile to figure out a host of policies to take control of the financial future of the organization. This unit will provide a key idea to any financial manager to deduce and scale up the growth planning and trajectory of the organization. In this unit, as we proceed further we would have a look at the key parameters for developing a capital structure model. It would help us to understand the debt to equity ratio of the organization. We would look at other finer aspects of capital structuring as earning per share.

Learning Objectives

- To appreciate and develop an understanding of capital structure
- To be able to appreciate the shares and various kinds of it and the dividends being raised as a part of it.
- To understand the different aspects of pricing of a share
- To be able to understand the determinants of capital structuring
- To be able to appreciate the calculation of earnings per share

Structure

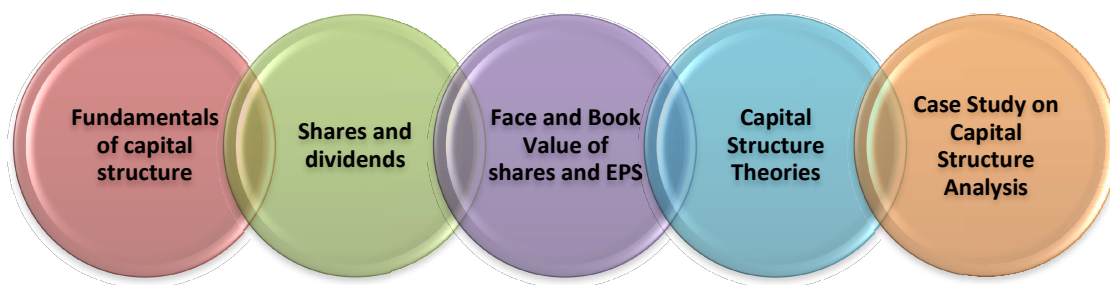


Fig-3.1-Structure of the Chapter

3.1. Fundamentals of Capital Structure

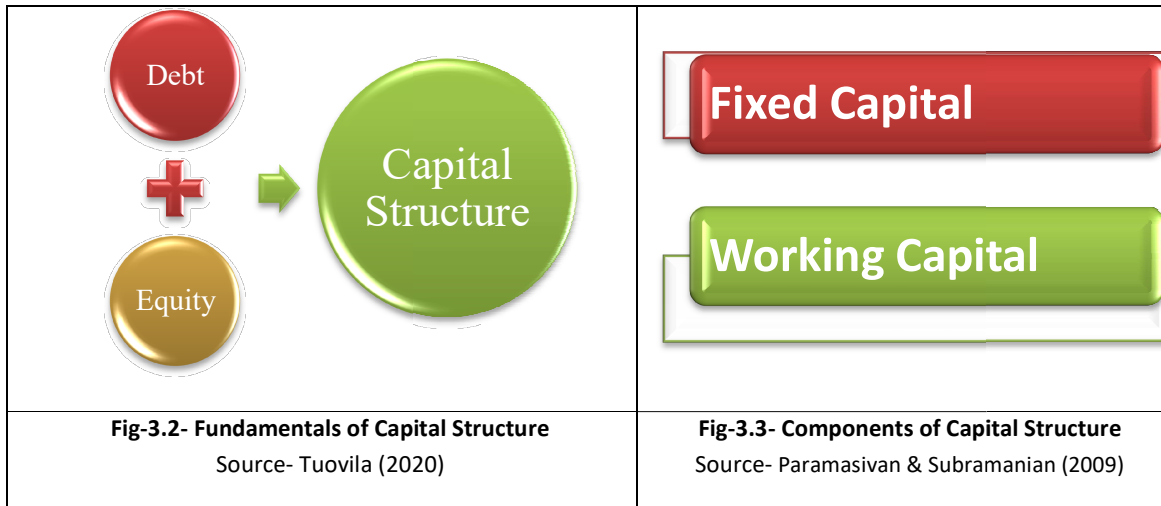


Fig-3.2- Fundamentals of Capital Structure

Source- Tuovila (2020)

Fig-3.3- Components of Capital Structure

Source- Paramasivan & Subramanian (2009)

Table-3.1- Fixed Capital Vs Working Capital

Fixed Capital	Working Capital
Used for developing long term capital assets	It is used to negate the variable expenses for the day to day usage of the organization
Used over a spread of time interval of more than 20 years	Used to procure inventories and comes in form of T-bills and short term receivables
It is an one time investment generally	
The sourcing for fixed capital is to be done with long term financing mechanisms	

Source- Paramasivan & Subramanian (2009)

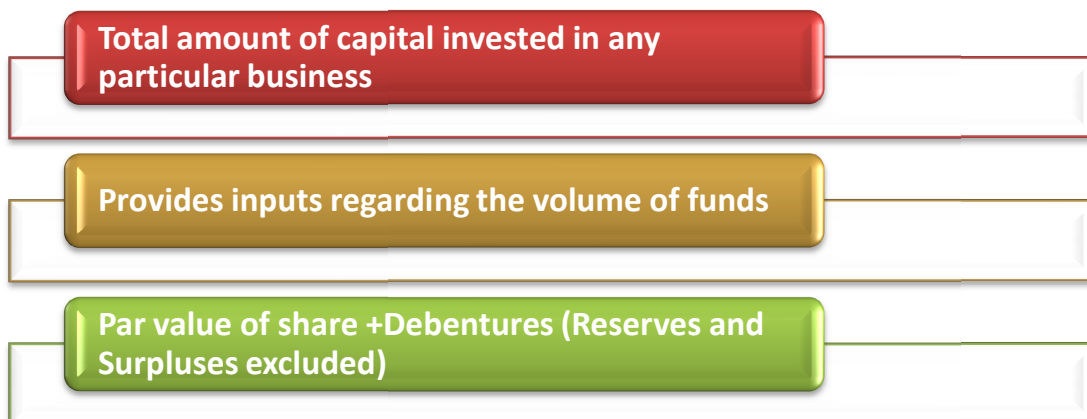


Fig-3.4- Capitalization

Source- Paramasivan & Subramanian (2009)

Table-3.2-Types of Capitalization

Over Capitalization	Under Capitalization	Watered Capitalization
<p>The scenario in which the actual amount of profits won't suffice to pay the mandatory interest on debentures and obviously no dividends on equity shares</p> <p>In this scenario, the organization has more capital funds than required and hence much of the funds aren't appropriately utilized.</p> <p>As sometimes there is an over-expenditure on promotional activities, costs of underwriting beyond a point the returns from the investment starts diminishing leading to overcapitalization</p> <p>When the organization procures capital assets at a higher price than the market value, this leads to an inflation in the book value of the shares</p> <p>If the organization decides to put up for capitalization during a period of market boom, it can collect major amount of capital from the market. However, in a period when market resolves to normalcy, the original value of the shares deflates leading to diminishing returns over a period of time. This leads to a reduction in the earnings per share</p> <p>In case of inadequacy of appropriate value of depreciation is not noted and finally when the new assets are to be taken up at present costs. Higher priced assets lead to further losses of the organization</p> <p>If there is a free hand on taking up the dividends, it might create a deficiency for further reinvestments in future projects leading to a low yield in future.</p> <p>In case of overestimation of profits by the organization leads to a deficit financial planning and in case of future expansion creates financial strain leading to further lending by the organization. This would lead to a future decrease in earnings per share</p>	<p>In this scenario, the amount of capital shown by the organization is pretty low. However, the organization has an undisclosed amount of reserves</p> <p>In case of value of capital goods that have appreciated over time. However, the increase in value of capital assets aren't shown in the account books</p> <p>These assets add to the windfall gain for the organization over time leading to a higher profitability on which there would be no provision to pay dividends</p> <p>In the scenario of under-capitalization, the full capabilities of any organization aren't reached as it is projected to be running short of funds</p>	<p>Is an unsecured form of securities. Usually used to raise capital without the organization's long term capital assets backing them</p> <p>It is capitalization over and above the real value of long term capital assets of the organization</p> <p>Happens when the organization overvalues the service of its certain group of employees or in most cases the promoters</p> <p>Mostly happens in scenarios where assets aren't rightly valued before the issuance of stocks or securities</p> <p>Watered capitalization is the precursor to over-capitalization</p> <p>Mostly happens in initial years of establishment of the organization</p> <p>Efficient working of the organization over a period of time generates ample revenue to cover up for watered capital</p>

Source- Titman & Keown (2013)

Table-3.3-Causes, Effects and Remedies of Capitalization

Types of Capitalization	Causes	Effects	Remedies
Over Capitalization	<p>Issue of Capital beyond the level of assets under control of an organization</p> <p>Debt of a huge amount of capital from financial institution at a considerable higher rate of interest</p> <p>Irregular record of depreciation of fixed assets leading to no show in books of account leading to future constraints in raising capital for expansion</p> <p>Disproportionate payouts to capture goodwill which otherwise could be brought in terms of lower value</p> <p>Overcapitalization leads to a higher taxes as the capital recorded on books is higher than net worth</p> <p>Lower estimated value in terms of capitalization rate leading to a lower capital growth</p>	<p>Leads to a lower earning capability from the actual shares of the organization</p> <p>As the shares aren't backed by real valuation, future raising of capital becomes difficult for the organization</p> <p>Reduction in the market value of shares on trading exchange</p> <p>Creates difficulty for business expansion and diversification</p> <p>Resources can be mis-utilized in the process</p>	<p>Efficient management of share capital and its valuation</p> <p>Preference share to be redeemed by the organization at the base price to reduce payouts for the organization</p> <p>Redistribution of equity share earnings to reduce the dividend payout to cover up for the defected prices of shares</p> <p>The organization tries to cover up the debt over time to reduce the leverage load on the organization</p>
Under Capitalization	<p>Misappropriation of financial calculation in the value of assets</p> <p>Reduced valuation of present and future earnings</p> <p>Trying to reach optimum efficiency level</p> <p>The dividend policy laid out by the organization is especially conservative in terms of payment schedule</p> <p>Increased level of monitoring and control by the organization on equity trading</p>	<p>Manipulation of market valuation of shares</p> <p>Increased propensity of trading of shares</p> <p>Leads to an increased govt. watch over the trading of shares and marketability leading to an increased level of taxation</p> <p>Creation of mistrust among the investors of the shares for the organization</p> <p>Leads to an increased level of competition among the market players in the industry</p>	<p>New shares have to be issued afresh</p> <p>Par value shares issued to reduce the stress impact</p> <p>Trust redemption by issuance of bonus shares to existing shareholders</p> <p>Reduced dividend per share coming from the division of existing shares</p>
Watered Capitalization	<p>Assets acquisition at higher price</p> <p>Improper depreciation policy in effect</p> <p>Intangible assets of little or no value brought at disproportionate prices</p> <p>Caused due to inappropriate higher projections at promotional stage</p>	<p>Similar to Over Capitalization</p>	<p>Similar to over capitalization</p>

Source- Titman & Keown (2013)

Example-3.1- ABC Market Ventures earns a sum of Rs 50,000 and the expected rate of return is 10%. This organization has set a claim to be appropriately capitalized. The capital investment of the organization is 60,000, it will be considered to be overcapitalized to the extent of 1,00,000. What would be the new rate of earning?

Solution- $(50,000/60,000)*100 = 8.33\%$

When the organization has overcapitalization, its earning has reduced from 10% to 8.33%.

Example- 3.2- ABC Market Ventures raises capital via issuance of shares of value each of Rs 500 per share and a total lot of 100 shares for the sake of realization of tangible assets. However, while raising assets from the collected capital it could raise assets valued only of Rs 30,000. Calculate the value of watered capitalization.

Solution- Total Capital Raised= $(500*100)-30,000= 20,000$

Extent of watered capitalization = $(20,000/50,000)*100= 40\%$

Example-3.3- Normal rate of return in textile industry is considered to be 15%. ABC textile trading company has deployed a capital investment of 100,00,000 rupees and earns a profit of Rs 30,00,000. However, the accountant recalculates and considers that he has committed a mistake as to earn a profit of Rs 30,00,000, the organization should have ideally invested Rs 200,00,000. Find the extent of under capitalization.

Solution- Investment capital required for the same level of profit in ideal case = Rs 200,00,000

Investment made for the profit = Rs 100,00,000

Undercapitalization Value = Rs 200,00,000- Rs100,00,000= Rs 100,00,000

Extent of undercapitalization = $Rs(100,00,000/200,00,000)*100 = 50\%$

3.2. Shares and Dividends

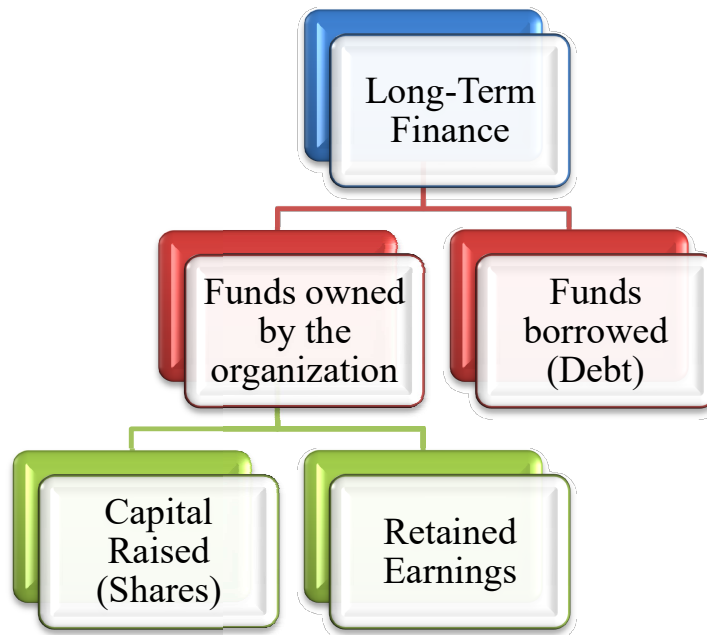


Fig-3.5- Long-Term Finance

Source- Management Study Guide. (n.d.).ffFea

Features of Dividend (White, 2020)

- A source of major investment income for investors
- Redistribution of profits to shareholders leading to an encouraging announcement of the health of the organization
- Mostly paid in cash or further shares of the same organization

Table-3.4- Types of Shares and their features

Types of Shares	Features
Equity Shares	<p>Considered for profit sharing after preference shares and debentures payment</p> <p>Have voting rights in the organization</p> <p>Have no period of maturity</p> <p>No legal obligation for payout of dividends, based on discretion of management. Sometimes the profits are retained for reinvestments</p> <p>In case of a loss the net value of loss is to be shared amongst the equity shareholders</p> <p>Rights of sale and transferability of shares as well as residual claims on assets while winding up</p> <p>First hand right over any future subscription of shares</p>
Preference Shares	<p>Form of debt for the organization</p> <p>Limited voting rights are provided</p> <p>A fixed rate of return is provided</p> <p>It has an appropriation over generated profit</p> <p>Prioritized above the equity share holders for dividend and asset distribution</p> <p>Fixed tenure of redemption after a period of 20 years</p> <p>May or may not be converted into normal equity shares</p> <p>Transacted via stock exchange</p> <p>Provides protection to investors against fluctuation in value as it provides a fixed dividend</p>

Redeemable	<p>Provides a maturity value at the end of a stipulated time period</p> <p>Redeemed against equity or by creation of a separate fund known as capital redemption fund out of the profit loss account</p>
Irredeemable	<p>Shares aren't refunded to the investors during the lifetime of the organization</p> <p>No organization can take up the provision to provide non-redeemable shares for a period more than 20 years</p>
Cumulative	<p>In case of negligible profits over a financial year the dividends are not distributed in the current financial year instead paid over a period of few financial years</p> <p>However, in case the company doesn't remain a going concern there is no obligation of paying up cumulative dividend</p>
Non-Cumulative	<p>If dividend goes unpaid over a financial year the shareholders have no obligation to be paid for any years' dividend</p> <p>However, they are entitled to the obligation of getting back the invested capital at par with preference shareholders</p>
Convertible and Non-Convertible	<p>Convertible shareholders are entitled to convert their shares into equity shares within a stipulated time frame</p> <p>Non-Convertible shares aren't convertible to equity shares</p>
Participating and Non-Participating	<p>Entitled in surplus profits apart from a fixed share of dividends to be paid out at the end of each financial year</p> <p>There is an agreed upon ratio as stated by the organization in terms of dividends paid out to the equity and participating preference shareholders</p> <p>Participating shareholders are also entitled to a share over capital assets as part of liquidation</p> <p>Participating shares are preference shares with a fixed rate of dividend</p> <p>Neither entitled to a chunk of surplus or valuation of assets after the phase of insolvency of the organization</p>
Guaranteed	<p>The form of preference shares that basically come with the backing and understanding that the shareholders would be paid up a fixed dividend irrespective of the financial position of the organization</p>

Source- Sharma, P. (n.d.).

Next we look at how we to calculate the dividend payouts and for calculating the same we will look at two methodologies

Table-3.5- Calculation of Dividend

Calculation of Total Dividends from Dividend Per Share	Calculation of Dividend Yield
<p>Firstly, taking up the shares that are being held</p> <p>From the cash flow and the balance sheet we take up the amount paid out as part of regular dividends and special dividend payouts</p> <p>DPS = (D-SD)/S</p> <p>Multiplication of Dividend per share to the number of shares owned would provide the value of total dividend payout</p> <p>Ex-3.4- Asif owns 1000 shares of ABL organization which paid 45 rupees as a dividend per share</p> <p>Dividend Payout to Asif = 45*1000 = 45000 rupees</p>	<p>Determination of share price of the stock that are taken into analysis. Dividend yield is the part of share that comes back to the shareholder in form of dividend payout</p> <p>Determination of dividend per stock using $DPS = (D-SD)/S$</p> <p>Finally division of DPS by the share price will give us the dividend yield</p> <p>Ex-3.5- Ramji owns 20 shares of ABC firm brought at a price of Rs 50 per share. The DPS in the present time frame has been Rs 2. Find out the dividend yield.</p> <p>Dividend Yield = Rs 2/Rs 50 = 0.04 or 4%</p> <p>These dividend yields are to be used for further investment decisions in the organization</p>

Source- Nicholas (2018)

Table-3.6- Reason for Loss of Dividends

Causes	Significance
Reinvestment of Profits	<p>Decision of Management to reinvest the profits to diversify or expand the business</p> <p>This can be considered not as a weak financial health of the organization but is instead considered lucrative in a sense of better opportunity to generate the dividends in the future course</p>
Reduction of debts	<p>Since the organization has the first term of obligation to its debtors than its shareholders and thus in cases of heavy debts the organization decides to pay up the debt from the generated profit leading to a reduced profit and in turn a reduced dividend</p>
Poor Performance of the Organization	<p>This is one of the primary reasons for the reduction of dividend as poor performance of the organization leads to an obvious loss of profits and hence a reduced dividend</p>

Source- Nicholas (2018)

Example-3.4- If ABC Company, has one million shares outstanding and declares a dividend of Rs 50, then an investor with 100 shares receives Rs 5000 as a dividend payout. If it instead decides to give a 10% stock dividend, the same investor receives 10 more shares as 10% of 100 shares is 10 new shares and in total the organization doles out 1 lakh new shares in total.

Table-3.7- Dividends Vs Buybacks

Dividends	Buybacks
<p>They are a direct share of organization’s profit that is to be doled out to investors (shareholders) at periodic intervals</p> <p>Dividends are paid out from after tax profits</p> <p>Dividends can be in two forms-direct cash payments of dividends or stock dividends that dole out stocks of equivalent value to the shareholders</p> <p>Dividend stream is expected to flow from organizations with a consistent track record of growth whereas the new organizations generally don’t provide dividends as initially they report losses and any profits made are reinvested in the organization’s growth</p> <p>Dividends earnings are taxable</p>	<p>Purchase of stocks of the organization by the organization itself from common trading platforms</p> <p>It is done with the motive of reducing the number of outstanding shares from the tradable market reducing the load of dividend payment by the organization</p> <p>For the shareholders the benefit of a buyback is that it increases the earnings per share and increases the dividend payouts</p> <p>The profits from the buybacks won’t be realized until they are sold over. However they won’t be taxed until the profits are realized</p> <p>The funding for the buyback process by the organization can come of its operational expenses or from a debt</p> <p>However, as is the norm there is always fluctuations in the marketplace and hence the propensity of higher returns from a share buyback aren’t assured</p> <p>Lesser number of outstanding shares would lead to lesser payout of dividends which would be beneficial for the organization predicting slower growth in the foreseeable future</p> <p>Adds to the wealth building process of investors over time</p> <p>One major drawback of the buyback process for the common investors is that it is not publicly disclosed causing the investor to not get a true picture of return over his investment</p> <p>There is a considerable amount of flexibility in terms of buyback as there is no hard lined timeframe for the organization to fulfill its obligation of buyback and it mostly depends on the organization’s financial health whereas in case of an investor the earnings from buybacks aren’t considered taxable until they are converted into earnings from sale of the additional shares which is a major win for the investors who had to make obligatory tax deductions from earnings of dividends as per requirement</p>

Source- Nicholas (2018)

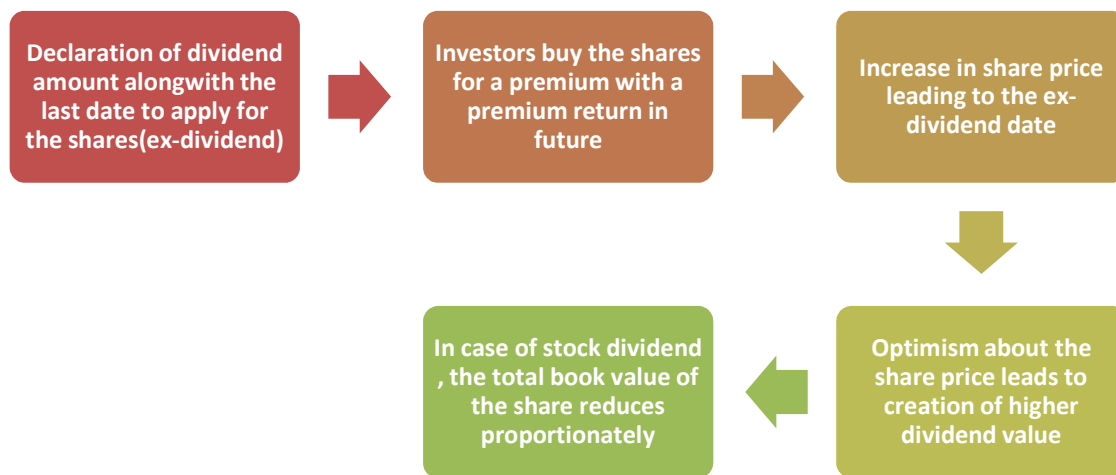


Fig-3.6- Process of change of share price due to dividends issue

Source- White (2020)

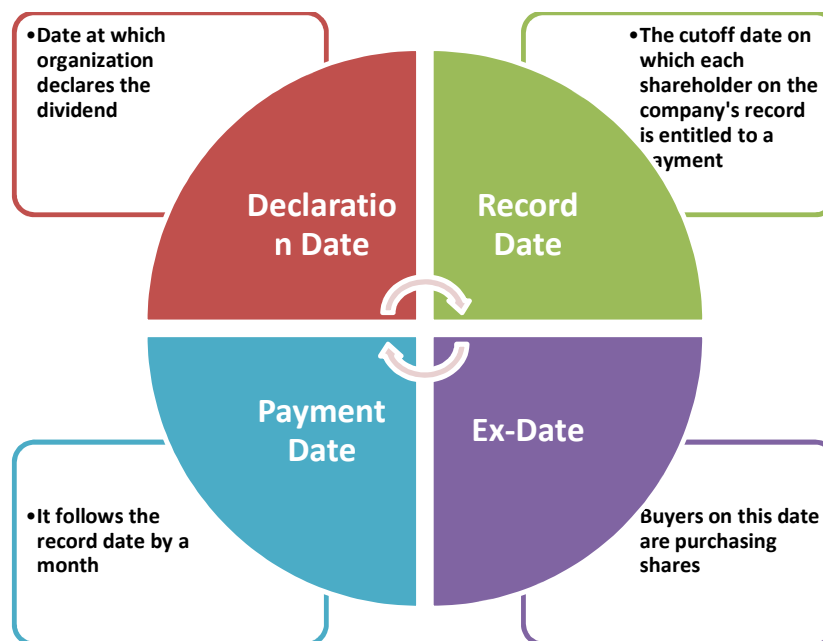


Fig-3.7- Specific Dates for a dividend

Source- Beers (2020)

Record Date

- The final date in which a record is kept for the shareholders who are entitled to a dividend
- Provided by the Board of Directors
- Gives directives as to who are entitled to receive the shareholders' report

Ex-Dividend Date

- Decided by the stock exchange rules and regulations
- Usually set a day before the record date

- Need to purchase the shares before the ex-dividend date to be able to receive dividends
- If the shares aren't sold, the seller of the shares will have the rights of the dividend from unsold component of the shares

Example-3.6- If the record date is taken to be May 23, the ex-dividend date would generally be around May 22. However, in certain cases, if May 23 is a Monday (the first day of the week), the ex-dividend date is set a few days behind Monday, maximum up to Thursday and the interested members can buy the shares for dividend by May 22nd and if they fail to do so, they wouldn't be entitled to any dividends from the share trading

3.3. Face and Book Value of shares and Earnings per Share

We will understand what does the book value of a share means by showing in the difference between book value per share and net asset value to draw in the comparatives between the most common misused terms.

Table-3.8-Book Value per Share vs Net Asset Value

Book Value Per Share	Net Asset Value
Used as a measure of stock price of any individual organization	Used to evaluate the total worth of all the assets equity held in a consolidated fund like mutual funds
Used as a conservative measurement parameter of common stock prices of an organization by any potential investor	NAV is calculated using the daily value of the difference in the assets and liabilities to the total number of outstanding shares. It is calculated on the day-to-day basis
Preference shares are not included in the book value of shares calculation	
In case the book value of a share is higher than the market value of shares the stocks are considered to be undervalued. On the other hand if the book value of shares	

Significance of Book Value

- Business on record shown through financial statements
- Presents the real worth of the organization
- It is the value that the debtors would retain provided the assets are sold and liability is paid back
- Generally higher amount of tangible assets like heavy machineries have higher book value

Example-3.7- ABC corporation has a value of assets worth Rs 1 million and has a debt from NABARD of Rs 0.5 million. Calculate the book value of ABC organization.

Solution- Total Value of assets= Rs 1 million

Debt on the organization = Rs 0.5 million

Shareholder's Equity= Book Value= Rs 1 million-Rs 0.5 million= Rs 0.5 million

Drawbacks of Book Value

- Book Value is reported periodically and doesn't really express the process or steps to reach

the change

- It's an accounting item and can be adjusted by the organization as per their requirements
- Doesn't show the real impact of change in terms of assets

Features of Market Value

- Presents the true value of shares in the share trade market
- Representative of the value the organization and its assets will claim in the market place
- Cumulative value of the organization
- will provide the most updated information of market value

Table-3.8-Book Value per Share vs. Market Value

Scenario	Outcome
Book Value greater than market value	<p>If the shares of any organization are to be traded in the share market below the price assumed by book value, the share is considered to be trading undervalued</p> <p>Presents a shaky reputation of the organization for the time being in the trade market</p> <p>Reasons for this include a steady decline in profits and revenues, a steady loss of goodwill or past history of regular irregularities</p> <p>However, many investors invest in these kind of stocks with a perception that the organization would take a rise in near future and would go against the tide of market expectations</p> <p>If that scenario comes truly to fruition then the early investors had cut a good deal as they got the overvalued shares at a much lower price</p> <p>Sometimes it also can point out a flaw that the shares are traded at a higher price than their real worth</p>
Book value equals Market Value	<p>Presents a fair picture of the organization and its operations</p> <p>The market believes that the shares are traded at the fair value and there is no apprehension or appreciation of the value for the same</p> <p>The ratio used to project a true picture of the shares' value is piece to book value and is the ratio of price per share divided by the book value per share and in this case the ratio comes to be equivalent to one</p>
Book value less than market value	<p>This is actually a pretty difficult scenario for the organization as in this case the organization runs on a bubble of hype for the organization as the market value of the shares and thus the total capitalization of all the shares outstanding by the organization is taken to be higher than the real value of assets backing the organization</p> <p>This is mostly the scenario of organizations during their IPOs or for any organization which is path breaking in terms of leading some issue at hand</p> <p>However, it is observed that over time the hyper normal prices of the shares in the market take a dip and reaches to a value close to equivalent of book value</p> <p>If the hyper-normal prices continue for a longer period of time it is difficult for the organization to stay afloat as trading in excess becomes a cause of concern for the organization. The organization issues stock dividend to further lower the price of the traded stock</p>

Source- Seth, S. (2020)

Features of Market Capitalisation

- Market capitalization is the total value of assets
- Number of shares* value of the share
- Market capitalization is the total market value of equity
- Market value is dependent on a variety of factors such as industry , debt load

Features of P/B Ratio

- Operational Health of the organization
- The valuation of the organization
- Asset retention and management by the organization

3.4. Capital Structure Analysis

(a) Traditional Approach: It is a mix of Net Income and Net Operating Income Approach

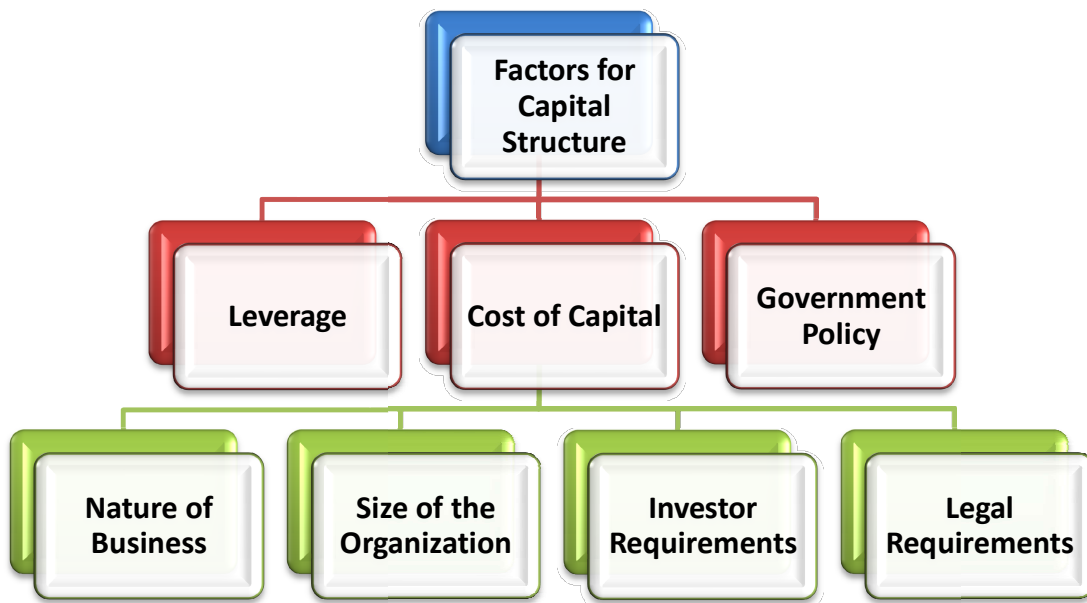


Fig-3.8-Factors for Capital Structure

Source- Paramasivan & Subramanian (2009)

To-do Activity

ABC firms Ltd. has the requirement of 1 million rupees for a new plant. The new factory yields EBIT of Rs 5 lakh. To raise EPS , the company adopts a debt and equity of valuation Rs 3 Lakh and Rs 10 Lakh. Current market price dilutes from Rs 250 to Rs 200. At 3 lakh @8%, 15 lakh@15%. Tax rate are 50%. Suggest the firm about the course of action



Fig-3.9-Assumptions for traditional approach
Source- Paramasivan & Subramanian (2009)

(b) Net Income Approach

Assumptions

- No corporate taxes
- Cost of debt is lesser than cost of equity
- Debt usage doesn't change the perception of investors

Here, $V = S + B$

V = Value of Firm

S = Market Value of Equity

B = Market Value of Debt

We can find out market value of S , $S = NI / K_e$ where NI = Dividends for equity shareholders and K_e = Cost of Equity/Equity Capitalization Rate

Example-3.8- A farmer producer organization has a net income of Rs 1,00,000. It has 2,50,000 @ 8% debentures. Equity capitalization rate of the organization is given to be 10%. Evaluate the value of the firm and overall capitalization rate using net income method

Solution- Capitalization of firm value

Heads	Value
Net income	1,00,000
Less: Interest on 8% Debentures of Rs. 2,50,000	20,000
Earnings available to equality shareholders	80,000
Equity capitalization rate(10%)	80,000 /100 *10
Market value of equity	8,00,000
Market value of debentures	2,50,000
Value of the firm	10,50,000

Overall Cost of Capital = $EBIT/V = (100000/10,50,000)*100\% = 9.52\%$

We will now have a look at another approach to calculation of capital structure

(c) Net Operating Income approach

The theory was suggested by Durand. It is considered to be exactly opposite to the net income theory. Underlying are the assumptions

- Capital Structure decision making process is distinct and ineffective to the value of firm
- The market value of the firm remains unaffected by the capital structure changes
- No corporate taxation effect
- Market capitalizes the value of the firm as a single entity.

Value of the firm, (V) = $EBIT/K$, EBIT= Earnings before interest and taxes, K= Overall cost of capital

Example-3.9- ABC agro services limited needs an operating income of Rs 2,00,000. It has 8,00,000, 6% debentures. Overall capitalization rate is 10%. Calculate the value of the firm and the equity capitalization rate according to net operating income approach.

If the debentures debt is increased to Rs 10,00,000. What will be the effect on the volume of the firm and the equity capitalization rate?

Solution- Net operating Income = 2,00,000

Overall Cost of Capital= 10%

Market Value = $2,00,000 *(100/10)= 20,00,000$

Less: market value of debentures = $8,00,000=12,00,000$

Equity Capitalization Rate = $EBIT - 1/V - D$

Where, V=value of the firm

D= Value of debt capital = $(2,00,000 - 48,000)/(20,00,000 - 8,00,000) * 100 = 12.67\%$

If debentures debt is increased to Rs 10,00,000, the value of firm shall remain changed to Rs 20,00,000. Equity Capitalization rate = $EBIT - 1/V - D = (2,00,000 - 60,000/20,00,000 - 10,00,000) * 100 = 14\%$

(d) Modigliani and Miller Approach

MM approach states that the average cost of capital doesn't change with change in debt equity mix or capital structure of the firm

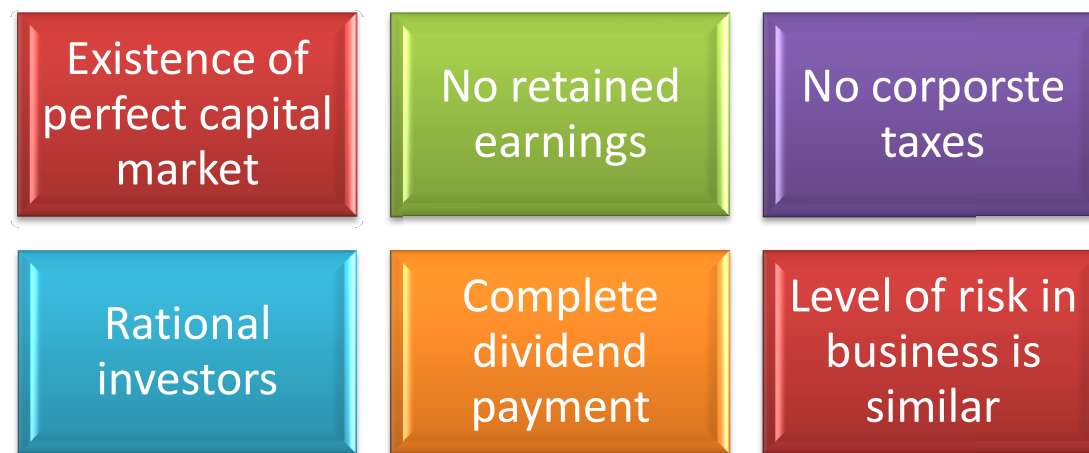


Fig-3.10-Assumptions for MM approach
Source- Paramasivan & Subramanian (2009)

Value of firm is calculated by, $V = EBIT(1-t)/K$

Where, EBIT= Earnings Before Interest and Taxes. K=Overall Cost of Capital, t= Tax rate

Example-3.10- Firms C and D, which are identical to each other while C doesn't have any debt in its financing model while D has Rs 2,50,000, a 6% debentures in its financing. Both the firms have EBIT of Rs 75,000 and the equity capitalization rate is 10%. Tax rate is 50%, calculate the value of the firm.

Solution – Market value of firm C with no debt

$$V = EBIT/K = 75000/10/100 = 7,50,000$$

Market Value of the firm D uses debt financing of Rs 2,50,000

$$V_t = V_u + t$$

$$V_u = 7,50,000, t = 50\% \text{ of Rs } 2,50,000$$

$$V_u = 8,75,000$$

3.5. Case Study on Capital Structure Analysis

a) **Period and Area of Study:** Capital structure of (ABC AGRO-BUSINESS) for the past eight financial years from 1996-97 to 2003-04 has been analysed. The study has been conducted at one of the ABC AGRO-BUSINESS's unit at Bharatpur Food processing unit. The area of the study is as follows:

Analysis of Determinants of Capital Structure

- Cost of capital
- Tax advantage
- Debt service capacity of the firm
- Leverage effect
- Trading on equity
- Stability of earnings

Analysis of Cost of Capital and Value of Firm

b) **Sample Design:** In this study, the sample of eight financial years from 1996-97 to 2003-04 is taken from Annual accounts of ABC AGRO-BUSINESS. Secondary data has been used in this research study, which are balance sheets and their related schedules of the past financial years from 1997 to 2004 of Bharatpur Food processing unit, Bharatpur.

c) **Tools of Analysis:** To assess the significance of "Capital structure analysis" of ABC AGRO-BUSINESS during the study period of 1996-97 to 2003-04, the following tools of analysis have been used :-

- Ratio analysis.
- Bar Chart.
- Pie Chart.

d) Limitations of the Study

- The study is limited to eight financial years from 1997 - 2004 performance of ABC AGRO-BUSINESS.

Analysis & Interpretation

ABC AGRO-BUSINESS has used only two sources of finance to finance its assets and working capital, which are equity capital and debt capital.

a) **Equity Capital:** ABC AGRO-BUSINESS is authorized to issue equity shares of Rs.5000 crores but the company has an issued and paid up equity capital of Rs.4130.40 crores. The equity share capital of the company in the year 1994-95 was Rs.3986 crores. The company issued further equity shares in the year 1995-96 and reached the equity capital balance of Rs.4130.40 crores after which the company has not issued anymore share till the year 2003-04. The net worth of the

company is decreasing over the years. This is because of the losses suffered by the company from the year 1998-99 to 2002-03 and the company has been able to write off all its previous losses in the year 2003-04. The net worth of the company is calculated and represented by the following diagram:

Net Worth= Equity share capital + Reserves and surpluses – (Deferred Revenue expenditure + Debit balance of P/L Account + Miscellaneous expenditures not written off, if any)

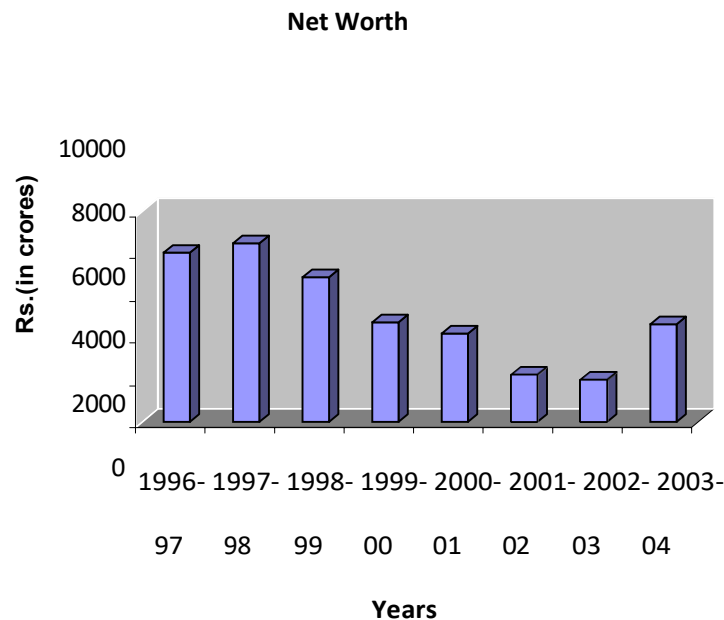


Fig.2

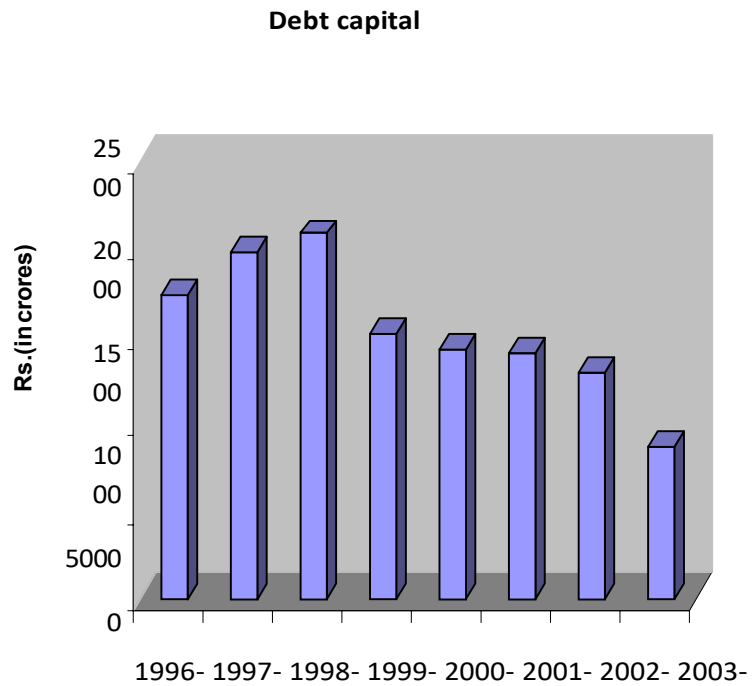
The value of equity of ABC AGRO-BUSINESS is decreasing till 2002-03 but is improved in the year 2003-04. This is because of the profits made by the company and all the debit balances of P/L Account are written off.

b) Debt Capital: The debt capital of the company comprises of both secured as well as unsecured loans. The loans taken from secured sources are more than unsecured ones till the year 2001-02. This is because the company went a huge modernization program in the year 1991-92 and required a huge capital. Availing unsecured loans for the company was not possible. These secured loans are old loans and carry a higher rate of interest as compared to unsecured loans. The rate of interest on secured loans vary in the range of 12-17 percent for the secured loans and 10 to 12 percent for unsecured loans till the year 1999-00 but the company went for a debt swapping from the year 1999-00 and has the rate of interest of secured loans ranging from 10 to 14 percent which is between 10 to 14 percent on unsecured loans. Most of the secured loans are taken from banks and the bank had charged higher rate of interest than the market rate.

The sources of debt for the company are mentioned below:

- Working capital borrowings from banks
- Term loan from banks/ Financial Institutions
- Foreign Loans
- Public deposits (also includes loans from retired employees)
- Government of India

The debt capital of ABC AGRO-BUSINESS is represented by the following figure:



The above figure represents that the debt capital of the company increased till the year 1998-99 because of the modernization program but the company went for debt swapping and loans repayments in the year 1999-00. So, the debt capital of the company has decreased subsequently from 2000-01.

Table-3.9 Influence of various factors on choice of capital structure
(Rs in Crores)

Years	Equity (E)	Debt (D)	Interest (I)	Cost of debt (Interest/Loan) (K _d)%	Cost of Equity (PAT/Net worth) (K _e)%	WACC %
1996-97	4130.40	17302	1179	6.81	6.43	6.7
1997-98	4130.40	19872	1554	7.82	1.56	7.39
1998-99	4130.40	20851	2017	9.67	NIL	5.46
1999-00	4130.40	15082.4	1788.79	11.86	NIL	9.01
2000-01	4130.40	14250.7	1751.68	12.29	NIL	9.51
2001-02	4130.40	14011.6	1562.03	11.15	NIL	9.6
2002-03	4130.40	12927.9	1334.02	10.32	NIL	8.94
2003-04	4130.40	8688.76	899.43	10.35	NIL	6.73

Notes: (WACC(K_o) is calculated as $(D/(D+E))K_d + (E/(D+E))K_e$)
(Equity capital in all the years remains same at Rs. 4130.40 crores)

The above table shows that cost of debt is increasing till the year 2000-01 but was decreased subsequently from the year 2001-02. This is because of the debt swapping and debt repayments in the year 2000-01. The company has been able to decrease its interest expense there by reducing the cost of debt.

The cost of equity of ABC AGRO-BUSINESS is very high in the year 1996-97 as the company was making profits and the net worth was increasing but subsequently cost of equity reduced and is 0 in all the years from 1997-98 to 2003-04 because the company had suffered from losses in these years and no profits were available for equity shareholders. The company had made a profit of Rs.2512.08 crores in the year 2003-04 writing off all its previous losses and debit balance of profit and loss account.

The WACC of the company is fluctuating over years. It is very high in the years from 1999-2002 because of huge losses and reduction in net worth. This led to an increase in debt capital and analysis of the Table-1 reveals that cost of debt for the company is higher than the cost of equity. The introduction of more debt capital is increasing the WACC because of the high cost of debt. The WACC of the company is decreasing from the year 2002-03 because the company is towards way of profitability.

The cost of debt (K_d), cost of equity (K_e) and WACC (K_o) is represented in the following figure:

Kd, Ke and WACC

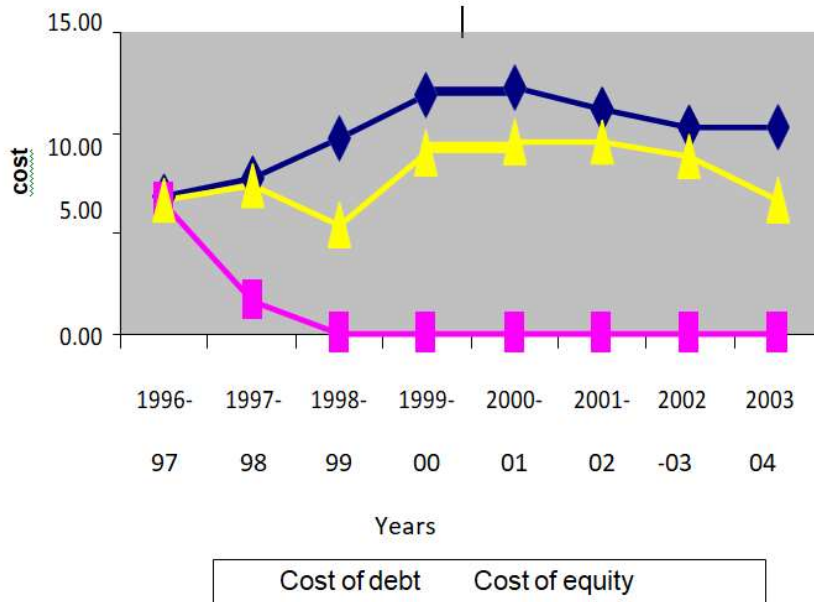


Table-3.10 Tax Advantage

Years	Interest	PAT	Int. Tax Shield ((1-Tax)Interest)
1996-97	1179	515.17	766.35
1997-98	1554	132.99	1010.1
1998-99	2017	-1573.66	NIL
1999-00	1788.79	-1720.02	NIL
2000-01	1751.68	-728.66	NIL
2001-02	1562.03	-1706.89	NIL
2002-03	1334.02	-304.31	NIL
2003-04	899.43	2512.08	584.63

(Corporate tax for ABC AGRO-BUSINESS is taken as 35%)

The above table shows that the company has an interest tax shield in the year 1996-97, 1997-98 and 2003-04 because the company has made profits in these years only. Hence tax has to be paid only in these years and the tax on interest paid could be saved only in the years of profit.

Debt capacity of the firm:

The debt capacity or debt servicing capacity of the firm can be determined by calculating the interest coverage ratio.

Interest coverage ratio (ICR) = Operating Profit (EBIT) /Interest Expenses

Years	EBIT	Interest	ICR
1996-97	1767	1179	1.50
1997-98	1703	1554	1.10
1998-99	399	2017	0.20
1999-00	89.94	1788.79	0.05
2000-01	1020.6	1751.68	0.58
2001-02	134.34	1562.03	0.09
2002-03	1018.15	1334.02	0.76
2003-04	3527.64	899.43	3.92

(EBIT is calculated by adding interest expenses to the PAT)

The interest coverage ratio of ABC AGRO-BUSINESS is very less in all the years from 1996-97 to 2002-03. The ratio should be at least 3 times for comfortable service of debt but here the ratio is also less than 1 in many years and then suddenly ballooned to 3.92 in the year 2003-04. This is because of the debt swapping, loan repayments and reduction in interest expenses of the company.

Trading on Equity

Trading on equity refers to the technique in which low cost debt is used to enhance earnings for the shareholders. ROI must be greater than the cost of debt to reap benefit of trading on equity.

Years	PAT	Total Assets	ROI	Cost of debt
1996-97	515.17	26044	1.98	6.81
1997-98	132.99	29077	0.46	7.82
1997-99	-1573.66	28539	-5.51	9.67
1999-00	-1720.02	19847.38	-8.67	11.86
2000-01	-728.66	18415.57	-3.96	12.29
2001-02	-1706.89	16263.73	-10.50	11.15
2002-03	-304.31	14916.87	-2.04	10.32
2003-04	2512.08	13347.93	18.82	10.35

ROI = PAT/Total Assets Total asset is calculated as:

Net Fixed assets + Capital WIP + Investments + Net Working Capital.

Comparing the Return on investments (ROI) and cost of debt, it is observed that ROI is always less than the cost of debt except in the year 2003-04 because of the high sales realization and better productivity due to which the accumulated losses of the company were written off resulting in a higher ROI than cost of debt. The ROI does not support trading on equity as cost of debt is higher and equity holders are at a loss.

Leverage Effects:

The leverage effect of the firm can be found out by calculating following two ratios:

Debt Ratio:

Debt ratio can be calculated as $\text{Debt} / (\text{Debt} + \text{Net worth})$ **Debt Equity Ratio:**

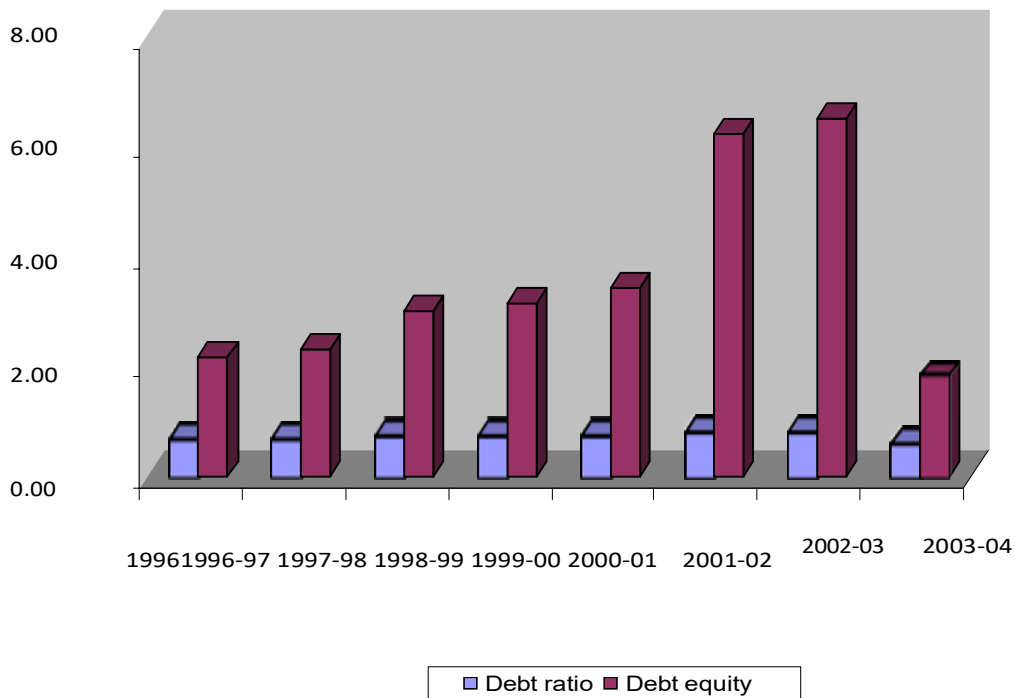
Debt Equity ratio is calculated as $\text{Debt} / \text{Net Worth}$

Table-3.11 Effects of Leverage

Years	Debt	Net Worth	Debt + NW	Debt Ratio	Debt Equity Ratio
1996-97	17302	7998	25300	0.68	2.16
1997-98	19872	8489	28361	0.70	2.34
1997-99	20851	6886	27737	0.75	3.03
1999-00	15082.41	4764.97	19847.38	0.76	3.17
2000-01	14250.68	4164.89	18415.57	0.77	3.42
2001-02	14011.63	2252.1	16263.73	0.86	6.22
2002-03	12927.94	1988.93	14916.87	0.87	6.50
2003-04	8688.76	4659.17	13347.93	0.65	1.86

The debt ratio and debt equity ratio is represented in the following graph:

Leverage Effects



Analyzing the debt ratio of ABC AGRO-BUSINESS, it is concluded that debt forms more than 65% of the total capital employed by the firm. It has also reached to 86% in the year 2000-01 and 2002-03. It indicates that the firm has used more debt capital

Analysis of the debt equity ratio reveals the fact that the debt component is very high as compared to value of equity. The ratio is always more than 2 and sometimes it is also more than 6. It is very high as compared to the industry average debt equity ratio of 2:1.

Factors Responsible for Selection of Capital Structure

An analysis of the factors responsible for selection of capital structure indicate that almost all the factors like cost of capital, trading on equity, taxes saved, leverage effect, debt capacity of the firm, and stability of earnings are against raising debt capital by the company.

i. The cost of capital is increasing with an increase in the debt component in the capital structure. The cost of debt is high than the cost of equity. The cost of debt i.e. interest also contributes towards the losses made by the company. The WACC is had also increased. All these costs lead to a conclusion that the company would not have gone for raising debt capital.

ii. The company had saved corporate tax on interest only in 3 years out of 8 years of profits. Rest of the years, company had suffered from loss and hence no taxes were paid and saved.

iii. The interest coverage ratio of ABC AGRO-BUSINESS is very less than a comfortable ratio of 3 times. Hence the company was not in a position of comfortable service of debt. Still the company had gone for raising loan funds and thereby increasing debt component in the capital structure.

The company could also issue equity shares instead of raising loans. But the company could not even think of increasing its capital base by issue of shares.

The reasons were:

- The decisions taken by the management was very fast and hasty.
- Gestation period was very short i.e. the period of finalizing the modernization process and its implementation was very short. Hence the company needed immediate funds which were made available through loan funds.
- Financial acumen of the company was very poor. Management was not well efficient in making financial decisions.

- During the period of modernization, steel industry was in boom and ABC AGRO-BUSINESS had a monopoly in the market. The management could not foresee the risk that might arise in the future. Till the modernization process was over, many competitors came in the market, steel market went down and the company suffered from losses.

Table-3.12 Study of nexus between capital structure and value of ABC Agro-Business

The value of the firm is calculated in the following table:

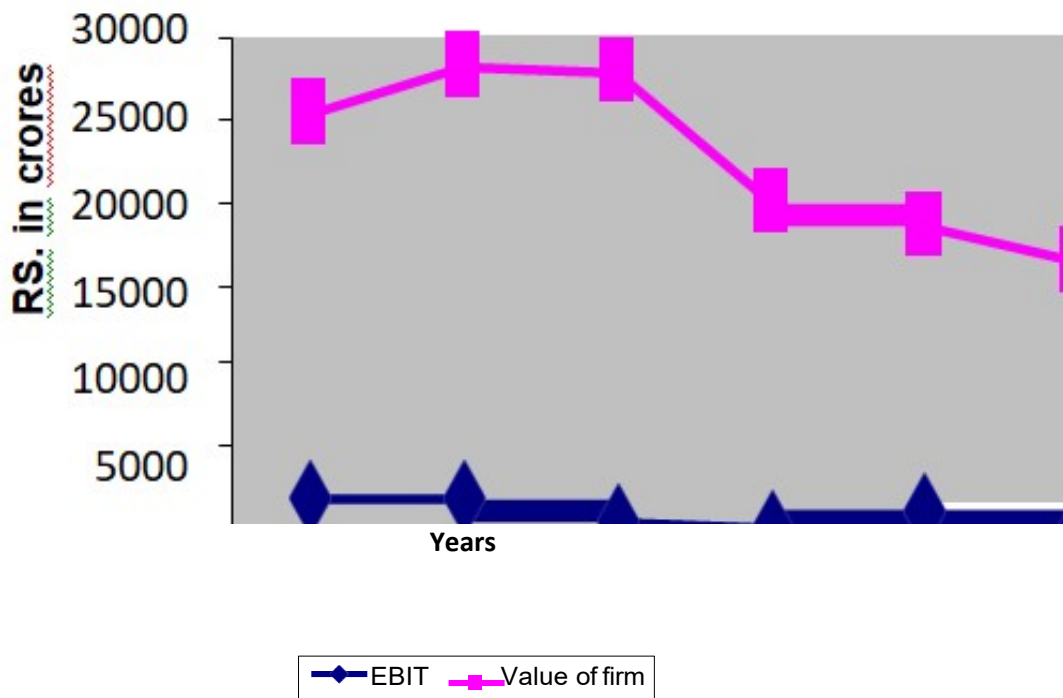
	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Net worth as per B/S	7998	8489	6886	6061.84	5290.61	5290.4	5290.17	5037.67
Less: Profit & Loss								
A/C debit balance	0	0	0	796.9	753.73	2460.6	2764.93	0
Less: Miscellaneous	0	0	0	499.97	371.99	577.65	536.31	378.5
Expenditure not W/O								
Value of Equity (E)	7998	8489	6886	4764.97	4164.89	2252.1	1988.93	4659.17
Value of Debt (D)	17302	19872	20851	15082.4	14250.7	14012	12927.9	8688.76
Value of Firm (E+D)	25300	28361	27737	19847.4	18415.6	16264	14916.9	13347.9

The above figure represents that the value of the firm is increasing over years till 1997-98 in the year of profits but starts declining subsequently from the year 1998-99.

The value of any firm depends upon two things i.e. the investment decisions of the firm which will affect the EBIT and the capital structure which affects the EPS because of the slicing of EBIT. So, let us compare the EBIT and value of the firm to ascertain the factors responsible for the decrease in value of ABC AGRO-BUSINESS.

The EBIT and value of ABC AGRO-BUSINESS can be represented by the following graph:

Comparison of EBIT and Value of ABC /



The above figure represents that the value of the firm started declining from the year 1998-99. The factors responsible for such decline in value of ABC AGRO-BUSINESS are observed as follows:-

- The investment decisions of the firm which can be interpreted from the decline in EBIT. The EBIT of ABC AGRO-BUSINESS has declined from the year 1998-99 to 2002-03 showing a steep decline in 1999-00.
- The capital structure of the firm has decreased the PAT. The high cost of capital raised through loan funds has sometimes resulted in a negative PAT because the amount of interest paid or accrued during the year is also higher. It has resulted in a decline in EPS in these years. Hence high cost of capital arising because of an unbalanced capital structure is also a reason for decline in value of ABC AGRO-BUSINESS.

Summary of Findings and Conclusion:

After the analysis of the financial statements of Steel Authority of India Limited (ABC AGRO-BUSINESS), the first impression any one may frame is that the losses incurred by the company is the outcome of an unbalanced finance mix. The findings are stated below-

The huge amount of interest paid by the company on the loans raised by the firm is solely responsible for these losses. But a close scrutiny to the books of account of the firm reveals certain important factors which prove these facts wrong. Apart from interest payments, the factors responsible for these losses made by the company in these past years are:

- High input cost
- Lower sales realization on iron and steel products
- Higher amount of depreciation
- Lower productivity and adverse product mix
- Voluntary Retirement Payment to the employees in 1999.
- Losses due to mergers and acquisitions

Net worth of the company started declining from 1997-98 to 2002-03 but again increased in the financial year 2003-04.

Debt capital has decreased from the year 1998-99 because of debt repayments and debt swapping. The weighted average cost of capital (WACC) of the company fluctuated over years. It was very high in the financial years from 1999-2000 because of huge losses and reduction in net worth. This has led to an increase in debt capital. The WACC of the company started decreasing from the year 2002-03 because the company is towards the way of profitability.

The debt ratio and debt-equity ratio of the company are very high suggesting high amount of debt in the capital structure. It had reduced the owner's fund and confidence as the risk of the equity holders' increase with an increase in loans. The company has obtained fixed charges of funds more than that of returns on assets which has lowered all the ROE, ROI, and EPS.

The value of the company declined over years because of the investment decisions of the company that are reflected from the EBIT as well as the high cost of capital due to unbalanced capital structure.

Summary

In this unit, we went through the various aspects that a finance manager needs to undertake before planning to fix the budgetary requirements for the organization. The financial manager needs to understand the right mix of debt and equity. As a manager, firstly we looked at the methodology to understand the kinds of equity to be raised. Then we looked at the book value of shares and market value of shares, we tried to understand the differences of the two and how the two differ and how they impact the organization. We then take a look at the net present value of the shares and how they

differ from the book value of the shares. Then, we try to differentiate between market value and market capitalization of the shares. We understand the approach and importance of Net Asset Value of the organization. We then understand the different approaches of capital structure analysis and the various approaches of capital structure analysis and finally end up with the case study on capital structure analysis.

Questions

1. A Company Ltd., projected net operating income of Rs. 75,000. It has Rs. 3,00,000, 8% debentures.
 - (a) Calculate the value of the firm according to 10 net opening income and overall capitalization rate is 10%.
 - (b) If debenture debt is increased to Rs. 5,00,000. What is the value of the firm and the equity capitalization rate?
2. XYZ Ltd., expects a net income of Rs. 1,50,000. The company has 10% of 5,00,000 Debentures. The equity capitalization rate of the company is 10%.
 - (a) Calculate the value of the firm and overall capitalization rate according to the net income approach (ignoring income tax).
 - (b) If the debenture debt is increased to Rs. 7,50,000 and interest of debt is change to 9%. What is the value of the firm and overall capitalization rate?
3. Discuss the various factors affecting the capital structure.
4. Explain the capital structure theories.
5. What are the kinds of capitalization?

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Chapter 4 Capital Budgeting and Dividend Policy Decisions

Introduction

As a finance manager, the next big step in the process of financial management for an organization, the finance manager needs to understand and appreciate the idea of capital budgeting and the action of taking crucial dividend policy decisions for the organizations. For a thorough understanding of policy decisions affecting the growth of organizations, the financial manager needs to understand the interpretation of capital budgeting and the value of it for the organization. We then look at the time value of money and the present value and future value of annuity and annuity due for the basis of shares and other forms of investment that an organization chooses to make. Then we would look at various nuances involved in capital budgeting process for project appraisal methods both using traditional and modern methods of capital budgeting. As a project and financial funds manager, we need to understand the net present value method and internal rate of return. We also look at the simpler methods of payback period and the rate of return method. We need to understand the measure of profitability index and its utility for the organization. We then look to take on the various kinds of dividend policy decisions and its implications on the organization's present level of operations and the future growth of the organizations. We then specifically take up a kind of share and its implication and importance on the level of development of organizations and the merits and demerits of bonus shares. We look at various factors leading to dividend policy decisions. We would also have a brief understanding of agricultural commodity trading and stock market as a basic understanding.

Objectives

- To develop an understanding of capital budgeting methodology and its importance for an organizations
- To appreciate the understanding of time value of money and develop the ability to appreciate capital budgeting process and its importance in the project planning process
- To be able to develop rate of return methodologies using net present value method, internal rate of return method and appreciate the measure of profitability index
- To be able to appreciate the different kinds of policy decisions and its implications on the future of the organization
- To be able to develop an understanding of commodity markets especially agricultural commodity markets and a basic understanding of stock market

Structure of the Chapter

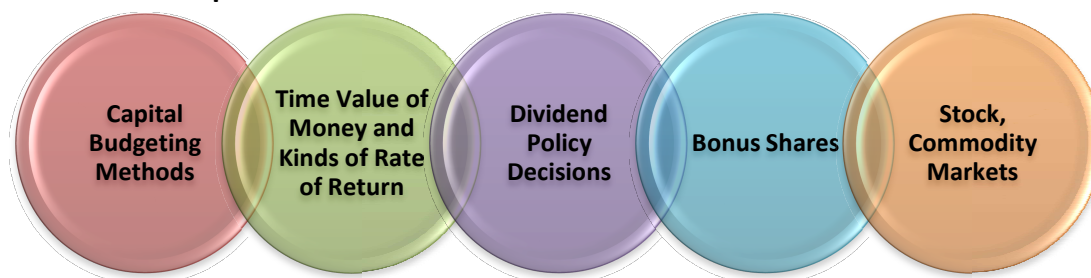


Fig-4.1-Structure of the Chapter

4.1. Capital Budgeting Methods

Before getting deeper into capital budgeting methods, as a finance manager we need to understand what do we really make of the term capital budgeting and its significance for the growth of the organization.

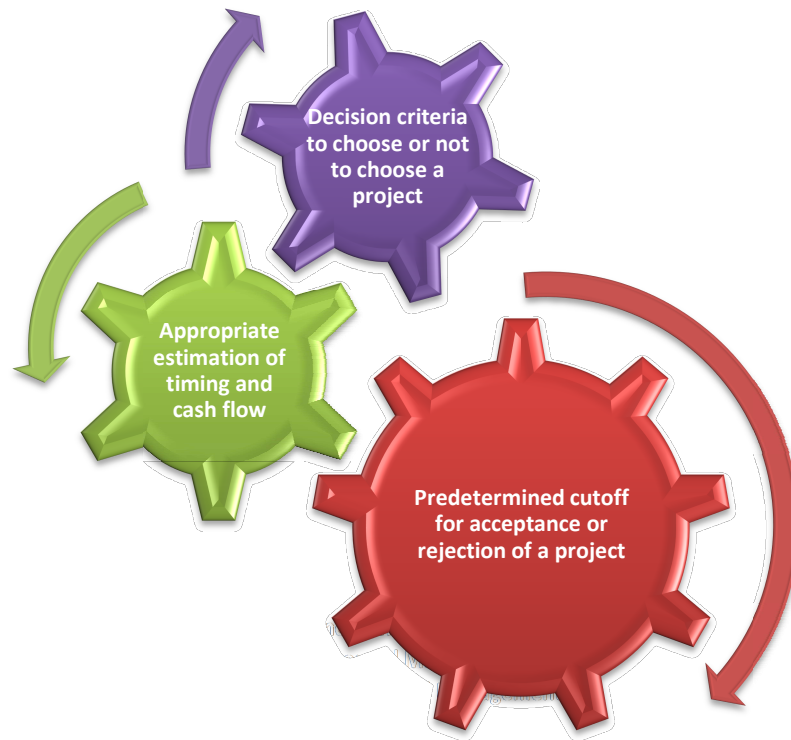


Fig-4.2- Features of Capital Budgeting

Capital Budgeting. (n.d.)

Risks of Cash Flow

- **Sales Risk** - Level of uncertainty for the amount of sales and volume of sales in term of monetary value
- **Operating Risk**- Level of uncertainty related to operating cash flows from a mixture of fixed and variable cost

Returns from Invested Capital

- Positive returns, if the project returns are higher than the cost of capital
- Negative returns, if the project returns are lower than the cost of capital
- Zero returns, if the project returns are equal to the cost of capital

Table-4.1- Steps in Capital Budgeting for a Project

Stages	Significance
Looking on the options of selection of funds	<p>Every project that is selected needs to be in line with the corporate strategy and long-term planning of the organization</p> <p>The product management, marketing and research goals of the organization must be fulfilled by the undertaken project</p> <p>The project undergoes thorough monitoring and screening in its initial stages</p> <p>If a project crosses and satisfies every other parametric check, they are further evaluated based on the level of investment and the amount of incoming and outgoing cash flows, thus projecting its impact on the value of the organization over a long period of time</p>
Proposal for capital budgeting	<p>This phase of the project financing is undertaken only after the project crosses the previous screenings</p> <p>It presents the finer detail of the project and the capital heads of investment for each of them</p> <p>It is however, considered to be a rough and close estimate of the costs to be incurred over the lifetime of the project and is dynamic subject to change over the tenure of the project. The cost estimates also get revised in over time to factor in for inflation and other additional overheads. Mid-reviews and idea consolidation from various departments of an organization providing data for their costs will lead to a considerable movement in the capital budget plans</p>
Approval of the concerned budget	<p>These budgeting proposals prepared over the last phase of the project needs to be escalated to the higher management for their approval before investment.</p> <p>However, many a times with guidelines from the management a further detailed investigation is carried on the feasibility and scale of investment for the project</p> <p>Finally after the management is aptly convinced it gives a go ahead to the project investment</p> <p>Many a times the budgeting and approval of the project budgeting is done almost simultaneously to fast track the growth of any project</p> <p>It is also to be considered that the process of approval and authorization of investments is only taken as a formality procedure of mandatory exercise for huge investments while for the investment on the smaller projects do not need to be taken through the rigorous process of appraisal and is left for consideration of lower level of management</p>
Tracking the process of project	<p>As soon the project capital requirements are approved by the management, on ground implementation of the project is planned and carried out in the earliest possible time frame.</p> <p>For appropriate screening and monitoring of the investment, a periodic report on the development is sought by the management for review.</p> <p>Soon after this there starts a cycle of capital inflow in form of investment in developing the project and it yields revenue leading to capital outflow</p> <p>This report serves as a medium of communication between the management as well as the implementation body on the field</p>
Completion audit	<p>Beyond a point the initial capital investment on the project is withdrawn as the project reaches a level of completion to generate cash outflows.</p> <p>However, the organization closely monitors the growth of cash outflow at the end of each financial year from the project to get a hang of the fact as to whether the investments are acting as per the expectations.</p> <p>The financial outcomes are tracked year after year and in case of any extraordinary deviations of the project from the course of outcome of the project, the project structure is being reevaluated again</p> <p>It provides a clear picture to the organization as to whether the project is to be continued or closed beyond a certain point as it would have covered its usable life</p>

Source- Peterson & Fabozzi (2002)

Classification

Based on Economic Life

For any asset, its usable life is provided by : the level of physical deterioration of the project assets, its usability to the present context and the level of completion of the project. It basically provides us the life of the asset and the level of profits that an asset is expected to generate over its useful life. The identification of the end of usable life comes from the term that beyond a point after a project reaches economies of scale, the profits generated from the use of assets slowly start decreasing finally leading to losses. In case of investments the cash inflow is in immediate time measures whereas the cash outflow is expected from the investment in a near future time frame. A project may require one or more long term expenses. One of the major pros of the long term capital assets is an expense under this head is not taken in the working capital expenses of the investing organization.

Based on the Risk of Investment

Replacement projects are basically undertaken with an aim to either replace or repair any long-term capital asset that is out of order or operation and are thus unable to generate revenues. These kinds of investments are basically made with an aim of the organization to maintain optimum level of productivity from the project. The risk assessed over such investments is relatively lower in terms of risks as the organization is completely aware of the level of investment and the level of productivity as output from the investment. It also has not only replacement or repair functions but also addition in the level of assets during expansion, however entering into new geographic domains in lieu of expansion leads to other risks as regulatory risks. There are two other forms of risk which are contingent and retroactive. However, the assets investment is a no-alternative option for the organization as it has no option instead of investing in capital assets or lowering of productivity. Further a regulatory environment or an expansion into an un-ventured domains leads to a plethora of unsettling investment risks to be mandated by the organization.

Based on the Level of Dependence of the Project on other Projects

Looking forward to further the growth ambitions, the present prospects and the usable life of the current set of assets need to be taken into consideration before making any investment decision. Many a times the project to be undertaken by an organization needs to take into projects in consideration which provide a scope of residual inputs from the previous projects to be taken into consideration. An independent project is such a project whose cash flows aren't dependent on any projects undertaken by the organization in the past. It is a considerably easier investment decision for the management as it is a standalone project and thus can be monitored individually for the investments as well as the cash outflow. Sometimes, due to the usage of the same capital assets for the projects with multiple different outcomes, the organization has to make a tough selection call to choose one project over the other and such projects are known as mutually exclusive projects. Sometimes the organization based on innovative and economic lines and tries to utilize the capital investments on one project in generating cash flows from a side project undertaken by the organization mostly as an impromptu on the go model developed for increased earnings. These kinds of project are known as contingency projects. In one scenario an investment made in one project at times leads to enhancement of outcome in other project and such projects are known as complimentary project.

4.2. Time Value of Money

We all have heard our parents or grandparents saying that the value of money has degraded over time and earlier more volume of materials were available at a lesser price. Well what they are talking about is really known as time value of money. For being able to appreciate the time value of money we need two parameters.

Annuity- If payment schedules are obliged at the end of payment period Ex- loans

Annuity Due - Payments to be made at the beginning of each payment period

There would be four forms of time value of money to be calculated, we would look at each of them with the help of an example.

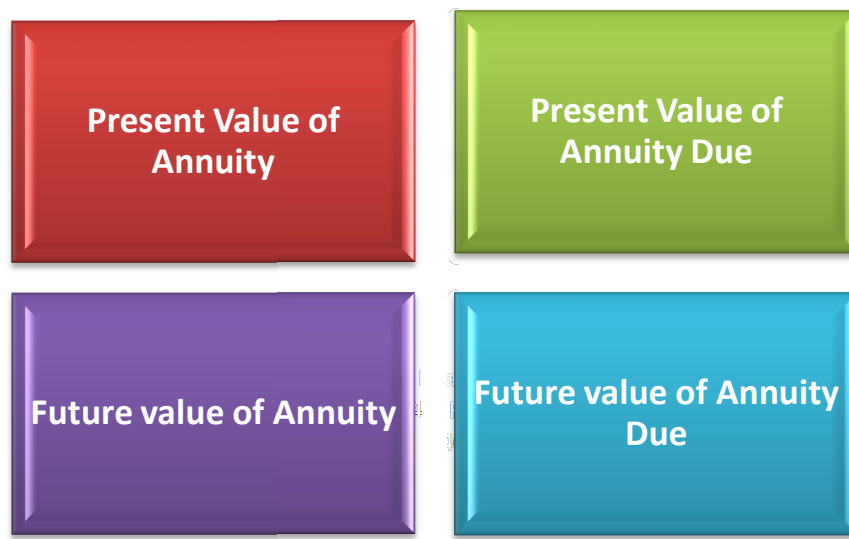


Fig-4.3- Time Value of Money

Source- Brigham (1996)

There are three factors whose knowledge is primary to effective budgeting decisions.

- (i) Estimation of cash flows
- (ii) Discounting factor and cost of capital
- (iii) The duration of project period

Features of capital budgeting:

- (i) All the cash flows coming in the project should be considered to determine the profitability of a project.
- (ii) There should be clarity in parameters of selecting a bad and a good project based on the budgeting parameters.

- (iii) This would lead to categorization of projects on the basis of ability of being profitable.
- (iv) The projects chosen on the basis of the capital budgeting should account for distinct investment projects to maximize investors' wealth.

We would take three popular cash budgeting techniques which are a part of both Non-Discounted Cash flow model and Discounted Cash flow model. We will go deeper into each model and try to understand its merits and demerits.

(A) Payback Period- Number of years required to recover the original investment in a project.

Table-4.2- Merits and Demerits of Payback Period

Merits	Demerits
Simplest Methods of Calculation	Time value of money is absolutely not added in the model leading to violation of most basic principles of finance
Favors projects generating a huge cash inflow in initial years, thus helping the firms dealing with liquidity crisis to gain substantial funds to avoid liquidity crunch	Completely ignores the cash flow beyond the point of payback period. This leads to nullification of the projects which have the potential to generate revenues over a large period of time and a later stage.
Selects projects with earliest recovery of investment.	It's a measure of project's capital recovery and not of profitability

Source- Pandey I M, Financial Management, Vikas Publishing House Pvt Ltd

Methods of Calculating Payback Period

(A) When the cash flow after taxes is uniform

Payback period= Initial Value of Investment/Value of Constant Annual Cash Flow

Example-4.1- If ABC financing agency has invested 1,00,000 rupees in a weaving and manufacturing plant and the profit after taxes is uniform at Rs 20,000 each year. Find out the payback period.

Solution- Initial Value of Investment= Rs 1,00,000

Value of Constant annual cash flow after taxes= Rs 20,000

Payback period= 1,00,000/20,000 =5 years

(B) When the cash flow after taxes is not uniform

Payback Period= In case of non-uniform cash flows, the sum total of cash flows over time are accumulated till the cash inflows cumulative value becomes equal to the amount of initial investment made.

Example-4.2- ABC firm has invested Rs 20,000 in a project. The annual cash inflows for next five years are Rs 6000, Rs 8000, Rs 5000, Rs 4000. Calculate Payback period.

Solution- Sum of each year's cash inflow= Rs 6000+Rs 8000+Rs 5000+Rs 4000=Rs 23000 but the cash outflow for the project stands at Rs 20,000. Thus, from the last year's inflow we need to check the point at which we recover the first 1000 rupees will be our payback period.

So, in unitary method, the cash inflow=4000

In one month the cash inflow =333.33

In 3 months the cash inflow would be Rs 1000.

Thus, the total payback period is 3 years 3 months.

Then as a project management agency, how do we decide which project to undertake based on the payback period.

- (i) If the payback period of the project is lesser than the acceptable payback period, then we would take the project.
- (ii) If the payback period of the project is greater than the acceptable payback period, then we would drop the project.
- (iii) In case there are multiple projects with payback period lesser than the acceptable payback period, then the project with the least payback period is undertaken.

Before heading forward, we need to understand two important concepts regarding the present and future value of money which would further help us understand the other methods of capital budgeting

(a) Present Value of Annuity

An amount of money that we invest today will generate some income in the future.

$$C \times [(1 - (1+i)^{-n}) / i]$$

Where, C=cash flow per period

i=rate of interest

n= frequency

Example-4.3- There is an annuity payment of Rs 1000 for the next 25 years from beginning at the end of each year. Assuming rate of interest = 5%

Solution- $1,000 \times [(1 - (1+5\%)^{-25}) / 0.05] = 14,093.94$

Present Value of annuity is used for periodic payments such as rent, pensions, periodic interest paid.

(b) Present value of annuity due

The present value of a series of future payments to be made in a predetermined time frame.

$$P = (C [(1 - (1 / (1 + i)^n)) / i]) \times (1+i)$$

Where, C= Value of each due payment

P= Present Value of Annuity

i=rate of interest

n=frequency

Example-4.4- XYZ organization had to pay a bill of 1,00,000 rupees at the beginning of each year for next 8 years. Assuming the rate of interest to be 5%, find out how much it would cost XYZ if they were to make the payment at one go?

Solution- $P = (100,000 [(1 - (1 / (1 + .05)^8)) / .05]) \times (1+.05) = 678,637$

(c) Future Value of Annuity

The value of payments on a future date for a series of periodic payments with payments made at the end of each period

$$P = C [((1 + i)^{(n - 1)}) / i]$$

Where, C= the value of each annuity payment

i=rate of interest

n=frequency

Example-4.5- The investment facility of QPM expects to invest Rs 1,00,000 in a long-term investment at the end of each year for five years. A return of 7% is expected from the investment. Calculate the amount at the end of the five year period.

Solution- $P = 100,000 [((1 + .07)^{(5 - 1)}) / .07] = 575,074$

(d) Future Value of Annuity Due

The amount a stream of future payments will become in value assuming that the money gets compounded over the measurement period. The payments are provided at the beginning of each month.

$$P = (C [(1 - (1 / (1 + i)^n)) / i]) \times (1+i)$$

Where, C= Value of each due payment

P= Present Value of Annuity

i=rate of interest

n=frequency

Example-4.6- An organization expects to invest 5,00,000 rupees from the firm's funds in a long term investment at the beginning of each year for next five years with an expectation of 6% return annually. What is the value of payments at the end of five years?

Solution- $P = (50,000 [((1 + .06)^5 - 1) / .06])(1 + .06) = 280,475.50$

(B). Discounted Payback Period

It is the number of years that it takes to cover the initial investment in terms of the present value of all the future cash flows.

Example-4.7- A project requires an initial value of investment of Rs 80,000. The cash flow is 22000,30000,40000,32000 and 16000 rupees each year starting from the first year respectively.

Solution-

Years	0	1	2	3	4	5	Discounted Payback period
Cash Flow	(80000)	22000	30000	40000	32000	16000	-
Present Value@5%	-	1/1.05	1/1.05 ²	1/1.05 ³	-	-	-
Present Value	-	20952.38	27210.88	34553.50	-	-	-
Cumulative Present Value	-	20952.38	48163.76	82717.26	-	-	2.99 Ears

(C). Average Rate of Return

Average Rate of Return= (Average Annual Profit After Tax/Average Investment)*100

This is an accounting method rather than a cash flow method.

$$ARR = 2[\sum_{i=1}^n EBIT_t(1-T)]/n(I_0+I_n)$$

Example-4.8- A project needs an investment of Rs 10,00,000. The plant and machinery have a scrap value of Rs 80,000 at the end of 5 years. The profit after tax and depreciation are given as follows:

Year	1	2	3	4	5
PAT	50000	75000	125000	130000	80000

Solution- $ARR = \frac{2(50000+75000+125000+130000+80000)}{(1000000+80000)*5} = 17.04\%$

If ARR is higher than the rate set for investment, then it is a better investment.

If ARR is lesser than the rate set for investment, then it is advisable not to invest.

Table-4.4- Merits and Demerits of Average Rate of Return

Merits	Demerits
Easier Calculation	Based on accounting principle only and not on the cash flows
Based on a fair knowledge of accounting principles	Doesn't take into consideration of the time value of money
Considers benefits to be distributed over the entire life of the project	Does take into consideration of all years' profit but averages them out
	ARR benchmark is set by the industry

Source- Pandey(1996)

(D). Net Present Value

It is a discounted cash flow technique. According to it, cash flows value differs based on the varying time intervals of their inflow. It is calculate on the basis of present value.

NPV= Present Value of Cash Inflows-Initial Investment

$$NPV = A_1/(1+K) + A_2/(1+K)^2 + \dots + A_n/(1+K)^{n-1} - C$$

$$NPV = \sum_{t=1}^n A_t/(1+K)^t - C$$

Where $A_{1,2,3,\dots,n}$ =Streams of benefits coming the way over a course of time

C= Cost of Investment

K= Discount rate to check quality of A

Example-4.9- Calculate NPV for a project for an initial investment of Rs 2,50,000. It has 10% cost of capital. The cash flow is as follows:

Year	Cash Flows
1	90000
2	80000
3	70000
4	60000
5	50000

Solution-

Year	Cash Flows	PV @10%	PV
1	90000	0.909	81810
2	80000	0.826	66080
3	70000	0.751	52570
4	60000	0.683	40980
5	50000	0.621	31050
		\sum PV	272490
		Less: NCO	250000
		NPV (Rs)	22490

If NPV is greater than 0, accept the project.

If NPV is lesser than 0, reject the project.

Table-4.5- Merits and Demerits of NPV

Merits	Demerits
Explicitly uses time value of money in calculations	Includes uncertainties leading to complex calculations
Uses all the cash inflows over the lifetime of the project	Discount rate calculation is a prerequisite for calculation
Provides an absolute measure of profitability	Cannot give a precise calculation for mutually exclusive projects
Provides scope of incorporation of changing discount rate to be included. Thus, it is one of the most flexible	
Satisfies value additivity principle of Net Present Value. Thus, $NPV(X+Y) = NPV(X) + NPV(Y)$. It helps in calculating the value of the firm.	
Consistent with the goal of wealth maximization	

Source- Khan and Jain (2017)

(E) Cost-Benefit Ratio

The present value of returns per rupee invested.

Profitability Index= Present Value of Cash inflow/Initial Cash Outlay

$$\sum_{i=1}^n [C_t / (1+K)^t] / C_0$$

C₀= Initial Cost of Investment

C_t= Total value of all cash inflows

K= Discount rate to check quality of A

If Profitability index is greater than 0 accept the project.

If Profitability index is lesser than 0 reject the project.

If profitability index is 1, then it's upon firm's discretion to select the project or not.

(F). Internal Rate of Return

Internal rate of return is the discount rate that equates the NPV of the project to zero. It provides a break-even point for the investment in a project.

$$IRR= C_0 = C_1 / (1+r) + C_2 / (1+r)^2 + \dots + C_n / (1+r)^n$$

$$IRR= \sum_{i=1}^n C_t / (1+r)^t - C_0 = 0$$

C_t= Cash flow at time t

C₀= Initial investment

Calculations- When any project has an uneven cash flow, IRR is found by trial and error.

Example-4.10- A project has an initial investment of Rs 32000 and generates a cash inflow of Rs 16000, Rs 14000, Rs 12000 for the next 3 years. Calculate the IRR.

Solution- Let us take two values (10% and 18%).

Year	Cash Inflows	PV@10%	PV	PV@18%	PV
1	16000	0.909	14544	0.847	13552
2	14000	0.826	11564	0.718	10052
3	12000	0.751	9012	0.609	7308
		∑PV	35120	∑PV	30912
		NCO	32000	NCO	32000
		NPV	3210	NPV	(1088)

$$IRR= r + (PV_{CO} - PV_{CFAT} / \Delta PV) * \Delta r$$

PV_{CO}= Present Value of Cash Outlay

PV_{CFAT} = Present Value of Cash Inflows

r = Lower rate

Δr = Difference between higher and lower rate

ΔPV = Difference in present values of cash flow after taxes at higher and lower rate

Difference between higher and lower rate = $18\% - 10\% = 8\%$

PV required = Rs 32000

PV at lower rate = Rs 35210 PV (lower rate) - PV (required) = Rs 3120

PV at higher rate = Rs 30912 PV (higher rate) - PV (required) = Rs 4208

IRR = 16%

If a project generates equal cash flows annually

Example-4.11- A project requires an investment of Rs 6000 and it would generate a cash inflow of Rs 2000 for next 5 years. Calculate the IRR.

Solution- $NPV = (Rs\ 6000) + Rs\ 2000(PVAIF_{5,r}) = 0$

$PVAIF_{5,r} = Rs\ 6000 / Rs\ 2000 = 3$ years

If IRR is greater than the cost of capital, then accept the project and NPV would be positive.

If IRR is lesser than cost of capital, then reject the project and NPV would be negative.

If IRR is equal to the cost of capital, then $NPV = 0$ and the project management agency can have its willful discretion in taking up the project.

Table-4.6- Merits and Demerits of IRR

Merits	Demerits
Considers time value of money and takes into all the cash flows over the lifetime of the project.	Complex calculations and based on trials and errors.
It measures profitability percentage of projects and thus makes it an easy go comparative with the opportunity cost of capital	Mutually exclusive projects may lead to conflicting outcomes by IRR
Consistent with the wealth maximizing objective of shareholders	There can be multiple IRRs for same project with non-conventional cash flows
	Doesn't withhold the value addition principle like NPV

Source- Khan and Jain (2017)

4.3. Dividend Policy Decisions

Factors Influencing Dividend Policy Decisions (Khan and Jain, 2017)

Position of Firm

- Dividend distribution is majorly based on the level of profitability or the concerns of losses by the organization
- Generally the higher the profitability of the firms the higher is the dividend for the shareholders.
- However, it is not a sure event as the organization might plan renovation or expansion and use the profits as reinvestment

Legalities of the Organization

- The Companies Act, 1956 and The Income Tax Act, 1961 provide certain restrictions on payments of dividends and declaration of profits

Level of Uncertainty on Future Income

- Future Income plays an important role in the distribution of dividends.
- In case the organization is certain of the rise in future profitability, it has no constraints in paying up cash dividends.
- However, if the organization is uncertain of growth in future profits and in fact is somewhat unsure it prefers paying up stock dividends.
- It is believed that if an organization goes on a minor slump, it is expected to take up corrective action for future.
- As the organization gets on corrective action, the stock dividends rise and it is doled out in form of cash dividends.
- Thus, the shareholders basically who hold higher stocks due to stock dividends are in lieu of getting higher dividends.

Liquidity Position

- The higher the liquidity, the higher is the expected dividend return by the organization.
- In case of an insolvent position of the organization, the organization obliges to pay off its debt providers followed by debentures, preference share holders and finally wind up with equity shareholders
- However, many a times if the organization is unable to oblige every return before going insolvent, the shareholders have to face the losses and thus no dividends

Financing Sources

- Dividend policy also depends on sources of gathering finance used by the organization
- If the organization has more debts than equity on its books, the dividend will go down as majority of profits of the organization go up for debt repayment

Rate of Growth

Higher the rate of growth for the organization, generally higher would be the rate of generation of dividends. But in many cases the organization doesn't opt for paying up dividends rather acts to reinvest in order to generate further growth or to maintain the same level of growth.

Policy on Taxation

- The rate of taxation varies across geographies, as the geographies and the administrative controls changes, so does the rate of taxation and if the rate of tax is higher generally the organization would either pay up lower dividends due to lower profit generation.
- Many a times, the organization pays up the dividend in order to show a reduced profit on the books to lower the rates of taxation.

Condition of Capital Markets

- In cases where the organization eyes for an expansion and renovation retained earnings become an easy go to source in case there are unfavorable lending rates prevailing in capital markets or an unstable capital market prevailing.
- It will lead to a reduced dividend, thus a stable and perfect capital market is a prerequisite for higher dividends.

Kinds of Dividend Policy (Paramasivan and Subramanian, 2009)

- Dividend payable at a fixed rate is regular dividend policy. It is usable for small investors and post retirement plans.
- Payment of a small amount of dividends on three basis: 1. Constant Dividend per Share 2. Constant payout ratio 3. Stable Rupee Dividend + additional dividend
- In reduced earnings and constrained working environments , the earnings aren't proficiently provided as dividends for small intervals and it is known as irregular dividend policy
- Considerable reduction in working capital and a reduction in level of profits in unfavorable market environments lead to a no dividend policy
- Firms paying dividends in excess of retained earnings and are known as liquidating dividend policy

Measures of Dividend Policy

Dividend Yield

- It is a comparative of dividend paid to the price of the stock
- Annual Dividends Per Share/Price per share
- It is a measure of part of total return that come from the dividends whereas the remaining part of return comes from the appreciation of prices
- Now we come to the next measure, Expected Return from Stocks = Dividend Yield+ Price Appreciation
- It is used as a parameter of risk assessment by investors

Dividend Payout Ratio

- The dividend paid to the stock holders as a part of the net income of the firm is known as dividend payout
- Provides a valuation of future earnings and thus the growth rate of future period
- Here, we also consider a retention ratio, the retention ratio is the amount of earnings to be reinvested in the organization for future expansion
- Retention Ratio= 1- Dividend Payout Ratio
- Lower the retention ratio, higher the growth rate of the firm
- Dividend Payout Ratio is followed throughout the lifetime of the firm
- There are 3 ways firms keep up the dividend trend.
- Each firm set up a target dividend payout ratio and this setup the organization's motive to set up a long term growth projection
- In order to take it as a long-term goal, a new dividend goal is setup and reviewed with time

Sticky Dividends

The organization is generally reluctant to change the dividends from one form to another and has issues regarding prediction of profitability

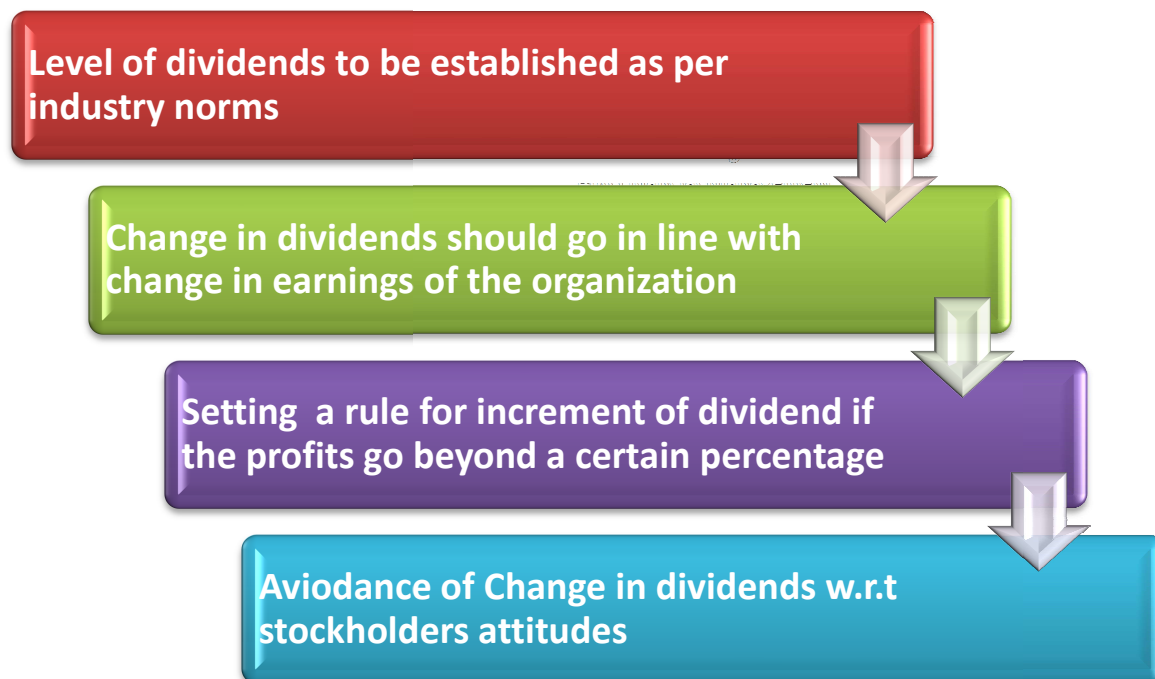


Fig-4.4- Steps to determine dividends

Source: Stern. (n.d.)

Table-4.3- Difference in dividend policy decisions

Differences	Reasons
Different stages of growth	<p>Any organization with a pretty high growth rate would lower the dividends considerably as it would reinvest its major share of earnings into future growth</p> <p>However any organization in the early phases of growth will provide considerably higher rate of returns as it would be trying to lure in more investors to generate more long term capital</p>
Difference in tax treatments	<p>Wherever, the states charge a higher tax on dividends the organization try to reduce dividends cash handouts or try to transfer the taxation load on the shareholders rather than taking it themselves</p> <p>Wherever, the organization has to pay a higher tax rate on profitability and earnings it prefers to distribute higher dividends</p>
Difference in control structures	<p>If there is a distinction in terms of the ownership and management control, there will be a stark difference in the policies of dividend distribution as the motives of both the groups would clash as many a times since owners of an organization are shareholders, in the initial phases of growth of the organization the shareholders would wish to reinvest the profit to increase the net worth of the organization. However, a lot of it depends on the level of control that the owners of the organization can exercise on the management of the organization</p>

Source- Stern (n.d.)

To Do Activity

Suppose you are the manager of a firm and the regulations of the state limit your ability to buyback your stocks from the shareholders. What is the dividend policy that you would adapt to?

- (a) Pay a higher chunk of your profits as dividends (more volatile dividends)
- (b) Pay a lower portion of earnings as dividends (more volatile dividends)
- (c) Pay a higher portion of earnings as dividends (less volatile dividends)
- (d) Pay a lower portion of earnings as dividends (less volatile dividends)

Explain your approach

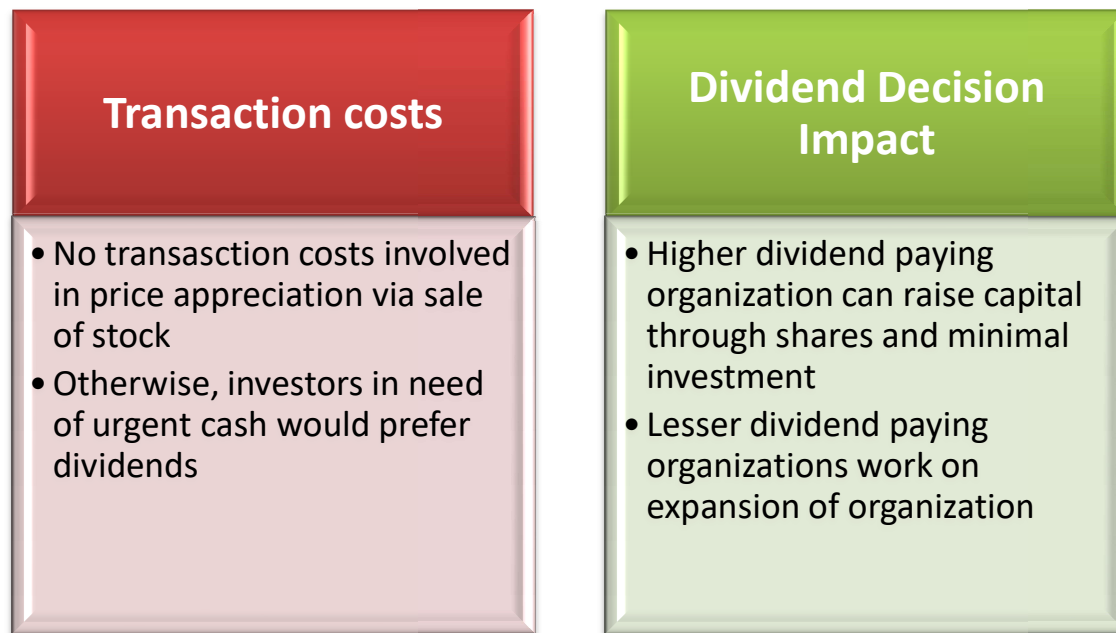


Fig-4.5- Relevance of dividend policy

Source- Stern (n.d.)

Options of Managing a Dividend Policy

Option I

- Residual dividends is the way forward, dividends are to be paid as per the function of earnings of present year rather than being considered as the function of dividends of the last year

Option II

- Regular dividends payout based on sustainable earnings alongwith a supplement being provided on occasions of additional profit

4.4 Bonus Shares

- Free Shares issued to existing shareholders with proportion to their current share holdings
- Act as an alternative to cash dividends payout
- Adds to an increase in shareholding of the organization with no additional increase in organization's worth
- Do not add new capital to the organization
- Increases short term liquidity as it reduces the liability of the organization to pay up dividends

Table-4.4- Rights Issue and Bonus Issue

Basis for Comparison	Rights Issue	Bonus Share Issue
Basic Feature	Offered to existing shareholders with respect to existing holdings at a discounted price within stipulated time	Shares are issued at a proportion of shareholding to the existing shareholders
Reason	Used in order to raise a stream of fresh capital from market	Helps to modulate or reduce share prices leading to dilution of share value and as an alternative to dividend payout
Price	Offered at a discounted lower price	Provided free of cost
Renunciation of Rights	The shareholders have the option of fully or partly renouncing the rights to the dividends from the share	The shareholders aren't provided with any rights of renunciation
Minimum Subscription	Provided the shareholders wishes to buy rights shares, then a minimum subscription level	No minimum level of subscription required
Paid up value	Fully or partially paid up	Paid up in full every time
Cash Receipt	Results in inflow of liquid capital into the organization leading to an increase in liquidity	Results in no new inflow of cash leading to no new change in liquidity levels
Share Price	Share price remains unaffected in the process	Leads to a proportionate decline in the share price as per the share dilution

Source- Prakash (2018a)

Stock Split

- Divison of existing shares into multiple shares
- Increase in liquidity in stocks
- Reduction of share price for small investors
- No. of shareholdings increase but book value and market value of shares decrease
- Can be decided upon by board of directors or shareholders vote

Table-4.5- Stock Split Issue and Bonus Issue

Basis for Difference	Stock Split	Bonus Shares
Significance	Dividing a single share into multiples of shares to increase their reach and lowering of valuation of stock so that the stocks are easily affordable to small investors	Passed on to existing shareholders for free. The proportion of share distribution is equivalent to the present holdings of shareholders
Short-Term Objective	It helps in distribution of profits without passing on cash dividends payout	Leads to a further increment in brand value and market position strengthening
Availability of stocks	It is open for investment both by the current shareholders as well as the willing potential small scale investors	Open for only existing shareholders of the organization
Cash Flow	No additional inflow of cash	No additional inflow of cash as the shares are just distributed to existing shareholders with no cost associated to them, However, this leads to a generation of goodwill and hence the value of shares go up subsequently but in the present scenario is not considered as a capital building exercise
Impact on Face Value	Face Value of the stock changes	Face Value of the stock is unchanged
Long-Term Goal	Bringing down the market value of the share within a reasonable range to gain popularity amongst investors	Bringing down the market value of the share within a reasonable range to gain popularity amongst investors

Source- Prakash. (2018b)

Example-4.11- Rakesh has a shareholding of 200 shares of ABC Fincorp. It has a market value of Rs 1000 per share and a face value of Rs 100 per share. We will see the impact of stockholding if the organization announces 1:1 bonus share issue and 2:1 stock split

Solution- After a 1:1 Bonus Share Issue

Total Share Count = 200 + 200 (Bonus Shares)= 400

Market Value of the share = Rs 1000*(200/400)= Rs 500

Face value of the share doesn't change in the issue of bonus shares.

After 2:1 Stock Split

Total Share Count becomes $200 \times 2 = 400$ Shares

Market Value of Share = $\text{Rs } 1000 \times (200/400) = \text{Rs } 500$

Face Value of Share = $\text{Rs } 100 \times (200/400) = \text{Rs } 50$

Table-4.6- Advantages and Disadvantages of Bonus Shares

Point Of View	Advantages	Disadvantages
Shareholders	<p>No tax payment for bonus shares by shareholders as per regulations</p> <p>Important for investors looking for long-term holding in an organization</p> <p>Leads to an increased faith and reliability in the operations of the organizations as the organization's portfolio keeps on increasing due to reinvestment</p> <p>In the case of increase in the net worth of the organization in the long term leads to payment of larger dividends to the existing shareholders as their shares had been increased by bonus value of shares</p>	<p>Becomes a cause of concern for shareholders who are in immediate need of liquidity and thereby, may not prefer bonus shares issue.</p> <p>Doesn't add to the wealth of the investors immediately and doesn't guarantee a dividend yield for the future as well, if the operations of the organization are haywire, the returns on the stocks may be heavily depreciated</p>
Organizations	<p>Since the organization isn't paying out cash dividends, it meets out its needs of immediate liquidity and helps in reinvestment in business for expansion</p> <p>Helps to keep the organization afloat at times of liquidity crunch as it quenches the desires of investors to get a dividend payout</p> <p>Provides a long-term growth strategy to the market and its investors</p> <p>Increased number of shares through issue of bonus shares increasing liquidity in terms of shares as well</p> <p>Leads to a perceptible increase in the volume of the organization</p>	<p>An increased number of outstanding shares via the issuance of bonus shares lead to a decline in the earnings per share (EPS) and cash dividend yield of the organization in the future. This can sometimes backfire as instead of increasing organization's wealth and value perception, it can lead to a decline in the perception as well</p> <p>Sometimes, the cost to issue bonus shares goes beyond the cost of the dividend to be issued and in case the organization prefers to repeatedly issuing dividends in form of bonus shares, actually it can add up to the loss for the organization</p>

Source- (n.d.). Retrieved May 24, 2020, from <https://efinancemanagement.com/sources-of-finance/advantages-and-disadvantages-of-bonus-shares>

Table-4.7- Steps to issue bonus shares

Bonus Issue Structure	Significance
Restriction on Issue of Bonus Shares	<p>Issuer of Shares can't make a bonus share issue in case the organization has an outstanding debt instrument fully or partly outstanding</p> <p>It can issue bonus shares provided if the organization has reserved a proportion of bonus shares for the convertible debt instrument holders</p>
Bonus shares against reserves only in case of cash capitalization	<p>Bonus shares come out of the free reserves of the organization from profit made by the operations of the organization/securities premium collected in cash/reserves from reevaluation of assets</p> <p>The bonus can't be issued in place of a dividend</p>
Completion of Bonus Issue	<p>Issuance of bonus is as per the choice of management and not as per the wish of shareholders and the bonus shares have to be issued within 15 days of the decision to issue bonus shares and in case shareholders are given the right to decide on bonus shares issue, the shares have to be issued within two months of approval from the shareholders</p> <p>Once the decision to issue bonus shares is taken, it can't be revoked</p>

Source- SEBI (2010)

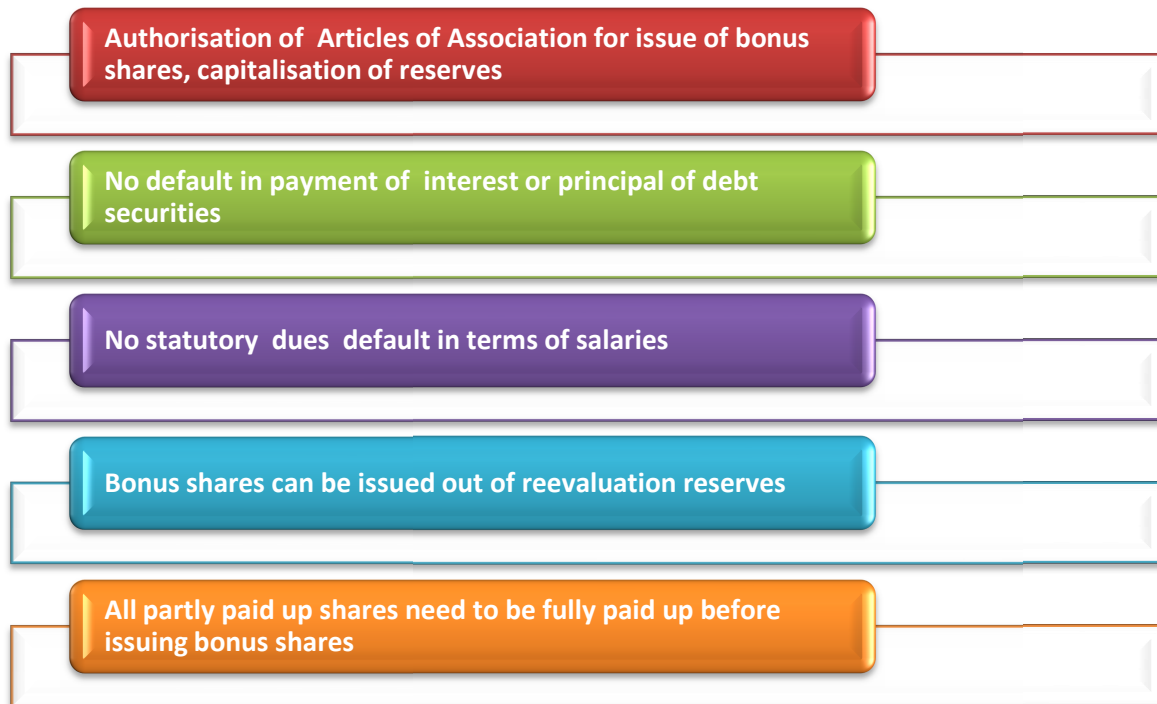


Fig-4.6- Conditions for the organization to issue bonus shares

Source- SEBI (2010)

4.5 Stock & Commodity Markets

Indian Stock Market predominantly consists of only two players who act as exchange mediums for the traders and the brokers alike: The Bombay Stock Exchange and the National Stock Exchange. Before Independence, there were a limited number of options in form of bonds, equity, securities, stocks and pensions etc. However, with Independence a structure came into being that took authority and lead in bringing in regulations to control these markets. The regulatory body for India is Securities and Exchange Board of India (SEBI).

Definition of Stocks

According to Hayes, A. (2020)

It is a form of security indicating the owner of the share is in turn owner of proportionate holding of the organization that provides organizations the liberty to raise capital from the market. It is majorly sold through stock exchanges, can be traded through private sales as well.

Stock Market

- Collection of markets where regular activities of buying and selling of financial instruments take place
- Institutionalized formal structures working under a set of regulations and guided by regulatory environment

- Ensures fair trades and smooth function and coordination among parties in the market

Table-4.8- Players of stock Market

Players	Significance
Stockbrokers	<p>Registered representatives who are licensed to buy and sell securities for the investors</p> <p>Act as a medium between stock exchanges and investors.</p> <p>Investors hold their accounts with stockbrokers to gain entry into the stock broking marketplace</p>
Portfolio Managers	<p>People holding expertise in a host of stocks across industries or investing in portfolios for private individuals</p> <p>They have trade analysts who help them in accessing the health of the stocks and provides vital information to make investment decisions</p> <p>They hedge funds and protect the investors wealth by diversifying the range of investments</p> <p>They provide investment strategies to various investors for the capital they hold</p>
Investment Bankers	<p>Organizations specializing in providing guidelines to enlist organizations for Initial Public Offerings and control mergers and acquisitions for clients</p> <p>Provide guidance in setting up organizations for compliance and norms as well as regulatory environments like stock markets</p>
Custodians	<p>Institutions providing customer securities insurance from losses or economic shocks</p>
Market Maker	<p>Broker dealer acting as a medium facilitating trading of shares posting bids and ask deals and has a hold over inventory of shares</p> <p>Helps market maintain ample liquidity and generate profits for them from bidding process</p>

Source- Chen(2020)

Table-4.9- Functions of stock Market

Functions	Significance
Fair Dealing of securities or stocks	<p>Provides data and ensures information symmetry for players across domains, help in keeping the market fair through optimum maintenance of demand and supply of shares</p> <p>It acts as an appropriate matching grounds for buy and sell orders</p> <p>Helps in maintaining transparency of pricing of shares</p>
Efficient Price Discovery	<p>Provide an efficient mechanism for discovery of prices across stocks</p> <p>Performance of stocks before setting up fair prices</p> <p>Keeps check on other factors of transactions and trade</p>
Maintaining liquidity in the market	<p>The share market can't control the nature of buyers and sellers trying to trade in the stock market</p> <p>Provides a fair opportunity to qualified buyers to trade and place bids on the shares</p>
Transactional and validity security	<p>Verification of all the participants to keep the trading market clean and provides a secure platform to trade</p> <p>Ensures no place for the participants to have a default and the organizations adhere to all regulatory frameworks</p>
Supporting eligible Participants	<p>All the eligible players are provided a free and fair environment to operate freely</p> <p>Set roles of designated players ensure market works efficiently</p>
Investor Protection	<p>There are a large number of small players in terms of investment makers</p> <p>Have limited financial knowledge and knowledge of operations of market</p> <p>Act as a necessary protective shield against financial shocks and duping</p>

Source- Chen (2020)

Now, we will move on to the Indian regulator, its powers and the regulations.



Fig-4.7- Powers of SEBI

Source- Rathore (2020)

Table-4.10-Functions of SEBI

Functions	Features
Issuers of Securities	<p>Ensuring Initial Public Offering and Following Public Offering is conducted smoothly and according to all established rules and regulations</p> <p>It ensures transparency of the entire process</p>
Protection of Interests of traders and investors	Safeguarding of interests of traders and investors protecting them from fraud and manipulation
Financial Intermediaries	<p>Acts as a mediator of market transactions and ensures that the trading takes place in a secure environment</p> <p>Monitoring the activities of financial intermediaries</p>

Source- Rathore (2020)

Commodities

- Group of Assets used in everyday life
- Alternate and Exchangeable in nature
- Movable goods which can be bought and sold by money, except for actionable claims of money

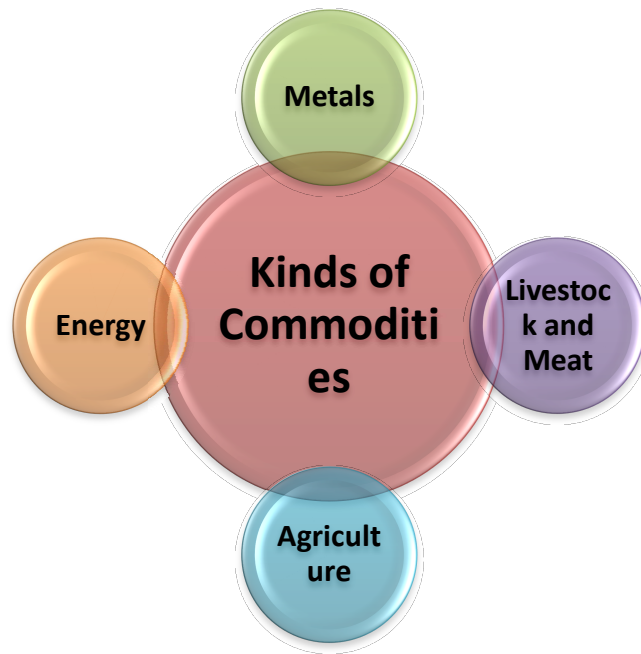


Fig-4.8- Kinds of Commodities
Source- Angel Broking. (n.d).



Fig-4.9- Kinds of Commodities Exchange Market
Source- Angel Broking. (n.d)

Best way to trade in commodities is a futures contract. A future contract is basically buying or selling a specific commodity at a set price in future time. It can be used for any form of commodity. Forward Market Commission (FMC) is the regulatory body for commodity exchange in India.

Table-4.11-Advantages and Disadvantages of Futures Market

Advantages	Disadvantages
The futures are instruments with a high leverage	Extremely volatile form of an instrument
Futures contracts are extremely liquid	High risk associated with investments
Provide an opportunity to gain extreme profits	High leverage may lead to high losses or high gains
Affordable form of investments	Unpredictable movement of trade before closure of trading
Long and short futures are easily targeted to be brought or sold as instruments	

Source- Angel Broking. (n.d.).

To Do Activity

Understand the methodology of trading in commodities and develop a trading unit for yourself and try to use a demo account for trading in metals

Benefits of Agricultural Commodity Market

- Stabilizing the prices of agri products acting as a link between prices set. Hedging helps in reducing seasonal fluctuations of prices
- Helps in developing efficient hedging methodology for pricing of commodities
- Helps in developing Minimum Support Price

Summary

In this Chapter, we started with looking at capital budgeting and its significance. Further we take a look at the capital budgeting methods and delve deeper into each capital budgeting method. We then look at annuities and annuities due. We then look at capital budgeting process used for project appraisal using modern as well as traditional methods. We look at the actionable challenges on payback period and rate of return. We then look at Net Present Value Method and payback period as well as the method of internal rate of return and the issues associated as well as benefits of each method. We then look at the various kinds of dividend policy decisions and the scenarios in which it is undertaken. We then look and understand the merits and demerits of bonus shares. We then take a look at the determinants of dividend policy decisions and end up with having a brief understanding of stock markets, commodities trading especially in detail about agricultural commodity trading.

Questions

1. Mr. Subramanian is a shareholder in Alpha Company Ltd. Although earnings for the Alpha company have varied considerably, Subramanian has determined that long turn average dividends for the firm have been Rs. 5 per share. He expects a similar pattern to prevail in the future. Given the volatility of the Alpha's minimum rate of 40%, should it be earned on a share, what price would Subramanian be willing to pay for the Alpha is shares?
2. Differentiate the capital structure and financial structure
3. There are two firms 'A' and 'B' which are exactly identical except that A does not use any debt in its financing, while B has Rs. 2,50,000 , 6% Debentures in its financing. Both the firms have earnings before interest and tax of Rs. 75,000 and the equity capitalization rate is 10%. Assuming the corporation tax is 50%, calculate the value of the firm
4. Explain the capital structure theories.
5. According to Traditional approach, compute the market value of the firm, value of shares and the average cost of capital from the following information: Net Operating Income 1,00,000 Total Investment 7,00,000 Equity capitalization Rate:
 - a. If the firms uses no debt 7%.
 - b. If the firm uses Rs. 2,00,000 debentures 8%
 - c. If the firm uses Rs. 4,00,000 debentures 9% Assume that Rs 2,00,000 debentures at 6% rate of interest whereas Rs. 4,00,000 debentures at 6% rate of interest whereas Rs. 4,00,000 debentures at 7% rate of interest.

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Chapter 5 Working Capital Management

Introduction

In the final Chapter of the book, we would take up another crucial element in the role of financial manager which is working capital management. Working capital as is clear from its name is the financial requirement of an organization which it requires for its day to day requirements. In this unit, we will try to understand the types of working capital. We will go through the working capital cycle of the organization and understand the various needs that the working capital addresses. Then, we would understand the determinants leading to working capital requirement leading to the estimation of working capital for an organization. We would take a look at various ways of management of cash as well as cash budgeting methodologies. At the end of the unit, we would take a look at the management of inventory and debtors.

Objectives

- To develop an understanding of working capital.
- To be able to appreciate the types of working capital
- To be able to appreciate working capital cycle of an organization
- To be able to analyze the determinants of working capital
- To understand and analyze cash budgeting methodologies

Structure of the Unit

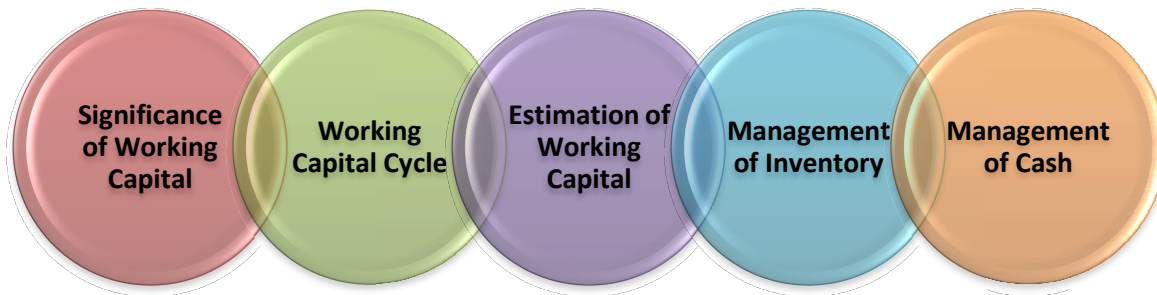


Fig-5.1- Structure of the Unit

5.1 Significance of Working Capital

Before taking up working capital in particular, we would look at the various kinds of capital that an organization needs to stay in operation.

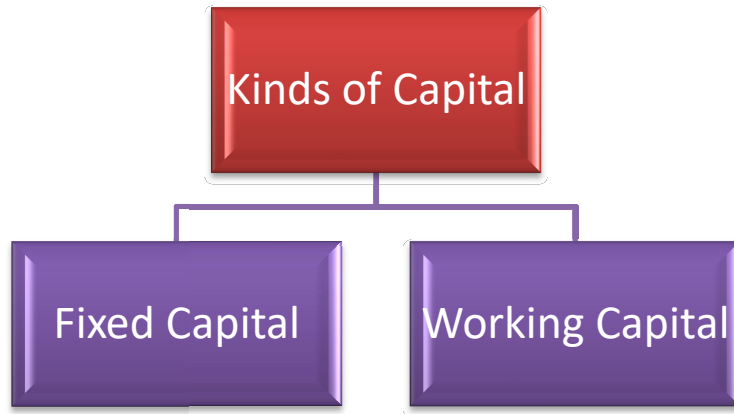


Fig-5.2- Kinds of Capital

Source- Paramasivan & Subramanian (2009)

Table-5.1- Difference between Fixed Vs Working Capital

Basis for Comparison	Fixed Capital	Working Capital
Significance	Investments are made to acquire long term capital assets	Used to meet day to day requirement of business
Control of Assets	Used to acquire long term assets	Used for arranging short term assets
Level of liquidity	Since these assets are long term assets, they are very less liquid	The assets generated from this form of capital is highly liquid
Tenure	The tenure for such capital is long and for a period of 15-20 years	The tenure for such capital is usually one to three financial years
Accounting Period	The duration of accounting record in books is for more than one financial years	The duration of accounting record in books is for one-three financial years
Objective	Part of expansion oriented strategy and generally considered as an indirect inclusion into the business	Part of the operational strategy of the business and doesn't add any other value to the organization apart from adding liquidity to the organization

Source- Paramasivan & Subramanian (2009)

Further there are two kinds of working capital that we will now take a look at:

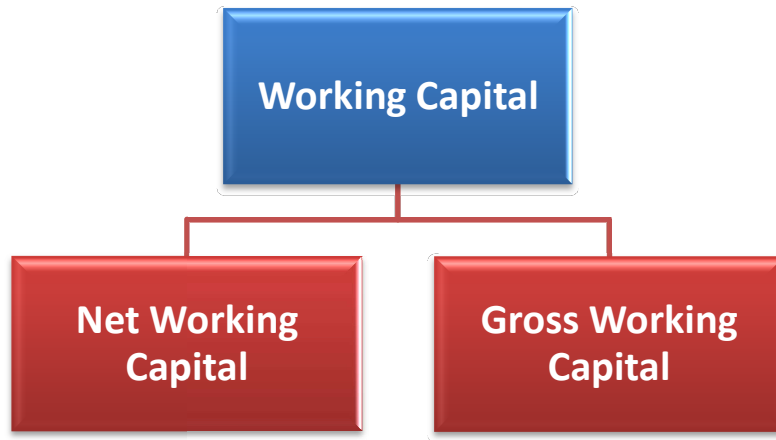


Fig-5.3 Concept of Working Capital

Source- Paramasivan & Subramanian (2009)

Table-5.2- Gross Vs Net Working Capital

Net Working Capital	Gross Working Capital
Considers both the current assets and current liabilities of an organization	Determines the working capital of the organization in general
Is considered to be the excess of current assets over current liabilities of the organization	It is the total amount of investment made in gaining control of short term capital assets of the organization. Thus, in reality, the gross working capital is equivalent of short term capital assets of the organization
If current assets are in excess, it is considered to be positive net working capital	
If current assets in consideration are lesser than the current liabilities of the organization, it leads to negative working capital for the organization	

Source- Paramasivan & Subramanian (2009)

Table-5.3- Components of Current Assets and Current Liabilities

Current Assets	Current Liabilities
Cash in Hand/Cash at Bank	Bills Payable
Bills Receivable	Sundry Creditors
Sundry Debtors	Outstanding Expenses
Short Term Loan Advances	Short-term Loans and Advances
Inventories	Dividend Payable
Prepaid Expenses	Bank Overdrafts
Accrued Income	Provision for Taxation

Table-5.4- Kinds of Current Assets and Current Liabilities

Type	Features
Permanent Working Capital	<p>Known as Fixed Working Capital</p> <p>The business must be a going concern and must maintain a certain minimum level of capital at all times</p> <p>No change is noted in permanent working capital at any time or irrespective of the volume of sales</p>
Temporary Working Capital	<p>Seasonal Working capital</p> <p>Its variable in nature and is used to meet occasional requirements of business such as launch of new product or new marketing campaigns</p>
Semi-Variable Working Capital	<p>A part of working capital used in field operations which are increased as per the change in requirement</p>



Fig-5.4- Requirement of Working Capital
 Source- Paramasivan & Subramanian (2009)

Table-5.5- Situation of working capital

Scenarios	Cause and Effects
Excessive Working Capital	Unnecessary presence of capital leads to buying in more spares and raw materials than required which leads to further inventory issues for the organization Leads to mismanagement of liquid funds Leads to further bad debts, reduce collection timings Leads to a reduction in profits in the long run
Inadequate Working Capital	Firstly, leads to reduction in supply of raw materials leading to a shortage in production Leads to operational problems and leads to a shortfall of profit targets decided by the organization Inefficient and non-optimum utilization of the fixed assets for production of optimum level of outputs Estimated rate of return falls short due to inefficient productivity levels Reduced operation levels of business

Source- Paramasivan & Subramanian (2009)

Determinants of Working Capital Requirements

Nature of Business

- Working capital requirements are largely dependent on the kind of operations and the nature of business
- A rigid capital policy leads to a lower demand of working capital
- The fixed assets intensive industries require more working capital in general than a asset light organization.
- For Example- A transport organization has a lower working capital requirement

Production Cycle

Requirement of working capital is based on the duration of production cycle. Lesser the duration of production cycle, the lesser the requirement of working capital and vice versa

Business Cycle

- A seasonal change in the business cycle leads to a need of working capital to keep a control of deviations
- In terms of the duration of boom of business, the requirement of working capital is large
- In times of depression, the requirement of working capital would be much lower
- Expansion of business leads to a larger requirement of working capital; need to manage overhead expenses

Production Policy

- A similar production policy by any organization leads to a similar need of working capital during the life of the organization
- Situational change in production policy leads to a change in demand of working capital

Credit Policy

- The credit policy related to sales and production of the organization leads to a generation of working capital requirement
- For liberal credit policy organizations have to maintain a higher limit of working capital
- If the debt is paid right at the end of the financial year then it provides a cash in hand and cash at bank

Growth and Expansion

- In the earlier phases of expansion and growth of business, there is a higher requirement of working capital to meet the overhead expenses
- In the case of renovation, higher working capital is required to maintain the normal course of operations

Earning Capacity

- Higher productivity and sales leads to a high degree of operational profit. This in turn will lead to a higher generation of working capital.

Availability of Raw Materials

- This is one of the prime reasons of requirement of working capital as the working capital is mostly used to meet the raw material requirement of the organization.
- In case of higher requirement of raw materials there will be a higher requirement of working capital as well and vice-versa.

Example-5.1. ABC textile firm has a balance sheet as shown below. Find out the gross working capital and net working capital. Find out the current ratio

Liabilities	Rupees	Assets	Rupees
Capital	1,00,000	Plant and Machinery	75,000
Profit	20,000	Land and Building	50,000
Long-Term Borrowings	60,000	Furniture	25,000
Sundry Creditors	21,500	Stock	20,000
Bills	8,500	Sundry Debtors	25,000
		Bills Receivables	10,500
		Semi-Furnished Goods	4,500
	2,10,000		2,10,000

Solution

Gross Working Capital

	Rupees
Stock	20,000
Sundry Debtors	25,000
Bills Receivables	10,500
Semi-Finished Goods	4500
Gross Working Capital	60,000

Net Working Capital

	Rupees
Total Current Assets	60,000
Less: Total Current Liabilities:	
(i) Sundry Creditors: 21,500	
(ii) Bills Payable: 8500	
	30,000
Net Working Capital	30,000

Ratio of Current Assets: Current Liabilities = 2:1

To-Do Activity

Find out the other financial ratios of the organization from the balance sheet

5.2 Working Capital Cycle

Before getting into the understanding of working capital cycle, we need to understand the operating cycle first.



Fig-5.5- Operating Cycle

Source- Saurashtra University (2009)

Methods of Calculation of Working Capital

Estimation of components of working capital

- Includes current assets and current liabilities
- Current assets are demarcated as inventories
- Current liabilities include liquidity to meet short term obligations
- Majorly used by financial manager to assist in the calculation of assets and the capital required for the organization
- Provides a clear connection between level of sales and the amount of working capital generated or required

Percentage of Sales Method

- It's a projection methodology. Its' based on sales and working capital requirements of the past financial years.
- A ratio is developed to determine the working capital of the future
- Traditional method of calculation of working capital
- Firstly calculation involves sales to the working capital ratio
- It is used as a basis for working capital projection

Operating Cycle Method

- Calculation predominantly uses operating cycle of the business

- It begins with the acquisition of raw materials and ends with collection of receivables

It has following stages:

- Raw Material and Storage Stage
- Work in Progress Stage
- Finished Goods Stage
- Debtors Collection Stage
- Creditors Payment Period Stage

Operating Cycle = Raw Material and Storage Stage + Work in Progress Stage + Finished Goods Stage + Debtors Collection Stage – Creditors Payment Period Stage

$R = \text{Average Stock of Raw Material} / \text{Average Raw material Consumption Per Day}$

$W = \text{Average Work in Progress Inventory} / \text{Average Cost of Production Per Day}$

$D = \text{Average Book Debts} / \text{Average Credit Sales Per Day}$

$F = \text{Average Finished Stock Inventory} / \text{Average Cost of Goods sold per day}$

$C = \text{Average Trade Creditors} / \text{Average Purchase on Credit per day}$

We now move on to the various working capital management policy, as a financial manager, it is vital for us to develop an understanding of the various management policies for working capital

Kinds of Policy

Conservative Working Capital Policy

- Provides the understanding of reducing the risk associated with liquidity by increasing the level of working capital under control by the organization
- Mostly used to manage seasonal fluctuations for industries in the manufacturing sector
- Moderate Working Capital Policy
- Used as a tool for maintenance operations of industries with moderate levels of sales
- It is generally a proportional change which means that a unit percentage change in the working capital generates a unit percentage of change in sales

Aggressive Capital Policy

- It's a high risk and high return methodology
- Low level of working capital is maintained by the organization during the period of higher sales
- It is taken as a fluctuating measure of capital policy which moves according to the level of sales generated

Internal Sources

- Retained Earnings
- Reserves and Surpluses
- Depreciation Funds

External Sources

- Debentures and Public Funds
- Bank Loans and Financial Institutions
- Advances and Credit
- Financial Arrangements e.g. factoring

There are different committees which at various phases of time have come up with various strategic reports for working capital management.

Table-5.6- Committee level report on Working Capital Cycle

Committee	Year	Major Recommendations
Dehejia	1969	Credit Appraisal applications to be received by banks before granting of loans
Tandon	1975	Field Appraisals required for providing working capital loans to the industry
Chore	1980	Division of cash credit into separate accounts is not allowed for peak and non peak level requirements
Marathe	1984	Lending to the industry through fast track method
Kanan	1997	Timely scrutiny of the borrowers Monitoring the level of credit disposition

Paramasivan & Subramanian (2009)

Table-5.7- Financing Mix of Organizations

Hedging	Conservative	Aggressive
<p>Approach of matching</p> <p>Any organization can have a financial plan where the expected life of assets is matched with sources of funds raised with equivalent financial assets</p> <p>Long term financing methods are used for buying in large fixed assets and permanent current assets</p> <p>Short-term financing in this method is used to finance temporary and variable assets</p>	<p>Low profit to low risk investment considered</p> <p>The short term capital requirements are to be financed from long-term to short-term and to be used for emergency requirements only</p>	<p>Finance mix riskier, however less costlier and most profitable</p> <p>All the short term assets and a part of long-term assets are to be financed from short-term working capital</p>

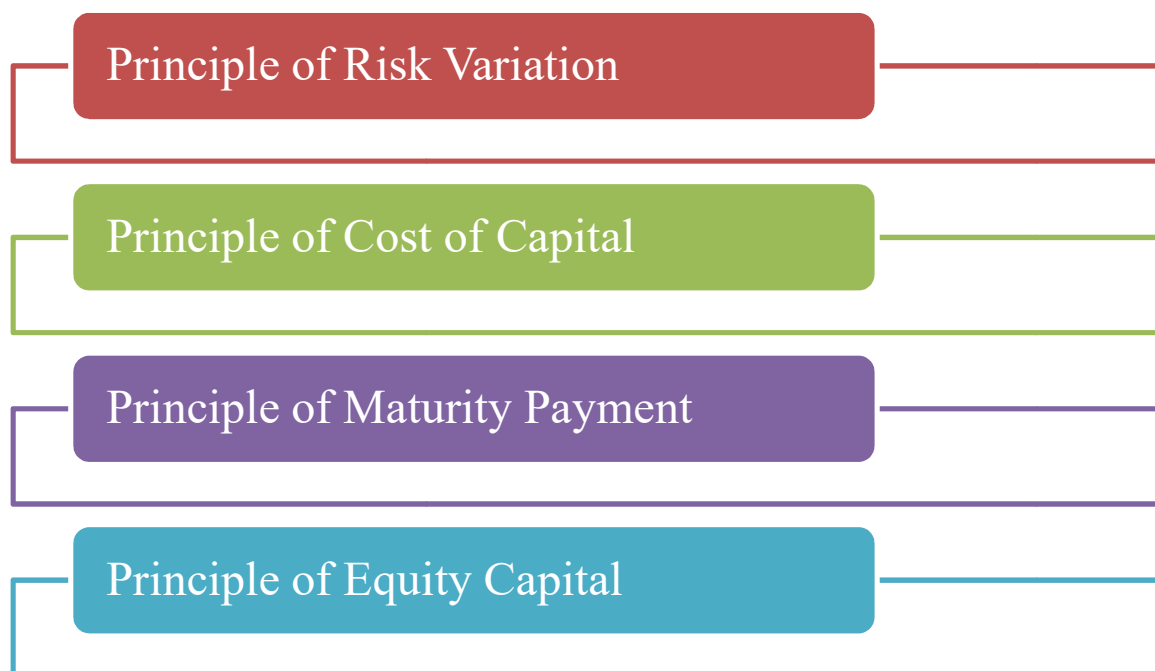


Fig-5.6- Principles of Working Capital

Source- Shashi and Sharma (2005)

Risk Variation

- Ability of the firm to have ample current assets to meet its current obligations
- Working capital changes with respect to sales, the level of risk associated is also varied and the loss/gain is proportionately assessed
- A relationship is established between the rate of risk and the rate of return

Equity Position

- Amount of working capital invested in each component has to be linked to the firm's equity position
- Each pie of Expenses in working capital should total to the Net working capital of the firm
- Cost of Capital
- Different sources of financing have different cost of capital associated with it
- Cost of capital is inversely associated with the risk with it
- As the risk associated with the capital increases, the cost of capital also decreases

Maturity of Funds

- Attempt of the firm should be to relate the maturities of payments to its flow of internally created funds
- If the firm fails to do so, the risks associated with the business increases

5.3. Estimation of Working Capital

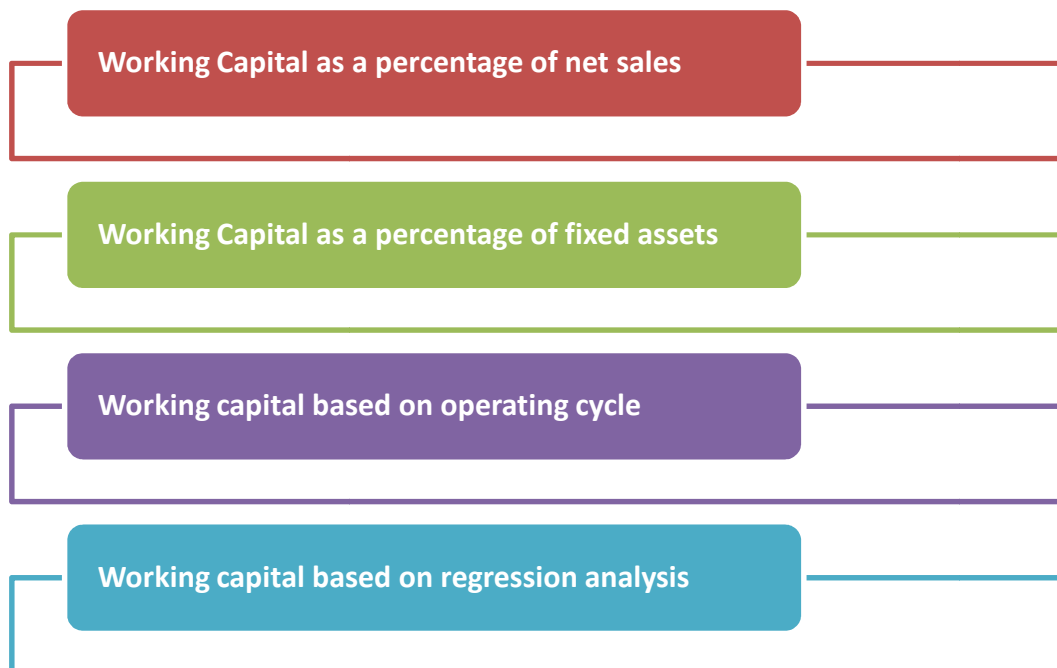


Fig-5.7- Estimation of Working Capital

Source- Shashi and Sharma (2005)

Net Sales Approach

- Working capital is directly related to the volume of sales of the organization
- Higher the volume of sales, higher would be the need of working capital
- It is primarily dependent on the prediction and forecast of sales
- Estimate of working capital = Estimate of Total current assets/Estimated net sales

Total Assets or Fixed Assets Approach

- Based on the knowledge generalized from the past experience there is a relation between the total current assets to total fixed assets of the organization
- This also provides us a clear picture of the gross working capital
- Since the most efficient method of using fixed assets depends on the availability of working capital, even though fixed asset determination is a capital budgeting decision, it has to be used under fixed asset approach

Operating Cycle Approach

- Working capital is based on the length of the operating cycle
- Under this approach it becomes an industry specific approach as each industry differs from each other based on the operating cycle
- In this approach we take up current assets as bank balance, inventories and receivables
- Current liabilities are creditors for purchases and expenses

Regression Analysis Approach

- Statistical tool for predicting the working capital
- The prediction of working capital is based on establishing a relationship trend with the last year's sales data and other variable components of it

Let Sales be X and Working Capital be Y

The equation for establishing the linear regression relationship will be : $Y = a + bX$

We need to obtain the value of a and b

$$\sum y = na + b\sum x$$

$$\sum xy = ax + b\sum x^2$$

Where, a = fixed component

b= variable component

x= sales

y= inventory

n= no. of observations

Impact of Inflation on Working Capital

- Higher the sales higher the balance of receivables
- Increase of prices of raw materials, wages leading to increase in balances of trade creditors and levels of balances in receivables
- Higher valuation of closing stocks leading to higher tax obligations
- Higher current assets required leads to increased working capital requirement

Zero Level Working Capital

- One of the most modern method of working capital management
- Current Assets = Current Liabilities
- Prevents the usage of excess working capital to cover up current liabilities
- Helps in saving up the opportunity cost of excess investment, interest cost is also saved
- Disciplined approach to prevent over borrowing
- Helps to realize full net worth of current assets
- Long-term financial approach

As a finance manager, the role at hand is to compute working capital efficiencies and there are many measures for the same. Here we take a look at some of them

Indices of Working Capital Management

Performance Index

- Provides an average of performance index of various current assets
- It shows the organization's capability to handle working capital efficiently
- The condition is proportionate rise in sales is more than the proportionate rise in current assets during a particular time frame

Where, I_s = sales index = S_t/S_{t-1}

W_i = individual group of current assets

N = number of current assets group

$i = 1, 2, 3, 4, \dots, N$

Utilization Index

- It provides details of the average overall performance of the organization in managing the components of current assets of the organization
- Provides an overview about the capacity of the organization to utilize the potential of the organization to generate sales
- Provided there is a noticeable increase in the level of sales with an increase in the level of the current assets of an organization, then it can be considered as an increase in the level of utilization index or vice versa

- The ultimate focus of utilization index is to provide an idea of the operating cycle of an organization
- In case of reducing the operating cycle of the firm, the utilization index needs to be increased
- In an ideal scenario, the utilization index is above one for the organization to be considered a healthy organization

Efficiency Index

- It's a measure of performance
- It is the combined outcome of both performance index and utilization index (product of profitability index and utilization index)
- The final measure of working capital management of the firm
- Utilization index is expected to be greater than one
- Working Capital Management = $PI_{\text{working capital management}} \times UI_{\text{working capital management}}$

Profitability

- It is one of the finest measures of performance of working capital management of the organization
- It is the difference between the revenue generated by the operations of the organization and the investment leading to the revenue generation, during one financial year
- The information is collected through the financial reports such as balance sheet and income statement
- Companies calculate profit before depreciation, interest and taxes as gross profits

Revenue-COGS = Gross Profit

After deduction of interest, taxes, the profit after tax and net profit is obtained

Operating Profit = Gross Profit-Operating expenses

Known as EBIT

We would now look at the advantages of working capital management.

Advantages of Working Capital Management

- Provides organization an optimum level of operating working capital
- Reduction of cost of funds of assets
- Proactive measure of working capital fund requirement assessment

Example-5.2- From the following information extracted from the books of a manufacturing company, compute the operating cycle in days and the amount of working capital required:

Period Covered	365 days
Average period of credit allowed by suppliers days	16
Average Total of Debtors Outstanding	480 .00
Raw Material Consumption	4,400 00
Total Production Cost	10,000 00
Total Cost of Sales	10,500
Sales for the year	16,000
Value of Average Stock maintained:	
Raw Material	320
Work-in-progress	350
Finished Goods	260

Solution

i. **Raw Materials held in stock:**

Average stock of raw material held/ Average consumption per day = $320/(4400*365) = 275$ days
 Less: Average credit period granted by suppliers: 16 days/11 days

ii. **Work in progress :**

Average WIP maintained/Average cost of production per day = $350/(10,000/365) = 13$ days

iii. **Finished goods in stock:**

Average finished goods maintained/Average cost of goods sold per days = $260/(10,500/365) = 9$ days

iv. **Credit period allowed to debtors:**

Average total of outstanding debtors/Average credit sales per day = $480/(16000*365) = 11$ days

Total operating cycle period = 44 days

Number of operating cycle in a year = $365/44 = 8.3$

Amount of working capital required = Total operating cost/No. of operating cycles in a year=
10,500/8.3 = Rs 1265

5.4 Management of Inventory

Firstly, we take up the inventory management as the major concern as they form a major part of the current asset of the organization.



Fig-5.8- Components of Inventory Management

Source- Paramasivan & Subramanian (2009)

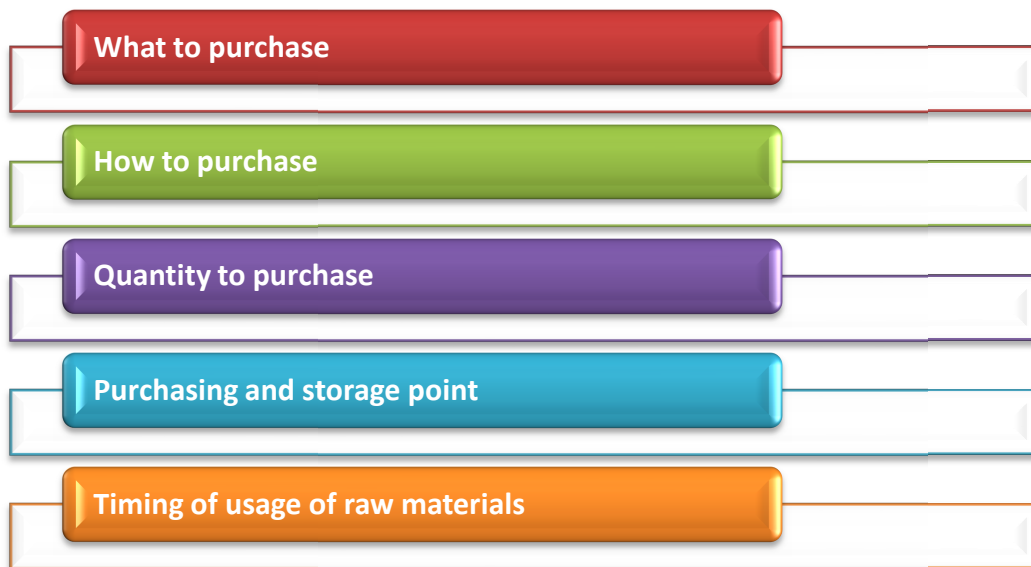


Fig-5.9- Decisions of Inventory Management

Source- Paramasivan & Subramanian (2009)

Table-5.8- Kinds of Inventory

Kinds of Inventories	Significance
Raw Materials	Important component of inventories Goods not planned for usage of a business productions
Work in Progress	Materials used for production and are currently at stages of production The materials aren't completely prepared and ready for sale
Consumables	Materials used up in the smooth running of the process and operations of the organization
Finished goods	Goods in the final stages of the process They are ready for sale and yield the organization receivables
Spares	Part of the inventories used up in repairs or sub-units in the production process

Apparently, 30-80% of total working capital and current capital costs are inventory for an organization. Mostly capital intensive industries are marred with a majority of the investment in the inventory and more so in inventory management. Mostly it is in the best interest of the organization to reduce its inventory load and to keep it to a bare minimum. On the other hand, maintenance cost is added over the top of inventory cost. Thus, as a financial manager it is of prime concern for the organization to keep a track of inventory and to manage its smooth flow leading to generation of revenue and reduction of inventory storage costs for the organization. Thus, here we would take a look at the objectives of inventory management for the organization.

Objectives of Inventory Management



Fig-5.10- Objectives of Inventory Management

Levels of Inventory

Stock Level

- Level of inventories to be maintained by business organization at all times
- Business concern at all times should maintain the stock level to maintain the optimum flow of the production of output for the organization
- Level of stock is to be determined based on the volume of the stock

Minimum Level

- This is the minimum level of stock to be maintained by the organization at all times
- At any point, provided the stock goes below the minimum level the production for the final units gets blocked

Re-order Level

- The level is fixed between minimum level and maximum level
- It is the point at which the business concern at which the business concern takes up the call to re-order the inventory stock

Re-order Level = maximum consumption x maximum re-order period

Maximum Level

- Maximum limit of inventory that a business concern can undertake at any idle point
 - Exceeding the quantity decided to be the maximum level, leads to overstocking of the inventory
- Maximum level = Re-order Level + Re-order Quantity- (Minimum Consumption x Minimum Delivery period)**

Danger Level

- This point is taken to be below the minimum level of inventory point
- As the name suggests, at this point of inventory the production enters into a shutdown mode

Danger Level = Average Consumption x Minimum re-order period for emergency purchase

Average Stock level

Minimum Stock Level + ½ of re-order quantity maximum level

Lead time

- Time taken basically in receiving delivery after it has placed orders with the suppliers
- Time taken in processing and executing the order is considered to be lead time

Safety Stock

- The level of additional inventories to be drawn down as the lead time of the inventory production or the inventory usage of the organization is greater than expectations
- It is determined as the opportunity cost for the inventory to be drawn from one source rather than other source/alternative

- It is also taken into consideration when the level of usage of inventory is greater than an expected level
- The higher the cost of inventories, the lower the safety stock of the organization
- Provided a going business concern has a low level of safety stock on hold, the organization has to pay a higher opportunity cost
- Larger amount of safety stock holding leads to higher inventory cost and carrying cost of the organization

Economic Order Quantity (EOQ)

- The level of inventory has two costs involved , both ordering cost and carrying cost
- Providing an optimum balance of the both the cost provides us an economic order quantity
- EOQ reduces the total ordering of carrying cost

The basic mathematical formula= $(2ab/c)^{1/2}$

Here, a = Annual usage level of inventories

b= buying cost per order

c= Carrying cost per unit

Example-5.3- ABC Textile Corporation is an industry run by local weavers of Bhanwari region. Find out the economic order quantity and the number of orders per year from the following information:

Annual Consumption	36,000 units
Purchase price per unit	Rs 54
Ordering Cost per unit	Rs 150

Inventory carrying cost is 20% of the average inventory

Solution- Inventory = $(2AO/C)^{1/2}$

A= 36,000

O= Rs 150

C= 20% of 54x 10 x 8

$(2 \times 36000 \times 150)^{1/2} = 1000$ units

Methods of Classification of Inventories

A-B-C Analysis

Inventory management technique leading to a division of inventory based on value and volume of the inventory. Here, we categorize the value and volume of consumption: 10% of inventory items contribute to 70% of the value of consumption, this belongs to A category, 20% of the volume of the inventory contributes to 20% of the value of the output produced leading to a B category of the inventory and the last version is 70% of the volume of the inventory which leads to a 10% value of the output and this provides us the C range of inventory.

Aging Schedule of Inventories

It helps us in understanding the life of the raw materials based on the period of holding it

F= fast moving inventories

N= normal moving inventories

S= slow moving inventories

D = Dead moving inventories

Provides information about the time of disposal of inventories and have to be planned accordingly

VED Analysis

Provides an idea for spare parts in inventory management. Here, also the inventories are classified into three parts based on the usage of inventories

V= Vital items of inventories

E= Essential Items of inventories

D= Desirable item of inventories

HML Analysis

The division of inventories on the basis of value of inventories

H= High value of inventories

M= Medium Value of Inventories

L= Low level of inventories

Inventory Budget

Functional budget estimate made by an organization for the level of inventory required by the business concern during the life of an organization

Provides the necessary control on inventory for the management

Valuation of Inventories

- First In First Out (FIFO)
- Last In First Out (LIFO)

- Highest In First Out (HIFO)
- Nearest In First Out (NIFO)

Average Price Method

- Base Stock Method
- Standard Price Method
- Market Price Method

We would take up a look at two of the most popular method of valuation of inventories and its difference and similarities

Table-5.9-FIFO vs LIFO

Basis of Comparison	First In First Out (FIFO)	Last in First Out (LIFO)
Meaning	First In First Out, The most recently acquired goods going unsold leads to this scenario	Last in first out leads to the most recent inventory material to be sold out
Restriction of usage	Is allowed both on GAAP and IFRS	IFRS doesn't consider LIFO as a method
Record Keeping	Number of records to be maintained under FIFO is lower	Number of records in LIFO increases
Impact of inflation	If there is a decrease in the cost of goods sold, the net profits increase as the cost of goods sold increases and as the items acquired by the organization at a later phase are expensive	<p>Provided there is an increase in the cost of the goods sold increases, the subsequent profit generation also decreases for the organization</p> <p>As the costs of raw materials keep on increasing, the raw materials or inventory acquired most recently is pretty higher than the inventory generated earlier is of lower cost</p>
Impact of deflation	<p>In a period of deflation, the accounting value of profit is lower under FIFO</p> <p>It is highly preferred, as it reports a lower profit and this helps the organization to reduce taxation burden on the organization</p>	<p>The profit in terms of accounting value and the value of inventory generally turns out to be higher under LIFO method</p> <p>It isn't taken up as a preferred method, as it reports a higher profit or higher valuation of the inventory leading to a tax burden for the organization</p>

Source- Paramasivan & Subramanian (2009)

5.5 Cash and Receivable Management

Cash management is one of the predominant concerns of the financial management process. Cash as we understand is the most liquid form of capital for an organization. Therefore, it is a requirement for any organization to maintain it properly and it would turn out to be the biggest support system of the organization. It is issues dealing with cash inflows and outflows of the organization and proper handling of cash balances.

Table-5.10-Motives of cash holding

Reasons	Factors
Transaction	A method primarily used to hoard up cash or most liquid bonds to meet its day to day obligations Purchase of raw materials, pay expenses, taxes, dividends
Precautionary measure	Holding ample cash in order to act as a contingency measure to meet unexpected business conditions
Speculative Move	Holding cash to cash in opportunities which are beyond the normal course of business A small percentage of liquid cash to meet the obligations and it helps to negotiate the prices of the inventory
Compensating Measure	Acts as a compensating insulation for the organizations to provide special services or make special provisions for debts The special services provided by the banking institutions are cheque clearance



Fig-5.11- Types of cash management

Mode of Payment

Prompt Payment by Customers

- Every stable business concern must consider enforcing the customers a healthy and swift repayment of bills
- The firms should consider in reducing the delay of payments
- The firms should ensure a medium of prompt recovery such as ensuring a fixed medium of penalty for late repayments , hampering the credibility of customers to gain further supplies

Early Conversion of Cash for the payments

- As a finance manager, it's his responsibility that he ensures that the organization has ample liquidity to cover up for its immediate expenses.
- However, many a times the payments made by customers are not in liquid form, it is converted into liquid form for payments and further overhead expenses

Concentration Banking

- In this form, an organization doesn't directly collect its payments but takes in other regional players to perform collections for its part
- It is directly deposited in banks and financial institutions for easier clearance
- It leads to a decentralized form of collection and billing helping to reduce the stress of collection for the organization
- It makes in an easier touch points for the organization

Lock Box System

- Payers make the payment in the most nearby collection point and it is further forwarded to the organization's bank for clearance
- The banks also deposit the cash, cheques and other financial instruments payable to the organizations
- In this system, the organization has a post office lock box under control to make it easy for the customers to pay the bills for the organization
- Local banking institutions are provided with the freedom to operate and take in remittances of the customers
- It helps in streamlining payments and collections for the organizations creating a simple mechanism of payments

Swift Methods of Disbursements

Avoidance of Early Cash Payments

- As an organization, it should postpone the payments to the end of the paying period, so that the capital in the organization earns interest and the organization stays afloat

- The retained earnings for long, can be used to make diversified payments and make other investments

Centralized distribution systems

- Decentralized collection system has an advantage of collecting the payments in a smooth manner
- On the other hand, the centralized system in terms of payments smoothens out

Models of Cash Management

Baumol Model

- Aids in determining the minimum cost amount of conversion of cash and the opportunity cost lost in not choosing the other alternatives
- Provides a cost efficient transactional balance
- Works suitably if there is a certain degree of reliability
- It also ensures a optimal conversion size of the lot

Total conversion cost per period = $t = Tb/C$

Here, T= total transactional cash needs per period

b = Cost per conversion

C= Value of marketable securities

For opportunity cost calculation, $i = C/2$

Where, i= interest rate earned

$C/2$ = Average cash balance

Optimal cash conversion rate, $C = (2bT/i)^{1/2}$

Here, C= Optimal conversion amount

b= Cost of conversion into cash per lot

T= Projected Cash requirement

i= interest rate earned

Miller Orr Model

- Determination of optimum cash balance level which reduces the cost of management of cash

$C = bE(N)/t + iE(M)$

Where, C= Total cost of cash management

b= fixed cost of conversion

$E(M)$ = expected average daily cash balance

$E(N)$ = expected number of conversion

t = Number of days in the period

i = lost opportunity cost

Orgler's Model

- It provides a model for integration of cash management with various aspects of business
- Optimal cash structure is determined using multiple linear programming method
- As normal linear programming normally concerns, there is a set of objectives with constraints of resources

A part of the financial manager's role is concerned with ideal servicing of debt owned by the customers owed to the organization over the sale of products and services by the organization, they are considered to be receivables, a major part of the current assets for an organization.

Receivable management is the way in which organizations manage to make overall returns from sales and services higher than the investments to generate profitable earnings.

Cost Related to Receivables

Collection Cost

- Cost incurred in the collection of the amount to be received in return for the services and materials supplied by the organization
- Administrative cost
- Cost of collecting receivables, managing an organization, salaries of staff members, day-to-day running costs of an organization

Capital Cost

Cost of bringing in credit beyond a point. We need to understand that every organization has an innate creditworthiness based on which it is able to collect credit from different financial institutions or market. Beyond a point as we come close to the limit of credit, if we need credit beyond the organization's limit, the organization has to pay up some capital or shares upfront to raise further capital through increased credibility leads to an additional cost known as capital cost

Default Cost

Many a times an organization is unable to recover its receivables at a set date and over time this leads a formation of default in repayments and thus the organization has to set aside a part of its capital to cover up for such defaulted payments. This is the default cost of the organization.

Factors of Receivables Management

Level of Sales

It is basically the determining factor of the size of receivables lot. The higher the level of sales, the more will be size of receivables and vice-versa

Credit Policy

It leads to the determination of level of credit and sales. Higher the liberal credit policy, higher the level of sales whereas a more strict or guided credit policy, the level of sales and thereby the level of receivables will go down

Credit terms

It puts out the credit receivable policies for defining credit limit or receivable limit. It leads to a decrease or increase in terms of receivable

Credit Period

The tenure of moratorium over payment of receivables is the credit period for the organizations. It is known as Net days

Cash Discount

It is a method of incentives based on early repayment schedule of payer. Generally, there should be some form of credit discount to lure in the payer to schedule the receivables earlier than due date

Management of Receivables

After receivables are recovered it becomes a primary concern of the financial manager to have a strategy of management of receivables for streamlining cash management

Example- 5.4- Prepare an estimate of working capital requirement from the following information of a trading concern

Projected annual sales	10,000 units
Selling price	Rs. 10 per unit
Percentage of net profit on sales	20%
Average credit period allowed to customers	8 weeks
Average credit period allowed by suppliers	4 weeks
Average stock holding in terms of sales requirements	12 weeks

Allowing 10% for contingencies

Solution- Sales = 10000×10 = Rs. 1,00,000

Profit 20% of Rs. 1,00,000 = Rs. 20,000

Cost of Sales=Rs.1,00,000 – 20,000 = Rs. 80,000

Current Assets	Rupees
Debtors (8 Weeks) 80,000 x 8/52 (at cost)	12307
Stock (12 weeks) 80,000 x 12/52	18,462
Total	30,770
Less: Current Liability	
Credits (4 weeks) 80,000 x 4/52	6154
Total	24,616
Add: 10% for contingencies	2462
Working Capital Required	27,078

Summary

In this Chapter, we looked at the role of financial manager of an organization in maintaining liquidity for the organization. We start the unit by having a look at the kinds of capital at the disposal with the significance and difference of the kinds of capital before shifting our focus entirely onto the working capital of an organization. We then try to understand the working capital needs of an organization looking at primary sources of expenditure of the working capital on various heads. We then looked at various sources of working capital and tried to understand what is known to be the working capital cycle for an organization. We then tried to take a look at the credit policies in place to regulate the working capital and how different modes of working capital management work in tandem to regularize and streamline cash inflow and outflow for an organization. We then look into various kinds of inventory and their management techniques. We further looked into cash and receivable management for an organization along with the various factors and forms of cash and receivable management.

Questions

1. Critically explain the factors affecting the requirement of working capital
2. Explain the working capital management policy
3. Prepare an estimate of working capital requirement from the following information of a trading concern

Projected annual sales	Rs 6,50,000
Percentage of net profit on sales	25%
Average credit period allowed to debtors	10weeks
Average credit period allowed by creditors	4 weeks
Average stock holding in terms of sales requirements	8 weeks

4. Explain various inventory control techniques
5. . Discuss the cash management techniques

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Further Readings

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Editors' Profile

Dr W G Prasanna Kumar

Dr. W G Prasanna Kumar, Chairman, Mahatma Gandhi National Council of Rural Education (MGNCRE) prides in calling himself a *Public Servant* working for Climate Change. His expertise in Disaster Management has him in the advisory panels of several state and national level departments. He is also an expert advisor for the government of Telangana in its Disaster Response Force endeavour. A master trainer for Civil Services candidates, he conducts intensive training programs periodically at the behest of nationally recognized training institutes. He is currently actively involved in promoting higher education curriculum addressing rural concerns in India. **"Villagers to be producers not just consumers"** is his conviction that drives him to work for rural challenges. He aspires for an adaptive disaster risk resilient and eco-responsible India. The Curriculum on MBA in Waste Management and Social Entrepreneurship, and BBA and MBA in Rural Management are his major academic achievements dedicated to India's rural concerns. This has culminated in several collaboration MOUs for introduction of MBA/BBA Rural Management in Higher Education Institutions across India.

Dr. Prasanna Kumar excels in taking a vision and making it a reality and a plan into action, driven by a strong motive to achieve. He has translated positive intentions into tangible results. Being clear on the vision, defining a pathway, setting of the track with a clear destination point and quickly taking corrective actions as and when needed – are his prime qualities that make him an Achiever.

Under Dr. W G Prasanna Kumar's leadership MGNCRE has done nationally recognized instrumental work in building rural resilience including rural community engagement and Nai Talim - Experiential Learning. He has guided and helped MGNCRE in making key decisions and implementing agenda in several areas including Nai Talim (Experiential Learning), Community Engagement, Rural Immersion Programmes, Swachhta Action Plan activities, Industry-Academia Meets and Exhibitions on Waste Management, Comprehensive Sanitation Management in villages by working with Higher Educational Institutions, making curricular interventions in Waste Management and Rural Management, compiling Text Books on Waste Management and Rural Management, UNICEF (WASH) activities and several other related impactful activities. MGNCRE has become an interface for Government of India for promoting academic activity focusing on the rural concerns, being an advisor and a curriculum development agency for the Government of India. The Council is also now an RCI for Unnat Bharat Abhiyan.

Another pathbreaking achievement has been the formation of **Cells** through online workshops for institutionalising the efforts of MGNCRE. Vocational Education-Nai Talim-Experiential Learning (VENTEL) discuss MGNCRE's interventions in HEIs and making Vocational Education as a Teaching Methodology; Workshops on Social Entrepreneurship, Swachhta and Rural Engagement related activities in Higher Education Institutions has paid dividends and the key roles of the HEIs is highly appreciated by the Ministry. Building continuity and sustainability is being done through Social Entrepreneurship, Swachhta & Rural Engagement Cells (SES REC). Institutional level Rural Entrepreneurship Development Cells (REDC) Workshops/ FPO/FPC-Business Schools Connect Cells (FBSC) are organized with the objectives of

Functionality of RED Cell; Preparation and Implementation of Business Plan and grooming students to be Rural Entrepreneurs.

A man with many firsts to his credit, and an incredible record of accomplishments, Dr. W G Prasanna Kumar is currently guiding MGNCRE in building a resilient rural India.

Dr K N Rekha

Dr K N Rekha, is a PhD Graduate from IIT Madras. She has 14 years of experience in training and education Industry. She works at Mahatma Gandhi National Council of Rural Education (MGNCRE), Hyderabad as Senior Faculty. She is involved in curriculum development on Rural Management and Waste Management. Prior to this, she worked as a researcher at Indian School of Business, Hyderabad, a short stint at Centre for Organisation Development (COD), Hyderabad. She has co-authored a book on “Introduction to Mentoring”, written book chapters, peer reviewed research papers, book reviews, Case studies, and caselets in the area of HR/OB. She also presented papers in various national and international conferences. Her research areas include Mentoring, Leadership, Change Management, and Coaching. She was also invited as a guest speaker at prominent institutions like IIT Hyderabad.

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