

**WOLLO UNIVERSITY (KIOT)**

**DEPARTMENT OF CONSTRUCTION TECHNOLOGY  
AND MANAGEMENT**

**FINANCIAL MANAGEMENT IN  
CONSTRUCTION (HB)**

**Comp. By: Ephrem M.**  
February, 2020



**KIOT**

**CoTM**

# CHAPTER-0 COURSE SYLLABUS

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## COURSE OBJECTIVES

At the end of this course, students will be able to Understand the basic concept of financial management in Construction, and the concepts of financing decisions in construction projects, Analyze financial statement of construction organizations, Understand the basic concept of working capital management, investment policy in construction and Understand the basic concept of Construction project formulation, appraisal, Monitoring and Control.

## COURSE INFORMATION

Course Title	<b>Financial Management In Construction</b>			
Course Code	<b>CoTM3171</b>			
Degree Program	B.Sc. in Construction Technology and Management			
Module Name	<b>Construction Financial Management</b>			
ECTS	<b>5 ECTS</b>			
Weekly Contact Hours/Student Work Load	Lecture <b>2</b>	Tutorial <b>2</b>	Practice or Laboratory <b>2</b>	Home study <b>3</b>
Pre-Requisites	Principles of Accounting			
Semester	II			
Status of Course	Compulsory			

## COURSE DESCRIPTION

- **Financial Management in Construction:** Introduction, Capital requirement of a firm, flow of fund in a corporation, functions & goal of financial management.
- **Financing Decisions in Construction:** means of finance securities, short & long term financing of construction projects, dividend decisions & policy,
- **Construction firms financial operation:** financial statement & analysis, working capital management,
- **Investment Management in Construction:** introduction to Construction Investment Management, investment policy, project appraisal, capital budgeting, system of monitoring & control.

## **COURSE OUTLINE**

### **CHAPTER 1. INTRODUCTION**

- 1.1 Capital Requirement of a Corporation
- 1.2 Goals of Financial Management
- 1.3 Functions of Financial Management
- 1.4 Organization of Finance Function
- 1.5. Financing Decisions
  - 1.5.1 Short-term financing
  - 1.5.2 Intermediate-Term Financing
  - 1.5.3 Long-Term Financing
- 1.6. Firm's Financial Operation
  - 1.6.1 Financial Statement
  - 1.6.2 Financial Analysis

### **CHAPTER 2. FUNDAMENTALS OF INVESTMENT APPRAISAL**

- 2.1 Introductions
  - 2.1.1 Investment
  - 2.1.2. Simple Interest & Compound Interest
  - 2.1.4 Economic Equivalence and The time value of money
- 2.2. Cash Flow
- 2.3. Interest Formulas for Discrete Cash Flows

### **CHAPTER 3. METHODS OF INVESTMENT APPRAISAL/ METHODS OF COMPARING ALTERNATIVE PROPOSALS**

- 3.1 Present Worth Method of Analysis
- 3.2 The Future Worth Method of Analysis
- 3.3 The Annual Worth Method of Analysis
- 3.4 Rate of Return Method of Analysis
- 3.5 Benefit cost Ratio Analysis

### **CHAPTER 4 WORKING CAPITAL MANAGEMENT**

- 4.1 Working Capital Policy
- 4.2 Cash & Liquid Management
- 4.3 Credit Management
- 4.4 Inventory Management

### **LITERATURE**

1. Anthony Merna, Yangchu and Faisal Al-Thani. Project Finance in Construction: A Structured Guide to Assessment
2. John F. Marshall and Vipul K.Bansal. Financial engineering: A complete Guide to Financial Innovation
3. M. Fouzul Kabir Khan Robert J. Parra ,2003. Financing Large Projects Using Project Finance Techniques and Practices, Pearson Education Asia Pte Ltd , Singapore.
4. Steven J. Peterson, 2009. Construction Accounting and Financial Management, 2nd edition, Pearson Education Inc, New Jersey Columbus, Ohio
5. Tang, S.L., 2015. Construction Financial Management, 3rd edition available at [www.bookboon.com](http://www.bookboon.com)
6. The Chartered Institute of Public Finance and Accountancy (CIPFA),1999. The Financial Management and Audit of Construction Contracts: A practical Guide, London, UK.
7. David Sirota. Essentials of Real Estate Finance, 11<sup>th</sup> edition
8. Brigham and Ehrhardt. Financial Management: Text and Cases

## REQUIREMENTS/POLICY

- **Attendance:** students should attend at least 85%
- **Assignments:** all students must do all the assignments given
- **Tests/quizzes:** all students must sit/take all tests/quizzes given
- **Cheating/plagiarism:** cheating/plagiarism is strictly forbidden. It will result in disqualification of the course.

## TEACHING METHODS:

- Lectures and discussion,
- Tutorial & Seminars,
- Laboratory practice,
- Assignments, Case studies, Mini project and presentation.

## CODE OF CONDUCT:

- Students should avail themselves for lectures on time.
- Assignments and semester projects shall be submitted on due date. Assignments and projects turned in late will be docked 10% for each day it is late past the original due date.
- Simply copying assignments from another student is not acceptable and will not be tolerated.
- For assignments and projects guidelines should be strictly followed. Any Assignments not complying with the professional standard will not be graded.
- All students must take all exams and submit all assignments and projects. Only extenuating circumstances will be accepted for missing exams.

## MODE OF ASSESSMENT

- Class assignments and presentation 15%
- Tests 15%
- Quiz 10%
- Project and presentation 20%
- Final Exam 40%

## GRADING SYSTEM

The Grading Scale and Letter Grade System is given in table below as per academic policy.

Raw Mark	Letter Grades	Grade Points	Status Description	Class Description
[90, 100]	A+	4.00	Excellent	First class
[85, 90)	A	4.00		
[80, 85)	A-	3.75		
[75, 80)	B+	3.50	Very Good	
[70, 75)	B	3.00		
[65, 70)	B-	2.75	Good	Second class
[60, 65)	C+	2.50		
[50, 60)	C	2.00	Satisfactory	
[45, 50)	C-	1.75	Unsatisfactory	Lower class
[40, 45)	D	1.00	Very Poor	
[30, 40)	Fx	0.00	Fail	
<30	F	0.00		

## COURSE INSTRUCTOR INFORMATION

- Name: **Ephrem Melaku**
- Office location: **KIoT, Wollo University**
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- Consultation Hours: \_\_\_\_\_

## APPROVAL SECTION

- Name of Course Instructor \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_
- Name of Course Team Leader \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_
- Name of Department Head \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

## CHAPTER ONE

### INTRODUCTION

#### 1.1. CAPITAL REQUIREMENT OF A CORPORATION

Suppose one is planning to start his own business. No matter what the nature the proposed business is and how it is organized, he has to address the following questions.

- What capital investment should be made? That is what kind of material and equipment should be purchased, the type of land to be leased or building to be rented, etc.
- How and where the money to pay for the proposed capital investment will be raised? That is, what will be the equity and debt mix in the financing plan?
- How the day-to-day financial activities are handled like collecting the receivables and paying the suppliers?

In the modern society, Financial Management goes beyond answering those fundamental questions. It assumes the responsibility of dealing with the problems and decisions associated with managing the firm's assets that has made it an exciting and challenging area in managing large organizations. Financial decision making is primarily concerned with developing the skills needed to make correct decisions in a fast moving and technologically complex corporate environment. Some of these issues include:

- Which new proposals for employing capital should be accepted by the firm?
- What steps can be taken to increase the value of the firm's common stock?
- How much working capital will be needed to support and expand the company's operation?
- Where should the firm go to raise the short and long-term capital demand and how much will it cost?
- Should a firm declare a cash dividend on its common stock and if so, how much a dividend should be declared?

Finance is a specialized functional field of business administration. The term finance can be defined as the management of the flows of money through an organization, whether it to be a corporation or non-corporate business or government agency. Finance concerns itself with the actual flow of money as well as any claims against money.

The flow of funds within a corporation is basically a continuous process, particularly if the corporation has been in business for a period of time. Fig 1-1 illustrates a typical cash flow diagram with the focal point being the reservoir of cash. One could see the following as inflow and outflow of cash.

- Cash is raised through equity, debt or through investment by other corporations,
- Cash inflow includes net credit sales, net cash sales and sales of assets,

- Cash is disbursed through purchase of materials, fixed assets, expenses as wages and salaries to workmen,
- Cash is repaid to stockholders in form of dividends, creditors in the form of loan repayment and also to other corporations stocks or bonds.

If total cash inflow exceeds all costs (including depreciations) for a given period, then there is a profit for that particular period, if not there is a loss.

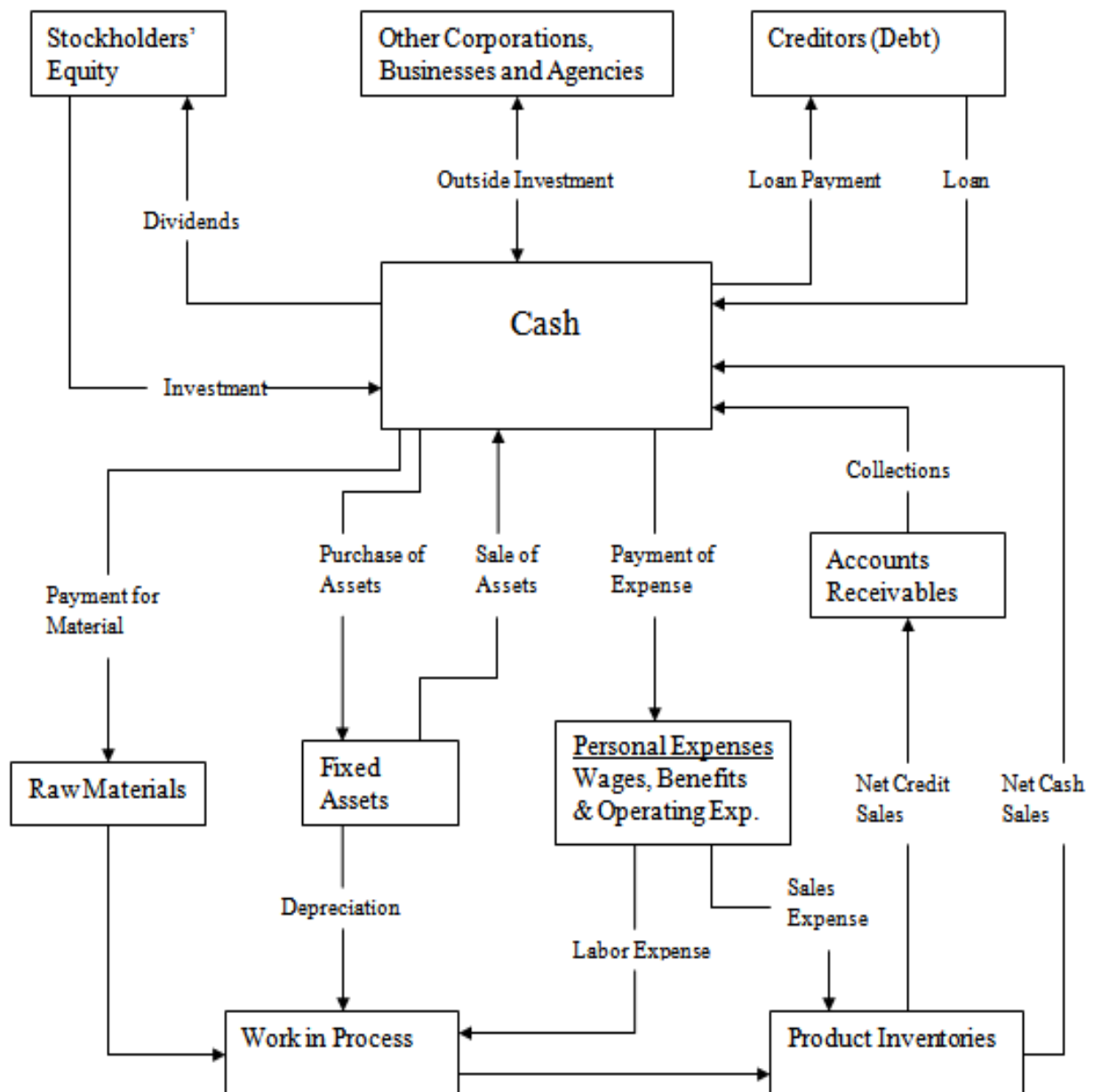


Fig 1-1 Fund flows of a corporation.

## 1.2. FIELDS OF FINANCE

The academic discipline of financial management may be viewed as being made up of four specialized fields.

In each field, the financial manager is dealing with the management of money and claims against money. Distinctions arise because different organizations pursue different objectives and do not face the same basic set of problems.

Four areas of finance:

Fields of finance	Fund owned by	Fund collected through	Use of fund
Public Finance	Federal, State and Local Government	Revenue from taxes and levies, Loan , Grant etc	To accomplish Social and Economic objectives. Perform non-profit oriented corporations.
Finance Securities	Individuals, Institutional investors	Purchase and sale of stocks and bonds.	Means of raising finance for institutional investors. Means of achieving profit for individuals.
International Finance	Individuals, businesses and governments involved in international transactions	Through International transactions	Means of collecting foreign currency.
Institutional Finance	Banks, Insurance companies, and pension funds and credit unions.	Individual savers	Finance function of the economy through capital formation.

Financial Management:

- Studies financial problems in individual firms,
- Seeks sources of low-cost funds
- Seeks profitable business activities.

**Debt versus Equity** financial securities, a means for raising finance for a corporation.

- Debt Security.* It arises when a firm borrows money from creditors. The firm incurs liability to repay the amount of money borrowed in some future maturity date.
- Equity Security.* It represents ownership claim in the firm. People who purchase equity securities are entitled to rights and conditions that are different from those of firm's creditors.

**The three forms of financial securities:**

a) *Bond (Loan)*: a security representing a long-term promise to pay a certain sum of money at a certain time or over the course of the loan, with a fixed rate of interest payable to the holder of the bond.

Two forms of bond: Secured bond and unsecured bond.

- *Secured bond*: Denote borrowings of the firm against which specific collateral have been provided.  
Eg. Mortgage bond: secured by a piece of property or building
- *Unsecured bond*: Borrowings of the firm against which no specific security has been provided.  
Eg. Advance payment, inter-corporate borrowings, unsecured loan from banks based on the good reputation with the firm.

b) *Common Stocks (equity)*: a security representing the residual ownership of a corporation.

- Guarantees only the right to participate in sharing the earnings of the firm if the firm is profitable,
- Common stockholders have the additional right to vote at stockholders' meeting on issues affecting fundamental policies of the corporation,
- They have the right to elect the board members and directors,
- They have the right to inspect the firm's books and documents.
- Common stockholders are entitled to receive dividends if and only when they are declared by board members.
- Common stockholders have the right to transfer their ownership by selling their stock without the consent of the corporation.

**1.3. GOALS OF FINANCIAL MANAGEMENT**

The starting for developing a goal-oriented financial structure is the defining of workable goals for the firm as a whole. Properly defined and understood goals are the key to successfully move a firm to a future desired position.

Two primary objectives are commonly encountered: Maximization of profits and maximization of wealth.

***Profit Maximization:***

Frequently stated goal of a firm is to maximize profits. A simple and straight forward statement of purpose. It is easily understood as a rational goal for business and focuses the firm's efforts toward making money.

Profit maximization has several weaknesses.

i) It is vague: Profit in the short run may be quite different from profits in the long run. If a firm continues to operate a piece of machinery without proper maintenance, it may lower

this year's operating expenditure and increase profits. But the firm will pay the short run saving in future years, when the machine is no longer capable of operating due to prior neglect.

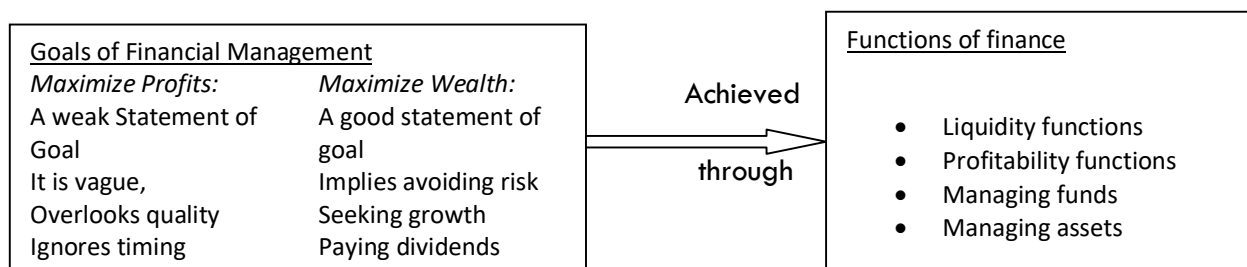
- ii) It leaves consideration of timing and duration undefined. There is no guide for comparing profit now with profit in future or for comparing profit streams of different durations.
- iii) It overlooks future aspects.
  - Some businesses have placed a high value on the growth of sales and are willing to accept lower profits to gain stability of the market sales,
  - Other businesses recognize diversifying their activities into different products that strengthen the firm but short-term decline in profits.
  - Others firms use a portion of their profits to achieve social goals or to make contributions to society.

### **Maximization of Wealth**

The second frequently encountered goal of a firm to maximize value of a firm in the long run. The maximization of wealth is linked with long term profits of the firm. A firm who is maximizing wealth must do the following.

- Avoid high levels of risk: Projects that promise exceptionally high profits with relatively high degrees of risk should be avoided.
- Pay consistent dividend: By paying consistent dividends, the firm helps attract investors seeking cash income, which maintains the market value of the stocks and keep up its present value.
- Seek growth in sales. As a firm increases its sales and develops new markets for products, it protects itself against economic recessions, changes in consumer preferences or other reductions in demand for the firm's products. However profit may decrease from the additional cost required for promotion and secure attraction of various customers.
- Maintain market price of stock. A company's manager can take a number of positive steps to maintain the market price of the stock at reasonable level by
  - taking time to explain company's actions
  - encourage individuals to invest in the firm
  - seek sound investments, the firm will appear to be a wise investment choice over the long-term.

## 1.4. FUNCTIONS OF FINANCIAL MANAGEMENT



In the context of achieving their goals, financial managers perform tasks in several areas which are referred as functional areas of finance. This includes:

**a) Functions leading to liquidity**

This means that the firm has adequate cash on hand to meet its obligations at all times. Stated Another way, the firm can pay all its bills when due and have sufficient cash to take unanticipated discounts for large cash purchases.

In seeking sufficient liquidity to carry out the firm's activities, the financial manger performs the following:

- Forecasting cash flows. Successful day-to day operations require the firm to pay its bills promptly. This is a matter of matching cash inflows against cash outflows.
- Raising funds. The firm receives finance from a variety of resources. The financial manager must identify the amount of funds available from each source and the periods when they will be needed. Then the manager must take steps to ensure that the funds will actually be available and committed to the firm.
- Managing the flow of internal funds. In a large firm, the financial manager should control and manage the flow of cash within the different bank accounts for various operating divisions. A manager can achieve a high degree of liquidity and reduce costs associated with short-term borrowing by continuously checking the cash level in each bank account and monitor the timely

**b) Functions leading to profitability**

In seeking profits for the firm, the financial manager shall provide specific input into the decision-making process based on financial training and actions. Some of his specific functions are the following:

- Cost Control. Firms require detailed cost accounting systems to monitor expenditures in the operational areas of the firm. Because of supervising the accounting and reporting functions, the financial manager is in a position to monitor and measure the amounts of money spent or committed by the company.
- Pricing. Important decisions by the firm involve pricing established for products, product lines and services. Determination of the appropriate price should be a joint decision of marketing and finance. E.g. Reasonable and fair preparation of engineering cost estimates for projects using the cost break down of activities is important for a firm to achieve profitability. The financial manager can supply important information about costs, changes in cost, risk and profit margin in pricing decisions.
- Forecasting Profits. The financial manager is usually responsible for gathering and analyzing the relevant cost and sales data and forecast profit levels. Before funds are committed to new projects, the expected profits must be determined and evaluated. Will the profits justify the initial expenditures?
- Measuring risk-return of a proposal. Every time when a firm invests, it must make risk-return decisions. Is the level of return offered by the project adequate for the level of risk therein?

**c) Managing Assets.**

Assets are the resources by which the firm is able to conduct business. The term asset includes buildings, machinery, vehicles, inventory, money and other resources owned by the firm. A firm's asset must be carefully managed and a number of decisions must be made concerning their use. The decision making role crosses liquidity and profitability lines. Converting idle equipment to cash improves liquidity, reducing costs improves profitability.

**1.5. ORGANIZATION OF FINANCE FUNCTION**

Although there is no complete agreement, many firms designate three major financial positions in their corporate structure.

- 1) *Chief Finance Officer*: the top financial officer with responsibilities over all financial activities. The Chief finance officer is accountable for all the firm's financial activities, including control of funds, decision making, management and planning. The officer works closely with other members of the top management team in formulating policies and strategies. He supervises the staff including the treasurer and controller, who work together closely to monitor the financial impact of operations of other departments.
- 2) *Treasurer*: The treasurer's principal responsibilities include:
  - Managing the firm's cash flow
  - Forecasting financial needs
  - Maintaining relations with financial institutions
  - Capital budgeting
- 3) *Controller*: The functions related to management and controls of assets come under the scope of the controller:
  - Financial accounting
  - Internal auditing
  - Taxation
  - Management accounting and control
  - Payroll functions

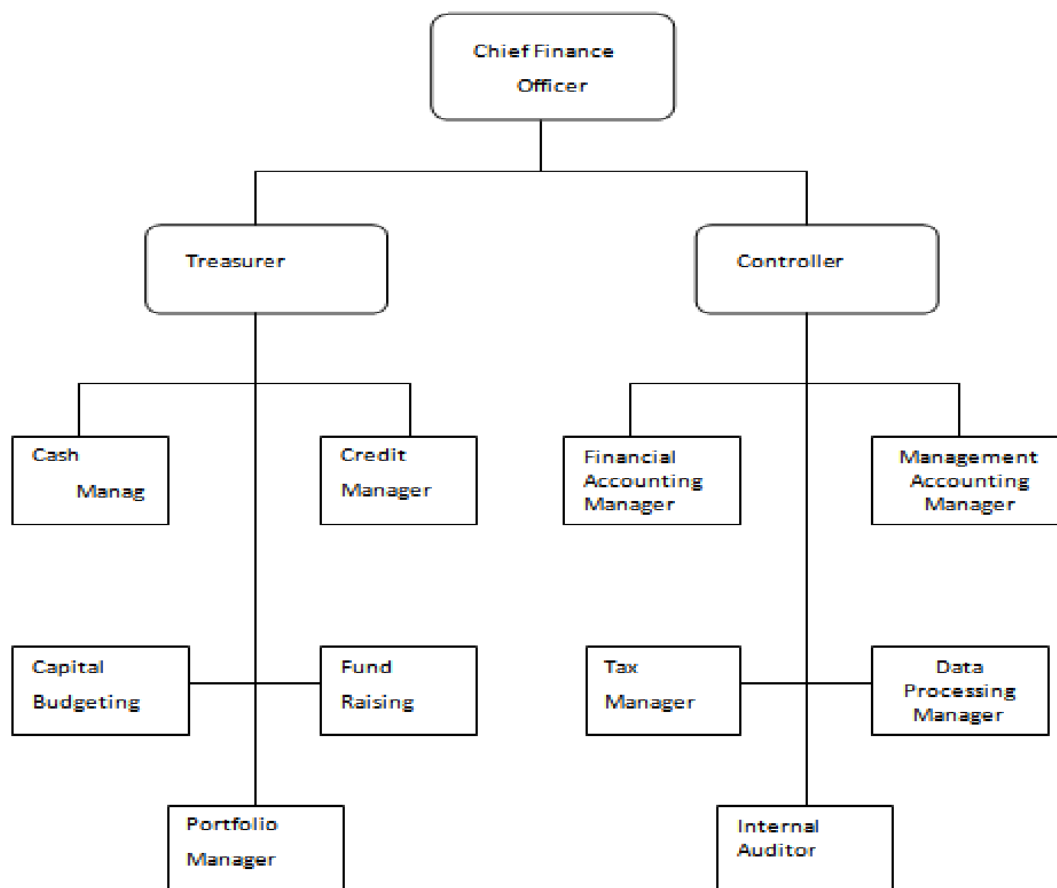


Figure 1-3 Organization of finance function

## 1.6. FINANCING DECISIONS

Management acceptance of proposal is based not only on the feasibility of the proposals itself in terms of technical criteria, but on the status of the corporation relative to profitability and risk. Projects require the acquisition and utilization of manpower, raw material, and fixed assets, such as real state, facilities and capital equipment. The availability of these resources is dependent on the current cash position of the corporation and the ability to acquire additional sources of funding for project support. Thus part of the investment and financing decisions, management should:

- Review the corporation's profitability and cash position
- Forecast future cash needs,
- Determine possible methods of attaining additional funds through short-term and/or long-term financing.

### 1.6.1. Short-term financing

Short-term financing usually includes loans that mature within a year or less. Such loans are frequently used to raise temporary funds to cover seasonal or cyclic business peak or special finding needs involving a short time frame. Short-term loans are generally *self-liquidating*, in that the assets acquired with the borrowed money should be easily convertible to cash with a high degree of certainty.

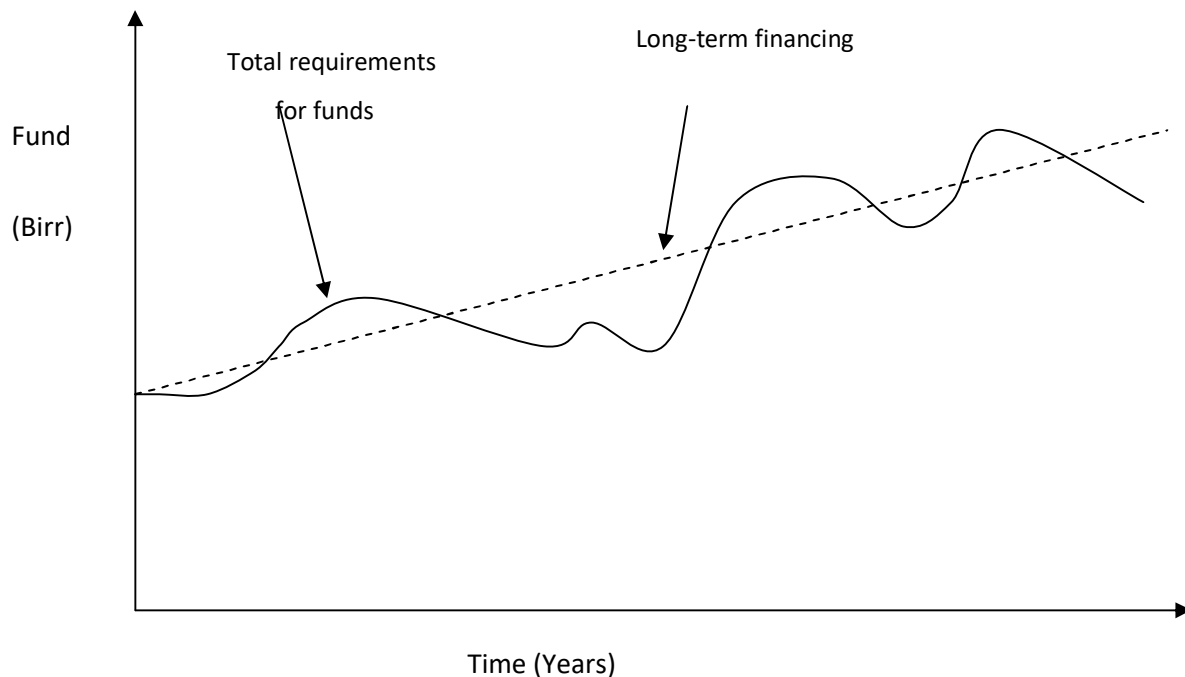


Fig 1-4: Fund requirement.

#### **Goals of short-term financing:**

- Funds are needed to finance inventories during a production/construction period; excessive funds are on hand once inventories are sold or payments are collected after delivery of services. Short financing allows the firm to match its funds against its needs over an annual, seasonal or other cyclical period.
- To achieve low-cost financing. The interest-free sources provide low-cost financing for the firm by reducing its borrowing need from interest-bearing sources.

#### **Short-term financing sources:**

##### i) Unsecured Interest-Free Sources:

Two major sources of short-term financing arise spontaneously from the daily activities of the firm and have no interest charges associated with them. These are accounts payable and accruals.

- **Accounts Payable.** Accounts payable are created when the firm purchases raw materials, supplies or goods for resale on credit terms without signing a formal note for the liability. These on 'open account' or 'credit invoice' are for most firms the largest single source of short-term financing. Payables represent unsecured form of financing since no specific assets are pledged as collateral for the liability.

- Accruals are short-term liabilities that arise when services are received but payment has not yet been made. Examples:
  - a) Sub-contract works for excavation, masonry works etc.
  - b) Salaries/wages payable
  - c) Taxes payable

Employees work for 2 weeks or months before receiving a paycheck. These form unsecured short-term financing for the firm.

- Advance Payment: It is a common practice to pay an advance payment for delivery engineering services upon signing of contract agreement. Contract stipulations require that an advance payment amounting to 10-30 % of the contract price to be paid to firm delivering the services. This is deemed to alleviate the firm's high financial requirement in connection with site mobilization at the commencement of the contract works.
- Advance for purchase of materials/ Material on site. Pursuant to the terms of any international contracts, the contractor is paid after accomplishing and reaching a certain minimal amount of construction activities/works which are certified through measurement by the Engineer. Furthermore to alleviate the cash demand of the contractor, he will be paid for the raw material on site including any transportation cost rendered for consignment to the site. Sometimes, in order to minimize the time delay arising from cash shortage and assist in expediting the work progress, Client's are involved in the purchase of materials or transfer the cash to suppliers for the purchase of materials and the corresponding price will be deducted from the successive payment to be due to the contractor.

ii) Unsecured Interest-Bearing Sources:

A stable and profitable firm can borrow funds from short-term sources at competitive rates of interest.

- Self-Liquidating Bank Loans. The bank provides finance for an activity that will generate cash to payoff the loan. Short-term bank loans are generally tied in to the prime rate plus a premium to reflect the degree of financial risk against the borrower. Three kinds of unsecured short-term bank loans are commonly used:
  - a) Single payment note: lending a business customer with as lump sum repayable with interest in a single payment and at a specified maturity, usually 30 to 90 days.
  - b) Unsecured Overdraft Facility/ Line of Credit: An agreement between Bank and Firm where by the bank agrees to make available upon demand up to a stipulated amount of unsecured short-term funds, if the bank has the funds available. It is normally established as one year and the interest rate is expressed as prime plus some fixed percentage.
  - c) Revolving Credit Agreement: Extended Lines of Credit to avoid the need to reexamine the credit worthiness of a customer each time a small loan is required.

- Non-bank short-term sources
  - a) Commercial Paper/ Bond (Treasury bond): These consist of promissory notes with maturities of few days say 270 days. Commercial paper is purchased by other firms that are seeking marketable securities to provide a return on temporarily idle funds. Individuals, commercial banks, insurance companies, pension funds and other institutions also purchase the commercial notes.
  - b) Private Loans: A short-term unsecured loan may be obtainable from a wealthy shareholder, a major supplier, or any other party interested in assisting the firm through a short-term difficulty. This kind of arrangement generally occurs when a temporary liquidity problem endangers the firm's operation and their stock in the company is in jeopardy.

### iii) Secured Short-term Sources

A secured loan occurs when the borrower pledges a specific asset, called collateral, to back a loan. The collateral may be in the form of:

- Warehouse receipt loan: it is a form of short-term financing that is secured by a pledge of inventory controlled by the lender. The lender which may be a commercial bank or finance company, selects the inventory that is acceptable as collateral for the loan.
- Receivables: Receivables are normally quite liquid, they are attractive as collateral to finance companies. Two techniques of secured short-term financing are commonly employed with accounts receivable as collateral.
  - a) Pledging of accounts receivable: An assignment is a transfer of claim or right in an asset from one party to another. By pledging or assigning an account receivable, a firm gives up the rights to the cash collected on that account.
  - b) Factoring receivables: is the outright sale of the accounts receivable to a factor that generally accepts all credit risks associated with collection of the accounts.
- Physical assets: Short-term financing by holding physical assets of a company which are easily convertible to cash.

### 1.6.2. Intermediate-Term Financing

It is defined as borrowings with maturities greater than 1 year and less than 5 to 7 years. Many analysts and accountants ignore the distinction between intermediate and long-term debt. They consider only two kinds of debt: short-term for maturities of 1 year or less; long-term for maturities in excess of 1 year. When intermediate-term debt is identified as a separate category, three types are common:

- i) Revolving Credit Agreement: This is a guaranteed line of credit whereby the bank agrees to lend money on demand in a future period, frequently 2 to 3 years.
- ii) Term Loan. This is a loan from bank, finance company, insurance company and other financial institutions for a period of 1-7 years accompanied with fixed or floating interest rates.

- iii) Lease: This is an agreement that allows the use of assets without ownership of the assets. The owner agrees to allow a user to use the fixed assets in return for a rental payment over a stipulated period of time.

### Intermediate-Term Financing Institutions:

*Commercial Bank Loans:* These are primary intermediate-term lenders to business firms. Commercial Bank Loans offer both advantages and disadvantages to firms.

*Advantages:* Establishing a working relationship with a bank that can result in advice and financial expertise from the bank's officer.

*Disadvantages:* The need to reveal confidential information and the restrictions that may be imposed as part of the loan agreement.

*Insurance Companies:* A number of life insurance companies make term-loans to business firms but concentrate on low risk loans to large and very strong companies only.

*Advantage:* Insurance company term loans are the longer terms and higher amounts of money as compared to commercial bank financing.

*Disadvantage:* slightly higher interest rates are charged and the fact that only the most creditworthy business can borrow from insurance companies.

*Pension Funds:* A minor source of intermediate-term financing is the employee pension funds that make secured loans to businesses. These loans are frequently secured by mortgages on property and have terms and conditions similar to loans made by life insurance companies.

*Equipment Manufacturers:* Manufacturers of industrial equipment make loans to assist in the purchase of fixed assets. The loans may require the firm to make a down payment of 10-30 percent, and the assets must be pledged and mortgaged to secure the loan.

### 1.6.3. Long-Term Financing

Long-term financing usually refers to the borrowing of money for a long period of time in order to invest in fixed assets relatively permanent in nature with long life. Equity and debt represent the two broad sources of finance for a business firm. Equity capital refers to ownership money acquired through the sale of *common stocks*, *preferred stock* and *retained earnings*. Debt refers to borrowed money acquired from *term loans* and sale of *bonds*.

Key difference between equity and debt are:

- Debt investors are entitled to a contractual set of cash flows (interest and principal) whereas equity investors have a claim of residual cash flows of the firm after it has satisfied all other claims and liabilities.
- Interest paid to debt investors represents a tax-deductible expense whereas dividend paid to equity investors has to come out of profit after tax.

- Debt has a fixed maturity whereas equity ordinarily has infinite life.
- Equity investors enjoy the prerogative to control the affairs of the firm whereas debt investors play a passive role- of course they often impose certain restrictions on the way the firm is run to protect their interests.

### *Equity Capital*

- i) Common Stock: Represents ownership capital as equity shareholders collectively own the company. They enjoy the rewards and bear the risks of ownership. However, their liability, unlike the liability of sole proprietors and general partners, is limited to their capital contributions.

#### Rights and Position of Equity Shareholders:

- Right to income: The equal investors have a residual claim to the income of the firm. The income left after satisfying the claims of all other investors belong to the equity shareholders. This income is simply equal to profit after tax minus preferred dividend.
- Right to Control: Equity shareholders as owners of the firm elect the board of directors and have the right to vote on every resolution placed before the company.
- Pre-emptive Right: It enables existing equity shareholders to maintain their proportional ownership by purchasing the additional equity shares issued by the firm.
- Right in Liquidation: In the event of liquidation, claims of all others – bondholders, secured and unsecured lenders, preferred stock – are prior to the claim of equity shareholders.

#### Advantages to the firm:

- There is no compulsion to pay dividends, if the firm has insufficiency of cash,
- Equity capital has no maturity date and hence the firm has no obligation to redeem.
- It enhances the creditworthiness of the company. The larger the equity base, the greater the ability of the firm to raise debt finance on favorable terms.

#### Disadvantages to the firm:

- Sale of equity shares to outsiders dilutes the control of existing owners,
- The cost of equity capital is high. The rate of return required by equity shareholders is generally higher than the rate of return required by other investors,
- Equity dividends are paid out of profit after tax, whereas interest payments are tax deductible expenses.

ii) Preferred Stock: represents hybrid form of financing. It resembles equity in the following ways,

- Dividend is payable only out of distributable profits
- Preference dividend is not an obligatory payment,
- Preference dividend is not a tax-deductible payment
- It is an expensive source of financing.

Preferred Stock is similar to debt in several ways:

- Preference shareholders do not enjoy the right to vote,
- The claim of preference shareholders is prior to the claim of equity shareholders,

iii) Retained Earnings:

Depreciation charges and retained earnings represent the internal sources of finance available to a firm. If we assume that depreciation charges are used for replacing worn-out plant and equipment, retained earnings represent the only internal source of financing expansion and growth. Companies retain 30-80% of profit after tax for financing growth. It is referred as internal equity since it retained through a sacrifice made by equity shareholders.

Advantages to the firm:

- Retained earnings are readily available. Low-cost to the firm,
- No dilution of control when a firm relies on retained earnings,
- The stock market generally views the equity issue with skepticism. Retained earnings, however, do not carry any negative connotation.

Disadvantage to the firm:

- The amount that can be raised by way of retained earnings may be limited, because companies pursue a stable dividend policy,
- The opportunity cost of retained earnings is quite high. The cost foregone by equity shareholders is quite high, by not paying dividend.

### **Long-Term Debt**

i) Term Loans: Represents a source of debt finance which is generally payable in 5 to 10 years. They are employed to finance acquisition of fixed assets and working capital margin.

Advantages of debt financing:

- Debt financing doesn't result in dilution of control,
- Debt lenders do not partake in the value created by the company except payments of interest and principal.
- If there is a abrupt decline in the value of the firm, shareholders have the option of defaulting their debt obligations and turning over the firm to debt lenders.
- Issue costs of debt are significantly lower than those on equity and preferred stock.

Disadvantages of debt financing:

- Debt financing entails fixed interest and principal repayment obligation. Failure to meet these commitments may cause to bankruptcy.
- If the rate of inflation turns out to be unexpectedly low, the real cost of debt will be greater than expected.

ii) Bonds/ Debenture/. Corporations, in search for outside funds to support operation and growth, may initiate a bond issue with the promise of paying the investor (Bond holding firm) a designated interest on his money at certain scheduled intervals of time. The obligation of a company toward its debenture holders is similar to that of a borrower who promises to pay interest and principal at specified times. Bonds often provide more flexibility than term loans as they offer greater variety of choices with respect to maturity, interest rate, security, repayment and special features.

## 1.7. FIRM'S FINANCIAL OPERATION

### 1.7.1. Financial Statement

A financial Statement is a collection of monetary data and information organized according to logical and consistent accounting procedures. The main purpose is to convey an understanding of some financial aspects of a business firm. It provides understanding of what happens to the firm's money as the firm pursues its business activities.

*Uses of Financial Statement*

- To present a historical record of the firm's financial development when compiled over a number of years.
- Used to forecast a course of action for the firm. Financial statement is often prepared for a future period. It expresses the financial manager's estimate of the firm's future performance.
- A means employed by firms to present their financial situations to stockholders, creditors and the general public.

*Major Forms of Financial Statements:*

- The Balance Sheet
- The Income Statement ( Profit and loss statement)
- A Flow of Funds Statement

#### 1.7.1.1. The Balance Sheet

- It shows the financial position of the firm at a moment of reporting,
- It declares the assets, liabilities and equity for the firm at the last day of the accounting period,
- It matches resources (assets) with sources (liabilities and equity).

- A. **ASSETS:** There exist two categories of assets namely: Fixed and Current Assets.
- a) **Fixed Assets:** The assets used by the firm to generate revenues. These assets can not be converted into cash in the accounting period. This includes:
- **Plant & Equipment Cost.** This includes building, machinery and other equipments and are adjusted by the depreciation record.
  - **Real Estate (if any):** This account lists the property owned by the firm. (Land)
- b) **Current Assets:** Contains all assets to be converted into cash within the current accounting period or within the next year through the ordinary operations of the business.
- **Cash and Cash equivalents** ( highly liquid investments),
  - **Marketable Securities:** stocks or bonds of other firms that the firm has purchased.
  - **Receivables:** Cash to be gained after the making of sales on credit. ( Work in progress)
  - **Inventories:** goods held by the firm for eventual resale. This includes raw material and goods tied up in the production process.
- B. **LIABILITIES:** These are debts of the firm. They represent sources of assets since the firm either borrows the money or make use of certain assets that have not yet been paid for. There exist two forms of liabilities: current liabilities and long-term liabilities.
- a) **Current Liabilities:** debts of the firm that must be paid during the current accounting period. This includes:
- **Accounts payable:** when a firm makes purchase on credit,
  - **Short-term notes payable:** promissory notes that mature in one year,
  - **Other payables:** accruals (wages payable), tax liabilities.
- b) **Long-Term Liabilities:** liabilities that will not be paid off during the next year. This includes the long- Term secured and unsecured financing which covers mortgage and notes where a building or other Fixed assets are pledged as specific collateral for debts.
- C. **EQUITY:** Ownership rights in the company and includes:
- Preferred Stock,
  - Common Stock,
  - Contributed capital in excess,
  - Retained earnings.

### 1.7.1.2. The Income Statement

The income statement is a report of a firm's activities during a given accounting period. Firms often publish income statements showing the results of each quarter and the full accounting year. It shows the revenues and expenses of the firm, the effect of interest and taxes and the net income for the period. It may be called as the profit-and-loss statement or the statement of earnings. The balance sheet offers a view of the firm at a moment in time, whereas the income statement summarizes the profitability of operations over a period of time. It is an accounting device designated to show stockholders and creditors whether the firm is making

money. It can also be used as a tool to identify the factors that affect the degree of profitability.

It includes cost accounting of:

- Net sales or construction income or work execution in monetary terms.
- Construction costs/ production costs/ that include the direct costs,
- General and administration costs / overhead costs/
- Interest: the fixed charges paid by the firm on the money that it borrows.

### 1.7.1.3. Flow-Of-Funds Statement

This statement shows the movement of funds into the firm's current asset accounts from external sources such as stockholders, creditors and customers. It also shows the movement of funds to meet the firm's obligation, or pay dividends. The movements are shown for a specific period, normally the same time period as the firm's income statement.

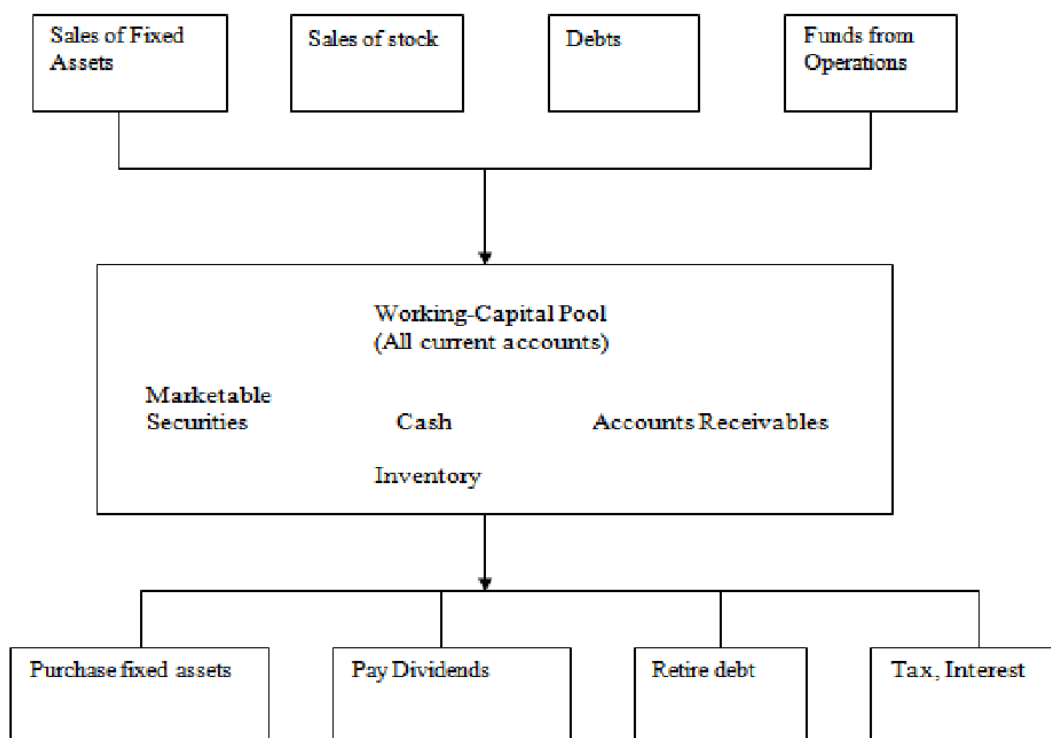


Fig. 1.5: Sources and uses of funds and the working capital pool.

The difference between sources and uses is shown as an increase or decrease in net working capital. The pool is a measure of net working capital. If the firm has more funds coming in than going out, net working capital increases.

Sample on Flow-Of-Funds	1988	1987
Source of funds		
Net Income from operations	Birr 148,262	Birr 127,065
Noncash expenses	<u>107,296</u>	<u>92,297</u>
Total funds from operations	255,558	219,362
Proceeds from long-term borrowing	92,621	41,831
Sales of property	6,101	1,499
Sales of common stock	<u>2,112</u>	<u>1,804</u>
Total sources of Funds	Birr 356,392	Birr 264,497
Application of funds		
Expenditures for property and equipment	Birr 234,511	Birr 174,408
Miscellaneous investments	4,728	3,215
Payments of cash dividends	50,924	48,107
Funds held for plant construction	<u>975</u>	<u>45,378</u>
Total application of funds	Birr 291,138	Birr 271,108
Increase (decrease) in net working capital	Birr 65,254	Birr (6,611)

### 1.7.2. Financial Analysis

If properly analyzed and interpreted, financial statements can provide valuable insights into a firm's performance. Analysis of financial statements is of interest to:

- Lenders (short-term as well as long-term)
- Investors,
- Security analysts,
- Managers, public and others.

Financial statements analysis is helpful in assessing:

- Corporate excellence,
- Judging creditworthiness,
- Forecasting bond ratings,
- Predicting bankruptcy and assessing market risks.

Financial ratio can be extracted from financial statements for analyzing financial performance. These can be classified as follows.

Ratio	Formula	Remarks
<b>Liquidity</b>		
Current ratio	$\frac{\text{Current assets}}{\text{Current Liabilities}}$	Ability of a firm to meet its obligation in short-run. Current assets get converted into cash in the operating cycle of the firm and provide the funds needed to pay current liabilities. As a general rule a 1.5 to 2.0 ratio is considered acceptable.
Acid-test ratio	$\frac{\text{Quick assets (Current assets –Inventories)}}{\text{Current liabilities}}$	A more stringent measure of liquidity than the current ratio. Inventories are Least liquid of current assets. It requires a two-step process in order to be converted into cash. The acid test is so named because it shows the ability of a firm to pay its obligation without relying on the sale and collection of its inventories. A 1/1 quick ratio has traditionally been deemed adequate for most firms
<b>Profitability</b>		
Gross profit margin	$\frac{\text{Gross Profit}}{\text{Income}}$	This ratio shows the margin left after meeting production costs. It measures the efficiency of production and pricing
Return on capital employed	$\frac{\text{Net profit}}{\text{Current assets}}$	A measure of how efficiently the capital is employed. A key indicator of profitability of a Firm. Firms that are efficiently using their Assets have a relatively high return. Less efficient firms have a lower return.
Return on equity	$\frac{\text{Net profit}}{\text{Total equity}}$	Profit indicator to shareholders. The ratio indicates the degree to which the firm is able To convert equity to generate net profit that eventually can be claimed by shareholders.
<b>Turnover</b>		
Debtors' Turnover	$\frac{\text{Net credit sales}}{\text{Accounts receivables (debtors)}}$	Indicates efficiency of credit management. The higher the ratio, the more efficient the Credit management by the firm.
Total asset Turnover	$\frac{\text{Net sales (income)}}{\text{Total assets}}$	Measures how efficiently assets are employed.
<b>Leverage</b>		
Debt-equity ratio	$\frac{\text{Debt}}{\text{Equity}}$	Helps in assessing the risk arising from the use of debt capital. The lower the debt- Equity ratio, the higher the degree of Protection enjoyed by creditors.
Interest coverage ratio	$\frac{\text{Profit before tax and Interest}}{\text{Charge Interest}}$	Shows the relationships between debt servicing commitments and The sources for meeting these burdens.