CHAPTER-5

CASH MANAGEMENT
5.1 INTRODUCTION

“Cash Consists of funds that are immediately available for disbursement without restriction usually, most of these funds are on deposit in checking accounts in banks and the remained in cash registers or to the temporary storage facilities on the company premises”.

Cash is the important current assets for the operations of the business. Cash is the basic input needed to keep the business running on a continuous basis, it is also the ultimate output expected to be realised by selling the service or product manufactured by the firm. The firm should keep sufficient cash, neither more or less cash shortage will disrupt the firm’s manufacturing operations while excessive cash will simply remain idle, without contributing anything towards the firm's profitability. Thus, a major function of the financial manager is to maintain a sound cash position.

Cash is the money which a firm can disburse immediately without any restriction. The term cash includes coins, currency and cheques held by the firm, and balances in its bank accounts. Sometimes near-cash items, such as marketable securities or bank time’s deposits, are also included in cash. The basic characteristic of near-cash assets is that they can readily be converted into cash generally, when a firm has excess cash, it invests in it marketable securities. This kind of investment contributes some profit to firm.

IMPORTANCE: Cash is most liquid assets that a business owns. It includes money and such instruments as cheques, money orders or bank draft which banks normally accept for deposit and immediately credit to the depositors account. The main pre-occupation of a businessman is cash, which is the starting point and the finessing point. It is the sole asset at the commencement and the termination of
a business. It should be remembered that a want of cash contributes more towards non-existence of a business than any other single factor. What is required is cash, and, if it is not available, shareholders can only conclude that the financial affairs of the company have been mismanaged, howsoever, sates factory the balance in the profit and loss Account may be. Cash is and business enterprise may be compared to the blood of the human body; blood, and cash imparts life and strength profits and solvency to the business org. It should be understood that though firms differ in considerable degree in terms of nature of business, capital structure, personnel employed rash technology and so on, one thing which they have in common is the basic mechanism involving the conversion of funds into saleable produces and back into liquid form. Cash in its ultimate state yields no returns and as such is barren. The idea that a large bank balance reveals a sound position financially to the holding of an asset which is devoid not only of earning power but is on the contrary, expensive to retain an important position in the structure of working capital. Cash is the beginning as well as the end of the operating basic input needed to keep the business running on a continuing basis and is also the ultimate output expected to realized by selling the product. The cash balance of a company is a safety valve or shock absorber, protecting the company against short-run fluctuations in funds requirements. Big corporations with sizeable funds generally display a highly independent m mgt. of cash assets. In these firms, a responsible fiscal office is charged with the responsibility of managing working cash balances in relation to needs for the payment of obligations. To search for the optimum cash probably overstates the companies capabilities, it is desirable.
Motives for Holding Cash: Cash management involves the efficient collection, disbursement, and temporary investment of cash. The treasurer’s department of a company is usually responsible for the firm’s cash management system. A cash budget, instrumental in the process, tell us how much cash we are likely to have, when we are likely to have it, and for how long. Thus, it serves as a foundation for cash forecasting and control. In addition to the cash budget, the firm needs systematic information on cash as well as some kind of control system (figure). For a large firm the information is usually computer based. It is necessary to obtain frequent reports, generally daily, on cash balances, and on the marketable security position of the firm as well as detailed report on changes in this position. It is also useful to have information on major anticipated cash receipts and cash disbursements. All of this information is essential if a firm is to manage its cash in an efficient management once that provides for safe and convenient cash availability and for reasonable investment income temporary investments of cash.

Speeding up cash Receipts: The various collections and disbursement methods that a firm employs to improve its cash management efficiency contributes two sides of the same coin. They exercise a joint impact on the overall efficiency of cash management the generally idea is that the firm will benefit by “Speeding up” cash receipts and “s-l-o-w-i-n-g d-o-w-n” cash payments. The firm wants to speed up the collection of accounts receivable so that it can have the use of money sooner. Conversely, it wants to pay accounts payable as late as is consistent with maintaining the firms credit standing with suppliers so that it can make the most use of the money it already has. Today, most companies of reasonable size use
sophisticated techniques to speed up collection and tightly control disbursements.

**Cash and Near Cash Assets:** Once the firm has developed policies for the overall management of working capital, it can turn its attention to the three primary assets that provide liquidity: Cash, receivables and inventory. In a financial sense, the term cash refers to all money items and sources that are immediately available to help pay a firm’s bill on the balance sheet, cash assets includes deposits in financial institutions and cash equivalents in money market funds or marketable securities. All highly liquid short term securities are treated as cash this is the case because most government and corporate securities can be liquidated in a matter of hours or minutes through a telephone call. The treasurer’s office simply calls the bank or broker in the morning and cash is available for disbursement by midday. Three securities are widely used as short term investments and alternative forms of cash. Each security offers different characteristics that make it suitable for different firms.

**Cash Balance:** The size of a firm’s cash balance depends basically upon the three major reasons for liquidity. The firm’s major needs for cash are the following-

**Transaction Needs:** A firm needs cash to carry out the day to day functions of the business. Just as the firm’s level of operations affects working capital requirements; it affects the need for cash. If the volume of sales increases cash will be received from customers and will be expended for materials and wages in larger amounts, adequate cash to covers these and other transactions allows the firms to pay its bills on time.

**Contingency Needs:** If the firm could perfectly forecast its need for cash, it would not have to be concerned with unexpected occurrences
or emergencies that require cash. Because this is not possible, the firm must be prepared for contingencies. If suddenly a major customer does not pay its bill, the cash inflows will be reduced below the forecasted level. The firm must have money to pay its own bills until the customer’s check arrives. A supplier may be having difficulties and may be forced to eliminate the firm’s credit purchase the unanticipated elimination of credit may mean that the firm must pay cash to buy raw material a contingency need related to cash outflows.

**Opportunity Needs:** These involves the change to profit from having cash available for example, supplier may have several cancellations of orders and may wish to move large. Unwanted inventory of raw materials from his warehouse. If the supplier offers a large discount for cash purchasing of the materials, the firm will have the opportunity to realize a substantial savings on its purchase and, hence, profits from the sale of the finished goods.

**5.2 CASH MANAGEMENT:**

“The aim of effective cash management with respect to the cash cycle would be to shorten the cycle as much as possible and thus speed the flow of cash in and out of operations.”

**Facets of Cash Management:** Cash management is concerned with the managing of (i) Cash flows into and out of the firm, (ii) Cash flows within the firms, and (iii) Cash balances held by the firm at a print of time by financing deficit or investing surplus cash. It can be represented by a cash management cycle as shown in figure. 5.1
Sales generate cash which has to be disbursed out. The surplus cash has to be invested while deficit has to be borrowed. Cash management seeks to accomplish this cycle at a minimum cost. At the same time, it also seeks to achieve liquidity and control. Cash management assumes more importance than other current assets because cash is the most significant and the least productive asset that a firm holds. It is significant because cash is used to pay the firm’s obligation. However, cash is unproductive unlike fixed assets or inventories; it does not produce goods for sale. Therefore, the aim of cash management is to maintain adequate control over cash position to keep the firm sufficiently liquid and to use excess cash in some profitable way. Cash management is also important because it is difficult to predict cash flows accurately, particularly the inflows, and there is no perfect coincidence between inflows and outflows of cash. During some periods, cash outflows will exceed cash inflows,
because payments for taxes, dividends or seasonal inventory build up. At other times, cash inflows will be more than cash payment because there may be large cash sales and debtors may be realized in large sums promptly further, cash management is significant because cash contributes the smallest portion of the total current assets, yet management considerable time is devoted in managing it. In recent past, a number of innovations have been done in cash management techniques. An obvious aim of the firm these days is to manage its cash affairs in such a way as to keep cash balance at a minimum level and to invest the surplus cash in profitable investment opportunities. In order to resolve the uncertainty about cash flow prediction and lack of synchronization between cash receipts and payments, the firm should develop appropriate strategies for cash management. The firm should evolve strategies regarding the following four facets of cash management.

(a) **CASH PLANNING**: Cash inflows and outflows should be planned to project cash surplus or deficit for each period of the planning period. Cash budget should be prepared for this purpose.

(b) **MANAGING THE CASH FLOWS**: The flow of cash should be properly managed. The cash inflows should be accelerated while, as far as possible, the cash outflows should be decelerated.

(c) **OPTIMUM CASH LEVEL**: The firm should decide about the appropriate level of cash balances. The cost of excess cash and danger of cash deficiency should be matched to determine the optimum level of cash balances.

(d) **INVESTING SURPLUS CASH**: The surplus balances should be properly invested to earn profits. The firm should
decide about the division of such cash balance between alternative short-term investment opportunities such as bank, deposits, marketable securities, or inter-corporate lending. The ideal cash management system will depend on the firm’s products, organization structure, competition, culture and options available. The task is complex and decisions taken can affect important areas of the firm for example, to improve collections if the credit period is reduced it may affect sales, However, in certain cases, even without fundamental changes, it is possible to significantly reduce choosing a right bank and controlling the collections properly.\(^2\)

Cash is required to meet a firm’s transactions and precautionary needs. A firm needs cash to make payment for acquisition of resources and services for the normal conduct of business. It keeps additional funds to meet any emergency situation some firms may also maintain cash for taking advantages of speculative changes in prices of input and output.

Management of cash involves three things-

(a) Managing cash flows into and out the firm,

(b) Managing cash flows within the firm and

(c) Financing deficit or investing surplus cash and thus, controlling cash balance at a point of time. It is an important function in practice because it is difficult to predict cash inflows and there is hardly and synchronization between inflows and outflows.

- Firms prepare cash budget to plan for and control cash flows. Cash budget is generally prepared for short periods such as weekly, monthly, quarterly, half yearly or yearly.

(i) The receipts and disbursements method and
(i) The adjusted income method.
The receipts and disbursements method is employed to forecast for
shorter periods. The individual items of receipts and payment are
identified and analyzed. Cash inflows could be categorized as-
(i) Operating,  (ii) Capital exp.,  (iii) Contractual and
(iv) Discretionary. Such categorization helps in determining
avoidable or postponable expenditures.

- The adjusted income method uses Performa income
  statement (profit & Loss statement) and balance sheet to work
  out cash flows (by deriving Performa cash flow statement). As
cash flows are difficult to predict, a financial manager does not
base his forecasts only on one set of assumptions. He or She
considers possible scenarios and performs a sensitivity
analysis. At least, forecasts under optimistic, most probable and
pessimistic scenarios can be worked out.

- Cash budget will serve its purpose only if the firm can
  accelerate its collections and postpone its payment within
  allowed limits. The main concerns in collections are- (a) to
  obtain payment from customers within the credit period and (b)
to minimize the lag between the times a customer pays the bill
  and the time cheques etc and collected.

- A number of method such as concentration banking expedite
  conversion of an instrument (eg. cheque, draft, bills etc.) into
cash

- The financial manager should be aware of the instruments of
  payments and choose the most convenient and least costly
  made of receiving payment. Disbursements payment can be
delayed to solve a firm’s working capital problem. But this
involves cost that, in the long run, may prove to be highly
detrimental; therefore, a firm should follow the norms of the business.

- A firm should hold an optimum balance of cash, and invest any temporary excess amount in short term marketable securities. In choosing these securities, the firm must keep in mind safety, maturity and marketability of its investment.²

**CASH MANAGEMENT OBJECTIVES & DECISION**

The degree to which a firm invests idle cash into marketable securities will be determined by the amount of insolvency risk the firm is willing to undergo in order to receive additional return on its cash balances.

(i) **The Objectives:** The risk return trade off can be reduced to two prime objectives for the firm’s cash management system:

1. Enough cash must be on hand to meet the disbursal needs that arise in the course of doing business.
2. Investment in idle cash balances must be reduced to a minimum evaluation of these operational objectives, and a conscious attempt on the part of management to meet them gives rise to the need for some typical cash Mgt. decisions.

(ii) **Decision:** Two conditions or ideals would allow the firm to operate for extended periods with cash balances near or at a level of zero:

1. A completely accurate forecast of net cash flows over the planning horizon and
2. Perfect synchronization of cash receipts and disbursements.
Cash flow forecasting is the initial step in any effective cash Mgt. program. Given that the firm will, as a matter of necessity, invest in some cash balances, certain type of decisions related to the size of those balances dominate the cash management process. Liquid assets are the sum nation of cash and marketable securities. Cash is the currency and coin the firm has on hand in cash drawers, cash registers, or checking accounts cash balances earn no return and that the firm can quickly convert into cash balances.  

**CASH BUDGET**

The cash budget is the most important tool in planning cash for, and control, the use of cash. It is a statement showing the estimated horizon (period). The principal aim of cash budget as tool for predicting cash flows over a period of time is to ascertain whether, at any time there is likely to be an excess or shortage of cash. The preparation of cash budget involves several steps the first element of a cash budget, that is, the planning horizon. The planning horizon of a cash budget should be determined in the light of the circumstances and requirements of a particular case. The second element of the particular case. The selection and identification of factors that have a bearing on the cash flows. The factors that generate cash are generally divided into broad categories; namely (i) Operating and (ii) Financial

The difference between cash inflows and outflows represents the cash balance. If there is surplus cash, the task of financial Mgr. would be to invest the same on a temporary basis. In case of shortage of cash, he has to arrange for cash to meet the payment requirements.
ELECTRONIC FUNDS TRANSFER

Cash management system will be E.F.T (electronic funds transfer) techniques, where by transactions are recorded on magnetic tape and cleared directly, through an automated learning house. This will eliminate the need to print check will minimize float and will significantly reduce paper work and related expenses.9

ROLE OF CASH IN WORKING CAPITAL POLICIES

Cash is used to purchase raw materials and pay the labor and other manufacturing costs to produce goods, when the inventories are sold, accounts receivable are created. The collection of the receivables brings cash into the firm, and the process starts again as shown as

\[
\text{Cash} \rightarrow \text{Inventory} \rightarrow \text{Receivables} \rightarrow \text{Cash}
\]

The firm’s working capital may be viewed as being comprised of two components:-

1. These assets are required on a continuing basis over the entire year. They represent the amount of cash, receivables and inventory maintained as a minimum to carry on operations at any time.

2. Variable working capital

This represents additional assets required at certain times during the year. Added inventory must be maintained to support peak selling periods. Receivables will increase and must be financed after a period of high sales. Extra cash may be needed to pay for increased supplies preceding high activity.10
CASH MANAGEMENT IN SUGAR INDUSTRY

The study of cash management requires a variety of information as the present study is primarily based on annual reports of the unit under study, the analysis of cash management is based on and confirmed to the information available in annual reports only.

It is extremely essential for a firm to be able to meet its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligations. Infact, analysis of liquidity needs the preparation of cash budget and cash and fund flow statements; but liquidity ratios, by establishing a relationship between cash and other current assets to current obligations, provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity, and also that it does not have excess liability. The failure of a company to meet its obligations due to lack of sufficient liquidity, will result in a poor creditworthiness, loss of creditors confidence, or even in legal tangles resulting in the closure of the company. A very high degree of liquidity is also bad, idle assets earn nothing, the firms fund will be unnecessarily tied up in current assets. Therefore, it is necessary to strike a proper balance between high liquidity and lack, of liquidity.

The most common ratios which indicate the extent of liquidity or lack of it are:

(i) Current Ratio
(ii) Quick Ratio
(iii) Cash Ratio
(iv) Net working capital Ratio
(v) Cash Profit Ratio
(vi) Relationship between inventory, receivables and cash
(vii) Cash conversion cycle
Current Ratio: The current ratio is a measure of the firm’s short term solvency. It indicates the availability of current assets in rupees for every one rupee of current liability. A ratio of greater than one means that the firm has more current assets than current claims against them the current ratio is calculated by dividing current assets by current liabilities.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Interpretation of current Ratio: The standard current ratio is supposed to be two times or 2:1 in a developing country like India i.e, current assets should be two times of the current liabilities. In case it is very very, it will show the idleness of funds. If it is very low it will indicate short term financial scarcity.

Quick or Acid Test or Liquid Ratio: Quick ratio establishes a relationship between quick, or liquid, assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid assets. According to Solomon, J.Flink liquidity is the ability of the firm to meet its current obligation as they fall due (Soloman, quoted by Siddiqui: 2000) the following formula is used to calculate this ratio.

\[
\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}
\]

or

\[
\text{Liquid Ratio} = \frac{\text{Current Assets} - (\text{stock} + \text{Prepaid expenses})}{\text{Current liabilities}}
\]

Interpretation of Quick Ratio: Usually, a high acid test ratio is an indication that the firm is liquid and has the ability to meet is current obligations.
or liquid liabilities in time and on the contrary a low quick, ratio represents that the firm’s liquidity positions is not good. Generally a quick ratio of 1 to 1 or 1:1 is considered to represent a satisfactory current financial condition.

**Cash Ratio or Absolute Quick Ratio or Super Quick Ratio:** Since cash is the most liquid assets that is why analyst also examine cash ratio and its equivalent marketable securities are equivalent of cash; therefore, they may be included in the competition of cash ratio:

\[
\text{Cash Ratio} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Current Liabilities}}
\]

**Interpretation of cash Ratio:** The acceptable norm of thus ratio is 50% or 0.5:1 or 1:2 i.e, Re 1 worth absolute liquid assets are considered adequate to pay Rs 2 worth current liabilities in time as all the creditors are not expected to demand cash at the same time and then cash may also be realized from debtors and inventories.

**Net working Capital Ratio:** The difference between current assets and current liabilities excluding short term bank borrowing is called net working capital (NWC) or net current assets (NCA), NWC is sometimes used as a measure of a firms liquidity. It is considered that, between two firms, the one having the larger NWC has the greater ability to meet its current obligations. This is not necessarily so, the measure of liquidity is a relationship, rather than the difference between current assets and current liabilities. NWC, however, measures the firm’s potential reservoir of funds. It can be related to net assets (or capital employed):

\[
\text{NWC ratio} = \frac{\text{Net working capital}}{\text{Net Assets}}
\]
Table No. (5.1)

CURRENT RATIO

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>6.53</td>
<td>3.27</td>
<td>5.31</td>
<td>2.37</td>
<td>5.57</td>
</tr>
<tr>
<td>2007</td>
<td>1.64</td>
<td>2.08</td>
<td>2.09</td>
<td>11.29</td>
<td>2.99</td>
</tr>
<tr>
<td>2008</td>
<td>2.32</td>
<td>2.08</td>
<td>2.02</td>
<td>1.28</td>
<td>3.17</td>
</tr>
<tr>
<td>2009</td>
<td>5.81</td>
<td>1.66</td>
<td>1.96</td>
<td>2.48</td>
<td>1.62</td>
</tr>
<tr>
<td>2010</td>
<td>4.02</td>
<td>0.89</td>
<td>1.22</td>
<td>2.21</td>
<td>10.72</td>
</tr>
<tr>
<td>Total</td>
<td>20.32</td>
<td>9.98</td>
<td>12.6</td>
<td>19.63</td>
<td>24.12</td>
</tr>
<tr>
<td>Average</td>
<td>4.064</td>
<td>1.996</td>
<td>2.52</td>
<td>3.926</td>
<td>4.824</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.

Unit wise Analysis

**KSCML-G:** The above table No. 5.1 demonstrate that current ratio 6.53 which was highest in the year 2006 after that it reduced to 1.64 which was lowest in the year 2007 but in 2007 & 2008 it showed increasing trend but in 2010 again it reduced to 4.02

**BCSFL:** Current ratio in 2006 3.27 which was highest after that it reduced to 2.08 in 2007 and it was remain constant also in 2008 thereafter it went on declining and lead to 0.89 which was lowest in the year 2010.

**KSCML-N:** According to this table 5.31 which was highest in the year 2006 after it went on declining trend and lead to 1.22 which was lowest in the year 2010.

**KSCML-S:** In 2007 current ratio increased from 2006 ie. From 2.37 to 11.29 which were highest after that there was increase and decrease.

**KSCL:** There was increase and decrease during the study period but in 2010 it lead to 1072 which was extremely highest and 1.62 which was lowest in the year 2009.
CURRENT RATIO (ONE WAY ANOVA TEST)

Null hypothesis: There is no significant difference in current ratio of sugar mills under study.

Alternative Hypothesis: There is significant difference in current ratio of sugar mills under study.

Level of significance : 5 Percent
Critical value : 3.01
Degree of freedom : 16

Current Ratio
(One way ANOVA)
Table No. 5.2

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F-Calculated Value</th>
<th>F-Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
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<td>4</td>
<td>4.983</td>
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<tr>
<td>Firm</td>
<td>27.345</td>
<td>4</td>
<td>6.836</td>
<td>0.826</td>
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</tr>
<tr>
<td>Error</td>
<td>132.272</td>
<td>16</td>
<td>8.267</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since, the calculated value of F for year is less than the tabulated value of F, we accept the null hypothesis and conclude that there is no significant difference between them.
Graph No. 5.1

Current Ratio

Current Ratio 2006

Current Ratio 2007

Current Ratio 2008
Table No. (5.3) Quick Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.55</td>
<td>0.38</td>
<td>1.08</td>
<td>21.34</td>
<td>5.27</td>
</tr>
<tr>
<td>2007</td>
<td>0.15</td>
<td>0.24</td>
<td>0.68</td>
<td>0.13</td>
<td>0.50</td>
</tr>
<tr>
<td>2008</td>
<td>0.18</td>
<td>0.12</td>
<td>0.42</td>
<td>0.13</td>
<td>0.33</td>
</tr>
<tr>
<td>2009</td>
<td>0.68</td>
<td>0.12</td>
<td>0.50</td>
<td>0.16</td>
<td>0.21</td>
</tr>
<tr>
<td>2010</td>
<td>0.58</td>
<td>0.31</td>
<td>0.43</td>
<td>3.23</td>
<td>4.64</td>
</tr>
<tr>
<td>Total</td>
<td>2.14</td>
<td>1.17</td>
<td>4.73</td>
<td>24.99</td>
<td>10.95</td>
</tr>
<tr>
<td>Average</td>
<td>0.428</td>
<td>0.234</td>
<td>0.946</td>
<td>4.998</td>
<td>2.19</td>
</tr>
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</table>

Source: Compiled from Annual Reports.

Unit wise Analysis

**KSCML-G:** The above table No. (5.3) demonstrate that quick ratio of this company slightly increase and decrease during the study period 0.68 which was highest in the year 2009 and 0.15 which was lowest in the year 2007.

**BCSFL:** Quick ratio 0.38 which was highest in the year 2006 thereafter it reduced to 0.24 in 2007 and 0.12 in the year 2008 and there was no change in 2009 which were lowest during the study period after that it slightly increased and lead to 0.31 in the year 2010.

**KSCML-N:** Quick ratio 1.08 which was highest in the year 2006 after that it reduced to 0.68 and 0.42 in 2007 and 2008 respectively and in 2009 this ratio slightly increased but in 2010 it declined to 0.43.

**KSCML-S:** Quick ratio of this firm 21.34 which was extremely highest in the year 2006. In 2007 it reduced to 0.13 but in 2008 there was no change in this ratio and in 2009 it slightly increased to 0.16 and again in 2010 it increased to 3.23
KSCL: Quick ratio 5.27 which was highest in the year 2006 after that it went on declining but in 2010 again it increased to 4.64

**QUICK RATIO (ONE WAY ANOVA TEST)**

**Null hypothesis:** There is no significant difference in Quick ratio of sugar mills under study.

**Alternative Hypothesis:** There is significant difference in Quick ratio of sugar mills under study.

**Level of significance:** 5 Percent

**Critical value:** 3.01

**Degree of freedom:** 16

**Quick Ratio (One way ANOVA)**

Table No. 5.4

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F-Calculated Value</th>
<th>F-Critical Value</th>
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<tbody>
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<td>27.587</td>
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<tr>
<td>Firm</td>
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<td>2.057</td>
<td>1.248</td>
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<tr>
<td>Error</td>
<td>256.960</td>
<td>16</td>
<td>16.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since, the calculated value of F for years is less than the tabulated value of F, we accept the null hypothesis and conclude that there is no significant difference between them.
Graph No. 5.2

Liquid Ratio

Liquid Ratio 2006

Liquid Ratio 2007

Liquid Ratio 2008
### Table No. (5.5) Cash Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.07</td>
<td>0.14</td>
<td>0.01</td>
<td>0.0003</td>
<td>0.102</td>
</tr>
<tr>
<td>2007</td>
<td>0.02</td>
<td>0.16</td>
<td>0.001</td>
<td>0.00070</td>
<td>0.08</td>
</tr>
<tr>
<td>2008</td>
<td>0.02</td>
<td>0.05</td>
<td>0.003</td>
<td>0.042</td>
<td>0.009</td>
</tr>
<tr>
<td>2009</td>
<td>0.01</td>
<td>0.04</td>
<td>0.001</td>
<td>0.023</td>
<td>0.02</td>
</tr>
<tr>
<td>2010</td>
<td>0.12</td>
<td>0.23</td>
<td>0.0003</td>
<td>0.009</td>
<td>4.22</td>
</tr>
<tr>
<td>Total</td>
<td>0.24</td>
<td>0.62</td>
<td>0.153</td>
<td>0.075</td>
<td>4.431</td>
</tr>
<tr>
<td>Average</td>
<td>0.048</td>
<td>0.124</td>
<td>0.00306</td>
<td>0.015</td>
<td>0.8862</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.

**Unit wise Analysis**

**KSCML-G:** This table No. (5.5) reveals that cash ratio declined from 2006 to 2007 after that it remain constant in 2008 and went on decreasing and increasing in the year 2009 and 2010 respectively.

**BCSFL:** Cash ratio 0.16 increased from 2006 i.e, 0.14 thereafter it went on declining upto 2009 but in 2010 it increased to 0.23.

**KSCML-N:** There was continually increase and decrease during this study period and lead to 0.003 in the year 2010.

**KSCML-S:** During this study period this table showed fluctuation. In 2006 it was 0.0003 lead to 0.009 in 2010.

**KSCL:** There was slightly increase and decrease in cash ratio during the study period but in 2010 it lead to 4.22 which was highest during the study period.
CASH RATIO (ONE WAY ANOVA TEST)

**Null hypothesis**: There is no significant difference in Cash ratio of sugar mills under study.

**Alternative Hypothesis**: There is significant difference in Cash ratio of sugar mills under study.

**Level of significance**: 5 Percent

**Critical value**: 3.01

**Degree of freedom**: 16

Cash Ratio
(One way ANOVA)
Table No. 5.6

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F-Calculated Value</th>
<th>F-Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>3.074</td>
<td>4</td>
<td>0.768</td>
<td>1.132</td>
<td>3.01</td>
</tr>
<tr>
<td>Firm</td>
<td>2.857</td>
<td>4</td>
<td>0.714</td>
<td>1.052</td>
<td>3.01</td>
</tr>
<tr>
<td>Error</td>
<td>10.8</td>
<td>16</td>
<td>0.678</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since, the calculated value of F is less than the tabulated value of $F_1$ we accept the null hypothesis and conclude that there is no significant difference between them.
Graph No. 5.3

Cash Ratio

Cash Ratio 2006

Cash Ratio 2007

Cash Ratio 2008
Cash Ratio 2009

Cash Ratio 2010
Table No. (5.7) Net working Capital Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.90</td>
<td>0.95</td>
<td>0.93</td>
<td>0.93</td>
<td>0.96</td>
</tr>
<tr>
<td>2007</td>
<td>0.81</td>
<td>0.91</td>
<td>0.85</td>
<td>0.75</td>
<td>0.95</td>
</tr>
<tr>
<td>2008</td>
<td>0.91</td>
<td>0.93</td>
<td>0.90</td>
<td>0.87</td>
<td>0.96</td>
</tr>
<tr>
<td>2009</td>
<td>0.92</td>
<td>0.95</td>
<td>0.88</td>
<td>0.93</td>
<td>0.93</td>
</tr>
<tr>
<td>2010</td>
<td>0.89</td>
<td>0.59</td>
<td>0.70</td>
<td>0.93</td>
<td>0.97</td>
</tr>
<tr>
<td>Total</td>
<td>4.43</td>
<td>4.33</td>
<td>4.26</td>
<td>4.41</td>
<td>4.77</td>
</tr>
<tr>
<td>Average</td>
<td>0.886</td>
<td>0.866</td>
<td>0.852</td>
<td>0.882</td>
<td>0.954</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.

Unit wise Analysis

KSCML-G: This table No (5.7) demonstrate that net working capital ratio of this company was fluctuating during this study period. In 2007 it was 0.81 which was lowest and 0.92 which was highest in the year 2009.

BCSFL: There was decline in 2007 from 2006 i.e, 0.95 to 0.91. In 2008 and 2009 it went on slightly increasing i.e, 0.91 and 0.95 which was highest in this year thereafter it reduced to 0.59 which was lowest in the year 2010.

KSCML-N: In 2006 net working capital ratio 0.93 which was highest. In 2007 it declined to 0.85 but in 2008 it improved i.e, 0.90 thereafter it went on declining trend i.e, 0.88 in 2009 and 0.70 which was lowest in the year 2010.

KSCML-S: In 2006, 2009 and 2010 there was no consistency seems in net working capital ratio. After 2006 it went on increasing trend upto 2008. In 2007 0.75 net working capital ratio which was lowest.
**KSCL:** There was continuously decrease and increase during the study period and lead to 0.97 which was highest in the year 2010 and 0.93 which was lowest in the year 2009.

**NET WORKING CAPITAL RATIO**

*(ONE WAY ANOVA TEST)*

**Null hypothesis:** There is no significant difference in Net working ratio of sugar mills under study.

**Alternative Hypothesis:** There is significant difference in Net working of sugar mills under study.

*Level of significance:* 5 Percent

*Critical value:* 3.01

*Degree of freedom:* 16

**Table: Net Working Capital Ratio**

*(One way ANOVA TEST)*

**Table No. 5.8**

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F-Calculated Value</th>
<th>F-Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>0.051</td>
<td>4</td>
<td>0.012</td>
<td>1.865</td>
<td>3.01</td>
</tr>
<tr>
<td>Firm</td>
<td>0.030</td>
<td>4</td>
<td>0.007</td>
<td>1.120</td>
<td>3.01</td>
</tr>
<tr>
<td>Error</td>
<td>0.110</td>
<td>16</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.191</strong></td>
<td><strong>24</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since, the calculated value of F is less than the tabulated value of $F_1$ we accept the null hypothesis and conclude that there is no significant difference between them.
Graph No. 5.4

Net Working Capital Ratio

Net Working Capital Ratio 2006

Net Working Capital Ratio 2007

Net Working Capital Ratio 2008
CASH PROFIT RATIO

Cash Profit ratio measures the cash generation in the business as a result of the operations expressed in terms of sales. The cash profit ratio is a more reliable indicator of performance where there are sharp fluctuations in the profit before tax and net profit from year owing to difference in depreciation charged. Cash profit ratio evaluates the efficiency of operations in terms of cash generation and is not affected by the method of depreciation charged. It also facilitate inter firm comparison of performance since different methods depreciation may be adopted by different companies.

\[
\text{Cash Profit Ratio} = \frac{\text{Cash Profit}}{\text{Sales}} \times 100
\]

Table No. (5.9) Cash Profit Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>-13.95</td>
<td>-4.29</td>
<td>+0.05</td>
<td>-19.80</td>
<td>-3</td>
</tr>
<tr>
<td>2007</td>
<td>-48.36</td>
<td>-27.43</td>
<td>-29.52</td>
<td>-45.38</td>
<td>+0.31</td>
</tr>
<tr>
<td>2008</td>
<td>-53.28</td>
<td>-1.47</td>
<td>-53.32</td>
<td>-67.45</td>
<td>+0.57</td>
</tr>
<tr>
<td>2009</td>
<td>+1.97</td>
<td>-2.74</td>
<td>-11.85</td>
<td>+4.30</td>
<td>+0.33</td>
</tr>
<tr>
<td>2010</td>
<td>-23.07</td>
<td>-6.99</td>
<td>-12.96</td>
<td>-13.75</td>
<td>+4.29</td>
</tr>
<tr>
<td>Total</td>
<td>-136.69</td>
<td>-42.92</td>
<td>-107.6</td>
<td>-142.08</td>
<td>+2.5</td>
</tr>
<tr>
<td>Average</td>
<td>-27.338</td>
<td>-8.584</td>
<td>-21.52</td>
<td>-28.416</td>
<td>+0.5</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.

Unit wise Analysis

**KSCML-G**: This table reveals that cash profit ratio of this company showed negative percentage except in the year 2009 i.e, 1.97% which was highest.
**BCSFL:** Cash profit ratio of this company continuously went on negative trend and there was increase and decrease during the study period.

**KSCML-N:** Cash profit ratio of this firm 0.05% which was highest and positive in the year 2006 thereafter it went on negative trend.

**KSCML-S:** Cash profit ratio of this firm 4.30 percentage which was highest in the year 2009. During the study period except 2009 years showed negative percentage.

**KSCL:** In 2006 KSCL showed negative percentage i.e, -3 which was lowest thereafter it went on positive trend and lead to 4.29 percentages which was highest in the year 2010.
CASH PROFIT RATIO
(ONE WAY ANOVA TEST)

Null hypothesis: There is no significant difference in Cash Profit ratio of sugar mills under study.

Alternative Hypothesis: There is significant difference in Cash Profit ratio of sugar mills under study.

Level of significance : 5 Percent
Critical value : 3.01
Degree of freedom : 16

Table No. 5.10

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>Mean Square</th>
<th>F-Calculated Value</th>
<th>F-Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>3599.12</td>
<td>4</td>
<td>899.78</td>
<td>2.19</td>
<td>3.01</td>
</tr>
<tr>
<td>Firm</td>
<td>2515.22</td>
<td>4</td>
<td>628.80</td>
<td>1.53</td>
<td>3.01</td>
</tr>
<tr>
<td>Error</td>
<td>6568.53</td>
<td>16</td>
<td>410.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since, the calculated value of F is less than the tabulated value of $F_1$ we accept the null hypothesis and conclude that there is no significant difference between them.
Graph No.5.3
Cash Profit Ratio

CASH PROFIT RATIO -2006

CASH PROFIT RATIO -2007

CASH PROFIT RATIO -2008

173
Relationship between inventory, receivables and cash

Table No. 5.11

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inventory</td>
<td>Receivables</td>
<td>Cash</td>
<td>Inventory</td>
<td>Receivables</td>
</tr>
<tr>
<td>2006</td>
<td>30.91</td>
<td>0.15</td>
<td>0.37</td>
<td>0.37</td>
<td>51.59</td>
</tr>
<tr>
<td>2007</td>
<td>28.28</td>
<td>0.19</td>
<td>0.39</td>
<td>0.39</td>
<td>53.47</td>
</tr>
<tr>
<td>2008</td>
<td>43.63</td>
<td>0.90</td>
<td>0.46</td>
<td>0.46</td>
<td>75.06</td>
</tr>
<tr>
<td>2009</td>
<td>40.98</td>
<td>0.14</td>
<td>0.13</td>
<td>0.13</td>
<td>48.18</td>
</tr>
<tr>
<td>2010</td>
<td>31.83</td>
<td>0.92</td>
<td>1.11</td>
<td>1.11</td>
<td>19.77</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.
Unit wise Analysis

KSCML-G: Table 5.11 reveals that inventory in 2007 decreased from 2006 but receivables and cash both slightly increased. In 2008 all three inventory, receivables and cash increased. In 2009 all three decreased but in 2010 inventory decreased but receivables increased and cash decreased.

BCSFL: In 2007 inventory receivables and cash increased from 2006 and in 2008 inventory and receivables increased but cash decreased. In 2009 they all declined but in 2010 only inventory declined receivables and cash increased.

KSCML-N: In 2007 inventory decreased but receivables slightly increased and cash also declined from 2006. In 2008 inventory increased but receivables decreased and cash slightly increased.

KSCML-S: Inventory has declined from 2006 to 2007 but receivables slightly increased and cash slightly declined. In 2008 all three components increased. In 2009 all three reduced but in 2010 inventory declined but receivables increased and cash again declined.

KSCL: In 2007 inventory and receivables decreased but cash slightly increased from 2006. In 2008 inventory and receivable increased but cash declined. In 2009 inventory, receivables and cash increased. In 2010 inventory declined but receivables slightly increased and cash also increased.
CASH CONVERSION CYCLE

The firms begin with the purchase of raw materials which was paid for after a delay which represents the accounts payable period. The firm converts the raw materials into finished goods and then sells the same the time lag between the purchase of raw materials and the sale of finished goods is the inventory period. Customers pay their bills some time after sales. The period that elapses between the date of sales and the date of collection of receivables is the accounts payable period (debtor’s period). The time that elapses between the purchases of raw materials and the collection of cash for sales is referred to as the operating cycle whereas the time length between the payment for raw materials purchases and the collection of cash for sales is referred to as the cash cycle. The operating cycle is the sum of the inventory period and the accounts receivable period, whereas the cash cycle is equal to the operating cycle less the accounts payable period, is called cash operating cycle or cash conversion cycle.11

Operating and Cash Cycle

Figure: (5.2)
“Cash Conversion Cycle”

Receivable Collection Period + Inventory Collection Period – Payable Deferral Period

Or

RCP + ICP - PDP

RCP = \[\frac{365}{\text{Receivable turnover}}\]

ICP = \[\frac{365}{\text{Inventory turnover}}\]

PDP = \[\frac{365}{\text{Payable turnover}}\]

Table No. (5.12) CCC (in days)

<table>
<thead>
<tr>
<th>Year</th>
<th>KSCML-G</th>
<th>BCSFL</th>
<th>KSCML-N</th>
<th>KSCML-S</th>
<th>KSCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>334</td>
<td>296</td>
<td>302</td>
<td>277</td>
<td>304</td>
</tr>
<tr>
<td>2007</td>
<td>301</td>
<td>296</td>
<td>163</td>
<td>283</td>
<td>-158</td>
</tr>
<tr>
<td>2008</td>
<td>249</td>
<td>280</td>
<td>359</td>
<td>415</td>
<td>448</td>
</tr>
<tr>
<td>2009</td>
<td>364</td>
<td>292</td>
<td>263</td>
<td>289</td>
<td>295</td>
</tr>
<tr>
<td>2010</td>
<td>243</td>
<td>168</td>
<td>169</td>
<td>110</td>
<td>69</td>
</tr>
<tr>
<td>Total</td>
<td>1491</td>
<td>1332</td>
<td>1256</td>
<td>1374</td>
<td>958</td>
</tr>
<tr>
<td>Average</td>
<td>298.2</td>
<td>266.4</td>
<td>251.2</td>
<td>274.8</td>
<td>191.6</td>
</tr>
</tbody>
</table>

Source: Compiled from Annual Reports.
Unit wise Analysis

**KSCML-G:** The above table No. 5.12 reveals that from 2006 to 2008 cash conversion cycle showed declining trend but in 2009 it extremely increased to 364 days which was highest during the study period after that again it reduced to 243 days.

**BCSFL:** In 2006 and 2007 cash conversion cycle remained same i.e, 296 days which were highest thereafter there was increase and decrease and lead to 168 days which was lowest in the year 2010.

**KSCML-N:** In 2007 it reduced to 163 days from 302 days in 2006 but in 2008 it increased to 359 days which was highest thereafter it went on declining i.e, 263 days in 2009 and 169 days in 2010.

**KSCML-S:** From 2006 to 2008 it consciously increasing and lead to 415 days which was highest in 2008 after that it went on decreasing and lead 110 days which was lowest in the year 2010.

**KSCL:** In 2006 cash conversion cycle 304 days but in 2007 it was negative. In 2008 it increased to 448 days which was highest in this year after that it went on decreasing and leads to 69 days which was lowest in the year 2010.
REFERENCES