

**WORKING CAPITAL MANAGEMENT**  
**At**  
**KEREN METAL, WOOD AND CEMENT WORKS**  
*(A MANUFACTURING FIRM IN ERITREA)*

**By**

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DEGREE OF MASTERS IN BUSINESS ADMINISTRATION**

**SUPERVISOR: PROFESSOR ELSA THOMSON**

**MARCH 2004**

TO: WHOM IT MAY CONCERN

RE: CONFIDENTIALITY CLAUSE

Due to the strategic importance of this research it would be appreciated if the contents remain confidential and not be circulated for a period of five years.

Sincerely,

Rezene Haile Ghebreghiorgis

096921

**DECLARATION**

I declare that this research report is my own, unaided work. It is being submitted in partial fulfillment of the requirements for the degree of Master of Business Management in the University of Kwa-Zulu Natal. This dissertation has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signed.....

Date.....

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DEDICATED

To

My parents:

Haile Ghebregiorgis and Alem Mesfun

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## **ABSTRACT**

Working capital management refers to the financing, investment and control of net current assets within policy guidelines. It seems to have been relatively overlooked, although it is realized that a high proportion of business failures are due to poor decisions concerning the working capital of the firms.

This case study is devoted to analyze the working capital practices of Keren Metal, wood and Cement Works, a manufacturing firm operating under joint venture in Eritrea. The study covers areas of working capital management, which encompasses, the working capital investment, working capital finance and working capital policies of the firm.

To this end, relevant literature is reviewed and compared to the actual practices of the firm. Based on the gap identified from the comparison of the theory and the application, recommendations has been forwarded as how the working capital should be practiced, so as create value to the partners of the firm.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 GENERAL ISSUES**

Developing economies like Eritrea are generally faced with the problem of inefficient utilization of resources available to them. Capital is the scarcest of productive resources in such economies, and proper utilization of these resources promotes the rate of growth, cuts down the cost of production and, above all, improves the efficiency of any productive system. Fixed capital and working capital are the dominant contributors to the total capital of developing countries. Fixed capital investment generates production capacity whereas working capital makes the utilization of that capacity possible (Internet 9). The earlier emphasis of financial management focused on long-term financial decisions. Working capital management, which is concerned with short-term financial decisions, appears to have been relatively neglected in the literature of finance. Thus, the study of working capital behaviour occupies an important place in financial management.

Important theoretical developments in finance during the past decade have provided the potential for improved decisions in business organizations. Unfortunately, developments have not been uniform across all areas of financial decision-making within and between business organizations. Working capital appears to have been relatively neglected in spite of the fact that a high proportion of business failures are due to poor decisions concerning the working capital of the firms. Of interest of this case study is, therefore, the area of working capital management, which generally encompasses short-term investment and financing decisions of firms and covers mainly the following aspects of working capital analysis:

- General issues of working capital management
- Working capital financing
- Working capital policies and strategies

In working capital analysis, the direction of change over a period of time is of crucial importance. Emphasizing the importance of analysis of working capital trends, provides a base from which it is possible:

- to judge whether the practice and prevailing policy of the management with regard to working capital is good enough or an improvement is to be made in managing the working capital funds
- to judge the liquidity position and the impact on profitability, through analysis of the different working capital ratios.
- to indicate the appropriate level of Working capital

With this end in view, an effort will be made to make an in-depth study of Keren Metal, Wood and Cement Works, which operates under the joint venture of the Municipality of Keren and NUEYS (National Union of Eritrean Youths and Students) in respect of its working capital management. The findings of this study not only throw new light on the managerial activities of the company, but they may also help researchers to develop new techniques and methods regarding working capital management in respect of developing economies in general and Eritrean environment in particular.

## **1.2 BACKGROUND OF THE COMPANY**

In November 1994, the Government of Eritrea instituted new policy initiatives, which made fundamental changes in the country's economic policies and strategies for development. These policies have assisted in the promotion of investments in the different sectors. There exists a rapidly growing demand for imported commodities such as food, and for construction related items, which at present, local production cannot satisfy.

Keren Metal, Wood and Cement is one of the small and medium scale enterprises established after independence in the town of Keren - 90 km north of the capital city Asmara. Initially, this enterprise fell under the auspices of the Zone's administration. And later, in 1994, it transferred to the city council. In August 1997, a joint venture was formed between the Keren City Administration and the National Union of Eritrean Youth and Students (NUEYS) with a total investment of Nakfa 551000 from each partner.

The factory has utilized the building as well as the site around it on an ad-hoc authorization of the zone administration. The detailed plan was to reactivate the factory that has long stopped operations or was only limited to meeting the requirements of the Municipality.

Since the joint venture, vast expansion functions of the plant have been undertaken, though the ownership of the building and the surrounding site, are not secured. The factory is situated in the centre of the town and is convenient for operations as well as for distribution. The location is suitable in relation to the existing key infrastructures, which are light, water and access to the markets.

The firm comprise metal works which include products such as frames, beds, doors, tankers, and stands etc., wood works which include products such as desks, tables, cupboard, doors etc., and cement works which produce hollow bricks only. It is planned to include products of cement like tiles, cement pipes, perforated blocks and other related products.

The firm initially had a simple and flat organizational structure, which was designed to suit the line management of the regional administration. However, following the joint venture, a new organizational structure has been introduced to accommodate the expansion of the plant and includes the commercial section, which is responsible for sales and operations, and the financial section that oversees the movement of the finances of the firm.

In Eritrea, the unsteady and undeveloped nature of the construction industry, besides the unstable and poor economy of the country is the major bottleneck preventing the Metal, Wood and Cement Works from being boosted.

### **1.3 WORKING CAPITAL MANAGEMENT**

In this section literature is reviewed by highlighting the relevance of working capital management and the benefits and costs related to the level of the firm's working capital investment and the working capital finance sources of the firm. Moreover, it is reviewed relevant literature in relation to working capital management, which include possible policies, ratios and value creation.

### **1.3.1 WORKING CAPITAL INVESTMENT**

This literature focuses on the management of working capital levels of investment in cash, receivables, inventories, short-term investments and payables. The operations of purchasing and selling have been incorporated in these sub-sections but have not been given separate topics. The need for designing and implementing proper objectives for holding the optimum levels based on transaction, precautionary or speculative purposes have been highlighted. In order to maximise the benefits of working capital, firms can plan their periodic requirements using budgeting approaches, optimality models and by hedging for uncertain outcomes. There are also control mechanisms that the firms can apply in order to safeguard against physical decay and improper handling. An important objective of working capital management is therefore to determine and maintain an optimum level. The level of raw material inventories can also be improved by co-ordinating a firm's purchases and production and that of finished goods, with the operations of production and sales.

During this investigation, an in-depth assessment will be made in regard to the management of each working capital component.

#### **1.3.1.1 Investing in cash**

The management of working capital for cash is a continuous function. It controls the flow of financial resources circulating in the business in one form or another. Even profitable firms can experience cash flow difficulties due to timing differences of cash receipts and cash disbursements. The cash cycle refers to the continual flow of resources through the various working capital accounts such as cash, accounts receivable, inventory, payables and accruals.

Expansion of the working capital asset accounts absorbs resources whereas expansion of working capital liability accounts provides resources. This continual transformation of resources over the production cycle, results in periods of cash flow surpluses and deficits. The manner in which these working capital accounts are managed can ameliorate or accentuate cash flow difficulties.

### **1.3.1.2 Investing in receivables**

Among other variables, receivables should include the following attributes:

- The financial manager must decide which customers should be allowed to buy on credit. He should consider the famous five “C’s” of dealing with receivables. Credit, Character, Capacity, Collateral and Capital.
- The financial manager must decide on a set of credit terms to offer.
- Once credit is given, the outstanding balance must be monitored to ensure that outstanding credit balances are not growing faster than sales.
- Once customers remit payment, management must create an effective collection system to reduce the collection float, as well as the time that is spent converting the payment medium into cash.
- If trade credit were eliminated, about half of the firm’s working capital could be eliminated, thus improving the return on assets of all businesses.

### **1.3.1.3 Investing in Inventory**

In general, inventory balances act as shock absorbers between the production process and an uncertain consumer demand or between two production processes that are inter-dependent. The more inventories stored, the less concern there is about product shortages at the retail level or about shutting down a production line due to a shortage of work-in-process that feeds it. However, increases in the inventory balances absorb financial resources. It is, therefore, imperative that the inventory balances be managed in order to reduce financial requirements without excessively increasing stock-out risk.

There have been many advances in the area of inventory management. Perhaps the most noteworthy is the ‘just-in-time’ system popularised by the Japanese and more recently a system known as ‘demand flow’, which builds on ‘just-in-time’ management concepts but contains applications of a broader nature. These inventory management systems are designed to reduce the levels of inventory kept at the manufacturing site, while still meeting production demands by re-designing the operations process and by shifting inventory burdens to suppliers.



#### **1.3.1.4 Investing Short term Investments**

Firms may wish to hold funds in short-term investments as a financial cushion during a down turn in business cycle. Having a liquidity reserve relieves the firm from having to obtain financing during times of need. The cushion could then be replenished as the firm's financial condition improves. Some view the creation of a liquidity pool as a defence against bankruptcy and its excessive costs.

#### **1.3.2 WORKING CAPITAL FINANCING**

Working capital investments and their financing possess some benefits as well as costs. Beyond doubt, efficient management of both items can help the success of firms in generating value. Not only does a firm need to be concerned about the level of current assets, but it also has to determine the proportions of short and long-term debt applicable in financing the assets. This decision also involves trade-offs between profitability and risk. Sources of debt financing are classified according to their maturities. Specifically, they can be categorized as being either short-term or long-term, with short-term sources having maturities of less than one year. Because of the reduced flexibility of long-term borrowing relative to short-term borrowing, the effective cost of long-term debt may be higher than the cost of short-term debt, even when short-term interest rates are equal to or greater than long-term rates.

With long-term debt, a firm incurs the interest expense even during times when it has no immediate need for funds, such as during seasonal or cyclical downturns. With short-term debt, in contrast, the firm can avoid the interest costs on unneeded funds by paying off (or not renewing) the debt. In summary, the cost of long-term debt is generally higher than the cost of short-term debt.

Conversely, companies, which are borrowing different attitudes toward the relative, risk of long-term versus short-term debt, compared to the lenders. Whereas lenders feel that risk increases with maturity, borrowers feel that there is more risk associated with short-term debt. The reasons for this are two fold.

Firstly, there is always the chance that a firm will not be able to re-finance its short-term debt. When a firm's debt matures, it either pays off the debt as part of a debt reduction program or it arranges new financing. At the time of maturity, however, the firm could be faced with financial problems resulting from such events as strikes, natural disasters or recessions that cause sales and cash inflows to decline. Under these circumstances the firm may find it very difficult or even impossible to obtain the needed funds. This could lead to operating and financial difficulties. The more frequently a firm must re-finance its debt, the greater is the risk of its not being able to obtain the necessary financing. Secondly, short-term interest rates tend to fluctuate more over time than do long-term interest rates.

As a result, a firm's interest expenses and expected earnings after interest and taxes are subject to more variation over time with short-term debt than with long-term debt.

Normally, the excess of current assets over current liabilities should be financed by long-term sources. It is not possible to find out precisely which long-term source has been used to finance current assets, but it can be determined as to what proportion of current assets have been financed by long-term funds.

The available sources of financing such as trade credit, bank overdrafts, and term loans will be discussed in detail, and in addition the nature of banking relationship the firm should possess will be discussed broadly.

### **1.3.3 WORKING CAPITAL TRENDS OF THE FIRM**

There are three alternative policies to managing working capital. A conservative approach to working capital management entails the company holding a relatively large proportion of its total assets in the form of current assets. Because the rate of return on current assets is normally assumed to be less than the rate of return on fixed assets, this policy results in a lower expected profitability as measured by the rate of return on the company's total assets. Assuming that the current liabilities remain constant, this type of policy also increases the company's net working capital position, resulting in a lower risk.

In contrast, an aggressive approach indicates that the company holds a relatively small proportion of its total assets in the form of lower yielding current assets and has relatively less net working capital. As a result, this policy yields a higher expected profitability and a higher risk that the company will encounter financial difficulties. Finally, a moderate approach indicates that expected profitability and risk levels fall between those two above-mentioned approaches.

The optimal level of working capital investment is the level expected to maximize shareholder wealth. It is a function of several factors, including the variability of sales and cash flows and the degree of operating and financial leverage employed by the firm. Therefore, no single working capital investment policy is necessarily optimal for all firms.

Before deciding on an appropriate level of working capital investment, a firm's management has to evaluate the trade-off between the expected profitability and the risk that it may be unable to meet its financial obligations. It is apparent that the risk that a firm would encounter financial difficulties is related to the firm's net working capital position.

Moreover, to analyze the firm's liquidity position and expected profitability, different financial ratios are used such as current ratio, liquidity ratio, working capital turnover ratio, inventory turnover ratio, receivables turnover ratio, cash turnover ratio and others. Liquidity and profitability mutually benefit each other in the long run. For instance, a liquid position promotes profitable working while profitable operations will provide for adequate liquid position. They are not only inter-dependent but are also complementary to each other.

#### **1.4 MOTIVATION OF THE RESEARCH**

One reason why most firms are concerned is that they have lost, are losing, or are concerned about losing control of their business's financial positions. The problem is a financial one cloaked in emotional terms. "How we are going to pay the loan payment next month? We have a large tax bill but we don't have enough money to pre-purchase next year's inputs to manage it. The bank told us that if we don't zero out our line of credit they will 'pull the plug'". A common thread through all of these situations is insufficient working capital to control the business adequately.

The motivation to focus on this topic arises from the inefficient utilization of working capital available in Eritrea in general and, Keren Metal, Wood and Cement Works in particular. I have been working as a financial analyst in NUEYS for a number of years. I can trace the inefficient use of working capital back to those early years. Nobody was considering working capital as an investment. How much was tied up in inventory, how long would it take to collect receivables, how large the amount of excess cash was nobody's concern. Management put an eye on the bottom line figure, the "profit" only. Viewed in this perspective, I believe that the study devoted to the working capital management may be an essential one in developing countries like Eritrea.

### **1.5 VALUE OF THE PROJECT**

The importance of working capital management stems from two reasons, which are: (i) a substantial portion of total investment is invested in current assets and (ii) the level of current assets changes quickly with the variation in sales. After determining the requirements of current assets, one of the important tasks of the financial manager is to select an assortment of appropriate sources of finance for the current assets.

Working capital management is one of the least used concepts for practical managerial decision-making. However, preliminary studies have shown that many of the firms had inappropriate working capital management. This resulted in a number of problems, both internal and external, which form the foundation for the background of this research study.. Internally, the firms hold inappropriate levels of working capital – resulting in uncontrolled costs of holding the working capital items or in deficient working capital levels and the firms inappropriately manage their purchases and sales activities and have a defective credit policy. Externally, the firms lack proper policies for and practices of co-operation with their suppliers and customers

Based on the analysis and findings, recommendations on how Keren Metal, Wood and Cement Works previously managed and now should manage its working capital position has been made. And eventually, this study is aimed at helping the firm to utilize an appropriate level of working capital.

## **1.6 PROBLEM STATEMENT**

It is obvious that an unprofitable firm will experience financial difficulties often leading to bankruptcy. It is less obvious how seemingly profitable firms may also experience financial strains that may lead to bankruptcy. This will be the case if working capital is not managed properly.

Against this backdrop, by analysing the available source of information, which is mainly of secondary data it is believed that working capital management can provide crucial and beneficial insights as well as advances in particular to the firm and in general to similar firms in Eritrea. Hence, **“How does the firm manage its working capital needs so as to create value to the owners?”** will be the key research question addressed.

## **1.7 OBJECTIVES OF THE STUDY**

The main objective of the study is to ensure the optimum utilization of working capital for the overall profitability of a firm. An efficient manager would try to ensure that too much capital is not circulating in the business in the form of working capital. Nor will he allow the working capital to fall below a particular level. He should strike a balance between the two, possibly by a careful study of movements of working capital in successive periods.

In order to realize this objective, relevant literature was reviewed, relevant data was collected, and the case was analyzed. Therefore, the specific objectives were:

**To evaluate** the firm’s working capital management in order to devise a sound strategy for future operations

**To determine** the optimum working capital needs versus its volume of activities and resources available in the firm.

**To establish** possible ways, techniques and models that supports to ameliorate the firm’s working capital management.

## **1.8 RESEARCH METHODOLOGY**

The research design according to Ghauri (1995) is the overall plan for relating the conceptual research problem to relevant - and doable - empirical research. The choice of research design is the overall strategic choice made with the purpose of coming up with an approach that

allows for answering the research problem in the best possible way - within the given constraints.

Yin (1994), suggests that a case study methodology is a preferred research approach where the research question to be addressed is a type of how-why or control of the researcher over the research is none or else very insignificant and the focus is on a contemporary phenomenon within a real life context.

Case studies have become common in accounting research, especially in management accounting, although they are relatively rare in finance. "In accounting research, case studies are gaining acceptance as an appropriate research method, and increasing numbers are appearing in the research literature" noted, Rayan, Scapens & Theobald (2002: 44).

More over, Rayan, Scapens & Theobald (2002) explain, this research basically focused on *descriptive* case study. Firstly, relevant literature was reviewed in order to search for what working capital management approaches are available. Secondly, working capital approaches of the Keren Metal, Wood, and Cement Works were described. Finally, how the literature and empirical findings differ was explained, and possible recommendations on how the firm can use working capital management approaches in search of creating value were made.

As we stated earlier this, Eritrean manufacturing firm, Keren Metal Wood and Cement Works, which is managed under the auspices of National Union of Eritrean Youth and Students (NUEYS) and Municipality of Keren has been selected for this study. The study covers the period from 1998 to 2002. The data for the study was collected from annual financial reports, audited financial reports and other source documents of the enterprise. The data is mainly of secondary nature and questionnaire, but further clarification through e-mail and telephone contacts has been made with management staff. Nonetheless, this study has some limitations.

## **1.9 LIMITATIONS OF THE PROJECT**

This study presented the following limitations:

- Documents are inadequate because they are limited to audited financial statements only.

- No interviews were administrated due to time constraints.
- Adequate data is hardly available from the relevant government bodies like the Chamber of Commerce, Trade department and the likes.
- The firm has no financial management guidelines or manual, which is useful in drawing up financial policies and the preparation of financial statements.
- Similar research should have been made in other firms in order to present possible comparisons.

## **1.10 STRUCTURE OF THE STUDY**

### **Chapter Two**

This chapter reviews literature on relevant research methods, approaches of working capital management and related theories that can be used as background. The research is introduced by highlighting the relevance of working capital management in regard to the aspects of working capital investment, working capital financing and trends of working capital.

### **Chapter Three**

The case study of the firm presented as the focus of this chapter. The analysis of the case study from the background of the firm opens the discussion, followed by the environment it operates, and finally the application of the working capital management in the firm is addressed.

### **Chapter Four**

The adopted methodology is presented and the empirical findings of the actual practice of the firm were compared with the literature review. The comparison is based on conceptual framework, which has already been developed. Against this backdrop, possible areas of improvement will be evaluated, determined and discussed in the following chapter.

### **Chapter Five**

This chapter has been dedicated to the recommendations and conclusion of the paper. Based on the analysis of the entire investigation, gave our recommendations on how the firm should be able to maintain its strength, and improve its weaknesses in terms of the working capital application are made. Proposed ideas and thoughts are considered and introduced and, finally

methods, techniques and models of working capital that should be adopted by the management of the firm, are established.

### **1.11 SUMMARY**

The growing debate over the role of working capital focuses on why working capital exists what the appropriate level of working capital is. One extreme point of view is that the optimal level of working capital is approximately zero. This point of view sees working capital as an idle resource, providing little or no value but the fixed assets of the firm that produces the product from raw materials create value. However, problems of working capital exist, because these ideal assumptions are never realistic and therefore working capital levels make a significant part of a firm's investment in assets, and these assets have to be financed, implying that investments may have benefits as well as costs.

A study has been carried out in respect of the working capital management of Keren Metal, Wood and Cement Works. The findings of this study would not only concentrate on identifying the managerial weaknesses of the firm, but it is also believed that they would help researchers to develop techniques and methods in respect of the working capital management of the firm in particular, and Eritrean firms in general.



## **CHAPTER TWO: WORKING CAPITAL MANAGEMENT IN CONTEXT**

Working capital management refers to the financing, investment and control of net current assets within policy guidelines. Net working capital or, simply, working capital refers to the current assets less current liabilities - hence its alternative name of net current assets. Current assets include cash, marketable securities, debtors and stock. Current liabilities are obligations expected to be repaid within a year.

This chapter is explored under three main topics i.e. working capital investment, working capital finances and working capital trends. The first topic deals with efficient management cash, inventory, receivables, short-term investments and payables so as to create value. The second topic includes trade credit, overdraft, term loans etc. Furthermore, it will discuss the importance of the banking relationship and what funding opportunities are available to firms to facilitate their working capital needs. The last topic will focus on working capital trends and how they create value. Alternative strategies of working capital, ratios related to profitability and liquidity, optimum level of working capital and value chain will be addressed.

### **2.1 INTRODUCTION**

Arnold (2002) states that a firm needs to invest in order to thrive. Major long-term investments in a new factory or new machinery are part of the investment. Some of the additional investment in inventories, debtors and cash may come from long-term sources of finance, but in most cases, short-term sources such as trade credit or a bank overdraft will cover much of the increased need.

Working capital should be managed based on the doctrine that any asset component tied up beyond its shortest possible operating cycle, other than cash or cash equivalents properly managed, can result in lost profits. Planning, using 'what-if' models and forecasting, is key for a firm to know where it is going, particularly when facing a changing economy, up or down. Without targets and projections, it is impossible to ascertain working capital composition or requirements over any period of time. Every company has definite limits on

its potential for growth through its operations, and acquisition of working capital from the outside can be very costly, if not disastrous, without proper planning (Internet 4).

An integral part of planning is keeping the investment in accounts receivable, at a proper level and maintaining a turnover rate. In addition to establishing sales and collection forecasts, this may call for the establishment of new policies to encourage collections, consideration of receivable financing, and development of improved flows of information, to name only a few possible changes. Inventory levels are the result of management decisions and must be coordinated with need - the sales forecasts, the availability of products to meet needs at the right price, and the ability to invest in more products during an upswing (Internet 4).

Last, but not least, are the pros and cons related to accounts payable. Forecasts should reflect company policies and needs. Should delaying payments to creditors finance the increased business, or are good working relationships with vendors, including price and delivery leverage, more important to the company's success in a growing economy (Internet 2).

## **2.2 WORKING CAPITAL INVESTMENT**

The management of working capital is of equal importance in both manufacturing and service industries. Working capital is the fund required to support the expenses of production, sales, distribution and administration required prior to the receipt of cash from the sale of finished goods. Thus a firm, which has a longer lead-time between production and sales, would require a greater investment in working capital (Internet 4). Thus, the investment areas, which made the working capital of a firm, will be seen.

### **2.2.1 INVESTING IN CASH**

According to Smith (1980), cash is an asset only when it is in use, otherwise it is a liability. Moyer, McGugian, Kretlow (2003:557) suggested, "Cash management involves much more than simply paying bills and receiving payments for goods and services". Therefore, liquidity management is the planned acquisition and utilization of cash or near cash resources, to ensure that the company is in a position to meet its cash obligations as they fall due. It requires close attention to be devoted to cash forecasting and planning. Pike & Neale (2003:44) said, "If the wheels of the business are oiled by cash flow, the cash forecast or cash

budget, gauges how much 'oil' is left in the can at any time. Any predicted cash short fall may require the raising of additional finance, disposal of fixed assets or tighter control over working capital requirements, in order to avoid liquidity crises".

Even profitable firms can experience cash flow difficulties due to timing differences of cash receipts and cash disbursements. The cash cycle refers to the continual flow of resources through the various working capital accounts as such as cash, accounts receivable, inventory, payables and accruals.

According to Asch & Kaye (1989:103), there are some good reasons for holding cash. Such reasons include:

- A cash balance is required to meet transactions.
- The banks appreciate the holding of cash balances as collateral against borrowings and services.
- Cash balances provide precautionary balances to meet uncertainties and emergencies.
- Cash balances provide funds for speculative opportunities
- Cash balances provide facilities to exploit discounts for prompt payment
- Cash balances help improve a firm's credit rating.

Essentially the efficient management of cash is synchronisation of the cash flows. This is achieved not only by careful management of the cash conversion cycle but also through the management of the float. The float is the time taken to clear and deposit cheques. It includes the mail float, the processing float through the company as well as the clearing float. Through the management of the floats significant finance may be generated, i.e. through prompt depositing of collection and deferment of payments. This may be assisted by the use of direct debiting as well as careful selection of clearing bank (Asch & Kaye, 1989).

The cost of cash management may be measured the company in terms of the opportunities foregone as well as in terms of the additional bank charges and interest lost or gained. The cost of the shortage of cash is measured in the cost of raising finance or ultimately in the cost of bankruptcy or restructuring. The cost of surplus is the cost of interest opportunities foregone.

Cash flows at different speeds in different parts of the same system and it is essential that control is exercised to ensure the matching of flows and maintenance of solvency. Cash flows in the case of fixed assets are long-term while cash outlays on production items will be relatively short-term. An analogy for the working capital cycle can be portrayed as a wheel in which the fixed assets form the axle, while the wheel spinning on the axle is the investment in working capital. We need to maximize our return on each revolution of the working capital cycle (Asch & Kaye, 1989).

### 2.2.1.1 Cash operating cycle

The cash operating cycle is the length of time between the firm's cash payment for purchases of material, labour, and cash receipts from the sale of the goods. In other words, it is the length of time the firm has funds tied up in working capital (Pike & Neale, 2003).

Cash flows in a cycle into, around and out of a business. It is the business's lifeblood and every manager's primary task is to help keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate cash surpluses. If it doesn't generate surpluses, the business will eventually run out of cash and expire.

The faster a business expands the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash, will help improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

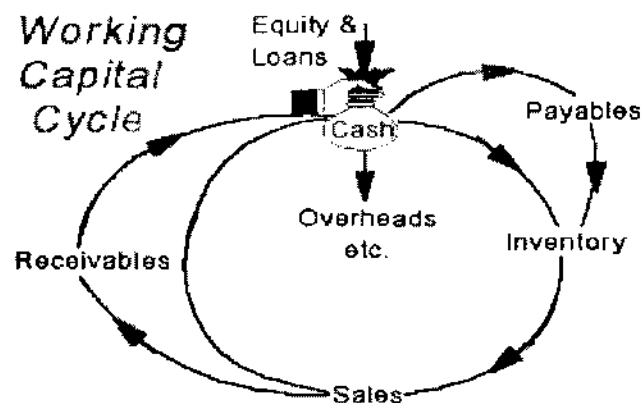


Fig. 2.1 Working Capital Cycle (Source: Internet 3).

Neveu (1989:167) noted, “The length of the cash-to-cash cycle represents the time that cash is tied up in the firm’s operating process for each item of output. Shortening the cycle means less cash is tied up for a given level of output – less net working capital is required and thus less financing costs are incurred. The cycle can be shortened by decreasing the average of days in inventory or the average collection period, or by lengthening the accounts payable period”.

After observing the length of time money is invested in working capital, the firm is likely to think of ways of shortening the cash conversion cycle so long as such shortening does not excessively damage operations. A number of actions could be taken: debtor levels could be cut by changing the conditions of sale or being more forceful in the collection of old debts; inventory levels can be examined to see if overstocking is occurring and whether the production methods can be altered to process and sell goods more quickly; perhaps creditors could be pushed into granting more credit. If these actions can be carried out without any adverse impact on costs or sales, then they should be implemented (Arnold, 2002).

#### **2.2.1.2 Sources of Cash**

Virtually every activity within a firm generates cash flows. The firm’s cash balance is affected by every transaction that involves either a cash inflow or cash outflow (Mayer, McGugan, Kretlow, 2003). There are two elements in the business cycle that absorb cash - Inventory (stocks and work-in-progress) and Receivables (debtors owing you money). The main sources of cash are Payables (your creditors) and Equity and Loans. Sources of additional cash may include the following:

- Existing cash reserves
- Payables (credit from suppliers)
- New equity or loans from shareholders
- Bank overdrafts or lines of credit

Expansion of the working capital asset accounts absorbs resources, whereas expansion of working capital liability accounts provides resources. This continual transformation of resources over the production cycle results in periods of cash flow surpluses and deficits. The

manner in which these working capital accounts are managed can ameliorate or accentuate cash flow difficulties (Internet 3).

### **2.2.1.3 Importance of cash**

Many firms don't have stocks, particularly in the service sector, while others don't have debtors or creditors. All have to use cash, however. So what is it about cash, which causes all firms to need it? According to Arnold (2002), there are three categories of motives ascribed to the holding of cash.

*i) Transaction motive:* Cash is often needed to pay for wages, buy materials and fixed assets, to pay taxes, service debts and for a host of other day to day transactions. This cash is necessary because the daily cash inflows don't match the cash outflows and so cash is needed to act as a buffer to permit activity to continue. This is particularly important in seasonal businesses or where long credit periods are granted to customers.

*ii) Precautionary motive:* The forecasting of future cash flows is subject to error. The more vulnerable cash flows are to unpredictable shocks the greater the cash balance needed to act as safety stock. Future cash flows can vary from those originally anticipated for a wide variety of reasons, for example a sales shortfall, a strike or the failure of a supplier.

*iii) Speculative motive:* This simply means that any unexpected profitable opportunities can be taken immediately, for example, to purchase a competitor firm quickly when a fleeting opportunity presents itself.

### **2.2.2 INVESTING IN RECEIVABLES**

The overall marketing strategy of the business should include some decisions as to the credit period to be adopted. The granting of long-term credit can be used as a key selling point, but the cost should be weighed against that of other forms of sales promotion.

Slow payment has a crippling effect on business, in particular on small businesses that can least afford it. If debtors are not managed, they will begin to manage the business instead, until a gradual loss of control is experienced due to reduced cash flow and, of course, an

increased incidence of bad debt could be the result. The following measures will help manage debtors:

- ✓ Have the right mental attitude to the control of credit and make sure that it gets the priority it deserves
- ✓ Establish clear credit practices as a matter of company policy
- ✓ Make sure that these practices are clearly understood by staff, suppliers and customers
- ✓ Be professional when accepting new accounts, and especially larger ones
- ✓ Check out each customer thoroughly before you offer credit. Use credit agencies, bank references, industry sources etc
- ✓ Establish credit limits for each customer... and stick to them
- ✓ Continuously review these limits when you suspect tough times are coming or if operating in a volatile sector
- ✓ Keep very close to your larger customers
- ✓ Invoice promptly and clearly
- ✓ Consider charging penalties on overdue accounts
- ✓ Consider accepting credit /debit cards as a payment option
- ✓ Monitor your debtor balances and ageing schedules, and don't let any debts get too large or too old (Internet 1).

As Smith (1980) points out, the use of credit in our economy has increased dramatically over the last few decades. While cash sales continue to predominate in certain industries, situations where customers purchase goods and services in exchange for a promise to pay later are increasing.

#### **2.2.2.1 Credit policy**

As explained by Asch & Kaye (1989), the ratchet effect of credit policy shouldn't be ignored in that an increase in sales will naturally lead to an increase in the level of debtors if credit terms are maintained. Consequently, there will be a need for an increase in the level of finance for debtors, plus it is likely that increased sales will place demands on production and

purchasing which, in turn, may require additional finance. Furthermore, it is likely that there will be an increase in the doubtful debt provision and discounts.

Credit policy is an original design choice to internalise activities as opposed to relying on the market. As such, the theory of the firm literature suggests determinants that are expected to influence the choice. This literature concerns those effects of specific investments and transaction costs on the choice of original structure (Journal of Finance 54(3), 1109 - 1129).

### *Credit decisions*

Smith (1979) expressed the extent to which a business should and does not grant credit to other firms, varies greatly. On the one hand, there may be larger financially sound firms that are granted as much credit as they want. On the other hand, there may be smaller, financially weak customers for whom the business is unwilling to grant any credit at all, with any sales done, being carried out solely on a cash basis. In between these extremes are a large number of firms that have some potential for being granted credit, but certainly not an unlimited amount. The heart of an effective credit policy must be aimed at those firms.

It is obvious that many of the characteristics found in corporate credit departments are driven by competition, so all credit decisions and analyses should be based on a cost/benefit analysis. Credit policy decisions generally are associated with one of the following categories:

- ***Credit standards***--set the minimum financial strength that is acceptable for customers to purchase on credit, as well as the amount of credit available to different customers
- ***Credit terms***--the conditions of the credit sale, such as the length of time buyers are given to pay for purchases, whether a cash discount is offered for early payment, etc
- ***Collection policy***--the approaches taken by the firm when collecting receivables
- ***Monitoring function***--periodic evaluation of receivables, including customers' payment patterns to ensure the credit policy is being administered properly.



### *Credit evaluation*

Because a great deal of information is usually available about a credit applicant, according to Moyer, McGugan, & Kretlow (2003), the credit manager must be able to sort through this information and extract the key elements that will enable a reliable overall assessment of the applicant's credit worthiness to be made.

Firms must form an opinion regarding the creditworthiness of a potential credit customer; often firms solicit credit customers by "prescreening" a group of potential customers and offering credit to those who meet certain standards, even though these customers have not applied for credit. Two types of analysis would be envisaged.

*i) Qualitative analysis:* It is felt that a credit manager can form a good opinion about a potential credit customer by evaluating information in the following five categories (termed the Cs of credit):

**Character:** credit reputation; does the applicant make every effort to repay credit, no matter the circumstances?

**Capacity:** ability to repay; does the applicant generate sufficient funds to service the debt?

**Capital:** wealth position; is the general financial position of the applicant sufficient to absorb the additional debt?

**Collateral:** security; is the debt secured? If so, what type of asset?

**Conditions:** refer to the general economic climate and its effect on the applicant's ability to pay.

*ii) Quantitative analysis:* In some cases, statistical models have proven useful in the credit-granting decision.

**Discriminant analysis:** a statistical technique used to "discriminate" between potentially good and potentially bad credit customers.

**Scoring models:** applicants are "graded" with respect to certain credit characteristics, and those who accumulated enough points are granted credit.

Nevertheless, guide lines and techniques such as these can aid in the analysis of an applicant's creditworthiness; the ability to make sound credit decisions, however, ultimately depends on the decision maker's experience and judgment in evaluating the available information.

### **2.2.2.2 Procedures in collecting receivables**

The act of collecting money is one, which most people dislike for many reasons and therefore put on the hold because they convince themselves there is something more urgent or important that demands their attention more urgently. There is nothing more important than getting paid for a product or service. Here are some indicators of non-payment, and some guidelines for collection.

#### ***Symptoms of weak collection and non-payment***

Organizations should recognize that the longer someone owes them, the greater the chance they will never get paid. If the average age of the debtors is getting longer, or is already very long, you may need to look for the following possible defects:

- Weak credit judgement
- Poor collection procedures
- Lax enforcement of credit terms
- Slow issue of invoices or statements
- Errors in invoices or statements
- Customer dissatisfaction.

Debtors due over 90 days (unless within agreed credit terms) should generally demand immediate attention. The warning signs could include the following:

- Longer credit terms taken with approval, particularly for smaller orders
- Use of post-dated checks by debtors who normally settle within agreed terms
- Evidence of customers switching to additional suppliers for the same goods
- New customers who are reluctant to give credit references
- Receiving part payments from debtors (Internet 3).

#### ***Procedures in collection***

A common cause of delay in collecting amounts due is slackness in rendering invoices to customers and delays in sending out statements when the customer hasn't paid the account within the allowed credit period. There should be an automatic following procedure, usually a sequence of letters, personal calls, etc. prior to the account being handed over to solicitors or

other collection agents. Perhaps the most important weapon in the credit controller's arsenal is the withholding of supply to debtors. While this is an extreme action, the knowledge of its availability when used in conjunction with real-time sales order processing systems in which current information is available to sales negotiators, can lead to effective control of poor payers. One method frequently adopted to secure earlier payment of sums due is, of course, an effect of cash discount for prompt payment.

Profits only come from paid sales; a customer who does not pay is not a customer. The following few ideas may aid in collecting money from debtors:

- ✓ Develop appropriate procedures for handling late payments
- ✓ Track and pursue late payers
- ✓ Get external help if your own efforts fail
- ✓ Don't feel guilty asking for money.... it's yours and you are entitled to it
- ✓ Make that call now. And keep asking until you get some satisfaction
- ✓ In difficult circumstances, take what you can now and agree terms for the remainder
- ✓ It lessens the problem
- ✓ When asking for your money, *be hard on the issue - but soft on the person*. Don't give the debtor any excuses for not paying
- ✓ Make it your objective is to get the money - not to score points. (Internet 3).

### 2.2.3 INVESTING IN INVENTORY

"Inventories serve as a buffer between the various phases in the procurement-production-sales cycle of a manufacturing firm. They follow the various phases by giving the firm flexibility with respect to the timing the purchase of raw materials, the scheduling of production facilities and employees, and meeting fluctuating and uncertain demand for the finished product", as Moyer, McGugan & Kretlow (2003:580) put.

Managing inventory is a juggling act. Excessive stocks can place a heavy burden on the cash resources of a business. Insufficient stocks can result in lost sales, delays for customers etc. In general, inventory balances act as shock absorbers between the production process and an uncertain consumer demands or between two productions process that are inter-dependent. The more inventories stored, the less concern there is about product shortages at the retail

level or about shutting down a production line due to a shortage of work-in-process that feeds it. However, increases in the inventory balances absorb financial resources. So, it is imperative that the inventory balances be managed to reduce financial requirements without excessively increasing stock-out risk.

There have been many advances in the area of inventory management. Perhaps the most noteworthy is the 'just-in-time' system popularised by the Japanese and more recently a system known as 'demand flow', which builds on just-in-time management concepts but is broader. These inventory management systems are designed to reduce the levels of inventory kept at the manufacturing site while still meeting production demands by re-designing the operations process and by shifting inventory burdens to suppliers.

The amount of capital employed that is locked up in stocks of one sort or another will affect profitability. The amount of money invested in stocks is large (25 % of total assets). The adequacy of managerial control over this use of funds has, therefore, a considerable effect on rate of return.

#### **2.2.3.1 Types of stock**

*Finished goods* are goods ready for sale. The presence of finished goods separates the production stage from the selling function.

*Work in progress* relates to partially finished products. The presence of work-in-process goods separates the various stages of production and will include products still in progress at period ends, which will depend on the relative length of the production cycle. In addition, products which may be sold in various packages may be held as interim stocks prior to re-packing to final orders, thereby reducing finished stock holding and increasing production flexibility.

*Raw material stocks* are materials used for the manufacture of products. The presence of raw materials separates the stages involved with ordering materials and manufacturing the product and may well reflect not only supply conditions and production requirements, but also opportunistic exploitation of market prices. However, these must be balanced against the cost of stock holding including the cost of financing such stocks. If just in time (JIT) stocking

policies are possible (i.e. stocks are only taken in just when required), then significant reduction in stocks is possible.

*Miscellaneous stocks* include not only the small consumable materials but also the maintenance and engineering spares as well as packaging and stationery supplies of administration.

All the stages of production from, the buying of raw materials to the final demand of customers could be synchronized, and then there would be no need for stocks to be kept at any stage in the production-distribution system. However, this is a utopian situation so whether or not to keep stocks must be considered, as should be how to minimize the costs associated with such stocks. But, first, a model of stock movements and the cost relationship must be established (Asch & Kaye, 1989).

### **2.2.3.2 Costs associated with inventory**

Managing working capital involves a trade off, not only between risk and required return, but also between costs that increase and costs that fall with the level of investment. Costs that increase with additional investment are termed *carrying costs*, while costs that fall with increase in investment are termed *shortage costs*. These two types of costs may be found in most forms of current assets, but particularly in stocks and cash. The main form of carrying cost is opportunity costs associated with the cost of financing the investment. Arnold (2000) states that firms have the difficult task of balancing the cost of holding inventories against the costs, which arise from having low inventory levels.

#### ***Cost of ordering***

Ordering costs are associated with placing and processing orders. Ordering costs include costs associated with setting up the order, handling the paper work, and other costs incurred due to the ordering process. If units are ordered from an outside supplier, then two costs are associated with the operation. In the first place there is the cost of raising the order, which can be considerable and the price, which is paid for each unit, which might vary because of price discounts.

### ***Cost of Holding (Carrying)***

The costs associated with maintaining inventory are costs, which include expenses for storage, insurance, and obsolescence, as well as the opportunity cost of the funds invested in inventory. This cost is made up of a number of costs such as storage space, clerical costs, rent and rates, etc. It may be difficult to ascertain, but in many cases not impossible. Higher than necessary stock levels tie up cash and cost more in insurance, accommodation costs and interest charges (Asch & Kaye, 1989).

### ***Cost of being out of stock***

Stock out occurs when (i) demand arrives and (ii) there is no inventory to satisfy that demand; a stock out can result in lost sales or increased inventory costs because special orders must be made. The trade-off between carrying costs and shortage costs is, carrying costs are seen to increase steadily as current assets grow. Conversely, shortage costs fall with the level of investment in current assets. The cost of holding current assets is the combined cost of the two, the minimum point being the optimal amount of current assets held.

Different businesses will be more sensitive to certain types of cost. An aggressive policy is more appropriate when carrying costs are high relative to shortage costs. While a flexible policy tends to be more suited to low carrying costs relative to shortage costs (Pike & Neale, 2003).

### **2.2.3.3 Inventory systems**

According to Neveu (1989), inventory policies are designed to provide the desired inventory levels while minimizing the costs of running the inventory system. Quite often, however, corporations face physical and/or financial constraints that restrict their ability not only to provide the desired amounts of inventory, but also to minimize the costs of obtaining and maintained inventoried items. Some of the inventory systems will be:

*i) EOQ/ROP (Just-In-Case):* Economic Ordering quantity (EOQ) techniques are used to determine the size of inventory orders and the reorder points (ROP) for inventory. The redline method (reorder when the red line in a bin is reached) and the two-bin method are two

approaches (reorder when the inventory in the working bin is gone, and draw down the other bin while waiting for the new inventory) that have evolved from this type of system.

*ii) Materials requirements planning (MRP):* The demand for the final product determines the amounts ordered of each component required to manufacture the product; e.g., the demand for Saturn automobiles would define how much should be ordered of each component used to manufacture the car.

*iii) Just in time (JIT):* The manufacturer coordinates with suppliers so that material orders are received just as they are needed in the production process. Nowadays, many large manufacturers operate on a *just-in-time* (JIT) basis whereby all the components to be assembled on a particular day, arrive at the factory early that morning, no earlier - no later. This helps to minimize manufacturing costs as JIT stocks take up little space, minimize stock holding and virtually eliminate the risks of obsolete or damaged stock. Because JIT manufacturers hold stock for a very short time, they are able to conserve substantial cash. JIT is a good model to strive for as it embraces all the principles of prudent stock management. The most commonly and widely used among these systems is EOQ, though nowadays JIT is also very popular in the highly industrialized countries like Japan.

The point where the total inventory cost is minimized is the Economic order quantity (EOQ), which is stated as:

***Total inventory costs = Total cost of holding + Total cost of ordering inventory***

$$EOQ = \sqrt{\frac{2 \times F \times T}{H}}$$

Where H is the dollar carrying, or holding, cost per unit of inventory (including opportunity cost), Q is the quantity ordered, F is the fixed cost per order, and T is the total demand for the product during the period examined. Graphically, the costs are:

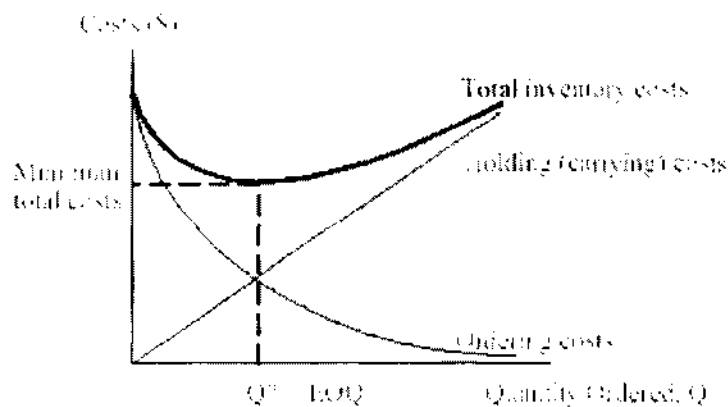


Fig. 2.2 Economic Order Quantity (Source: Internet 3).

#### 2.2.4 INVESTING IN SHORT TERM INVESTMENTS

Firms may wish to hold funds in short-term investments as a financial cushion during a downturn in business cycles. Having a liquidity reserve relieves the firm from having to obtain financing during times of need. The cushion could then be replenished as the firm's financial condition improves. Some view the creation of a liquidity pool as a defence against bankruptcy and its excessive costs.

If a company has a surplus of cash and does not expect this surplus to be used in the near future it should invest the funds in the short-term money market. A small return on those funds is better than the nil return obtained in a current bank account. The investments open to company are:

- Bank deposit accounts
- Local authority deposits from 2 days to 2 years
- Finance house deposits from one month to a year
- Inter-company loans from 2 days to 2 years
- Treasury bills.

The return obtained on these deposits depends on the period of deposit and the repayment notice required. The longer the term of loan, generally, the higher is the rate of interest (Asch & Kaye, 1989).



Most companies generate occasional cash surpluses, which need to be kept within the business to be used at a later date. In the meantime, opportunities should be taken to generate a return on these funds by following the treasurer's maxim 'never let cash lie idle'.

A treasurer sets an objective for the maximization of return from temporarily surplus cash, but this is subject to the constraints imposed by risk. One of those risk elements is the possibility of not having cash available at the right time to fund working capital - this is liquidity risk. There is a requirement to ensure that investments are sufficiently liquid to match anticipated cash flow needs and that there is a reserve (a safety margin) to provide a buffer against unpredictable events. Funds invested in a commercial bill may not be available for a three-month period whereas money placed in a 'sight' bank account can be withdrawn at very short notice. There is a price to pay for this degree of flexibility: keeping other factors constant, the rate of return on a more liquid financial asset is less than that on a less liquid one.

The treasurer has the task of balancing return and acceptable risk when investing temporarily, surplus funds (Arnold, 2002). In developing a short-term investment strategy, a company should formulate the objectives and goals of such programmes and monitor their performance. The management's goal is to delay the disbursement of cash and to accelerate the collection of receipts either to reduce borrowings or to make short-term investments.

#### **2.2.5 INVESTING IN PAYABLES (CREDITORS)**

Smith (1979:173) said, "Many firms could never get started in business were it not for their suppliers. Manufacturing firms would not be able to obtain adequate financing from alternative sources in order to pay cash for the raw materials and parts needed in the production process".

Creditors are a vital part of effective cash management and should be managed carefully to enhance the cash position. Purchasing initiates cash outflows and an over-zealous purchasing function can create liquidity problems. Consider the following:

- ✓ Who authorizes purchasing in the company - is it tightly managed or spread among a number of (junior) people?
- ✓ Are purchase quantities geared to demand forecasts?

- ✓ Are order quantities, which take account of stock holding and purchasing costs used?
- ✓ What is the cost to the company of carrying stock?
- ✓ Are there alternative sources of supply? If not, quotes from major suppliers need to be sought and information on the best discounts, credit terms, and reduce dependence on a single supplier needs to be obtained.
- ✓ How many of the suppliers have a returns policy?
- ✓ Is the firm in a position to pass on cost increases quickly through price increases to the customers?
- ✓ If a supplier of goods or services lets the firm down can it reclaim back the cost of the delay?
- ✓ Can arrangements be made (with confidence!) to have delivery of supplies staggered or on a just-in-time basis?

There is an old adage in business that *if you can buy well then you can sell well*. Management of creditors and suppliers is just as important as the management of debtors. It is important to look after creditors - slow payment may create ill feeling and can signal that a company is inefficient (or in trouble!). A good supplier is someone who will work with the firm to enhance the future viability and profitability. Payables should be evaluated and monitored using the same techniques as for receivables (Internet 1).

### **2.3 WORKING CAPITAL FINANCE**

Finance managers must address the working capital financing issues, like how much should the firm raise in a particular year, in what form, from where and by when?

Firstly, it is believed that internally generated funds are the most convenient source of finance. It is equivalent to a compulsory share issue, because the alternative is to pay it all back to share holders and then raise equity capital from them as the need arises. Raising equity capital, via the back door of profit retention, saves issuing and other costs. But, at the same time, it avoids the company having to be judged by the capital market as to whether it is willing to fund its failure operations in the form of either equity or loans.

Secondly, whether to use short-term or long-term to finance the working capital would be the critical issue. What would be the short term financing; to rely heavily on trade credit, bank overdraft or term loans? What about the long-term; loans or equity? Do all current assets need to be financed with long term financing or can part of it be from short-term and part of it from long-term? These issues of working capital finances will be discussed in detail.

### **2.3.1 SOURCE OF FINANCE**

Not only does a firm have to be concerned about the level of current assets, it also has to determine the proportions of short-term and long-term debt to use in financing these assets. This decision also involves trade-offs between profitability and risk. Sources of financing are classified according to their maturities. The most common mode of financing working capital includes trade credit, bank overdrafts, term loans, revolving credit facilities and trade documents.

#### **2.3.1.1 Trade credit**

Generally, offers of trade credit are expected when informational asymmetries between supplier and buyer are present, when monitoring and other transaction costs are high and when the supplier has a high level of specialized investment at stake (Journal of finance 54(3), 1110-1112).

Trade credit is finance obtained from suppliers of goods and services over the period between delivery of goods (or provision of a service) and the subsequent settlement of the account by the recipient. During this time, the company can enjoy the goods or benefit from the, service provided without having to pay up. Granting customers a credit period is part of normal trading relationships, and for this reason, it is sometimes called 'spontaneous finance'.

Additional features of trade credit packages include the amount of credit that a company is allowed to obtain, whether interest is paid on overdue accounts, and whether discounts are offered for early payment. A common way of expressing credit terms is as follows: '2/10: net 30'. This means that the supplier will offer a 2 per cent discount for early settlement (in this case, within 10 days); otherwise, it expects payment of the invoice in full within 30 days.

Because trade credit represents temporary borrowing from suppliers until invoices are paid, it becomes an important method of financing investment in current assets. Firms may be tempted to view trade creditors as a cheap source of finance although statutory rights to claim interest on late payments now exist. Having a debtors' collection period shorter than the trade collection period may be taken as a sign of efficient working capital management. However, trade credit is by no means free - it carries both hidden and overt costs (Journal Finance 54(3), 1119 – 1129).

Excessive delay in settling invoices can affect the stability of a business in a number of ways. Existing suppliers may be unwilling to extend more credit until existing accounts are settled. They may start to assign lower priority to future orders placed by the culprit, they may raise prices in the future or they may simply not supply at all. In addition, if the firm acquires a reputation as a bad payer among the business community, its relationships with other suppliers may be soured. Finally, by delaying payment of accounts due, the company may be passing up valuable discounts, thus effectively increasing the cost of goods sold.

Bias and Gallier (1997) assume that suppliers have different signals about the customers' probability of default than do banks and furthermore, that the bank will extend more credit if it observes the offering of the trade credit by a supplier. Alternatively, Smith (1987) argues that the choice of the trade credit terms made can be used as a screening device to elicit information about buyer's creditworthiness (Journal of Finance 58(1), 353-374).

#### **2.3.1.2. Bank overdraft**

According to Arnold's (2002) argument, usually the amount that can be withdrawn from a bank account is limited to the amount put in. However, business and other financial activity often requires some flexibility in this principle, and it is often useful to make an arrangement to take more money out of a bank account than it contains. This is an overdraft.

The best-known form of bank finance is the overdraft, a facility available for specified short-term periods such as six months or a year. This facility specifies a maximum amount that the firm can draw upon either via direct cash withdrawals or in payments by cheque to third parties. Interest is paid on the negative balance outstanding at any time rather than the

maximum advance agreed upon. Compared with many other forms of finance, it is relatively inexpensive, with the cost set at some two to five percentage points above base rate, although most banks also levy an arrangement fee (perhaps 1 per cent) of the maximum facility.

Asch & Kaye (2003) noted that over recent years bank overdrafts have been a major source of short-term funds. Overdrafts are negotiated lines of credit at call where the bank reserves the right to alter the interest of interest charges in accordance with changes in the bank's rate. Interest charged is usually one or two percent above base rate. Most companies don't expect to pay off their overdraft within the year and it can, in some cases, be considered as part of the companies long term funding. However, as this facility can be called at short notice and in full it is probably better to treat these funds as though they were short-term.

Bank overdrafts are also very flexible and simple to operate. In this respect they may be cheaper than other sources which have a lower interest rate in that the interest is only paid on the outstanding balance and the loan may be repaid as early as possible. In this respect, overdrafts are particularly useful for financing exceptional workloads or seasonal fluctuations and for bridging the gaps in a company's financial requirements.

In general banks like to lend to healthy companies with 'sound' liquidity ratios. They tend to prefer self-liquidating loans, which are repaid automatically, such as financing a contract or finished goods stock. Nevertheless, the bank retains the right to appoint a receiver if the client defaults on the debt. In practice, well-behaved clients can roll forward overdrafts from period to period. As a result, the overdraft effectively becomes a form of medium-term finance. Even in these cases, it is wise policy not to use an overdraft to invest in long-term assets that would be difficult to liquidate at short notice if the bank suddenly decided to call in the debt.

To protect against risk of loss, the bank will usually demand that the overdraft be secured against company assets, i.e. in the event of default, the receiver will reimburse the bank out of the proceeds of selling these assets. Security can be in two forms: a *fixed charge*, where the overdraft is secured against a specific asset, or a *floating charge*, which offers security over all of the company's assets, i.e. those with a ready and stable second-hand market.

### **2.3.1.3 Term loans**

A term loan, or intermediate-term credit, is defined as any debt obligation having an initial maturity between 1 and 10 years. It lacks the permanency characteristic of long-term debt (Moyer, McGuigan & Kretlow, 2003). Term loans also offer potential cost advantage over long-term source of financing. Because term loans are privately negotiated between the borrowing firm and the lending institution, they are more expensive than public offerings of common stocks or bonds.

Term loans are loans for longer than a year. UK banks have traditionally been reluctant to lend on a long-term basis, mainly because the bulk of their deposit liabilities are short-term. In the event of unexpectedly high demand by the public to withdraw cash, this could leave them vulnerable if they were unable to recall advances quickly from borrowers. This low exposure to default risk is generally regarded as the reason why banking collapses are relatively uncommon in the UK.

Tailor-made facilities are available to some firms, with repayment terms designed to suit their expected cash flow profiles. Sometimes, the bank may grant a 'grace period' at the outset of the loan when no capital is repayable and interest may be charged at a relatively low, but increasing, rate. This is particularly suitable for small, developing companies trying to establish themselves. Similarly, a *balloon loan* is where increasing amounts of capital are repaid towards the end of the loan period while a *bullet loan* is where no capital is repaid until the very end of the loan period (Internet 7).

### **2.3.1.4 Revolving credit facilities (Revolvers)**

Neveu (1989) describes a revolving credit agreement as a legal commitment on the part of the commercial bank to extend loans to a business customer. Subject to the terms of the agreement the borrower can request loans at any time and the bank is obligated to extend the financing.

Although a line of credit agreement does not legally commit the bank to making loans to the firm under all conditions, the bank normally will feel morally obligated to honour the line of credit. Some banks however have chosen not to provide financing to a firm when the firm's

financial position has deteriorated significantly or when the bank lacks sufficient loanable funds to satisfy all of its commitments. If a firm desires a guaranteed line of credit, it must negotiate a committed revolving credit agreement (Moyer, McGuigan & Kretlow, 2003).

A term loan generally specifies an agreed payment profile and the amounts repaid cannot normally be re-borrowed. A revolver allows the borrower to borrow, re-pay and re-borrow over the life of the loan facility, rather like a continuous overdraft. Like an overdraft, it is frequently secured on the borrower's working capital, e.g. using debtors and stocks as collateral, although very large firms may not be asked for any security. The advantage of revolvers is the enhanced flexibility provided, i.e. funds can be re-used in a continuous credit line. The commitment by the bank thus 'revolves' - the borrower can continue to ask for loans, subject to giving suitable notice, so long as the committed total is not exceeded.

#### **2.3.1.5 Trade documents**

Most export deals involve three key documents:

- The bank's promise to pay is called a Letter of Credit.
- When the exporter ships the goods to the importer's location, title to the goods is conveyed to the bank by a Bill of Lading.
- When the exporter seeks payment from the bank, it presents a 'sight draft'. When the bank has paid the exporter, title to ownership of the goods passes to the importer, which duly pays the bank.

There is obvious potential for delay in these procedures, e.g. in trans-shipment of goods, in inspecting the goods, in acceptance of the documents, etc. Hence the bank plays a key role in 'holding the ring' between importer and exporter and providing a source of short-term finance. The three documents help protect the two parties from the risk of non-completion of the contract. Particular attention is paid to the Letter of Credit, as this represents the bank's promise to pay. A LOC, or documentary letter of credit (DLOC), is a document drawn up by an importer giving its bank detailed instructions as to the circumstances in which the credit can be honoured by the importer's bank in favour of the exporter (Internet 7).

### 2.3.2 FUNDING OPPORTUNITY

How much companies should be able to borrow should be a critical issue? There is no easy solution to this issue. But it is a vital question for corporate treasurers. Borrow too much and the business could go bust, borrow too little and the business could be losing out on cheap finance (Pike & Neale, 2003).

Furthermore, Pike & Neale (2003) considered two theories that explain how much of the capital employed by firms should be in the form of borrowing and how much in equity.

*i) Trade-off theory:* This theory recognizes that firms want to enjoy the benefits of lower costs of borrowing (the after tax cost of borrowing is normally much less expensive than the cost of equity). But at the same time, firms don't wish to increase the financial risk that entering into contractual commitments to pay interest and repay debt involves. From this one would expect to find that firms enjoying high profits create additional debt-servicing capacity and have made taxable income to shield and therefore should operate on higher borrowing levels.

*ii) Pecking order theory:* This theory argues firstly, that firms prefer to employ internal finance and secondly, where external finance is required, firms prefer to raise debt with equity raised as a last resort.

The argument for this pecking order is based on information asymmetry. Managers know far more about the firm's performance and prospects than outside shareholders. They are therefore unlikely to issue equity when they believe shares are 'undervalued', but are more likely to issue shares when they believe them to be 'overpriced'.

Moreover, Arnold (2002) comments that obtaining the most appropriate mixture of finance is likely to be of great importance to most firms. If the strategic issue is to decide upon the level of borrowing, the tactical issue is to decide on the appropriate form of debt, or how to manage the debt portfolio. The debt mix question considers: Form (loans, leasing or other forms), Maturity (long, medium or short-term), Interest rate (fixed or floating) and Currency mix (what currencies should the loan be in?).



To this end, each firm must assess how much of its planned investment is to be financed by short-term finance and how much by long-term finance. This involves a trade-off between risk and return. Further, Arnold (2002) states that firms usually come to the conclusion that there is a need for an appropriate mixture of debt finance with regard to length of time to maturity – some short-term borrowing is desirable alongside some long-term borrowing. Some firms follow the matching principle, others aggressive approach and still others the conservative or relaxed approach.

**Matching approach:** This is where the maturity structure of the company's financing exactly matches the type of asset. Long-term finance is used to fund fixed assets and permanent current assets, while fluctuating current assets are funded by short-term borrowings.

**Aggressive approach:** A more aggressive and risky approach to financing working capital is using a higher proportion of relatively cheaper short-term finance. Such an approach is more risky because lenders review the loan more regularly. For example, a bank overdraft is repayable on demand.

**Relaxed approach:** Finally a relaxed approach would be a safer but more expensive strategy. Here, long-term funding finances most, if not all, the seasonal variation in current assets, any surplus cash being invested in short-term marketable securities or placed in bank deposit.

### **2.3.3 BANKING RELATIONSHIPS**

Every company needs at least one bank, but a recent survey reveals that only 8 percent of companies use just one bank. Global businesses may deal with hundreds of banks; Euro tunnel, at one time, had 225 banks to deal with! The number of banks dealt with, will depend on the company's size, complexity and geographical spread. While it makes sense to have more than one bank, too many can make it difficult to foster strong relationships. The real value of a good banking relationship is discovered when things get tough (such as in the prolonged recession of the early 1990s) and when continued bank support is required. One often hears the charge, particularly from smaller businesses, that banks are providing an inadequate service or charging too high interest rates. It seems that the banking relationship is more of a love/hate relationship than a healthy financial partnership. A flourishing banking

relationship requires the company to deal openly, honestly and regularly with the bank, keeping it informed of progress and ensuring there are no nasty surprises (Pike & Neale, 2003).

Typically, smaller enterprises face higher transaction costs than larger enterprises in obtaining credit. Insufficient funding has been made available to finance working capital Peel & Wilson (1996:52-68) said. Also as Smith (1980) describes, commercial banks provide firms with short-term financing for their non-spontaneous needs. Commercial banks also provide firms with a range of other services involving the collection of customer payments, the disbursement of payments to employees and suppliers, and the mobilization of liquid funds within the many divisions and facilities of a complex organization. Managing the firm's network of commercial banks, including proper compensation for services received, is an important part of financial management. Recent banking literature has focused increased attention on the costs and benefits of banking relationship (Journal of Finance 58(1), 375-399).

While banks have taken a number of steps to address the criticisms raised against them, many firms still find it difficult to arrange short-term finance, and many remain critical of the banking system. Despite such problems, the banks remain the most important source of external finance for small and medium sized firms, providing approximately 60 per cent of their external finance. However, it is not only smaller firms that tend to rely on shorter-term finance; firms of all sizes use these sources to varying degrees. For example, most large companies arrange access to overdraft finance to tide them over temporary liquidity shortages (Internet 8).

#### **2.4 WORKING CAPITAL TRENDS**

The appropriate levels of current assets and current liabilities for a firm, which determine its level of working capital, are the result of fundamental decisions concerning the firm's liquidity and the maturity composition of its debt. In turn, these decisions are influenced by a trade-off between profitability and risk. The purpose of this analysis is to develop a framework for evaluating decisions affecting the firm's working capital position, so that optimal decisions can be made more readily.

#### **2.4.1 TRADE-OFF BETWEEN PROFITABILITY AND LIQUIDITY**

A recurring theme in many readings of working capital has been in considering the presence of two important goals - profitability and liquidity. The exact trade-off between profitability and risk depends largely on the decision makers' attitudes towards risk.

Smith (1980) suggests that parallel monthly forecasts of liquidity and profitability could be useful in evaluating tradeoffs between these two management goals, in reflecting the inherent uncertainty of the future, and in estimating the impact of certain working capital policies of the firm. It remains to explore briefly the implications of the suggested procedure.

Firstly, it should be emphasized that parallel forecasts of liquidity and profitability can be no better than the quality or reliability of the input information on which they are based. The well-worn adage of "garbage in-garbage out" is apropos in this context. In fact, in appropriate estimates of future sales, collecting experience, operating efficiency, and other parameters could easily result in the firm taking seemingly appropriate actions that, in retrospect are detrimental to the best interests of its common stockholders. For that reason, it is incumbent upon those using the suggested procedure to do whatever is necessary to ensure a high quality of input information.

Secondly, it should be clear by now, that the suggested procedure for the forecast of liquidity and profitability does not provide an optimal solution to anything. Instead, it offers a forward look at what should occur if the input information proves to be correct. Based on such a forecast of the future, management may decide to take certain actions or to revise certain of its policies. For example, a cost-balancing model for determining appropriate levels of inventory for a particular class of products may prove useful to the management. However, parallel forecasts of profitability and liquidity should allow management to trace the full impact of different inventory levels within the total systems context.

Finally, it should be clear that the budgeting and planning of working capital is but part of the total budgeting and planning activity of the firm. Although attention here has focused on the working capital policies of the firm, the suggested profitability vs. liquidity procedure is

equally useful in examining the impact of capital budgeting, capital structure, leasing, and other management policies.

#### **2.4.2 A RISK-RETURN ANALYSIS OF A FIRM'S WORKING CAPITAL POSITION**

As Moyer, McGuigan & Kretlow (2003) note, before deciding an appropriate level of working capital investment, a firm's management has to evaluate the trade-off between expected profitability and the risk that it may be unable to meet its financial obligations. Profitability is measured by the rate of return on total assets and the risk that a firm will encounter financial difficulties is related to the firm's net working capital position.

Determining the appropriate amount of cash and marketable securities held by the firm (liquid assets) involves a trade-off between risk and profitability. All other aspects the same, the lower the level of liquid assets the greater would be the risk of being unable to meet current obligations. For this purpose, risk is defined as the probability of technical insolvency. Legally, insolvency occurs whenever the assets of a firm are less than its liabilities and the net worth is negative. Technical insolvency, on the other hand, occurs whenever a firm is unable to meet its cash obligations. The risk of running out of cash can be reduced or even eliminated, of course, by maintaining a high proportion of liquid assets. However, there is a cost involved. This cost is the profit foregone on the investment of these funds in other assets. However cost is measured, it is clear that there exists a trade-off between risk and profitability.

The maturity structure of the firm's debt also involves a trade-off between risk and profitability, similar to that affecting its level of liquid assets. A decision here determines the proportion of current assets financed with current liabilities. For the purpose of analysis, we assume an established policy with respect to payment for purchases, labour, taxes and other expenses. These liabilities finance a portion of the assets of the firm and tend to fluctuate with the firm's production schedule, and in the case of taxes, with profits. The concern is with how assets, not supported by accounts payable and accruals, are financed. We assume also that the firm maintains its existing portion of the total debt to equity. Attention is centred only on the maturity composition of the debt, not on the capital-structure problem.

Depending upon the synchronization of the repayment of debt with the firm's schedule of expected future cash flows, different debt instruments will be more or less risky. The shorter the maturity schedule of the debt in relation to expected future cash flows, the greater the risk of inability to meet principal and interest payments. Generally, it is apparent that the longer the maturity schedules of debt, the less risky the debt financing of the firm. However, the longer the maturity schedule, the most costly aspect is likely to be the financing. For one thing, the explicit cost of long-term financing usually is more than that of short term financing.

#### **2.4.3 CASH FLOW ANALYSIS IN RELATION TO WORKING CAPITAL POSITION**

If a firm's future cash flows were known with certainty, it would be able to arrange its maturity schedule of future net cash flows. Because of this synchronization, there would be no need to hold liquid assets. When cash flows are subject to uncertainty, however, the situation is changed. To provide a margin of safety the firm can: i) increase its level of liquid assets; and/or ii) lengthen the maturity schedule of its debt. To analyse the appropriate margin of safety, management must have information about the expected future cash flows of the firm and possible deviations from these expected outcomes (Smith, 1980).

In Baumol's cash model, as Arnold (2002:578) noted "the average amount of cash on hand and earning no interest (an opportunity cost) is half of the maximum cash balance. If one denotes the maximum cash balance as  $Q$ , the average cash balance is  $Q/2$ . The firm has the task of deciding the most appropriate level of  $Q$ ".

Thus, one would like to know how this could be provided, followed by an evaluation of the use of the information in determining an appropriate margin of safety. In order to assess possible adverse deviations in net cash flows, cash forecasts must be prepared, for a range of possible outcomes, with probability attached to each. This budget is prepared in the usual manner by estimating and totalling all cash receipts for each future period, doing the same for cash disbursements, subtracting total disbursements from total receipts to obtain the net cash flow for each period; and calculating the ending cash balance for each period with additional financing. Instead of the cash balance, however, the wish is to calculate the liquid asset balance, the sum of cash and marketable securities. For longer-term forecasts, it is not feasible

to prepare detailed cash budgets. Here, estimates of liquid-asset balances based upon major sources and uses of funds probably will be sufficient.

As discussed earlier, the level of liquid assets and the maturity composition of debt determine the margin of safety of the firm in relation to possible adverse deviations in net cash flows.

The level of liquid assets is affected by:

- 1) The future cash flows of the firm exclusive of new financing; and
- 2) Changes in the total financing of the firm.

These factors jointly determine the expected value of liquid assets of the firm.

Good cash management as Arnold (2002) suggests require good planning. Management needs to know when cash is likely to be in surplus (so it can be invested) and when it is necessary to borrow.

The expected cost of cash stock out is the cost associated with a particular stock out, times its probability of occurrence. The optimal solution could be found by a comparison of the reduction in the expected cost of cash stock out, accompanying a particular solution with the opportunity cost of implementing that solution.

The difficulty, of course, is in estimating the cost of cash stock-out. When a firm does not have a sufficient liquidity cushion to cover a cash drain, it may be forced to convert other assets into cash. Frequently, these assets can be converted only at a significant price concession. This concession can be thought to represent the cost of illiquidity, and is expected to increase at an increasing rate with the amount of assets to be converted. However, many assets cannot be converted into cash on short notice. The measurement of the cost of illiquidity in this case is very difficult, for it does not involve tangible considerations. The cost will depend upon which obligations cannot be paid i.e., whether they are payments to suppliers, wages to employees, tax payments, bank loans, or other obligations. Because of the obvious difficulties in measuring the cost of a cash stock out and, applying it consistently, the method is seldom used (Smith, 1980).

Therefore, a strong case can be made for providing decision-makers with information about the probability distributions of liquid asset balances for all future periods for each alternative

and the opportunity cost of alternative. In this way, the firm is able to evaluate the maximum probability of running out of cash and the number of future periods in which there is a chance for a cash stock out. With this additional information, it then can assess more realistically the trade-off between the risk of running out of cash and the opportunity cost of reducing this risk.

On the basis of this assessment, it would select and implement the most appropriate alternative. The actual implementation will determine the liquid asset level of the firm and the maturity composition of its debt. In turn, these factors will determine the working capital position of the firm, given the assumption listed earlier. This position should be the one most appropriate with respect to considerations of risk and profitability.

#### **2.4.4 LIQUIDITY AND PROFITABILITY - RATIOS ANALYSIS**

The final responsibility for controlling working capital typically resides with the highest financial manager. It is the job of the top financial manager, whatever the title, to design an overall control that properly reflects all components of working capital, and which places working capital in perspective vis-à-vis overall financial controlling (Smith, 1979).

##### **2.4.4.1 Liquidity ratios**

**Current ratio:** The current ratio is almost always the first financial ratio to be mentioned, and it is probably the most frequently used of the ratios. Since the ratio shows the number of times that the firm's short-term obligations could be paid if its short-term assets were converted to cash, the current ratio is used as an overall measure of the firm's liquidity. The financial manager, who monitors overall working capital, must have a perspective on how a firm's current ratio has varied over time, as well as how it compares with the current ratios of other firms in the industry. It is illustrated as:  $\text{Current assets} / \text{current liabilities}$

**Quick ratio:** The quick ratio or acid test ratio is similar to the current ratio except that inventory is subtracted from the current assets. The reason for excluding inventory is that it is the least liquid of the firm's current assets and may not be very helpful in meeting immediate financial obligations. The result is a value, which suggests a lower level of liquidity. It is illustrated as:  $\text{Current assets-inventory} / \text{current liabilities}$ .

**Turnover ratios:** These are also used to monitor and control liquidity because turnover ratios involve sales as well as the various current assets; they measure flows as well as levels of working capital.

$$\text{Receivable turnover: } \frac{\text{Annual sales}}{\text{Year-end receivable}}$$

$$\text{Inventory turnover: } \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

#### 2.4.4.2 Activity ratios

Activity ratios measure how efficiently a firm manages its assets. Efficiency is equated with rapid turnover (Neveu, 1989).

**Inventory Turnover:** This measures the number of times per year that a firm sells, or turns over its inventory. It is computed by dividing the dollar amount of cost of goods sold by the dollar values of inventories.

**Total Asset Turnover:** This measures the relationship between a dollar of sales and a dollar of assets, usually on a yearly basis. It is computed by dividing net sales by total assets.

**Average collection period:** This seeks to measure the average number of days it takes for a firm to collect its accounts receivable. This ratio relates the firm's daily credit sales to its short-term accounts receivable. It contains two steps:

$$\text{Step one: } \text{Average credit sales per day} = \frac{\text{Total credit sales}}{360}$$

$$\text{Step two: } \text{Average collection period} = \frac{\text{Accounts Receivable}}{\text{Average credit sales per day}}$$

#### 2.4.4.3 Profitability ratios

The profitability position of the firm can also be portrayed by a number of different ratios. The usual procedure is to compare after-tax earnings, with particular benchmarks from either the income statement or the balance sheet (Smith, 1979).



**Profit margin:** This ratio shows what portion of a dollar from customers remains after all constituencies- suppliers, employers, government, bankers etc. have been paid. It is portrayed as:

$$\text{Profit margin} = \frac{\text{Earnings after tax}}{\text{Sales}}$$

Furthermore, earnings can be related to total assets or total equity, depending on whether the focus is on total resources used in the business or just those resources provided by the owners of the firm.

**Return on Investment (Return on Assets):** This measures the firm's profitability per dollar of the invested funds, which is illustrated as:

$$\text{ROI (ROA)} = \frac{\text{Earnings after taxes}}{\text{Total assets}}$$

**Return on Equity:** This measures firm's profitability per dollar of equity capital. It is portrayed as:

$$\text{ROE} = \frac{\text{Earnings after taxes}}{\text{Total equity}}$$

#### 2.4.4.4 Composite ratios

Ensuring adequate liquidity for the firm and enhancing firm profitability were identified as two parts of the proper goal for managing working capital. In addition to monitoring these individual measures overtime, and making appropriate comparisons with other firms in the same industry, it is important to consider composite measures of liquidity and profitability for better control of working capital (Smith, 1979).

For liquidity the "days sales" ratios can be added in order to see how rapidly a dollar flows through the operating cycle of cash to inventory, to receivables, and back to cash. The shorter the length of the operating cycle, the more liquid the firm is judged to be. If the operating cycle gets longer overtime, then management should attempt to pinpoint the reason for the reduced liquidity. In contrast, procedures for reducing the length of the operating cycle are

useful, since liquidity is improved. The operating cycle framework also allows financial managers to evaluate where they should devote additional resources to improving firm liquidity.

Besides, for profitability the Du Pont system of financial control is the most well known composite ratio. It is expressed as follows:

$$\frac{\text{Earnings after taxes}}{\text{Total assets}} = \frac{\text{Earnings after taxes}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}}$$

**Or**            **Return on Assets = Profit margin X Total asset turnover**

In subsequent levels of the Du Pont system, the income statement is used to break down earnings, while the balance sheet is used to breakdown the firm's total assets.

#### **2.4.5 EVALUATION OF RATIO ANALYSIS**

The intelligent use of ratio analysis requires an understanding of the advantages and limitations of this technique. This section summarizes the strengths and weaknesses of the ratio analysis that were identified in analysing a firm.

According to Neveu (1989:74-75) the advantages and disadvantages of ratio analysis presented as follows:

##### *Advantages*

- Ratios are easy to compute.
- Ratios provide a standard of comparison at a point in time and allow comparisons to be made with industry averages.
- Ratios can be used to analyse a corporation's financial time series in order to discover trends, shifts in trends, and data outliers.
- Ratios are useful in identifying problem areas of a firm.
- When combined with other tools, ratio analysis makes an important contribution to the task of evaluating a corporation's financial performance.

### *Limitations*

- Taken by itself, a ratio provides little useful information.
- Ratios seldom provide the answers to the questions they raise because generally they don't identify the causes of a firm's difficulties.
- Ratios can be easily misinterpreted. For example, a decrease in the value of a ratio does not necessarily mean that something undesirable has happened.
- Very few standards exist that can be used to judge the adequacy of a ratio or a set of ratios. Industry averages cannot be relied upon exclusively to evaluate a firm's performance because, by definition, half of the firms in the industry can perform below the industry average. However, as Smith (1979) suggests, calculating liquidity and profitability ratios, or combination of financial ratios, is not enough. Indeed, managers can only make use of ratios in financial control, if they are able to draw inferences from the level of particular ratios, or changes in ratios over time. One way for a manager to draw inferences about the liquidity and profitability of a firm is to compare selected ratios with that of other firms in the same industry. Fortunately, there are financial data available that facilitate such comparisons.

### **2.4.6 WORKING CAPITAL POLICIES**

The policies and procedures that constitute working capital management assume that the corporation has implemented some major decisions. These decisions are a major determinant of a firm's long-term profitability and have two important implications for working capital management. Firstly, the product and/or services produced by a firm coupled with sales forecasts, allow working capital managers to estimate the spontaneous levels of current assets and current liabilities. Secondly, working capital managers seek to advance the wealth of the corporation's common shareholders primarily by providing and maintaining corporate liquidity. Thus, working capital policies are not primarily designed to increase earnings per share; rather they seek to provide the liquidity that will help the corporation attain its profitability goals. Hence, it involves certain strategies, which takes towards deciding optimal level of working capital (Neveu, 1989).

#### 2.4.6.1 Alternative strategies

Working capital incorporates three types of strategies. The strategies are identified by their risk-return characteristics.

##### *Conservative strategies*

These strategies minimize the risks of not being able to finance spontaneous asset growth and of defaulting on matching obligations. It provides liquidity in excess of expected needs. However, excess liquidity results in the corporation holding assets that earn little or no return. Hence, conservative strategies are called low-risk, low-return approaches to working capital management.

A conservative current assets strategy is low return because cash and marketable securities earn little or no return for the corporation. In addition, this strategy might set desired inventory levels substantially above expected sales levels in order to meet unanticipated demands. The funds needed to finance this extra inventory generate no profits for the corporation until the inventory is bought or until it is declared in excess or unsalable and liquidated. On the other hand, conservative current liability strategy seeks to minimize the amount of short-term debt in the corporation's capital structure. A very conservative strategy would seek to use equity capital in the place of non-spontaneous debt.

If management adopts a conservative working capital policy, the associated risks are less, but this type of policy yields the lowest return on total assets. The reason for this is that the firm has acquired more assets than is needed to support sales.

##### *Aggressive strategies*

These strategies seek to minimize excess liquidity while meeting short-term requirements. They accept the greater risk of illiquidity or even insolvency in order to earn a larger return for the corporation. These are high risk, high return approaches in working capital management.

An aggressive current asset strategy seeks to minimize the amount of funds invested in cash and marketable securities. A very aggressive strategy would also attempt to minimize the

amount of funds invested in inventories. By minimizing the amount of cash and marketable securities in the corporation's current assets, the corporation increases the risk that will be unable to pay its liabilities as they mature. In a like manner, aggressive current liability strategy is designed to maximize the amount of short-term debt that is used to finance current assets. This strategy does not preclude the existence of long-term debt in the corporation's capital structure. The purpose of long-term debt in this strategy is to finance fixed assets, however.

Moreover, this policy, which utilizes lower levels of current assets at the same level of sales, yields the highest return on total assets. The main risk relating to this strategy is liquidity. And as current assets provide liquidity, their reduction could lead to difficulties in meeting short-term obligations.

#### *Moderate strategies*

A moderate strategy is one which attempts to match assets and liability maturities based on expected levels of the assets being financed. This policy uses long-term funds to finance all fixed assets and all permanent current assets. Short-term funds are used to finance fluctuating current assets. It is difficult in practice to match the financing exactly, but the moderate policy offers a balanced method of financing. The best-balanced method would fund most of the permanent current assets and all fixed assets from long-term financing and the remainder of the permanent current assets and all the fluctuating current assets from short-term finance.

Some firms follow the 'matching' principle, in which the maturity structure of the finance matches the maturity of the project or the asset, according to Arnold (2002).

#### **2.4.6.2 Working capital levels**

According to Neveu(1989), working capital policy is a function of two decisions, being the appropriate level in and mix of current assets for a set level of activity and the chosen methods of financing investment. The level of a company's current assets and net working capital in respect of the total corporate structure and flow of funds is a trade-off between profitability and risk. In general, the greater the level of working capital for a given level of output, the less risky the firm's working capital policy would be.

The determination of working capital levels depends on three main factors:

*i) The nature of the business:* A firm in the chemical industry for instance, which is capital intensive, will have a low ratio of current assets and a low level of working capital. However, a large retail store, which requires large stocks and gives credit, will require a high level of working capital. Fixed assets would be at a relatively low level.

*ii) Credit policy:* Credit policy influences the required level of working capital because the less credit the company extends, the lower the investment in the accounts receivable and the more positive the cash flow.

*iii) Fluctuations in supply and demand:* Uncertainty in the market place leads to high stock levels, which indicates a higher working capital level.

#### **2.4.6.3 Optimal (appropriate) working capital level**

The objective of working capital investment policy is to achieve an optimal level of working capital, which ensures there is no strain on liquid resources, and at the same time there is no idle cash. The optimal level lies somewhere between the two extremes of conservative and aggressive policies and is viewed as a moderate policy.

As Neveu (1989) notes, the optimal working capital policy is the one that maximizes shareholders wealth. But translating this policy into desired liquidity ratio, current ratio, and net working capital is very difficult in practice. This is because of the many variables, including the operating environment of the corporation that must be managed simultaneously. Thus, financial managers make subjective judgements in deciding which working capital policy to adopt and how best to structure the separate current asset and current liability strategies.

Successful implementation of these policies influences the company's expected future returns and associated risk, which in turn influence shareholder value. Failure to adopt sound working capital policies may jeopardise long-term growth and even corporate survival.

Typical questions arising in the working capital management field include the following:

- What should be the firm's total level of investment in current assets?
- What should be the level of investment for each type of current assets?
- How should working capital be financed?

How firms establish and finance the levels of working capital appropriate for their businesses, and how they impact on profitability and risk deserves consideration. The level and nature of working capital within any organization depend on a variety of factors, such as the following:

- The industry within which the firm operates
- The type of products sold
- Whether products are manufactured or bought
- Levels of sales
- Stock and credit policies
- The efficiency within which working capital is managed.

The working capital policy adopted by a firm can be stated in terms of the separate asset and liability strategies that have been discussed earlier. A relatively conservative firm could, for example, choose conservative strategies for both asset and liability management. Similarly, an aggressive firm could choose to be aggressive in both sides. However, most firms adopt working capital policies that have moderate risk-return characteristics. A moderate working capital policy can be designed:

- by structuring the individual current account strategies so as to avoid assuming large degrees of risk in either strategy
- by offsetting an aggressive strategy with a conservative one, for example, a conservative current asset with an aggressive current liability and vice versa.

Against the above backdrop one can say that the optimal level of working capital investment is the level expected to maximize shareholders wealth. It is a function of several factors, including the variability of sales and cash flows and the degree of operating and financial leverage employed by the firm. Therefore, no single working capital investment policy is necessarily optimal for all levels.

## 2.4.7 VALUE CHAIN MANAGEMENT

It is preferred to portray Porter's value chain model to link the value of activities of an organization, with its main functional parts and then to make an assessment of the contribution that each division makes to the overall value of the firm.

Lynch (2000) explains that the concept of value chain was used in accounting analysis for some years before professor Michael Porter suggested that it could be applied to strategic analysis. Essentially he linked two areas together:

- The added value that each part of the organization contributes to the whole organization, and
- The contributions to the competitive advantage of the whole organization that each of these parts might then make.

The primary analytical tool of strategic cost analysis is a value chain identifying the separate activities, functions, and business processes that are performed in designing, producing, and marketing, delivering, and supporting a product or service. The chain of value-creating activities it takes to provide a product or service starts with raw materials supply, and continues on through parts and components production, manufacturing and assembly, wholesale distribution, and retailing to the end user of the product or service.

A company's value chain and the manner in which it performs each activity, reflects the evolution of its own particular business and internal operations, its strategy, the approaches it is using to execute its strategy, and the underlying economics of the activities themselves (Thompson & Strickland, 2002).

According to Porter (see Lynch, 2000), the primary activities are as follows. Each of these categories will add value to the organization in its own way.

**Inbound logistics:** These are the areas concerned with receiving the goods from suppliers, storing them until required by operations, handling and transporting them.

**Operations:** This is the production area of the company.

**Outbound logistics:** These distribute the final product to the customer. They would clearly include transport and warehousing.



**Marketing and sales:** This function analyses customers' wants and needs and brings to the attention of customers what products or services the company has to sell.

**Service:** Before or after a product or service has been sold, there is often a need for installation or after sales service.

The other functions Porter categorized as support activities and include:

**Procurement:** In many firms there will be separate departments responsible for purchasing goods and materials that are then used in the operations of the company. Their function is to obtain the lowest prices and the highest quality of goods for the activities of the company, but they are only responsible for purchasing, not for the subsequent production of the goods.

**Technology development:** This may be an important area for new products in the company. Even in a more mature industry, it will cover the existing technology, training and knowledge that will allow a company to remain efficient.

**Firm infrastructure:** This includes the background planning and control systems, for example, accounting etc.- that allow companies to administer and direct their development.

In this regard as Thompson & Strickland (2002) clarify, disaggregating a company's operations into strategically relevant activities and business processes exposes the major elements of the company's cost structure. Each activity in the value chain incurs costs and ties up assets; assigning the company's operating costs and assets to each individual activity in the chain provides cost estimates for each activity.

To this end, Porter divides value drivers into primary and support activities, which are interconnected by internal linkages to each other and external linkages to buyers and suppliers. Thus, a value chain linkage model is used as an input to study inter-firm transactional relations useful to create value. Exploiting the benefits of value chain approaches require that firms co-operate with each other so that all players connected to the chain apply well coordinated and cohesive management of working capital. Therefore, value creation can be enhanced if a firm manages its internal activities efficiently and coordinates it with its external supplier-customer value chains (Internet 10).

## 2.5 CONCLUSION

In this chapter, an attempt has been made to identify three topics, namely, working capital investment, working capital finances and trends of working capital towards value creation.

In the first sub-topic I have discussed broadly the investment opportunities in cash, inventory, receivables, short-term investments and payables. The second topic covered different financing alternatives towards working capital. Trade credit, overdraft, term loans were the focus of the topic. Moreover, it disclosed the importance of the banking relationship in facilitating working capital.

The last topic, which is the core of the chapter, dealt with trends of working capital and how they create value. Its focal point was on various working capital policies and strategies, profitability and liquidity ratios, optimum level of working capital and value chain management.

## **CHAPTER THREE: CASE STUDY OF THE FIRM**

### **3.1 COUNTRY PROFILE**

The industrial sector of Eritrea has passed through many stages during the last fifty years. Modern industrial enterprises in Eritrea flourished during the Italian and British colonization period in the forties and fifties. During the Italian occupation, considerable investment was made in Agriculture and infrastructure with the objective of agricultural produce for Italy. Numerous food processing and building materials enterprises were established in this period and mineral exploration was started (Internet 5).

Eritrea was annexed by Ethiopia in 1962, which started the war for independence and caused a decline in industrial production. The three-decade long battle for independence left the infrastructure devastated by the early 1990's. It is estimated that about 80% of the country's infrastructure had been destroyed during this time (Internet 6).

In 1991 the government of Eritrea inherited an economy in ruins. In the same year the government declared that it would introduce reforms with a view to establishing a market economy, opening the country to external trade and giving a prominent role to the private sector. Currently, the industrial sector suffers from war, damage, years of neglect and having deteriorated, outmoded capital equipment. However, small and medium manufacturing plants, mostly around the capital city area have begun to thrive, producing beverages, processed food wood and metal furniture, construction materials, etc. (Internet 6).

Eritrea's economy is relatively diversified compared with other developing countries. The economy grew at 8.7 percent in 2001 but is estimated to have declined by about 1.2 percent in 2002. It was projected to grow at about 5.4 percent in 2003. The country is now in the grip of the worst drought in more than a decade, with grain production in 2002 down 75 percent of that of the previous year. The inflation shot up to 23.8 percent in 2002, compared to 7.7 percent in 2001, and projected to be around 14 percent by the end of 2003. Eritrea's small economy has a GDP estimated in 2002 at \$US 644 million. In 2001, industry as a whole accounted for 22.3 percent, only 7.8 percent of which was manufacturing (Internet 5).

### **3.2 BACKGROUND OF THE FIRM**

Keren Metal, Wood and Cement is one of the small and medium scale enterprises established after independence in the town of Keren - 90 km north of the capital city Asmara. Initially it functioned under the auspices of the Zone's administration and later in 1994, under the city council. In August 1997, a joint venture was formed between the Keren city administration and the National Union of Eritrean Youth and Students (NUEYS) with a total investment of 551,000.00 Nakfa from each partner.

The factory is utilizes the building as well as the site around it, on an ad-hoc authorization of the zone administration. The detailed plan was to reactivate the factory that has long stopped operations or was only limited to meeting the requirements of Municipality.

Since the joint venture vast expansion functions of the plant have been undertaken, though, the ownership of the building and the surrounding site are not secured. The factory is situated in the centre of the town and is convenient for operations as well as for distribution. The location is suitable in relation to the existing key infrastructures, light, water and access to the markets.

The firm produces products in metal such as frames, beds, doors, tankers, and stands etc., products in wood such as desks, tables, cupboard, doors etc., and the only products at the moment in cement are hollow bricks. It is planned to include other cement products like tiles, cement pipes, perforated blocks etc.

Initially, the firm had a simple and flat organizational structure, which was designed to suit the line management of the regional administration. However, following the joint venture a new organizational structure was introduced to accommodate the expansion of the plant and includes the commercial section, which is responsible for sales and operations, and the financial section that oversees the movement of the finance of the firm.

In Eritrea, the unsteady and undeveloped nature of the construction industry, besides the unstable and poor economy of the country, is the major obstacle for the metal, wood and cement works not being boosted as desired.

Identified in a survey conducted by Haile (1998), the major constraints of investors/entrepreneurs engaged in this industry may include:

- Unavailability of land for construction
- Shortage of paid up capital
- Shortage of raw materials
- Expensive house rent
- Absence of land due to land problem
- Contractors tendency to buy essentials from established clients
- Poor managerial capabilities
- Inconvenient location and limited capacity.

As the study indicates (Internet 6), firms were asked if “access to land” was a significant obstacle to doing business in Eritrea. A close examination of the answers indicates, in fact, a bi-modal pattern, with companies usually answering either “not a problem” or a “severe” problem. *For those firms that do need land and attempt to obtain it, land is extremely difficult to get.* On average, firms that were able to obtain land within the last five years had to wait 316 days and had to pay about 127,185.00 Nakfa (roughly \$US 9,080) for processing.

### **3.3 WORKING CAPITAL INVESTMENT**

Gitman (2000:615) said, “The firm’s balance sheet provides information about the structure of its investment on the one hand and the structure of its financing sources on the other. The structures chosen should consistently lead to the maximization of the value of the owner’s investment in the firm. Important components of the firm’s structure include the level of investment in current assets and the extent of current liability financing”.

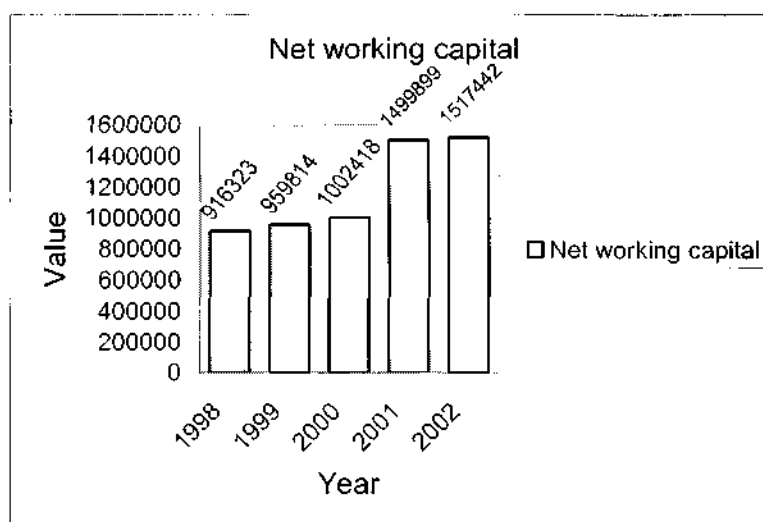
As Table 3.1 below shows the current assets of the firm account, on average for about 68 percent of the total assets while, current liabilities account for about 16 percent of the total financing. The firm invested, on average, around 52% of the capital employed in working capital.

**Table 3.1 Net Working Capital**

	1998	1999	2000	2001	2002
<b>Current Assets</b>	<b>1083436</b>	<b>1166746</b>	<b>1214084</b>	<b>1911647</b>	<b>2360857</b>
Cash & bank	836116	684844	611319	617727	447890
Accounts Receivable	53539	233372	67871	77245	41825
Inventories	193781	248530	334894	516675	1871142
<b>Current Liabilities</b>	<b>167113</b>	<b>207562</b>	<b>211666</b>	<b>411748</b>	<b>843415</b>
Accounts payable	66289	58156	64615	162239	716454
Taxes Payable	100284	149406	147051	249509	129961
<b>Net working capital</b>	<b>916323</b>	<b>959814</b>	<b>1002418</b>	<b>1499899</b>	<b>1517442</b>

Source: Financial statements of 1998-2002

Table 3.1 and Fig. 3.1 depict that the net working capital represents 66 percent in 1998, 70 percent in 1999, 73 percent in 2000, 60 percent in 2001 and 54 percent in 2002. On average in the five years period (1998-2002) the working capital needs accounted for around 62 percent versus 38 percent of fixed assets in the total investment.



**Fig 3.1 Net working capital**

### 3.3.1 CASH OF THE FIRM

As can be recalled from the literature review, cash is the lifeblood of any organization. Cash itself is an asset that needs to be managed efficiently. Cash or liquidity management often is

described as the residual task facing the corporate treasurer. The task is residual because the treasurer must forecast the implications of decisions largely made by others within the firm, including:

- Major financing and/or debt retirements
- Scheduled investments in new projects
- Operating plans
- Credit and collection policies
- Policies affecting payments to suppliers
- Investment in inventories

The treasurer has to insure that the firm's procedures for collecting, maintaining, and disbursing cash, and for managing cash excesses or deficiencies, are as efficient as possible (Franks, Broyles & Carleton, 1985).

Keren Metal, Wood & Cement Works' cash management is the sole responsibility of the financial manager. He has to ensure that enough cash is at hand to maintain the day-to-day commitments of the firm.

**Table 3.2 Cash and Bank 1998-2002**

	1998	1999	2000	2001	2002
C/A - Asmara Branch	760502	662712	542245	518081	60908
C/A - Keren Branch	75614	22132	69074	99646	386982
Cash on hand	-	-	-	-	-
<b>Total</b>	<b>836116</b>	<b>684844</b>	<b>611319</b>	<b>617727</b>	<b>447890</b>

Source: Financial statements of 1998-2002

As Table 3.2 indicates the firm had excess cash most of the time (1998-2002) during the period in which the study is undertaken. Too much cash is hoarded in its bank account and the firm faces no cash difficulty to-date. The firm maintains a current account, which attracts no interest. According to the banking regulation in Eritrea, it is not allowed for a company to maintain a savings account, which attracts interest, or any other interest-bearing accounts.

Table 3.2 depicts that cash represents 41 percent of the current assets on average in the five years. The firm opened bank account in two branches. The first one is in Asmara, which helps

to facilitate the purchasing of raw materials, spare parts, etc., because the bulk of the purchases is done in Asmara. Besides, it reduces the transaction costs, delays in transfers and other check clearing costs. The second bank account is in the Keren branch near which the firm is located. It is used to facilitate the payment of daily transactions and other payments like wages and salaries, bills etc. In addition, all cash from sales and other cash receipts are deposited in this branch.

The only difficulty for the Asmara branch could be the floating period i.e. the time to clear checks. It may take some days or weeks to clear checks received from the Asmara clients. For the Keren customers however, since it is maintained in the same bank, the floating time is short. Indeed, since the major part of the sales is in the Keren area this problem occurs rarely. The general manager said, *"Most of the sales transactions have been done in cash, except for some spontaneous credit sales. However, they have plans to foster credit sales in the future"*. He added, *"The firm has no worry from uncertainties as to uncollectible amounts"*.

#### **3.3.1.1 Source of cash**

Cash may be secured from many sources. According to Neveu (1989), the aim of cash management is to provide the cash needed to meet the firm's payments and to minimize the amount of idle cash held by the firm. A firm may source cash by raising equity, from its retained earnings, from bank loans/overdrafts and from credit granted by suppliers.

Keren Metal, Wood and Cement works' cash mainly came from the partners of the firm in the form of contribution or loan. In addition most of the cash sales are performed on a cash basis. As a result, no tied up capital in accounts receivable has been seen in the five years (1998-2002) of the study period. However, one realizes that the raw materials inventory and the work in process absorb significant amounts of cash.

The cash flow forecast or cash budget is the primary tool in short-term financial planning. It helps to identify short-term financial requirements and surplus based on the firm's budgeted activities (Pike & Neale, et al: pp 410). It is obvious that cash planning or cash budget is a very vital mechanism of cash management. It helps the firm to be able to mobilize sufficient cash to meet its financial obligations. Though the management believes cash flow planning



would be essential, no attempt has been made so far to prepare this. The reason provided include, no stress of cash, no need for short-term financial requirement, production is based on order and there would be no difficulty to raise cash from the owners if it is short.

In the previous chapter, note was made of the three motives, which cause all firms to hold cash. They are the transaction motive, the precautionary motive and the speculative motive. The firm's motive for holding cash might not be different from the above-mentioned attributes.

Firstly, the firm needs cash to meet its daily commitments. The purchase of raw materials, the purchase of fixed assets, the payment of salaries and wages, and the facilitation of other day-to-day transactions claim cash. Secondly cash is needed to meet unpredictable events, for example, reduction in sales. Lastly, cash is needed to exploit unexpected profitable opportunities. For instance, the firm wins occasional government tenders and, at times, customers could offer unexpected big-ticket orders.

### **3.3.1.2 Cash conversion cycle**

In discussing the cash conversion cycle, Arnold (2002), focuses on the length of time between the company's outlay on inputs and the receipt of money from the sale of goods. For manufacturing firms, it is the average time raw materials remain in stock, plus the time taken for the company's output, plus the length of time finished goods stay within the company as a form of inventory, plus the time taken for debtors to pay, less the credit period granted by suppliers. The shorter this cycle the fewer resources the company needs to tie up.

Certain data from the balance sheet and income statement of the firm in the following table is used to compute the days for the cash conversion.

**Table 3.3 Relevant Financial Statements Data for Cash Conversion**

	1998	1999	2000	2001	2002	Mean	Per day
Raw materials	143969	106612	260917	449209	686413	329424	
Work in process	49812	141918	73977	112466	1184729	312580	
Finished goods	-	-	-	-	-	-	
Debtors	50172	226597	263826	771473	16812	265776	
Creditors	60041	49015	55310	135254	16140	63152	
Sales (annual)	1065469	1563547	1495142	2707655	1624124	1691187	4633
Raw mat purchase	439156	908123	807987	1243653	1946091	1069074	2929
Cost of goods sold	651896	1119568	997180	1853059	885355	1101412	3018

Source: Financial statements of 1998-2002

Based on the above Table 3.3, the cash conversion days have been calculated as follows:

$$\text{Raw materials stock period} = \frac{\text{Average value of raw materials stock}}{\text{Average purchase of raw materials per day}} = \frac{329424}{2929} = 112 \text{ days}$$

$$\text{Credit period} = \frac{\text{Average level of creditors}}{\text{Purchase on credit per day}} = \frac{63152}{2929} = -22 \text{ days}$$

$$\text{Work in process period} = \frac{\text{Average value of work in process}}{\text{Average cost of goods sold per day}} = \frac{312580}{3018} = 103 \text{ days}$$

$$\text{Debtors' conversion period} = \frac{\text{Average value of debtors}}{\text{Average value of sales per day}} = \frac{265776}{4633} = 57 \text{ days}$$

$$\text{Total} = 250 \text{ days}$$

The firm's cash conversion cycle is 250 days. It is clear from this computation that the cash conversion cycle of the firm is too long. It needs more than 8 months to convert cash into the coffers of the firm.

### 3.3.2 RECEIVABLES OF THE FIRM

Accounts receivable represent the firm's extension of credit to its customers. For the average manufacturer, accounts receivable account for about 37 percent of current assets and about 16 percent of total assets. For most manufacturers, extending credit to customers is a cost of doing business. By keeping its money tied up in accounts receivable, the firm loses the time value of money and runs the risk of not being paid the amounts owed. In return for incurring these costs, the firm can be competitive, attract and retain customers and maintain and improve sales and profits according to (Gitman, 2000).

**Table 3.4 Accounts Receivable**

	1998	1999	2000	2001	2002
Trade debtors	50172	226597	263826	771473	16812
Staff debtors	3367	1077	3227	2146	4118
Prepayment	-	5698	818	3626	20895
<b>Total</b>	<b>53539</b>	<b>233372</b>	<b>267871</b>	<b>777245</b>	<b>41825</b>

Source: Financial statements of 1998-2002

The firm's accounts receivable was inconsistent throughout the period. As Table 3.4 depicts accounts receivable holds 5 percent of the current assets in 1998 and increased significantly in 1999 to 20 percent, in 2000 to 22 percent, in 2001 to 41 percent and declined to 2 percent of the current assets in 2002.

Observations indicate that the firm has no credit management system. In basing an analysis on the financial statements of the five years (1998-2002) indications point to two things:

Firstly, the firm has got no credit policy or alternatively its credit policy is not stable.

Secondly, the collection scheme it designed it might not be working properly.

In the questionnaire, the general manager replied that the doesn't have policies, which dictate the credit sales, but indicated that the firm occasionally sells on credit, though it is not common and hasn't got a sort of credit term or average collection period.

Neveu (1989:201) explained, "The goal of credit management is to establish policies and strategies that are consistent with the over-all risk-return characteristics of the firm". Cash flow can be significantly enhanced if the amounts owing to a business are collected more quickly. Every business needs to know who owes the money, how much is owed, how long it is owed and for what it is owed. Late payments erode profits and can lead to bad debts.

There is no regulation in regard to the collection of accounts receivable. The firm expects payment in short time after it delivers the finished product to customers, but it does not force customers. This is because it does wish to maintain the good relationship created with its customers. The general manager said that the firm does not put pressure on customers in short time unless it is in need of urgent cash, because it does not want to loose the strong relationship once created with our customers. However, it does not have stated terms of payment and no discount for early payment. Payment is made in a traditional way and it is done arbitrarily.

Managing accounts receivable is one of the biggest financial problems facing small businesses, especially in developing countries like Eritrea. Small firms typically lack the personnel and processes needed to make informed credit decisions. In addition, they are eager to increase sales volumes through the extension of credit, sometimes incurring bad debts in the process. Frequently, the credit customers of small firms are local businesses managed by personal friends, which makes denying credit particularly difficult. However, the credit decision must be made on the basis of sound financial and business principles. Clearly, it is better to have a potential credit customer get upset than for excessive uncollectible receivables to jeopardize the firm.

Hence, indications show that Keren Metal, Wood and Works has lack of skilled manpower and has got no established credit policy, though the of volume its production capacity and volume of sales increases from time to time.

### **3.3.3 INVENTORY OF THE FIRM**

Inventory is a necessary current asset that permits the production-sale process to operate with a minimum of disturbance. Like accounts receivable, inventory represents a significant

investment for most firms. For the average manufacturer, it accounts for about 42 percent of current assets and about 18 percent of the total assets (Gitman, 2000).

As reflected in Table 3.1, inventories hold on average (1998-2001), around 23 percent, with the exception of 2002, which was 79 percent of the current assets. This was due to large orders being placed towards the end of the year 2002 that were going to be delivered in 2003. The firm does not have a separate account for finished goods. As can be seen from the questionnaire, in most cases, they have undergone production only when order from customers is placed. Finished products are delivered as soon as they are completed. There is no delay for delivery, as there are no separate stores for finished products. If customers do not take the products on time, they are treated as work-in-process by the firm. As a result, large work-in-process figure i.e. about 1.8 million was recorded at the end of the year.

Furthermore, the financial statements showed a significant increase in the investment of inventories annually. In 1999 it was increased by 28 percent, by 34 percent in 2000, by 54 percent in 2001 and by 262 percent in 2002. The 2002 figure jumped up enormously because there were large orders towards the end of the year.

#### **3.3.3.1 Types of inventories**

Like most manufacturing companies, Keren, Metal, Wood and Cement Works, maintains three types of stocks. These are raw materials, work in process and finished goods. The increase in the inventories would have happened as the result of the increase in production capacity and the increase in sales volume of the firm.

The firm has expanded its production capacity by introducing new machinery, recruiting additional skilled manpower and upgrading its technological know-how. An additional investment of 1.6 million Nakfa was expended from 1998-2002. It bought capital goods, the number of employees almost doubled and most of the manual work was replaced with mechanical and electrical machines. Correspondingly, the sales volume increased and as a result the investment in inventory increased significantly.

**Table 3.5 Inventories 1998-2002**

	1998	1999	2000	2001	2002
Raw materials	143969	106612	260917	4429209	686413
Work in process	49812	141918	73977	112466	1184472
Finished goods	-	-	-	-	-
<b>Total</b>	<b>193781</b>	<b>248530</b>	<b>334894</b>	<b>561675</b>	<b>1871142</b>

Source: Financial statements of 1998-2002

As Table 3.5 indicates, raw materials account for the major part of the inventories in most of the years. In 1998, 74 percent of the inventories, 78 percent of the inventories in 2000 and 80 percent, in 2001 of the inventories hold raw materials. Therefore money is tied up in raw materials inventory only during this time; no raw materials stock held idle in the stores apart from the production period.

The work in process comprises the remaining percentage of the inventories. However, it accounted for more than the raw materials percentage in most years. It accounts for about 57 percent in 1999 and about 63 percent in 2002. It was pointed out that the firm has no finished goods stock is part of the work-in-process. Until it is delivered to the customer it is considered as work-in-process.

Other component of the inventory is miscellaneous items. It includes spare parts, small tools, and packaging materials, however, it is directly charged to the expense account. There is no need to treat these items as stock on the balance sheet. It is noticed that they involve no significant amount to affect the position of working capital.

### 3.3.3.2 Costs of inventory

Inventory is an investment in the sense that it requires that the firm tie up its money, thereby giving up certain other earning opportunities. In general, the higher a firm's average inventories, the larger the dollar investment and cost required; the lower its average inventories, the smaller the dollar investment and cost required. When evaluating planned changes in inventory levels, the financial manager should consider such changes from a benefit-versus-cost standpoint.

Firms have the difficult task of balancing the costs of holding inventories against the costs that arise from having low inventory levels, as Arnold (2002) notes. In this study that it seems the firm would have not been experiencing such difficulty for the fact that raw materials and other miscellaneous stock has been procured after order of a certain product, is made from customers. This means procurement is made in bulky or in one batch, which may reduce, ordering costs (e.g. Transportation cost) and it goes directly to the production premises, which may reduce, holding costs. Besides, because the firm does not have finished goods in stock no holding costs have been accounted for.

### **3.3.3.3 Inventory systems**

Three inventory systems have been seen in chapter three (Literature review). This are, the Economic quantity order/ Reorder point (EQO)/ ROP, the Materials requirement planning (MRP) and the Just in time (JIT) systems. All of these inventory systems help a firm to minimize the total inventory costs thereby lowering the investment in inventory.

From the information available, it is not clear which system the firm follows. Even though it does not state in black and white any of the three in the policies of the firm, it can be said that the firm employs a combination of the systems at different times and for different purposes with the exception of JIT, because the JIT needs sophistication, advanced infrastructure, technological know-how and cohesion. The manufacturing firms in developed countries like Japan mainly adopt it.

One can safely say it is more close to the materials requirement planning (MRP) system because in most cases production is commenced when orders are received from customers. The advantage of the MRP system as Gitman (2000) suggests is that it forces the firm to consider more thoughtfully its inventory needs and plan accordingly.

However, in some cases, for example in miscellaneous items such as nails, the firm has used the Reorder Point (ROP) system. When management thinks that the stock is at minimum as it is shown on the stock cards/bin cards balances it orders. The minimum balance is considered as safety stock. This is done on an arbitrary basis, but it helps to avoid the disruption of production.

### **3.3.4 SHORT-TERM INVESTMENT OF THE FIRM**

“Investment in marketable securities is an opportunity for those firms having excess cash from relatively short periods of time. The opportunity consists of short-term investment alternatives that have unique characteristics, including varying maturities, and different yields” as per Smith (1979:93). It is unthinkable in Eritrea to invest in marketable securities or other short-term investment opportunities. As a nation that is on the path of reconstruction (from recurring wars for independence) it is on the threshold of developing financial markets. It has of yet no financial markets. The only system, which works as a financial intermediary, is the banking system. The firms use the service of the banks for deposit and loan, for transferring money locally or abroad and to facilitate the Letter of Credit for imported/exported goods.

The banks in Eritrea allow only a current or checking account for an incorporated firm or a business enterprise. This account attracts no interest but is simply designed for a use of money transfer through checks. The only advantage is that money will be safe and checks are used for payment/receipt of money instead of cash. The savings account which attracts a 6 percent per annum interest is only allowed for individual persons, so the firm’s cash should be deposited in the current (checking) account which receives no interest. No other opportunities are at hand. It can be considered as an idle fund. As from 1999, since the volume of cash increased tremendously, the firm arranged a distribution scheme to distribute the idle cash to the owners as dividends. Instead of hoarding cash in the bank account it distributed 200,000.00 Nakfa annually starting from 1999 to the joint owners, and part of it was used for the expansion of the plant.

### **3.4 WORKING CAPITAL FINANCE**

As outlined in the literature review, a firm can use various sources for financing the working capital. It can use the trade credit, bank overdrafts, term loans and etc.

Spontaneous financing arises from the normal operations of the firm. The major spontaneous sources of short-term firm financing are accounts payable and accruals. As the firm’s sales increase, accounts payable increase in response to the increased purchases required to produce at higher levels. Also, in response to increasing sales, the firm’s accruals increases; wages and



taxes rise due to greater labour requirements and the increased taxes on the firm's increased earnings. There is normally no explicit cost attached to either of the current liabilities, although they do have certain implicit costs. In addition, both are forms of unsecured short-term financing obtained without pledging specific assets as collateral. The firm should take advantage of these "interest free" sources of unsecured short-term financing whenever possible (Gitman, 2000).

**Table 3.6 Financing Structure 1998-2002**

	1998	1999	2000	2001	2001
<b>Current liabilities</b>	<b>167113</b>	<b>207562</b>	<b>211666</b>	<b>411748</b>	<b>843415</b>
Accounts payable	66289	58156	64615	162239	716454
Taxes payable	100284	149406	147051	249509	129961
<b>Equity capital</b>	<b>1394020</b>	<b>1370231</b>	<b>1362037</b>	<b>2570407</b>	<b>2798671</b>
Partners capital	1102000	1102000	1102000	2102000	2102000
Retained earnings	277368	244768	226248	414200	631051
Legal reserve	14652	23463	33789	52407	65620
<b>Total liabilities &amp; Capital</b>	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>

Source: Financial statements of 1998-2002

As Table 3.6 portrays the current liabilities consist of only 16 percent of the total financing, while the remaining balance, which is around 84 percent, is accounted to the equity financing. This firm finances its working capital mainly from internally generated funds. One can say that it is financed almost entirely from retained earnings and the contribution fund of the owners.

Table 3.6 further indicates that the current liabilities are made up of accounts payable and accruals (mostly taxes payable). The major part is assigned to taxes payable on average 66 percent in the years 1998-2001, except for the year 2002, which was only 15 percent by far less than the accounts payable. Because of the year 2002 figure the average came out to be 42 percent to taxes payable. The taxes are obligations to be paid to the government bodies. It includes the income tax, sur tax, profit tax and sales tax. Since it is a statutory payment, the firm has no room for delaying payment. If it acts to the contrary it may end up in penalties.

**Table 3.7 Accounts payable 1998-2002**

	1998	1999	2000	2001	2002
Trade creditors	-	-	-	123600	-
Staff creditors	1558	2303	2402	-	314
Sister firms	44361	44209	44428	-	700000
Accrued expenses	4690	6838	1903	745	-
Advances from clients	15680	4156	10293	26240	-
Other creditors	-	650	5589	11654	16140
<b>Total</b>	<b>66289</b>	<b>58156</b>	<b>64615</b>	<b>162239</b>	<b>716454</b>

Source: Financial statements of 1998-2002

The other component, which accounted on average (1998-2001) at about 34 percent, but 85 percent in 2002 of the current liabilities, is accounts payable (See Table 3.7). Since the year 2002, accounts payable have comprised a large portion of current liabilities accounting for 58 percent on average. It includes trade creditors, staff creditors, sister plants and so on. The other components like accrued expenses, advances from clients and others hold insignificant amounts.

### 3.4.1 SOURCE OF FINANCE

The following include the sources of finance that should have been used by the firm under study, vis-à-vis the literature that has already been discussed in chapter three.

#### 3.4.1.1 Trade credit

Gitman said, (2000:624) "Trade credit results from transactions in which merchandise is purchased but no formal note is signed to show the purchaser's liability to the seller".

Keren workshop purchases most of its raw materials and other merchandise needed for production on a cash basis. On some occasions it has received credit from close suppliers, though this is rare. As the financial statements revealed, the only time a trade credit was recorded at the end of the year is, in 2001. The financial manager noted in the questionnaire, *"There are some credit purchases on occasions. But, it is paid during the year and might not be shown as a balance at the end of the period when the financial statements are closed."*

Generally, offers of trade credit are expected when informational asymmetries between supplier and buyer are present, when monitoring and other transaction costs are high, and when the supplier has a high level of specialized investment at stake (Journal of Finance 54, 1112). In Eritrea most, transactions are done on a cash basis. This could be because of fear of non-payment or because there is no any device to find out the creditworthiness of the buyer. Thus, generally one could say that firms don't have access to credit buying.

#### **3.4.1.2 Bank overdraft**

An overdraft is a permit to overdraw on an account up to a stated limit. The facilities are usually arranged for a period of a few months or a year and interest is charged on the excess drawings. In Eritrea it is the most available and the most used form of finance for both the manufacturing and service business organizations. It is very essential to the firms when the build-ups of accounts receivable and inventory are at peaks. At this time, they need additional finance so that they can easily overdraw from their account if the overdraft facilities are already arranged with banks. In the mean time, the receivables are collected and the inventory is converted to cash so that the bank account shows a positive balance.

The firm under discussion enjoys this overdraft facility. It has made arrangements with the bank to use the overdraft as the questionnaire disclosed. However, so far, no overdraft loan has been reported in the financial statements, the reason being that cash is always in excess in its bank current account.

#### **3.4.1.3 Term loans**

A term loan is a loan of a fixed amount for an agreed time and in specified terms. These loans are normally given for a varied periods as Arnold (2002) explains. In Eritrea, next to overdraft facilities the term loans are common in the bank services. They range from short-term loans to long-term loans according to the needs of the borrower and subject to the bank terms and conditions. Some of the term loans are drawn on a single sum at the time of the agreement and others are drawn in stages. For example, loans for construction could be drawn in stages whereas, loans taken for installation of new machinery could be drawn once.

Keren Metal, Wood and Cement Works didn't exploit these term loans either to finance the working capital or even to finance its capital expenditure. The reason would be that it has no difficulty in financing the working capital from its internally generated funds. Nonetheless, other forms of financing are not common in our country and the same is true for the firm.

### **3.4.2 BANKING RELATIONSHIP**

According to Gitman (2000), maintaining strong banking relations is one of the most important elements in an effective management system. Banks have become keenly aware of the profitability of company accounts and in recent years have developed a number of innovative services to attract business. No longer are banks simply places to establish checking accounts and secure loans. Instead, they have become the source of a wide variety of cash management services.

Keren Metal, Wood and Cement Works relationship with banks is strong as is unveiled in the questionnaire. Banks hold the financial market in monopoly in Eritrea so it would be a must to have good relationships with them in order to benefit positively from their services. After independence in these recent years, some financial firms came into the market. However, their frontier has been limited to foreign exchange transactions so far.

#### **3.4.2.1 General issues**

The firm uses the banking services simply to deposit its cash and to pay its financial commitments through checks rather than cash. It has bank accounts in two branches. Both are current accounts and have no interest accrued to them according to the rules of the bank.

The first one is in the same city as where the firm is located. All the cash collected from sales of products and other cash sources, for example, contribution from owners, repayment of loan from staff is deposited in this account. All bills like electricity, telephone and water, wages and salaries, and other commitments are paid through checks from this branch. Here, the exception is the small payments, which are paid from petty cash.

The second branch that is located in the capital city (Asmara) is not frequently used. Its use is limited to transactions, which involve large payments. The firm purchases a major part of its

raw materials, tools and spare parts from Asmara, thus the payment of these large bills are facilitated through this branch. It makes it easier for the firm to reduce the transaction costs, which are levied from branch to branch, and at the same time, it shortens the float period. In addition, if there are any sales to be collected from Asmara, the receipt is deposited to this branch instead of transferring it to the Keren branch. Lastly, the firm sometimes purchases from abroad. In this case, the letter of credit (L/C) is opened at this branch. This can facilitate the importing of goods easily since the foreign section is found only in this branch of the commercial bank of Eritrea.

The commercial bank secures short-term loans only. In some cases these short-term loans can be revolved and may change to medium term or long-term loans. The interest is 12 percent per annum, for the bank overdraft as well as for the term loans. As was said earlier, the firm arranged the agreement of the overdraft facility. This is also not fully utilised because of its excess cash balance in the bank. It has not taken any short-term or long-term loans during the five years of the study period.

Peterson and Rajan and Berlin and Mester (1998) suggest that banks have incentives to smooth out with interest charged on loans if they are repeated transactions with a borrower over a longer period of time. This suggests that banks find it valuable to invest in and maintain long-term customer relationships (Journal of Finance 58, 375-399). In Eritrea, the bank service as a modern entity has a long history going back to 1930s when the Italians introduced it. But because they are the sole finance providers in the market, and as they know no stiff competition is around, most of the time they are reluctant to render efficient service. As a principle, they approach each client as if they work to maintain long-term customer relationships. Technically, however, they give inefficient service. The delay in processing documents, the long queues in the banks premises and the documentation needed to get loans could be some evidences.

#### **3.4.2.2 Financial sector of Eritrea**

Although there are some positive elements in the country's financial sector—there seems to be adequate liquidity and an overall lack of corruption—it is unclear whether the availability

of credit within the banking sector translates into adequate access to low-cost credit and satisfaction of demand at the firm level. The results indicate that a large proportion of firms in the private sector do have access to the formal financial sector, primarily through the use of overdrafts. However, most of the finance is clearly being used to meet working capital needs.

With three state-owned banks that do not truly compete with each other and essentially fixed interest rates, there is real rigidity in the financial sector. The main concern with these rates is the lack of variance. Interest-rates do not appear to take into account the varying degrees of risk, represented by the firms in the sample. This reflects the broader problems of the financial sector - by latching onto a 12 percent interest rate "ceiling," and paying depositors 5-6 percent, the financial sector has settled into lending at a risk-invariant rate of 9 percent while imposing substantial collateral requirements (Internet 6).

As the study above has disclosed the financial sector of Eritrea is not yet developed. It is on the threshold of development. The banks as one part of the financial sector need to revitalise their operations to cope with the ever-changing financial market of the globe.

### **3.5 WORKING CAPITAL TRENDS OF THE FIRM**

Working capital policy involves decisions about a company's current assets and current liabilities - what they consists of, how they are used, and how their mix affects the risk and return characteristics of the company. Working capital policies, through their effect on the firm's expected future returns and the risk associated with these returns, ultimately have an impact on shareholders' wealth. Effective working capital policies are crucial to the firm's long-term growth and survival. If, for example, a company lacks the working capital needed to expand production and sales, it may lose revenues and profits. Firms use working capital to maintain liquidity, that is, the ability to meet their cash obligations as they became due. Otherwise, it may incur the costs associated with a deteriorating credit rating, a potential forced liquidation of assets, and possible bankruptcy.

#### **3.5.1 ALTERNATIVE STRATEGIES OF WORKING CAPITAL**

Concerning working capital investment, an *aggressive approach* is meant to operate with low levels of stock, debtors and cash. It should increase profitability, at the same time increasing

the risk failing to meet firm's financial obligations. A *conservative or relaxed approach* is to maintain a larger cash balance and investment in marketable securities that can quickly turned to cash. It is low-risk but usually leads to a reduction in profitability. A *moderate approach* lies somewhere in between the aggressive and the conservative approaches

Similarly, with the working capital financing policies, a *conservative policy* is one, which uses long term funds to finance all fixed assets and all permanent current assets, as well as some fluctuating current assets. In contrast, *an aggressive policy* uses short-term funds to finance all fluctuating current assets and some of the permanent current assets. It is the most risky but offers higher returns. However, the *moderate policy* is one which attempts to match assets and liability maturities based on the expected lives of these assets being financed.

As was said earlier, it is not clear which working capital policy the firm follows. As to the working capital investment approach, sometimes it looks like an aggressive approach since the firm keeps the current assets level at its minimum. For instance, in 2001 and 2002 the level of its current assets was limited to 65 percent of the total assets respectively. At times it seems to adopt a conservative approach since the firm increases the level of current assets at its peak. For example, in 1999 and 2000 the level of current assets was higher, 74 percent and 77 percent respectively. And sometimes, it seems as though it has been inclined to moderate its approach from the fact that the firm keeps the current asset levels not too high and not too low, but moderate. For example in 1998, the current assets level remained as 69 percent, which is a moderate level in relation to the five years period.

Likewise, the firm has envisaged no stated policies concerning the working capital financing. However, it seemed as though it was more inclined to a conservative financing approach. Table 3.6 indicates, out of the total financing, on average about 16 percent only is represented as current liabilities. 11 percent in 1998, 13 percent in 1999, 13 percent in 2000, 14 percent in 2001 were short term financing sources. The remaining on average 86 percent had been equity financing. This shows clearly, that the firm's financing policy is more likely to rely on owners' funds, as there is no long-term financing source for working capital needs. However, the short term financing was increased greatly to 23 percent of the total financing in 2002. It

almost doubled in comparison with the previous years. This indicates that the firm may shift to moderate or aggressive financing approaches in the future.

In addition to the questionnaire, the other side of the source document will be used to evaluate the working capital strategies of the firm. In the table below is portrayed the financial statements, which are abridged. The first part of the table consists of some of the profit and loss components and the second part, the balance sheet components.

**Table 3.8 Abridged Balance Sheet and Income Statement 1998-2002**

	1998	1999	2000	2001	2002
Sales (Revenue)	<b>1065469</b>	<b>1563547</b>	<b>1495142</b>	<b>2707655</b>	<b>1624124</b>
Net income	<b>176982</b>	<b>176209</b>	<b>206516</b>	<b>408370</b>	<b>228264</b>
Fixed assets (net)	477697	411047	359619	1025508	1281229
Current assets	1083436	1166746	1214084	1956647	2360857
Total assets	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>
Current liabilities	167113	207562	211666	411748	843415
Equity capital	1394020	1370231	1362037	2570407	2798671
Total liabilities & equity	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>

Source: Financial statements of 1998-2002

As is depicted in Table 3.8, the current assets account for about 68 percent of the total assets on average during the study period. This indicates that the level of investment in current assets is very high relative to the fixed assets. In analysing it on annual basis, the current assets can be seen to be 69 percent in 1998, 74 percent in 1999, 77 percent in 2000, 65 percent in 2001 and 2002 of the total assets. This implies that the level of current assets had been kept moderate in the beginning and then progressed to become conservative for the next two consecutive years and turned out to be aggressive by the end of the five years period. Considering this period separately on a yearly basis, one can see that the working capital investment policies followed by the firm looked like a mix of the three approaches. However, if one observes the level of current assets that is 68 percent vis-à-vis the fixed assets, 32 percent, the firm would be closer to the conservative approach.



Similarly, from the above table one could realize the working capital financing approach of the firm as being more of a conservative one, as the firm's current liabilities represent a very little portion of the total financing amount. Nevertheless, at the end of the five-year period the trend appears to be changing. The short term financing (current liabilities) is increased to 23 percent in 2002, more than double that of 1998's 11 percent. This would be a sign of changing policy from an extremely conservative towards an aggressive financing approach.

### 3.5.2 LIQUIDITY AND PROFITABILITY RATIOS OF THE FIRM

One way, which helps the financial manager to draw inferences about the liquidity and profitability of a firm, is to compare selected ratios with that of other firms in the same industry and/or to compare different years' ratios within the same firm.

It should be a continuous process. Once ratios have been established for one business, it is important to track them over time and to compare them with the ratios of other comparable businesses or industry sectors. In the table below present various ratios, which can have an influence in working capital management of the firm are presented.

**Table 3.9 Liquidity and Profitability Ratios 1998-2002**

	1998	1999	2000	2001	2002
Current ratio	6:1	7:1	6:1	5:1	3:1
Quick ratio	5:1	4:1	4:1	3:1	0.6:1
Receivable turnover	20times	7times	6times	3.5times	4times
Inventory turnover	3times	4.5times	3times	3times	Nil
Total asset turn over (ATO)	0.68:1	0.99:1	0.95:1	.091:1	0.45:1
Average collection period	NA	NA	NA	NA	NA
Gross profit margin	39%	28%	33%	31%	45%
Profit margin	17%	11%	14%	15%	14%
Return on assets/ Return on invest.	11%	11%	13%	14%	6%
Return on equity (ROE)	16%	16%	19%	19%	11%

Source: Financial statements of 1998-2002

The firm's *current ratio* is on average 5 to 1 in the study period. Current ratio of 5 to 1 means that the firm should be able to stretch its fund as far as 5.00 Nakfa for every 1.00 Nakfa it owes. Less than 1 means that there could be liquidity problems and the firm is under pressure to generate sufficient cash to meet oncoming demands.

The *quick ratio* is on the average 4 to 1. This ratio focuses on cash and receivables. It leaves out inventory, as it is not quick to turn into cash. In this ratio 1 to 1 is taken as normal.

The *receivable turnover*: This takes to an average days to collect monies due to the firm. The firm's turnover was 20 times in 1998, but reduced tremendously to 4 times in 2002. Effective debtor management could minimize the days. One or more large or slow debts can drag out the average days.

The *inventory turnover* indicates how fast the inventory is turned to the finished product. The greater the turnover, the better will be the efficiency of the firm in production and sales. The firm's average inventory turnover was 3 times (1998-2001) but no turnover of inventory has been seen in 2002.

The *Asset turnover (ATO)*: The firm's ATO was 0.68:1 in 1998, close to 1:1 in the 3 years period (1998-2001) and 0.45 to 1 in 2002. This shows the utilization of assets vis-à-vis total sales of the firm.

The *gross profit margin* was 35 percent on average during the study period. It was 39 percent in 1998 but it climbed annually in the three consecutive years to reach 45 percent in 2002.

The *profit margin* of the firm was 14 percent on average. It was 17 percent in 1998, declined to 11 percent in 1999 and maintained 14 percent in the next three years (1998-2002).

The *Return on Assets / Return on investment* measures the profitability of the firm as a whole in relation to the total assets employed. The firm's ROA/ROI was on average 11 percent during the study period.

Similarly, the *Return on Equity (ROE)* of the firm was on average 16 percent during the study period. For the first two years it was constant, and it increased by 3 percent each year

over the next two years and lowered by 8 percent in 2002. The reduction might have happened because the Net income after tax (NIAT) has been reduced by almost half during this time.

### **3.6 CONCLUSION**

Both working capital investment and working capital finance present benefits as well as costs to a firm. It is unquestionable that efficient management of both items can facilitate the value creation objective of firms. In light of the above statement, in chapter three the actual working capital practices of the firm during the five-year period (1998-2002) were addressed. The topics discussed were firstly, working capital investment, which includes the firm's investment in cash, receivables and inventories. Secondly, the working capital finance the firm employed was discussed. This dealt with the source of finance utilized, the relationship the firm established with banks and the opportunities the firm could have in financing the working capital. Finally the working capital trends of the firm were discussed in detail. These comprised the policies and strategies and the profitability and liquidity ratios adopted by the firm. The following chapter will focus on the analysis and methodology of the case study covered in this chapter.

## **CHAPTER FOUR: CASE ANALYSIS AND METHODOLOGY**

### **4.1 RESEARCH METHODOLOGY**

Research methodology deals with the study and design as well as the activities and approaches used in the empirical data collection and analysis. Ghauri, Gronhaug and Kristianslund (1995) argue that which method or methods are followed depends on the research problem and its purpose.

The particular uses made of case study research methods will depend on the nature of the research and methodology of the researcher. It should be recognized that case studies are a research method, and not a methodology. Furthermore, although case studies can be used for different methodologies, they are better suited to some methodologies than others (Rayan, Scapens & Theobald, 2002).

The method followed in this study will be the case study approach. Gomm, Hammersley and Foster (2000) note that all research, in one sense is a case study: there is always some unit, or set of units in relation to which data are collected and/or analysed. Furthermore, Yin (1994) provides that a case study is preferred where, the research question to be addressed is of the 'how-why' type, when control of the researcher over the research is none or very insignificant and the focus is on a contemporary phenomenon within a real life context.

Moreover, according to Rayan, Scapens and Theobald (2002), the value of the theory in case study research is measured by the extent to which the theory explains the practice. Based on the features of the problem statement and because of the attributes of various research methods, it is deemed that a qualitative approach with emphasis on the case research method would be the best approach to reach a proper solution to the research question.

The problem statement centers on finding solutions to what working capital management approaches the firm uses and how it applies those approaches. Thus, the focus of this research study is on finding contemporary working capital management techniques, within a real life context. Following that, the firm's working capital management and the theoretical framework were compared.

Gomm, Hammersley and Foster (2000) note that all research, in one sense is a case study: there is always some unit, or set of units in relation to which data are collected and/or analysed. According to Rayan, Scapens and Theobald (2002), case studies can be descriptive (that describe accounting systems, techniques and procedures used in practice), illustrative (that attempt to illustrate new and possibly innovative practices developed by particular companies), experimental (that developed new accounting procedures and techniques which are intended to be helpful to accounting practitioners), exploratory (that can be used to explore the reasons for accounting practices) and explanatory (that attempt to explain the reasons for observed accounting practices). The study focuses on the descriptive and explanatory case study approach. An attempt has been made to describe and explain the working capital practices adopted by the firm under study.

As Yin (1993) notes, an important aspect of a case study is that it enables the use of multiple sources of evidence converging on the same set of issues. Rayan, Scapens & Theobald (2002) point out that the preparatory review of theory will give an initial indication of the types of evidence that should be looked for in case study. In most cases it will be necessary to use multiple sources of evidence, which includes artifacts, questionnaires, interviews, archival records, observation and so on. In addition to formally collecting evidence, it is important to be aware also of the informal evidence, which can enlighten the researcher with additional clues.

Concerning the source of evidence, the questionnaire was the only method used in collecting data. The questionnaire was sent via e-mail to the concerned management staff of the firm and collected accordingly. The audited financial statements of the firm, which covers five years period (1998-2002) was used as a secondary data. Furthermore, evidence through e-mail needed for further explanation was used as supporting data. Occasionally further clarification from the management staff was requested using the telephone.

Sekaran (1992:200) said, "A questionnaire is an efficient data collection mechanism when the researcher knows exactly when it is required and how to measure the variables of interest. It can be administered personally or mailed to the respondents". In this study the questionnaire

was distributed through mail, being sent via e-mail to the management staff believed to be related with working capital practices. The responses, likewise, were collected through mail.

After the questionnaire or interview response has been obtained, the data need to be edited as Sekaran (2002), notes. This questionnaire was dispensed to six people but only three responded. The general manager, the financial manager and the commercial manger filled and sent their responses.

#### **4.2 GENERAL ISSUES AFFECTING THE MANAGEMENT OF WORKING CAPITAL IN THE ERITREAN CONTEXT**

The factors considered in the theoretical framework may not explain everything in due course. Some may be more advanced others still would be applied to another environment and culture. As Tewolde (Internet 10) noted, these general issues discussed in the theoretical framework should be customized in relation to the developing countries context and in particular to Eritrea's environment. Moreover, it is possible that other factors in the firm's overall environment determine the way the working capital investment and financing are managed to create value. To take care of these eventualities, this case analysis looks at the influences of other factors including, ownership, government regulations, and management potential and cultural factors.

**Ownership:** The form of ownership affects the potential of firms to create market competition and has a determining role in a firm's potential for managerial efficiency and value creation. However, as it is common in most developing countries, the competition is hindered by political interference from the government. Inter-firm relations are also influenced by the ownership status because firms with a similar ownership status will also have similar objectives and control patterns.

Generally, in Eritrea, government firms will reflect a common objective of enhancing political, social and allocation efficiency. Privatized firms will have operational efficiency with a firm's value creation as the ultimate objective. Transition firms (firms that are on transition to be privatized) may reflect characteristics of both government and privatized firms but may also be different in some other aspects (Internet11).

**Government regulation:** Directly or indirectly, government regulations influence every aspect of a firm's activity. The government regulations also influence the rule of business practice, including the type of business operations and inter-firm linkages.

The government can set rules and guidelines on how the firms have to be managed. It can determine the type of firms that enter into agreements; the type of competition and it may even set rules and guidelines on how the firms have to be managed. The more regulations and laws that exist prohibiting the development of value chains, the less likely it is that the firm will use the value chain linkages approach to manage transaction costs of working capital levels of investment and financing.

**Managerial background:** Management potential can determine the selection from alternative management approaches. The higher the management potential, the more likely the firm is to use value management as a guiding principle. This implies that, internal management of working capital and its backward and forward linked activities with those of its suppliers and customers will be determined by the firm's managerial capability. Management's practical experience and background play, a very determining role in the development, acquisition and adaptation to proper managerial policies.

**Cultural factors:** Culture also affects a firm's overall management. Hence, working capital management has to be designed in such a way that it takes full consideration of the cultural factors. Transactions are made between people who contact, contract and control each other's behavior not only on the basis of business agreements but also on their cultural practices, beliefs, and norms. Working capital management techniques developed by world-renowned researchers, practically and repeatedly tried and proved to produce positive results in the western world, if replicated somewhere else, might end-up in failure, because cultural practices, beliefs and norms also determine practical management approaches. Even introducing developed infrastructure and information technology cannot be expected to bear fruit in developing countries' cultures.

### 4.3 GAP ANALYSIS

Gap analysis can help the manager to understand better the dynamics of the competitive environment. Having recognized that there is a gap, the manager needs to develop strategies that will close the gap, manage the process of change, and finally, monitor the process to ensure that the same gap does not reappear and, if possible, to open a favourable gap with competition (Ambrosini, 1998: pp 220).

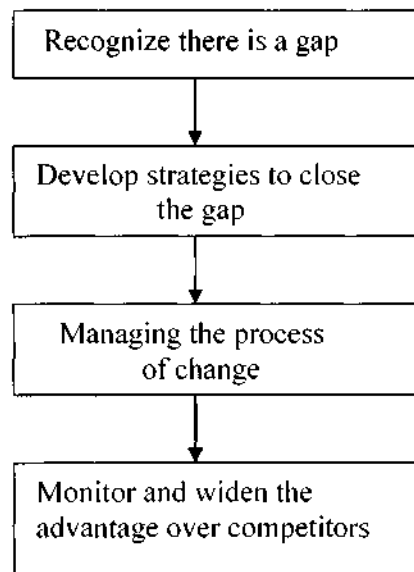


Fig 4.1 A model of gap analysis ( Source:Ambrosini, 1998)

Chapter Two the literature review, focused on the theoretical background of classical and contemporary writings of working capital management by different authors. Various techniques, methods, approaches, and models developed by quite a number of scholars dealing with financial management in general, and working capital, in particular were highlighted. Like wise, in Chapter Three the case study of the firm under study, i.e. Keren Metal, Wood and Cement works was described. This firm is categorized as one of the small and medium scale manufacturing firms in Eritrea. The firm's background, its organizational structure, its management efficiency, its financial structure and ultimately its working capital practices were discussed. Furthermore, the working capital investment, financing and strategies of the firm, forming the main topic in this paper, were addressed in depth.



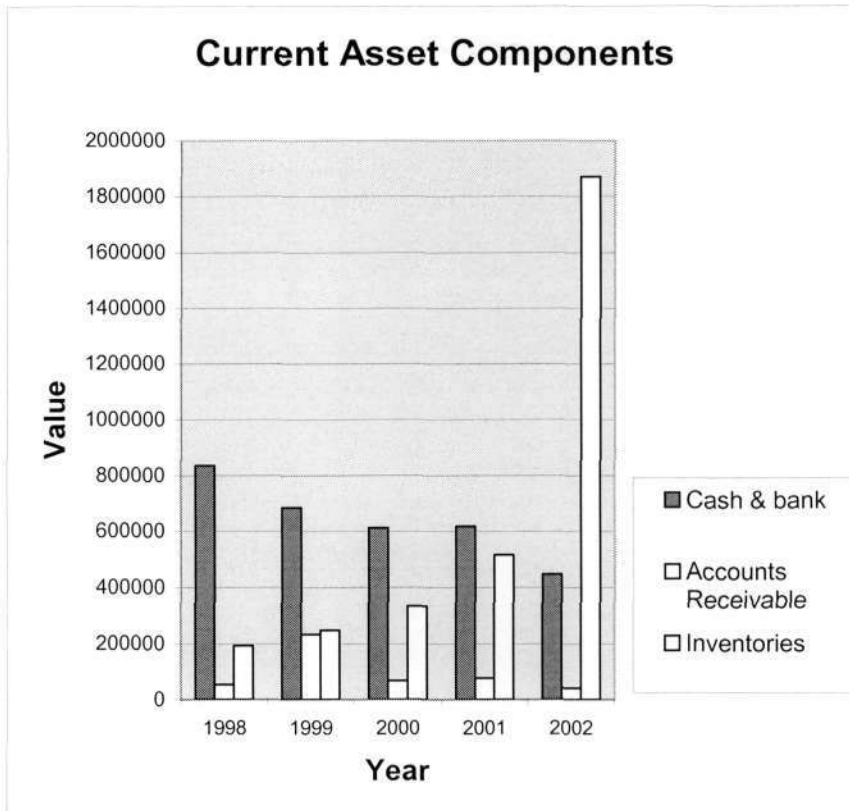
In comparing these two chapters some gaps were discovered. As there is nothing perfect in the social science disciplines, especially in management, the need to identify the strengths and weaknesses and to act accordingly, so as to be competitive in this highly volatile global business environment is of paramount importance. These gaps will be analysed so as to make recommendations in the final chapter.

With the above attributes (that is the methodologies, the working capital in Eritrean context and the gaps between the literature review and case study of the firm) in mind, the case will be addressed in this chapter. This chapter focuses on the analysis of working capital investment, working capital financing and working capital policies of the firm.

#### **4.4 WORKING CAPITAL INVESTMENT**

Table 3.1 (see Chapter Three) shows, the current assets of the firm account, on average, for about 68 percent of the total assets, while, current liabilities account about 16 percent of the total financing. Net working capital is the difference between current assets and current liabilities.

The firm invested around 52% of the capital employed in working capital. This investment in current assets seems a bit high if compared with some figures found in the literature. For example, in US manufacturing firms, current assets currently account for about 40 percent of the total assets; current liabilities represent about 26 percent of the total financing. Therefore it should not be surprising to learn that short-term financial management – managing current assets and current liabilities - is one of the financial manager's most important and time-consuming activities (Gitman, 2000).



**Fig 4.2 Current Asset Components**

However, firstly, the type of business decides how much to be invested in current assets and how much in fixed assets. For example, in retail trade one may invest more in current assets as opposed to fixed assets. Conversely, in cement industry the capital expenditure may be far higher than the current assets. Secondly, every firm has its policies and strategies. How much is invested may depend on what strategies are followed. If a firm follows aggressive approach it invests less in current assets and vice versa. Therefore, as the firm under study invests more in current assets this would have to be because of one of the above reasons, as this couldn't be confirmed from the questionnaire responses or financial statements. As a result of its huge investment or because it holds a major part of the investment, the working capital of the firm needs proper attention and careful management.

#### 4.4.1 CASH AND SHORT-TERM INVESTMENTS

The two sections, which were presented separately in the previous chapters will be analysed under one heading, since there are no as such short-term investments in Eritrea. It was noted previous chapters that cash is the lifeblood of any organization. If any organization is in short of cash or near cash securities, even the most profitable organization goes into bankruptcy. In the real world context, a number of profitable organizations got bankrupt because of deficiency in their cash position.

As Table 3.2 (see Chapter Three) depicts, the firm's cash position was encouraging during most of the years (1998-2002) that the study is carried out. Their cash in bank balance was positive in all the years of the study period. Furthermore, the table indicates that cash represents, on average, 28 percent of the total assets and 41 percent of the currents assets. According to the banking regulation in Eritrea, it is not allowed for a company to maintain a savings account, which attracts interest, or any other interest-bearing accounts. So the firm maintains a current account, which attracts no interest. However, Franks, Brayles and Carleton (1985), argue if the bank deposit pays little or no interest, too much cash in the bank is wasteful.

From the responses of the General manger and the financial manager, it is clear that they have no fear of financial distress or liquidity problem. They said *"Cash is in excess almost every year; if for any reason cash happens to be short or capital investment is needed or additional working capital is needed, we can raise money easily from the owners. Alternatively we can use the overdraft facility of the bank, which we have never used before although we have the green light from the bank."*

The main source of cash of the firm is the internally generated funds. The retained earnings, the contribution of the owners or interest free loans from owners, cover the major part. As can be seen from the financial statements and the responses of the managers in the questionnaire, the firm has no short-term or long-term loans. In addition, over 95 percent of the firm's sales are performed on a cash basis. This helps the firm to boost its cash and the firm does not have any concern of tying up of funds in debtors' hands. However, it was noticed that the inventory

component, especially in the last two years, absorbs most of the cash and as a result, its cash balance is reduced by half to 447,890.00 Nakfa in 2002, when compared with 1998 which was 836,116.00 Nakfa.

There are no any marketable securities or other short-term investment opportunities in Eritrea. No financial markets have yet developed in this tiny and newly formed (only one decade) independent country. And, the only system, which operates in monopoly functioning as a financial intermediary, is the banking system.

However, in the case of an incorporated firm or a business enterprise, the banks in Eritrea allow only a checking account, which attracts no interest but is simply designed for the use of money transfers, through checks. The only reason that the firm under study uses the banks is for deposits and loans, for transferring money locally or abroad and to facilitate the Letter of Credit for imported/exported goods. In addition, its money will be safe and the firm uses checks for payment instead of cash. By definition, if this money is not subject to interest, it is an idle fund. The firm uses this excess cash to expand the plant and decided to distribute the rest to the owners as dividends. This may be the proper way of handling the cash management. If there is no any other financial market to invest in short term investments, if the only financial intermediaries in the country, the banks are not willing to offer interest, instead of hoarding idle cash in the bank it is worthwhile to invest in the expansion of the plant which may bring returns or to distribute to the owners as their return on their investment, so that they may invest elsewhere.

Table 3.3 shows the computation of the conversion cycle. It seems the conversion cycle for cash in this firm is too long. It needs more than 8 months to convert cash into the strongbox of the firm. It was not turned down, even twice in a year. The shorter this cycle, the fewer resources the company needs to tie up. If the management of the firm thought the length of time money invested in working capital is too much, it might devise some ways of shortening the cash conversion cycle without hampering production.

#### 4.4.2 RECEIVABLES OF THE FIRM

Table 3.4 depicts that accounts receivable of the firm represent, on average, 12 percent of the total assets and 18 percent of the current assets during the five years. As Gitman (2002) notes, for the average manufacturer accounts receivable accounts about 16 percent of the total assets and 37 percent of the current assets. In addition, according to Samuels, Wilkes and Brayshaw (1999), the typical company in the UK has a ratio of debtors to total assets in the region of 20-25%. This represents a considerable investment of funds and so the management of these assets can have a significant effect on the profit performance of a company.

In comparing the accounts receivable of the firm with the above mentioned figures, even though they may represent the highly developed countries, one is able to see that the ratio of debtors to total assets of the firm as 12 percent while it is noted that it is 16 percent for the average manufacturer, and referred to us 20-25 percent for a typical UK company. Furthermore, the ratio of debtors to current assets is 18 percent, against which, 37 percent is provided for the average manufacturer. This ratio is more than double, though no figure of debtors to current assets of a typical UK company was available. Hence, the ratio of debtors to current/total assets is low in both cases.

If the ratio of debtors to current/total assets is less, compared with other firms or in the same firm but for different years, it could be a sign of a healthy condition for the firm. One could say that the firm under study has an efficient credit policy. For example, a firm makes a thorough assessment of its customers before it sells on credit or a firm knows to whom it may grant credit or else a firm's collection policy is very efficient. Nevertheless, the discovered reason is something altogether different. Firstly, the firm's sales were in most cases, on a cash basis, and secondly, the firm's production capacity was limited and its sales volume was low so it was too early to grant credit. At the very beginning, the firm hardly needed cash and there was no room for credit.

As the data revealed (Table 3.1), the firm's accounts receivable to current assets increases significantly from 5 percent in 1998 to 41 percent in 2001 but dropped to 2 percent in 2002. The figures indicate that the firm's sales were on a cash basis when the firm commenced business but it introduced credit sales slowly but without any clear credit policy. The trend of

the accounts receivable of the firm was on the rise, however, there is no clear why the ratio of debtors to current/total assets had dropped to 2 percent in 2002 from that of 41 percent in 2001.

The Commercial manager's answer was not different. He said, *"Mostly our sales are on cash basis, but if we think the volume is significant or it is beneficial to the firm or else the tender (bid) is from government bodies or any other reputable organizations we give them credit."*

Concerning the collection of the trade debtors, there is no as such a regulation or terms of reference. The firm allows different payment days for different persons or organizations, depending on the general economic condition of the client. The financial manger noted, *"We would demand payment from our customers in shorter time as far as possible but sometimes it could be longer depending upon our financial condition and our customers' financial position."* The general manager adds, *"We don't want to loose the strong relationship once created with our customers so we give them enough days to pay as long as our financial condition is in a better position."*

From the responses of the management one can conclude that the firm has no credit policy but it sells on credit occasionally. Even though there is an occasional credit sale, it has got no terms of reference for the credit. Furthermore, it maintains no terms of payment and no discount for early payment. It is conducted in a traditional way and it is done arbitrarily.

As observed earlier, the firm has no established credit policy. The firm needs to establish strategies related to credit management because it is expected that credit sales would change the volume of sales, which in turn affect profits positively.

Moreover, Table 3.4 depicts the break down of accounts receivable. Trade debtors hold the major part of accounts receivable. It was 94 percent in 1998, 97 percent in 1999, 98 percent in 2000, 99 percent in 2001 and 40 percent in 2002. The remaining part, which is insignificant, was allocated to staff debtors and prepayments like insurance. In the five-year period, on average, trade debtors' account for 97 percent of the receivable account. In 2002 the percentage dropped by more than half to 40 percent from 99 percent in 2001. This is because

of a large order that was placed at the end of 2001. The sale was on credit and it abruptly enlarged the receivables of the firm. However, this sum was collected in 2001.

#### **4.4.3 INVENTORIES OF THE FIRM**

In the case study it is noted that inventory is a necessary current asset that permits the production-sale process to operate with a minimum of disturbance. Gitman (2002) points out that like accounts receivable, inventory represents a significant investment for most firms. For the average manufacturer, it accounts for about 42 percent of current assets and about 18 percent of the total assets. In this firm inventories account, on average, for 28 percent of the total assets and around 41 percent of the current assets during the 1998-2002 period. When compared it with the ratio of the average manufacturer as given by Gitman (2002), the firm's inventory to total assets ratio is a bit higher, but the inventory to current assets ratio is almost in agreement. Furthermore, the financial statements showed a significant increase in investment of inventories annually. In 1999 it was increased by 28 percent, by 34 percent in 2000, by 54 percent in 2001 and by 262 percent in 2002. The 2002 figure is jumped enormously because there were large orders towards the end of the year. This indicates that the production capacity and the sales volume of the firm have been on an increasing trend. As a result the production department might demand more inventories.

Concerning the inventory levels the managers of the firm answered in the questionnaire as follows:

The general manager said, *"Our production and sales increased annually so we invested additional capital in the expansion of the plant. We bought new machines, constructed more hangars and recruited additional semi-skilled and skilled manpower. The demand for our products climbed tremendously."*

The commercial manager noted also, *"The number of customers increases year by year. This shows the demand for our products is getting higher. This condition urged us to increase our production, and as a result, more inventories are needed"*.

The financial manger added, *“Because of the tremendous rise of output and sales, we were obliged to lift our inventory levels and at the same time our working capital needs climbed more than ever.”*

The responses of the managers are self-explanatory. The reason why they hold a big volume of inventories would be because of the ever-increasing demand for their products. Table 3.8 shows, the sales volume increased by 47 percent in 1999, by 4 percent in 2000, by 81 percent in 2001 and by 40 percent in 2002. In order to meet these rises in sales volume, the firm needed to increase its production capacity and more inventories were been demanded.

The second point in this analysis of inventories has been related to the components of the firm’s inventory. In the breakdown of inventories, only two components can be seen, i.e. the raw materials and work-in-process components. The firm maintains no finished goods inventory. The miscellaneous items, like spare parts, also do not make up part of the inventories in this firm; they are expensed outright, at the time of purchase. Table 3.5 demonstrates that raw materials hold the major part of the inventories in most of the years. 74 percent of the inventories in 1998, 78 percent of the inventories in 2000 and in 2001, 80 percent of the inventories hold raw materials. The firm’s larger component of the raw materials, like plain sheets, angle iron in the metal workshop; ply wood, chip wood etc in the wood workshop and cement in the cement workshop are purchased when orders are placed by the customers. Thus, money is tied up in raw materials inventory only during the production period.

The second component, which makes the inventories of the firm, is the work in process. It comprises the remaining percentage of the inventories. However, it accounted more than the raw materials percentage in two of the study years. It accounted for about 57 percent in 1999 and about 63 percent in 2002. As was said earlier, the firm has no finished goods stock. It is incorporated into and is part of the work-in-process. Once the product is completed, delivery to the customer is a must. This helps to shorten the cash conversion cycle.

The firm does not have any other components of inventories beside the two. Other miscellaneous items like spare parts, small tools, and packaging materials are directly charged to the expense account. They are expensed at the time of purchase, so there is no need to hold



them as stock on the balance sheet. In fact, they involve no significant amount to affect the position of working capital.

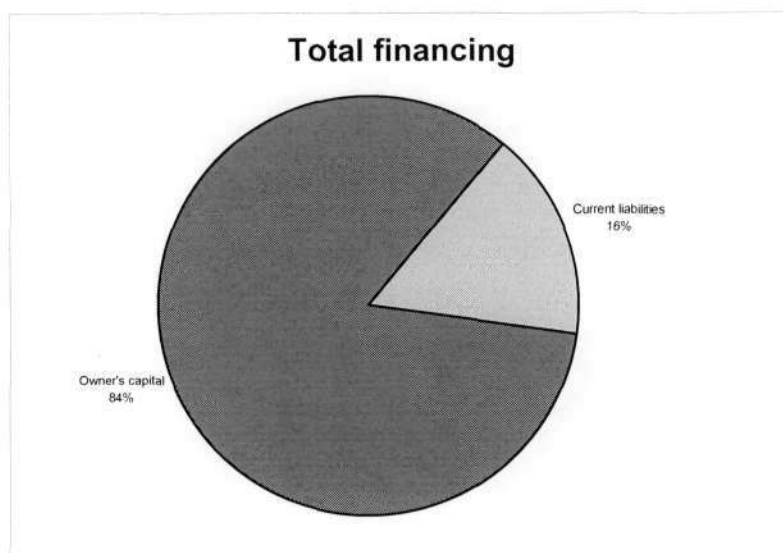
In this case study no inventory model or technique, which the firm follows, was evident. It does not use any of the recommended techniques like the Economic Order Quantity (EOQ), the Materials Requirement Planning (MRP) or the Just-In Time (JIT). It does not have any written policies concerning this subject. It follows a traditional method. However, it is understood that it is close to the materials requirement planning (MRP) system, because in most cases, production is commenced when orders are received from customers. The advantage of the MRP system as Gitman (2000) suggests, that it forces the firm to consider more thoughtfully its inventory needs and plan accordingly.

The general manager stated in the questionnaire, *“We don’t have any systems yet for our inventory, but we monitor closely the minimum levels of inventory. I did consultation with the production manager and commercial manger continuously so as not to break off production.”* The financial manger’s response was, *“We maintain stock cards in the finance and bin cards in stores for each item. If we noticed the balances in the cards as minimum (it is different for different items) relative to our production needs, we inform either the commercial or general manger of a call for action.”*

However, in some cases, for example in miscellaneous items such as nails, the firm has used the Reorder Point (ROP) system. When the managers think that the stock is at minimum as it is shown on the stock cards/bin cards balances they order. The minimum balance is considered as safety stock. This is done on arbitrary basis but it helps to avoid the disruption of production.

#### **4.5 WORKING CAPITAL FINANCES**

Table 4.1 and Fig. 4.3 depict the mix of the capital structure or total financing of the firm. As they portray, the current liabilities consist of only 16 percent of the total financing, while the remaining balance, which is around 84 percent, is accounted to the equity financing.



**Fig 4.3 Financing Structure of the Firm**

It is clear here that the major part of the working capital of the firm is financed from equity financing. The current liabilities could finance a small portion only. It is financed almost entirely from retained earnings and the contribution fund of the owners.

**Table 4.1 The mix of capital structure**

	1998	1999	2000	2001	2002
<b>Capital employed:</b>					
Fixed assets (net)	477697	411047	359619	1025508	1281229
Current assets	1083436	1166746	1214408	1956647	2360857
<b>Total capital employ.</b>	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>
<b>Financed by:</b>					
Current liabilities	167113	207562	211666	411748	843415
Equity capital	1394020	1370231	1362037	2570407	2798671
<b>Total financing</b>	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>

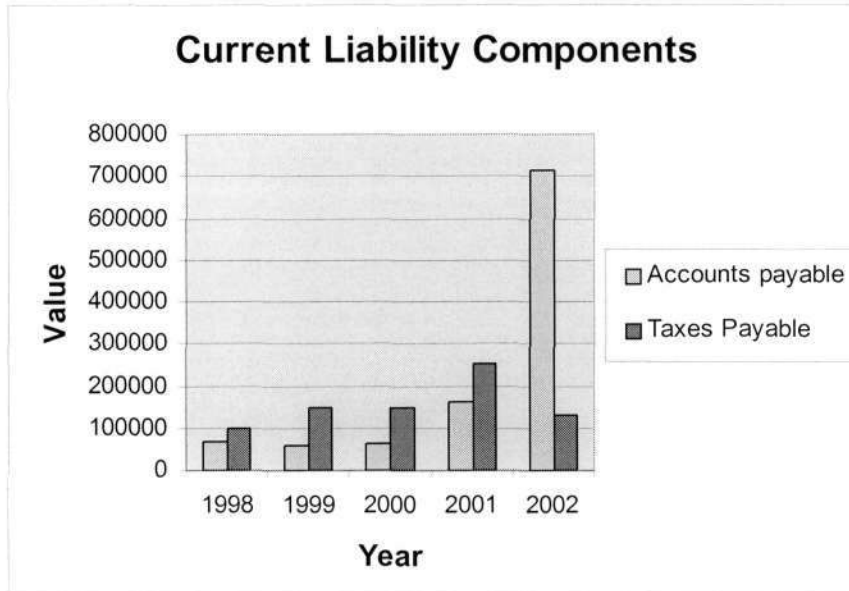
Source: Financial statements of 1998-2002

Table 3.6 in the previous chapter, reflects accounts payable and accruals (mostly taxes payable), the two components that contribute to current liabilities. Accounts payable

represents around 34 percent on average during the period of 1998-2001, but it increased tremendously in 2002 to 85 percent. The accounts payable, on average (1998-2002), is 52 percent and includes trade creditors, staff creditors, sister plants and so on. It can be observed from Table 3.7 that almost no trade creditors exist during all the years of the study period. It is only in 2001 that an amount of 123,600 Nakfa, which is 7 percent of the accounts payable (1998-2002), was accounted to trade creditors. The sister plants consist of loans given from firms owned from partners. For example, the 700,000 Nakfa in 2002 is a loan secured by Raymoc trading company, one of the firms operating under the auspices of National Union of Eritrean Youth and Students (NUEYS) – one of the partners of the firm under study. This is an interest free-loan.

The other part is taxes payable, which accounted on average 66 percent in the years 1998-2001. However, it was only 15 percent in the year 2002, which is by far, less than the accounts payable. The taxes payable is made up of the profit tax, income tax, sur tax and sales tax.

It is apparent from the mix of capital structure that there is no any long-term financing component. In Eritrea, this financing opportunity is almost non-existent. Long-term loans are rare if not, non-existent, or if allowed by the bank, they are for some specific purpose, for example, for the expansion of a plant, but it does not cover the working capital needs of a firm. Indeed the data also reflected that the short-term financing of the firm is poor while it is abundant in the banks, and besides, the firm can raise this credit from its suppliers in the form of accounts payable. It is only about 16 percent of the total financing accounted for short-term finance, and still the major part is accounted to taxes payable.



**Fig 4.4 Components of current liability**

In this case, the only financing opportunity the firm uses is the equity financing. The firm should uphold strong relationship with its suppliers in order to purchase its inventory requirements on credit and to obtain good terms of payment. This could lift the short-term financing of the firm.

Fig. 4.4 depicts the mix of financing and reflects the components of the current liabilities of the firm. Following this, the source of financing the firm should employ in order to enhance its working capital needs will be discussed.

#### **4.5.1 SOURCE OF FINANCING**

It was noted that the major financing source Keren Metal, Wood and Cement Works has been using, is the money raised from owners. Besides, it utilizes retained earnings to encounter the working capital needs of the firm. In Eritrea there are no long-term loans from banks or other financial institutions, which are permitted to finance working capital. The long-term loans are allowed for capital expenditures, specifically for new projects. However, there are short-term

financing opportunities, though the firm has not fully exploited them so far. An analysis of these short-term financing opportunities follows in detail.

#### **4.5.1.1 Trade credit**

Trade credit is not so common in Eritrean manufacturing firms. Most of the transactions have been done on a cash basis. As can be seen from Table 3.7, the firm has a trade credit at the end of the year 2001 only. In rare instances some close suppliers, of relationships established on personal grounds, might consent to give credit. As most firms of the country Keren Metal, Wood and Cement Works purchases most of its raw materials and other merchandise needed for production on a cash basis. Trade credit accounts on average for about 11 percent of the accounts payable. In fact it was only in 2001 that an amount of 123,600 Nakfa, which is 76 percent of the accounts payable, was accounted to trade creditors. However, this did not indicate that there was no credit from suppliers during the course of the year. There could have been credit but it would be paid before the end of the year and should not have necessarily been shown on the financial statements. The financial manager noted in the questionnaire. *"There are some credit purchases on occasions. But, it is paid during the year and might not be shown as a balance at the end of the period when the financial statements are closed."*

Trade credit is a two-edged sword for business enterprises. Firms usually benefit from being granted credit by their suppliers but because of the necessity of providing credit to their customers they are burdened with additional costs. It has already been noted that the firm spontaneously grants credit to some customers, for example, to government or other reputable organizations. The firm's debtors account for around 17 percent of the current assets. Conversely, the trade creditors account only 11 percent of the accounts payable. When seen in absolute figures, 1,328,880 Nakfa had been provided as credit to its customers whereas only 123,600 Nakfa had been granted as credit from its suppliers during the five-year period. It is clear that the credit provided is far more, is about ten fold, than the credit granted. Of course, providing credit to customers involves additional costs of financing and cost of administration. In addition it involves risk such as liquidity and default of non-payment by customers. The more generous the firm is in allowing its customers with credit sales, the

greater the sales volume would be, but this is at the cost of additional expenses to finance the credit. This trade off should be assessed with caution. It is observed that the contrary was practiced in the firm. If the credit granted from suppliers is fewer than the credit provided to customers the firm certainly would loose from these transactions.

#### **4.5.1.2 Overdraft**

The most widely used short-term loan in Eritrea is the overdraft. Overdrafts are advantageous because of their flexible nature. The bank allows overdraft loans up to a certain limit as agreed to the customer. The only disadvantage is the bank has the right to discontinue this loan at short notice.

Keren Metal, Wood and Cement Works has this overdraft facility. The firm uses this loan when its bank balances are at low levels, in most cases when they are negative as it is flexible. This is a very vital source to fulfill working capital needs. If the funds of the firm are tied up in inventory and accounts receivable, the firm needs to switch to this facility. However, so far no overdraft loan has been reported in the financial statements, the reason being that cash is always in excess in its bank current account.

Management was asked why it is hesitant to use the overdraft. The financial manager answered, *"We are not unwilling to use this overdraft facility. We are already arranged the facility and have used it whenever it has been necessary. But, most of the time, our cash position is positive and we haven't suffered with cash shortages so far."*

As Arnold (2002) explains one particular problem with UK lending was said to be the excessive use of the overdraft facility compared with other countries, which used term loans more extensively. In the 1980s between one-half and two thirds of bank lending to small firms was in form of the overdrafts. In a like manner, it is evident that most of business enterprises whether they are in manufacturing business or in service business in Eritrea use this overdraft facility more than the term loan, though exact statistics were not at hand.

#### 4.5.1.3 Term loans

In Eritrea, term loans are very common short-term loans granted by banks next to overdraft facilities. The range might be from three months up to one-two years, according to the agreement of the two contracting parties. Mostly, they are used to finance one-shot projects rather than working capital.

It was noticed that Keren workshop did not exploit these term loans either to finance the working capital or even to finance its capital expenditure. The reason is that the firm can use its internally generated funds to finance the working capital needs at any time.

As the questionnaire revealed, the firm didn't use these loans. The general manger justifies this saying, *"We are not in need of these loans for the sole reason that we are not faced with cash shortages in the firm. If we feel that some urgent fund is needed, we get loans from the owners at free of interest. So why do we take loans at interest of 12 percent from banks?"*

There is no stock market in Eritrea like that of most developing countries. It is very difficult to compute the cost of capital, as the exact cost of equity. (One of the components of cast of capital) cannot be ascertained, though the long-term lending rate can be taken as cost of debt. Comparing which one is advantageous for the firm, i.e. to take a loan or not was problematic. But as a general rule, debt financing is cheaper than equity financing, so it is beneficial for the firm to use the loan and to utilize the loan of the owners for other purposes.

#### 4.5.2 BANKING RELATIONSHIP

The management's response as to their banking relationship is positive. As mentioned in the previous chapter, since banks are the only business entities who serve as financial intermediaries it is obvious that this firm needs a strong relationship with banks. These days other financial firms are evolving in our country, but their activities are limited to foreign exchange only.

The commercial bank secures loans at an interest of 12 percent interest per annum, whether it is bank overdraft or term loans, but 9 percent interest per annum can be secured for long-term loans from the Eritrean Investment and Development Bank (EIDB). What this firm should

have been used but has not yet fully exploited, is the loan given by the banks. It only arranged the agreement of the overdraft facility. This has also not been utilized well because the cash balance in the bank has been positive almost every year.

The banks in Eritrea have much experience in this field, since they are the sole providers of the finance business. Though they work to this end that is to maintain long- term customer relationships in most cases they are inefficient. For example the process one goes through in order to get a loan can only be described as hectic. The duration from the time of application to the final stage of approval has been unnecessarily elongated. By the time the loan is granted (only if your application is successful) there might no longer be the opportunity that was present because time is gold in every business transaction.

As a study carried out under the auspices of the World Bank revealed (Internet 6) in the Eritrean atmosphere, most firms indicated that they did not apply for a loan. Of the firms that did not have a loan and had not applied for a loan, 75 percent indicated that they did not need a loan, and 17 percent argued that interest rates were too high. This shows that firms do not rush to banks for loans. They are hesitant about the banks or they are afraid of the interest or else they think they could not meet collateral need for loans. The firm under study is one of these firms that have not applying for loans most of the time, the reason being, not to pay interest as it can get loans free of interest from the owners.

The study further disclosed that with three state-owned banks that do not truly compete with each other and essentially fixed interest rates, there is real rigidity in the financial sector. That is what is commonly observed in Eritrea's banks. Because of lack of competition they do not strive to render a world-class service.

It is cited that the firm's relationship with its banks is strong. The two branches one in Keren where the firm is based, and the second in the capital city, serves the firm's needs in banking activities. The deposit of cash, payment of expenses and transfer of money have been carried out through these bank activities. The firm maintains a current account in these two branches and moves its money transactions through these bank branches.



## **4.6 WORKING CAPITAL TRENDS OF THE FIRM**

In working capital analysis, the direction of change over a period of time is of crucial importance. This provides a base from which to judge whether the practice and prevailing policy of management with regards to working capital is good enough, or whether an improvement is to be made in managing the working capital needs. In view of the above statement the working capital strategies/policies the firm has attempted to adopt so far, and the ratios of profitability and liquidity of the firm during the five-year period will be analyzed so as to make clear in which direction the working capital of the firm would be heading.

### **4.6.1 ALTERNATIVE STRATEGIES OF WORKING CAPITAL**

Chapter Three discussed the three alternative strategies/policies of working capital. On the other hand as is said the firm didn't have a clearly stated working capital strategy. If there was one, there would be very little to describe. The questionnaire responses and the other side of the evidence (the financial statements) will be addressed in making suggestions regarding closest strategies the firm should follow.

#### **4.6.1.1 Analysis based on the questionnaire responses**

As the questionnaire reveals there is no clear working capital policies or strategies the firm would follow. There reasons could be:

Firstly, following the joint venture the firm focused its attention on boosting production capacity and expansion of the plant rather than on drawing and designing policies, in particular financial policies. Secondly, the firm as with most small and medium scale manufacturing firms in developing economies lacks skilled experts in the finance and commercial section, and at the same time, it is understaffed.

When the managers were asked about how they treat the firm's working capital needs and what working capital policy they follow, in all levels they were in almost unanimous agreement in their responses (See Questions no. 5, 7, 8, 9 & 10 of Appendix 1).

They said that very little of the working capital policies, is described in the company manuals and furthermore they added that a cost benefit-analysis is done when they introduce financial policies, including working capital, but that is done informally. They also stated that the strongest features that attribute the working capital needs of the firm and thereby would shape their working capital policies are, compliance with budget, company traditions and customs, and monitoring and evaluation.

***Compliance with budget:*** The budget dictates how much receivables and inventories to hold, whether to sell on a cash basis (custom of the firm) or to target credit, whether there is a need to finance their shortage of cash from bank overdraft or to raise additional capital from owners and so on.

***Company traditions and customs:*** As it is common in most developing economies' firms, the rule of thumb, or the traditions the firm once taken on would remain one of the strongest features in decision-making. For example, how much materials to purchase and in what season, what type of product to produce, to whom (the client) to sell, how much to invest in current assets, when to collect cash and so on, may rely on company customs.

***Monitoring and evaluation:*** The level of investment in working capital can serve as a catalyst to prompt internal control of the firm. For instance, if the current ratio is high it may indicate that the profitability of firm would be endangered because too much capital is tied up either in receivables or inventories. On the contrary, if this ratio is low it may indicate to the firm that its liquidity would be threatened.

Finally the managers described that sales and purchasing are the most important activities related to working capital needs of the firm and production, marketing, budgeting (finance) are considered of major concern by the firm towards effective working capital management whereas, construction and contracting and expanding firm operations are not.

The general manager stated in the questionnaire, "*We don't have any stated working capital policies or strategies in our working capital needs with regards to how much to limit the level, when to increase the level and so on. It all depends on orders received from clients and our production schedule.*"

The financial manager regarding this subject said, "*Financing of our working capital needs in majority is from equity financing. This is because we have got plenty of financing funds from the owners. There is no need to turn to bank loans which claim interest as long as we have a safe haven in financing*".

#### **4.6.1.2 Analysis Based on financial statements**

The financial statements are the archival documents, which contributed as secondary data to this study. In Chapter Three of the case study an abridged financial statement is presented to help in analysis of the working capital strategies and ratios.

Table 3.8 illustrates the percentage of current assets to total assets of the five years period. The current assets constitute about 68 percent of the total assets on average during the five-year period. This indicates that the current assets level investment is far higher than the fixed assets. Besides, the investment in current assets has increased constantly throughout the period. It increased by 8 percent in 1999, by 4 percent in 2000, by 61 percent in 2001 and by 21 percent in 2002 but not consistently with the increase in sales volume in each year. Sales increased by 47 percent in 1999, by 81 percent in 2001, by 40 percent in 2002, but reduced by 4 percent in 2000.

Against this backdrop it may be apparent that the working capital strategies adopted by the firm would be closer to the conservative (relaxed) approach. In fact it can be said that it is more conservative because the management's view seems inclined towards investing a considerable amount in current assets to avoid a liquidity problem.

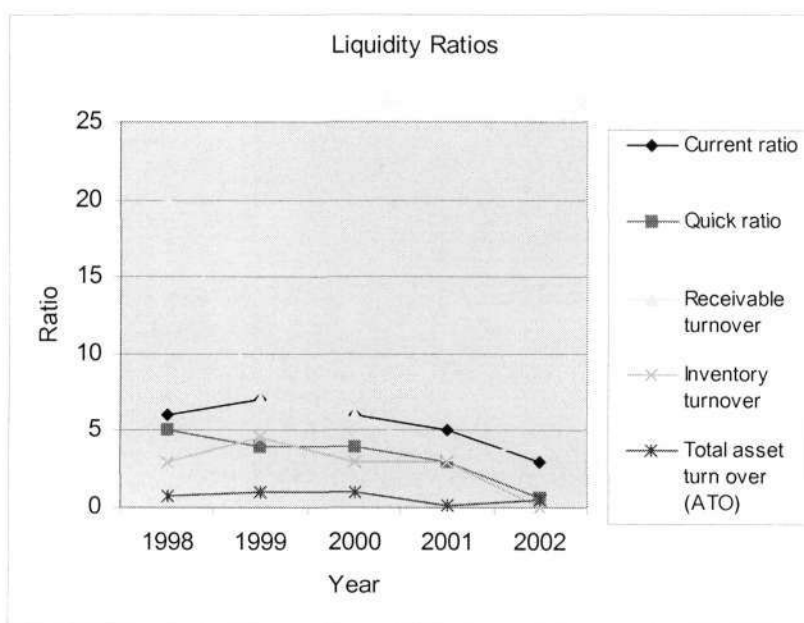
Moreover, based on the given data one can observe that the working capital financing policies of the firm would be inclined to look more conservative in nature, because the firm finances only a few of its current assets whether it be temporary or permanent, from current liabilities or short term financing. The major part of the current assets is financed from own funds, that is, from retained earnings or equity capital. Even they didn't have any long-term financing sources (loans). The current liabilities constitute, on average, 15 percent of the total liabilities and capital and by definition this denotes only 15 percent has been used as short-term to

finance current assets. However, the major part of the current assets was financed by equity capital.

#### 4.6.2 LIQUIDITY AND PROFITABILITY RATIOS OF THE FIRM

A ratio expresses the logical relationship between one quantity and another. There should be a clear, direct, and understandable relationship between the two variables in order to develop a significant ratio. At the same time, for a ratio to be effectively interpreted, it needs to be compared either with historic ratios to identify trends, or with industry ratios, or with management goals and standards, and it must be evaluated in the context of associated ratios.

Since ratio analysis is one method of analyzing the working capital position of a firm, an analysis of different ratios related to liquidity and profitability of the firm in the study period is presented. The computation of the ratio is based on Table 3.8, Abridged Balance Sheet and Profit and Loss Statements of 1998-2002.



**Fig 4.5 Liquidity ratios**

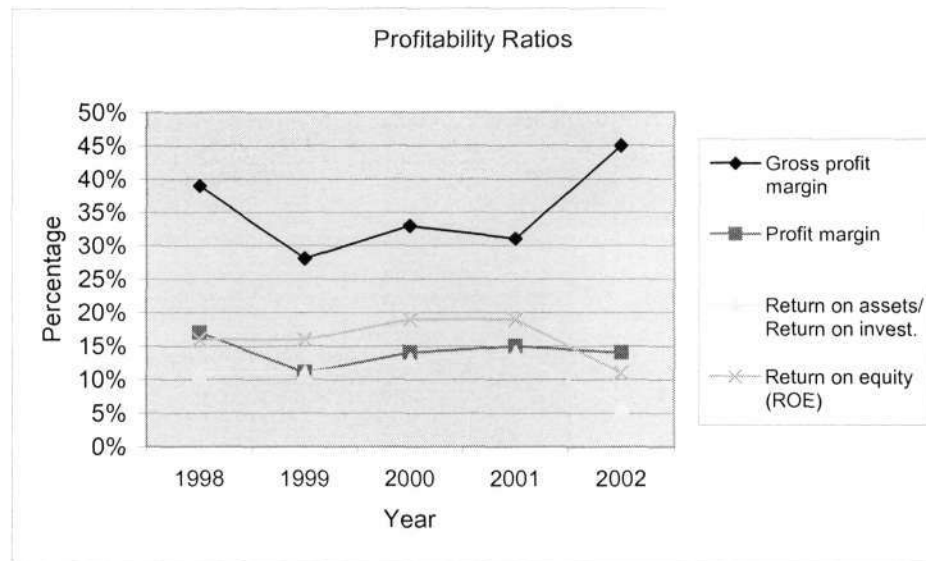
*Current ratio* measures the extent to which the current assets could cover the amount of short-term creditors. The firm's current ratio was on average, 5 to 1 during the study period. This indicates it has more than enough funds to cover its current obligation based on the

common standard of industry average i.e. 2 to 1. However, it is observed that this ratio declines in all the years except in 1999. Likewise, the *quick ratio*, which excludes the inventory, is satisfactory in all the years. It was, on average, 4 to 1, which exceeds the industry average of 1:1 by far more. But, from 2000 onwards it declined and it lowered further to 0.6:1, in 2002, which is less than the industry average.

The *receivable turnover* reflects management's efficiency in controlling and collecting amounts owing. The firm's turnover was high in 1998 i.e., 20 times, but declined tremendously in 1999 to 7 times, 6 times in 2000, 3.5 times in 2001, and 4 times in 2002 which shows either the inefficiency of the management in collecting receivables or it might be that at later date it started to sell on credit; the 1998 sales would have been on a cash basis.

The *inventory turnover* indicates the firm's speed in changing the stock into finished products. Obsolete stock and slow moving lines will extend overall stock turnover days. Faster production, fewer product lines, just in time ordering will reduce the average number of days. The firm's average inventory turnover was consistent which is 3 times, in the three years period (1998, 2000 & 2001), 4.5 times in the year 1999 but no turnover of inventory occurred in 2002. The reasons are not explicitly clear since this condition was not only uncommon but it is also ironic to notice such event in ratio analysis. One may need to break the inventory down into product groups for effective stock management.

The *Asset Turn Over (ATO)* measures the utilization of all the firm's operating assets in relation to turnover (sales). A higher ratio shows a more efficient asset management, relative to the level of operations. The firm's ATO was 0.68:1 in 1998, close to 1:1 in the 3 years period (1998-2001) and 0.45 to 1 in 2002. It shows that the asset management was not satisfactory relative to the level of operation.



**Fig 4.6 Profitability ratios**

The *gross profit margin* was 35 percent, on average, during the study period. It was not consistent throughout the period. It decreased by 11 percent in 1999, increased by 5 percent in 2000, lowered by 2 percent in 2001, and increased by 14 percent in 2002. This up and down swing might have occurred because of the unstable cost of raw materials. However, the average, i.e. 35 percent, is satisfactory, relative to the manufacturing firms' gross profit margin for Eritrea.

The *profit margin* of the firm was 14 percent on average. It was relatively higher, i.e.17 percent, in 1998, declined to 11 percent in 1999 and maintained 14 percent in the next three years (1998-2002). The profit margin seems satisfactory, relative to other similar firms, which is on average close to 11 percent of the total sales.

The *Return on Assets / Return on Investment* measures the profitability of the firm as a whole in relation to the total assets employed. The firm's ROA/ROI was on average 11 percent during the study period. It was constant in 1998 and 1999, increased by 1 percent in 2000 & 2001 each, and decreased by 8 percent in 2002. The decline in the year 2002 was happened because, the numerator, Net Income After Tax (NIAT), decreased by half and the denominator, total assets increased by about half a million Nakfa.

Like wise, the *Return on Equity (ROE)* of the firm was on average 16 percent during the study period. During first two years, it was constant, but it increased by 3 percent in each of

the next two years and lowered by 8 percent in 2002. The reduction might have occurred because the NIAT decreased by half during this time.

The ratio analysis shows that the firm's liquidity position seems very encouraging. It is greater than what is called the industry norm. Freear (1987) argues that if liquidity is carried to extremes, the ability of the company to earn a return sufficient to keep it in business must be placed in jeopardy. However, though it is believed that the liquidity position is adequate, one cannot be sure whether this excess liquidity threatens the profitability of the firm or not, because of insufficient data.

#### **4.7 CONCLUSION**

The chapter discussed above was dedicated to case analysis. A detailed analysis of the firm's actual practice vis-à-vis the literature reviewed in Chapter Two was attempted, based on the questionnaire responses received from the managers and the five-year financial statements obtained from the firm. As regards to evidence Rayan, Scapens and Theobald (2002) suggest that it may be helpful to consider each research question, possibly each element of each research question, and identify the evidence, which is needed in each instance. In addition, the researcher should be constantly alert for any evidence that appears to be important in explaining the case, rather than imposing on it.

Based on the evidence mentioned earlier, the analysis was made in relation to working capital investment, finance, strategies and ratios of the firm. Theory was compared with the practical application of the firm in order to identify the gap. Therefore, in this chapter the loophole was identified, which provides a base for the next chapter, which will be devoted to recommendations and conclusion.

## **CHAPTER FIVE: RECOMMENDATIONS AND CONCLUSION**

### **5.1 INTRODUCTION**

In an improving economy, financial managers may encounter serious pressures on working capital while taking advantage of the perceived potential for increased profits. For example, in order to take advantage of a growth environment, keeping each of the components of working capital at appropriate levels, can be a major challenge.

Generally, if sales are lifted and product are demanded in the market place, to create the required inventory the production and commercial department can move ahead at top speed. At the very same time, the financial manger might appear to be a stumbling block. When everyone is convinced the good times have arrived and sales are on upswing, the financial manager may seriously suggest that there are limits as to how fast, and on what terms sales can be increased. After all, the bottom line for the working capital will only increase as a result of improved sales volume. Increased working capital, however, does not necessarily mean a real liquidity improvement.

As Neveu (1989) points out, the growing importance of working capital management has led to its establishment as a specialized area of financial management. In larger corporations it has produced executives who devote their time and efforts exclusively to the management of the firm's working capital.

It is obvious that developing economies are generally faced with the problem of inefficient utilization of resources available to them. Keren Metal, Wood and Cement Works, one of the manufacturing firms in Eritrea, as most of developing countries' firms do, lacks proper management of the working capital.

In light of the reviewed literature, case studies and the analysis of the working capital, certain gaps were identified. These gaps might be created because of the management's inefficiency towards financial practices in general and working capital management in particular. I believe that this gap should be filled and subsequently I have made the following recommendations, which may throw light on the overall improvement of the working capital practices of the firm. The recommendations' centre of attention will be on three main topics, namely, the



working capital investment, working capital finances and working capital policies/strategies. Nonetheless, I have attempted to include all the relevant topics covered in the literature, case study and case analysis (e.g. ratio analysis) within these main topics.

## **5.2 WORKING CAPITAL INVESTMENT**

Managing working capital investment levels refers to the investment in cash, inventories and receivables. The current assets of the firm, on average, constitute about 68 percent of the total assets. In addition, the firm invested around 52% of the capital employed in working capital. This is too large compared with developed countries. For example, in US manufacturing firms this accounted for 40 percent of the total assets. However, as Tewolde (Internet 10) assessed in Eritrea, most of the manufacturing firms rely on proportions around this figure. Since they do not have enough capital to invest in capital expenditure they are forced to invest in current assets. It is obvious that the liquidity of the firm may be in good health but on the other hand the profitability would be diminished as was pointed out in Chapter Three, where the profit margin came down from 17 percent in 1998 to 14 percent in 2002 and in the years between, moved up and down. I *suggest* that investment in current assets should be lowered because, tying too much capital in current assets may threaten the firm's profitability. To safe guard liquidity of the firm should not be at the cost of its profitability. The trade-off has to be observed by the management regularly.

### **5.2.1 CASH AND SHORT-TERM INVESTMENTS**

In order to manage cash, a firm needs to plan and properly implement the above needs, as well as the control mechanisms. It is only then that cash management can contribute to the creation of firm value.

As was observed from the case and as the managers have said repeatedly the firm has faced no cash shortages to-date. It is said that cash is abundant. No cash flow statement or cash budgets prepared by the firm during these five years period were observed. The figure presumed as a reference for the cash of the firm, is the daily bank balance. However, this does not reflect the actual flow of the firm's cash needs as it excludes certain items, like depreciation.

As Table 5.1 below reveals the firm's net cash flows were positive in 1999 and 2000, it was surprisingly nil in 1998 and 2002 and was extremely negative in 2001. It can be observed that in each year additional investment is pumped in inventories and debtors; except in 2002, when a huge sum was released in debtors. These additional investments in inventory and debtors affect the net cash flow negatively. The creditors figure is positive in all the years, which indicates suppliers grant additional credit, though it is not a highly significant contribution to the net cash flow.

**Table 5.1 Cash Flow of the Firm (1998-2002)**

	1998	1999	2000	2001	2002
<b>Net income after tax</b>	<b>176892</b>	<b>176209</b>	<b>206516</b>	<b>408370</b>	<b>228264</b>
Add : Depreciation	53664	85281	85150	95091	163513
Less: Capital investment	341528	18630	33723	760980	419235
Less: Additional investment in working capital	(110882)	42861	43234	542481	(27458)
Change in debtors	(39209)	(179833)	(34499)	(509374)	735421
Change in inventories	(21291)	(54749)	(86364)	(226781)	(1309467)
Change in creditors	20156	40449	4104	200082	431667
Change in cash	151226	151272	73525	(6408)	169837
<b>Net Cash flow</b>	<b>Nil</b>	<b>199999</b>	<b>214709</b>	<b>(990182)</b>	<b>Nil</b>

Source: Financial statements of 1998-2002

The net cash flow for 2001 ended up with a significant negative figure. The cash shortage was covered from the owners' equity (each partner contributed 500,000 Nakfa each) because a considerable amount was needed for capital expenditure and working capital that year. In order to avoid such incidents the firm needs cash planning. I strongly *recommend* that the firm prepare its cash budget needs annually and cash flow statements at intervals, for instance quarterly or semi-annually.

The next point of concern is the cash conversion cycle. It is 250 days, very long indeed. In fact, as was viewed from of Table 3, the raw materials period (112 days) and the work-in-

process period (103 days) occurred because of the very large order from clients at the end of the year 2002. This could be an extraordinary event.

In a normal course of business, I *recommend* that the raw materials and work-in-process period should be reduced by about half; this would be achieved through efficiency in the purchasing and production process. The debtors' conversion period (57 days) seems reasonable, but the credit period (22 days) needs to be extended. The firm should negotiate better terms of payment. Since this depends on its credit worthiness, the firm should be expected to be profitable and credit worthy by suppliers.

As was said there is no opportunity for short-term investments in Eritrea. Therefore at the time of build up of excess cash, I *suggest* the firm should distribute the excesses as dividends as it did before, so that the owners can invest elsewhere which may bring more return or the firm should use it to expand the plant, instead of keeping idle fund.

### **5.2.2 RECEIVABLES MANAGEMENT**

Receivables management is directly related to the credit sales policy. If a firm has a credit sales policy, then it creates accounts receivables, in which case it needs efficient plans and controls using a number of alternative techniques and collection efforts. The firm under study is in possession of accounts receivable, though, it has no stated credit policy.

The firm's accounts receivable were inconsistent throughout the period. The firm's accounts receivable were very low in the early years of business (see Chapter Three). During these five years they went up and down. They increased moderately during the first three years and then suddenly dropped in 2002. It is difficult to say this swing happened because of their credit policy or because of improvement of their collection policy, since no clearly stated credit policy was addressed in the case study.

Sales can also be made on cash or credit. While credit sales require a firm to establish credit terms and standards, a cash sales result in cash collection and its management is related to cash management. Most of the sales of the firm are on a cash basis but the firm sells on credit to some reputable firms and government bodies. The reason is that it will face not non-payment from these esteemed organizations.

Against this backdrop, I *suggest* that the firm has to introduce the credit sales, as this attracts customers. There does not seem to be a problem of non-payment encountered by the firm, so the longer the time the firm allows its customers to pay, the greater are the sales and the possible profits. But the firm should take care of its liquidity because the longer the credit terms, the greater will be the amount of the debtors and the greater the possible strain on its liquidity.

In addition, I also *recommend* the credit policy of the firm should be moderate. If tightened, sales will decrease and affect profits negatively. Whereas, if relaxed, sales will increase and this will have a positive effect on profits.

Moreover, the firm should *observe* the following points in its credit policy:

- It should be strict with the credit limit
- It should send invoices promptly.
- It needs to review debtors' account timely.
- It should identify slow payers and act accordingly.

### **5.2.3 INVENTORY MANAGEMENT**

The firm's inventory is made up of raw materials and work-in process. No finished goods inventory is maintained. As was seen from the case study the firm's inventories account for, on average, 28 percent of the total assets, and around 41 percent of the current assets during the 1998-2002 period. It is almost in agreement with the average manufacturer found in the literature. However, the inventory increased enormously over the years. In 1999 it was increased by 28 percent, by 34 percent in 2000, by 54 percent in 2001 and it is interesting to see elevated by 262 percent in 2002. The firm needs to be *cautious* since this increment tied up a huge amount of capital. This may affect the profits negatively and the liquidity of the firm could be threatened as well, because inventories will not be converted into cash easily. The 2002 figure jumped remarkably because there were large orders towards the end of the year as the managers have stated.

The firm purchases raw materials most of the time, after it has received order from customers, but in rare cases it procures to hedge against rising prices and sometimes instead of procuring

each order, it buys in batches to lessen the cost of orders (transportation and related costs). The firm's work-in-process was large in most of the years because it includes the finished goods inventory as well. The finished products are treated as finished goods until they are picked up by the client, as the firm doesn't hold a separate account for finished goods. As the firm's production system is market driven, it produces according to orders and in most cases the raw materials are sent directly to the production and the finished goods are delivered straight from the production premises. As a result, cost of holding is minimal. A company needs to control the carrying and ordering costs of inventory, so I *suggest* that the firm has to keep up and maintain this cost control scheme properly and efficiently since it helps to reduce its costs. This has an ultimate effect in **increasing profit** of the firm.

What inventory system does the firm follow? It is not stated and it is not clear as was discussed in the case study. However, it seems to be that of Material Planning Requirement (MRP). The firm draws its required plan after each order. For example, if they got an order of 1000 desks from a client, it would work out the number of ply woods, number of hinges required, how much Kgs. of nails, glues etc., what they cost, how long it would take to arrive and so on. On the other hand it seems close to Just-In-Time (JIT) since the firm orders raw materials to fit the demands of their customers and the finished product is just delivered upon completion. So far it does not rely upon Economic Order Quantity (EOQ) or Reorder Point (ROP) system.

I am with the *opinion* of using the MRP or JIT or else the mix of both depending on the size, time and quality of orders may benefit the firm. 'Just-in-Time' needs maximum efficiency and taking the developing economies, and the poor infrastructure of Eritrea may frustrate production and may not meet the demands of clients both in time and quality. However, when the required materials are found timely as per the order the firm has the option to use it. At other times it should *rely* on the Materials Requirement Planning and should prepare *the plan* for each order so as to minimize the carrying and order costs.

Further more, for the miscellaneous inventory like tools and spare parts, I *propose* that the firm should use the Economic Order Quantity (EOQ) or Reorder Point (ROP) system. At the

time the card balances show a minimum balance, which would be treated as safety stock, order for new items should be placed so that production will not be disrupted.

### 5.3 WORKING CAPITAL FINANCE

As discussed in the case studies the financing of the firm's working capital originates from both current liabilities and equity financing. Apparently, working capital management includes managing short-term financing sources mainly accounts payable and bank loans.

However, many firms also finance their working capital needs from long-term loans. The data in earlier chapters showed that current liabilities account for 15 percent of the total financing, the remaining part being apportioned to owner's capital. It is very little that this short-term financing contributes to the overall financing of the working capital of the firm. As a matter of fact, it is only half of the current liabilities i.e. 58 percent accounted to accounts payable during the five-year period; 42 percent is owed to government taxes. It is clear that accounts payable is mainly the result of trade credit but in this firm trade credit is only seen in the year 2001, which is on average, 7 percent of the total five-year accounts payable. This indicates that the firm-supplier relationship is very weak. I strongly *recommend* that the firm has to establish a very healthy relationship with its suppliers to get credit, good terms of payment and discount. It shouldn't be ignored the fact that accounts payable is an interest-free loan.

The firm needs to secure this advantage and should be seen vis-à-vis trade debtors. There is a trade-off between the trade debtors and trade creditors. The trade debtors' collection period should be shortened; on the other hand the payment period of trade creditors should be lengthened. This in turn, will reduce the cash conversion cycle of the firm.

The remaining part of the current liabilities is taxes payable. The firm cannot benefit from these payables, as it is a statutory obligation of the government. Some of them, like income tax and sales tax, are paid one month after collection, and profit and municipal tax, are paid three months after closing of accounts. If it is not paid within the specified time it is subject to penalties.

Furthermore, the firm's attitude towards the bank over draft and term loans was disapproving, though in principle it has arranged an overdraft facility with the bank. The firm does not have

any intention of depending on these loans since they claim interest. The very reason, which made them to disapprove these loans, is the interest-free loan that might be obtained at any time from loans of sister plants and/or owners. No overdraft is reflected at the financial statements. Nevertheless, it is *worth mentioning* here that the firm should consider securing the bank loans since the owners could divert their funds to other investment areas and the sister plants may act in the same way and may discontinue to feed the firm. What the firm should do with regard to the bank loans is, the interest costs and other related bank costs of overdrafts and term loans have to be compared with the benefits generated by their financing.

*If the benefit outweighs the cost, the firm should request loans.*

#### ***Banking relationship***

Investment is very low in Eritrea, even when compared to the rest of Africa. Government policies to promote investment and laws encouraging credit flows to the private sector are urgently needed to put the country on a higher growth route. About 40 percent of domestic private firms do not have a loan; a majority of all other types of firms indicated that they do not currently have a loan (Internet 6).

It was mentioned that the firm's relationship with its banks is strong. Two commercial bank branches give service to the firm. The firm maintains a current account in these two branches and performs its money transactions through these routes. Deposit of cash, payment of expenses and transfer of money have been carried out through these banks.

It can be said that the banks in Eritrea are in monopoly of the financial market, as mentioned earlier that no other financial markets has yet developed. Whether like it or not, every business firm has to depend on these banks for any financial transaction, though it is known that the service is not praiseworthy. Therefore, the firm has to *maintain the strong relationship* created with the banks with regard to the smooth performance of its day-to-day money transactions and for securing loans as well.

#### **5.4 WORKING CAPITAL POLICIES**

It is apparent that policies play a very pivotal role in any organization. They serve as a compass, as what to do, where to go, and how and when to act. Working capital policies or

strategies are not different. They serve as guidelines to what, where, how etc. the working capital needs of the firm should be. As mentioned in the case study, the firm under discussion does not have any stated working capital policies or strategies. The general manager said that they do not have any stated working capital policies or strategies in working capital needs. How much to limit the level, when to increase the level and so on, depends on orders received from clients and the production schedule.

In working capital investment, I have found no ground to pin point which approach they follow. The trend has no direction. Sometimes it looked aggressive; other times it appeared conservative or moderate during the five-year study period. But it is more inclined towards a conservative approach as the investment in current assets is too much. The current assets hold 68 percent of the total assets. This may secure liquidity problems but on the contrary, it puts the profitability of the firm in jeopardy.

There seems to be nothing, which could endanger the liquidity of the firm. First of all, the managers can get easy money from the owners. Secondly, their cash is excess in most years and their current ratio (5 to 1 on average) and quick ratio (4 to 1 on average) is very high. Finally, they did not even utilize the bank overdraft. On the other hand, the profitability of the firm is affected negatively. Profit margin is declined from 17 percent in 1998 to 11 percent in 2002. In addition we can be read from the charts, the Return on Investment (ROI) and Return on Equity (ROE) are also in downward direction. Therefore, I *recommend* that the firm should follow an aggressive investment approach. This means that the firm *should operate* with low levels of stock, debtors and cash. I believe that this approach would enhance the profitability of the firm without endangering its liquidity.

Likewise, the firm has no stated policy concerning the working capital financing. But it is closer to the conservative financing approach as the firm finances almost all of the current assets with equity. The current liabilities of the firm can only finance a little portion of the current assets as it is covering only 16 percent of the total financing. However, it is noticed that the short term financing was increased by a large extent towards the end of 2002. This may indicate a change in policy. The firm might go in the direction of aggressive or moderate policy in the future.



At this time, the short-term sources of the firm are very little but as I *recommended* earlier, the firm have to increase accounts payable and bank loans. If that is so, I *suggest* a moderate financing policy which attempts to match assets and liability maturities based on expected lives of these assets being financed. The firm should finance the current assets whether they are permanent or fluctuating from short-term funds and the fixed assets should be financed by long-term funds. *This matching approach will help the firm to utilize the short-term sources without having any financial stress.*

The ultimate objective of this paper is to achieve an optimal level of working capital, which ensures the maximization of owners' return. Having seen the working capital investment policies and working capital financing approaches, how the firm should establish the appropriate (optimum) levels and finance of working capital is to be considered next.

A firm's management has to evaluate the trade-off between the expected profitability and the risk, before making a decision on an appropriate level of working capital investment. Thus, the combination of liquidity and profitability depends upon management's risk attitude, based on which it can use: the moderate, aggressive or conservative approach. Besides, the management of the firm should take into consideration the under mentioned factors prior to deciding optimal level:

- The type of products manufactured at a certain time
- Levels of sales in each period because higher sales require more investment in inventories and receivables
- Whether to sell on cash or credit
- The length of the operating cycle
- The credit policy adopted
- The inventory system followed
- Cash flow analysis.

To this end, as some literature sources have mentioned, no single working capital investment policy is necessarily optimal for all firms. The optimal level lies somewhere between the two extremes of conservative and aggressive policies and is viewed as moderate policy. My opinion is not different. I have already suggested that the firm should follow an aggressive

working capital investment policy and a moderate financing policy. *Therefore, after taking the above points into consideration, I believe that the firm should decide its optimal level, somewhere between the conservative and aggressive policy.*

## **5.5 CONCLUDING REMARKS**

According to the writings of Rayan, Scapens and Theobald (2002), the field of finance has generated a wealth of resources in the last fifty years or so. This research has led to a considerable improvement in the understanding of issues in both capital markets and financial management, although new questions and unresolved problems continue to arise. The research findings have, in a number of instances, brought about changes in working capital practices in financial institutions and companies. In many respects, the theoretical framework has reached a very high degree of sophistication, although the linkages between theory and empirical results have not always been well articulated.

In the same way, a linkage between the theoretical framework reviewed and the empirical findings arrived at through questionnaire and archival records is produced, though the theory is far more advanced than the actual practice in the firm. A broad overview of the working capital investment, working capital financing and working capital strategies of the firm was presented and eventually I gave my opinion as where the optimal level of the working capital should lie. I, therefore conclude by incorporating one important attribute i.e. value creation, which I believe to be the ultimate objective of the firm towards working capital management.

As Tewolde (Internet 10) puts it, firms create value when the objective of working capital management is tailored to taking the necessary risk in the process of aspiring for value creation. Managing working capital levels can emphasize on custody or value creation. Custody management is safeguarding a firm's assets and operations from theft and misappropriation as well as to take some control measures. On the other hand, managing for value creation refers to management's ability to use the firm's working capital levels in such a way that they are applied in an efficient, cost minimizing, and revenue maximizing manner.

Keren Metal, Wood and Cement Works' main objective of managing working capital is more custodian in nature. Management invests in current assets just to help carrying out production

without any interruption. On top of that, it manages the working capital to ensure that the internal control of the firm is maintained. It is not to create value by optimal utilization of the working capital, for example, to take all necessary measures to reduce the costs of raw materials or to negotiate good terms of payment from suppliers. This problem happens in most of the manufacturing firms in Eritrea. Hence, the firm should introduce this concept of value creation, when investing in working capital, as this will add value to the overall investment thereby lifts the return of the owners.

Value management presumes management of working capital levels to decrease the holding costs of cash, receivables and inventories, investing any short or long-term surplus cash as long as the firm does not use it.

To this end, *the firm needs to revamp the primary activities in the value chain*. The inbound logistics related to transporting, storing and handling of raw materials should be designed in a way that minimizes cost, for example, to order large batches could minimize cost. Furthermore, the production function should be efficient in quality and time, for instance, to complete the product as per order and specified time. And finally, the outbound logistics and marketing should be effective, for instance, to deliver to customers at the right time. If this is done properly it will certainly add value, which in turn will boost the return of the partners of the firm. Indeed, the management of the working capital is concerned with maximizing the return to shareholders within the accepted risk constraints carried by the participants in the company.

## APPENDIX I

### QUESTIONNAIRE

*The objectives of the study are to: explore management's understanding of working capital, to examine how it is practiced in the one of Eritrean firms, to devise a sound strategy for future operations and to determine the optimum working capital needs. It is anticipated that the findings of the study should substantially assist Eritrean firms in assessing their working capital practices. It is being carried out for the partial fulfilment of MBA in financial management speciality in University Of Natal. We would like to draw out your assistance in this request to obtain data, which is useful for the study. It is to be noted that all the information obtained will be treated as confidential and will be used only for the study.*

*In advance, thank you for your cooperation and support for this study.*

#### Question no.1

To what extent does your firms strategies and goals are clear to the employees of the firm?

Extensively  Partially  Not at all

#### Question no.2

Do you have any of written financial policy or manual or guideline in your firm?

Yes  No

#### Question no.3

Check the boxes indicating the organizational level at which the following occur:

	Designs financial policy	Approves the policy	Evaluates policy effectiveness	Authorizes changes to the policy
Owners / Partners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board Members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Accountant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Auditor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Auditor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question no. 4**

Please indicate your perception of the importance of the following objectives of a system of working capital management.

	Very important	Somewhat important	Of little Importance	Not important
Discharging Statutory responsibilities to owners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensuring orderly & efficient conduct of the system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profitability & Minimization of cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensuring compliance with management policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assuring effective use of company resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question no. 5**

To what extent is your working capital policies described in company manuals? (Please check the appropriate box).

Completely  Partially   
Almost completely  Very little

**Question no.6**

Are responsibilities of different positions and levels of authority clearly stated in company manuals or instructions?

Yes   
No

**Question no.7**

Does your company make a cost benefit analysis before introducing significant change in policies/procedures/regulations?

Formal analysis  Informal analysis  No analysis

**Question no. 8**

Select the three strongest features of your working capital policies and rank them in order (1=strongest).

Company traditions and Customs  Compliance with Budget   
Attitude of top management  Monitoring and evaluation

**Question no. 9**

What do you think a type of activity within your firm for which working capital is most important (Check three most important)?

Purchasing  Inventory & material handling   
Sales  Payroll   
Cash disbursements  Variable expenses   
Cash receipts  Others

**Question no. 10**

From management's point of view, which of your firm activities now cause your greatest concern towards effective working capital management?

	Of major concern	Of some concern	Not a concern
Production quality control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Budgeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financing activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payroll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inventory & materials handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction & contracting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expanding firm operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compliance with gov't regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Question no.11**

Do your firm encounter some characteristics, which make working capital unusually difficult to maintain an adequate level?

Yes

No

If your answer is "Yes" please check any of the following, which account for this:

Rapid Growth of the firm	<input type="checkbox"/>	Lack of competent finance personnel	<input type="checkbox"/>
Constant changes in products	<input type="checkbox"/>	depreciation of local currency	<input type="checkbox"/>
Competition	<input type="checkbox"/>	Increase in raw materials price	<input type="checkbox"/>
Shortage of short-term finance	<input type="checkbox"/>	Rotation of personnel	<input type="checkbox"/>

**Question no. 12**

Do you have any specific source of financing used for working capital?

Yes

No

If you answered 'yes' check from the most available to least available source in the boxes hereunder. (Give 1= the most available)

Owns fund   
Term loan   
Overdraft facility

Trade credit   
Other sources

**Question no.13**

Do you secure any loans from commercial Banks?

Yes

No

If your answer is 'Yes' how do you evaluate your relationship with the commercial banks?  
Excellent  Moderate  Poor

**Question no. 14**

Do your financial policies dictate for credit sales?

Yes

No

**Question no.15**

Does your collection policy specify sort of credit terms or average collection period?

Yes

No

If your answer is 'Yes' how many days you allow to collect the credit sales?

30 days

60 days

90 days

Not fixed

If your answer to question no 6 is 'NO' does it mean you collect arbitrarily?

Agree

Disagree

**Question no. 16**

Do your firm maintain minimum balance of cash to meet the day-to-day commitments?

Yes

No

**Question no. 17**

Have you preserve safety stock of raw materials, spare parts, supplies and other materials which do you think are crucial not to disrupt production.

Yes

No

**Question No. 18**

How do you manage procurement of raw materials and stores activities? (Please check in the boxes below).

Purchase according to budget

Purchase when order is received

Purchase when it needed

Purchase whenever it gets cheaper

**Question no. 19**

How do you weigh up your relationship with your suppliers?

Very good

Good

Fair

**Question no. 20**

If your relationship with your suppliers is commendable, have you ever get any credit from them or they demand payment in cash?

Have credit

Partial credit

Not at all

**Question no. 21**

If your suppliers offer you to procure on credit, what are the terms of payment?

30 days

60 days

90 days

Not specified

What about any discount? Yes  No

How? For Bulk purchases

For early payment

Both

**Question no. 22**

If there are any special strengths or weaknesses of your firm's working capital management that you feel should be included in its evaluation, please describe them briefly here. -----

-----  
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*NB. The following would fill the questionnaire, so I would be grateful if the General manager re-route the enclosed questionnaire to the appropriate people.*

- *General manager*
- *Finance head*
- *Commercial head*
- *Production head*
- *Board members (perhaps one of them)*
- *Owners / Partners (Optional)*



## APPENDIX II

### i) ABRIDGED BALANCE SHEET OF KEREN METAL, WOOD AND CEMENT WORKS ( 1998- 2002)

	1998	1999	2000	2001	2002
<b>Fixed assets (net)</b>	<b>477697</b>	<b>411047</b>	<b>359619</b>	<b>1025508</b>	<b>1281229</b>
<b>Current Assets</b>	<b>1083436</b>	<b>1166746</b>	<b>1214084</b>	<b>1911647</b>	<b>2360857</b>
Cash & bank	836116	684844	611319	617727	447890
Accounts Receivable	53539	233372	67871	77245	41825
Inventories	193781	248530	334894	516675	1871142
<b>Total Assets</b>	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>
<b>Current Liabilities</b>	<b>167113</b>	<b>207562</b>	<b>211666</b>	<b>411748</b>	<b>843415</b>
Accounts payable	66289	58156	64615	162239	716454
Taxes Payable	100284	149406	147051	249509	129961
<b>Equity capital</b>	<b>1394020</b>	<b>1370231</b>	<b>1362037</b>	<b>2570407</b>	<b>2798671</b>
Partners capital	1102000	1102000	1102000	2102000	2102000
Retained earnings	277368	244768	226248	414200	631051
Legal reserve	14652	23463	33789	52407	65620
<b>Total liabilities &amp; Capital</b>	<b>1561133</b>	<b>1577793</b>	<b>1573703</b>	<b>2982155</b>	<b>3642086</b>

### ii) ABRIDGED PROFIT & LOSS STATEMENT OF KEREN METAL, WOOD & WORKS 1998-2002

	1998	1999	2000	2001	2002
Sales (Revenue)	1065469	1563547	1495142	2707655	1624124
Cost of Goods Sold	651896	1119568	997180	1853059	885355
Gross Profit	413573	443979	497962	854596	738769
General & Operating exp.	139634	154770	165692	252520	392194
Taxes	96957	113000	125754	193706	117591
NIAT	<b>176982</b>	<b>176209</b>	<b>206516</b>	<b>408370</b>	<b>228264</b>

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