Chapter-IV

Analysis of Cash and Liquidity Management

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Introduction

One of the most important areas in the day-to-day management of the firms deals with the management of working capital, which is defined as all the short-term assets used in daily operations. This consists primarily of cash, marketable securities, accounts receivable and inventory. The balances in these accounts can be highly volatile as they respond very quickly to changes in the firm’s operating environment.

A highly liquid firm has sufficient cash to pay its bills at all times. An illiquid firm is unable to pay its bills when due.

In a financial sense, the term cash refers to all money items and sources that are immediately available to help in paying firms’ bills. On the balance sheet, cash assets include deposits in financial institutions and cash equivalent in money market funds or marketable securities. All highly liquid short-term securities are treated as cash. Most government and corporate securities are treated as cash because they may be liquidated through a telephone call.

Cash is the most important current assets for the operations of the business. It is the basic input needed to keep
the business running on a continuous basis. It is the money, which the firm can disburse immediately without any restriction. The term cash includes coins, currency, cheques held by the firm and balance in its bank accounts.

J.M. Keyens postulated three motives for holding cash \textit{viz.} transactional motive, precautionary motive, and speculative motive. These can be said to form the basis for cash management in business enterprise. Cash is oil that lubricates the wheel of business. Inadequate cash slows down the production and on the other hand carrying cash is expensive since it is non-earning asset. A firm that holds cash beyond its minimum requirement is lowering its potential earning. Cash is the most important current asset. It is the cash, which keeps a business going. It is the hub around which all other financial matters centre. No one can deny the fact that cash is the blood inside the business enterprise. Healthy circulation of cash in the entire business operation is the basis of business solvency. Cash is the basic input needed to keep the business running on a continuous basis; it is the ultimate output expected to be realized by selling the services or product manufactured by the firm. Ultimately every transaction in a business results either in an inflow or an outflow of cash.

Therefore, effective management of cash is the key determinant of efficient working capital management. There should be sufficient cash with a firm all the time to meet the
needs of the business. Both excess and inadequate cash may degenerate a firm into a state of technical insolvency and even lead to its liquidation. It will eventually disrupt the firm’s manufacturing operation. On the other hand excessive cash remains idle, without contributing anything towards the firm’s profitability.

Moreover, holding of cash balance has an implicit cost in the form of its opportunity cost. The larger the idle cash, the greater will be its opportunity cost in the form of loss of interest which could have been earned either by investing in some interest bearing securities or by reducing the burden of interest charged by paying off the past loans. The carrying of cash and near cash reserves beyond the irreducible needs cuts assets turnover and rate of return. If the cash balance with a firm at any time is surplus or deficit, it is obvious that the finances are mismanaged. Today, when cash, like any other asset of the company, is a tool for profits, the emphasis is on right amount of cash at the right time, at the right place and at the right cost.

**Meaning of Cash Management**

Cash management is concerned with minimizing unproductive balances, investing temporarily cash advantageously and to making the best possible arrangement to meeting planned and unexpected demand on the firm’s cash. It involves managing of cash flows in and out of the firm,
Cash flows within the firm and cash balances held by the firm at a point of time.

Cash management must be thought of in terms of the overall liquidity needs of the firm, specifically its current assets and liabilities. In order to reduce the influence of uncertainties with regard to cash needs and to ensure adequate liquidity, firm has to gauge the need for protective liquidity.

It is necessary for business to maintain a certain amount of cash in hand or bank always, even if the other current assets are at a sustained figure. Cash is both beginning and the end of the working capital cycle – cash, inventories, receivables and cash.

Cash is the basic input needed to keep a business running on a continuous basis. It is also the ultimate output expected to be realized by selling the services or product manufactured by an enterprise.

Cash management assumes more importance than other current assets because cash is the most significant and the least productive asset that a firm holds. The aim of cash management should be to maintain adequate cash position to keep the firm’s operations in profitable manner. There are two primary reasons for a firm to hold cash:

1. To meet the needs of day-to-day transactions.
2. To protect the firm against uncertainties characterizing its cash flow.
In brief we can say proper cash management is required for smooth running and maximum profitability of the business.

It is clear that cash is like blood stream in the human body, gives vitality and strength to a business enterprise. So it is necessary that the management of business enterprise should provide sufficient coverage to their currently maturing obligations in the form of enough cash and near cash assets, high and stable cash flows and sound profit margin. In brief while the first function of cash management increases the turnover of working capital cycle to bringing down the size of cash, the function reduces the problem of financing the working capital. Trade creditors, banks and external agencies provide finance.

Cash management involves managing the monies of the firm in order to attain maximum cash availability and maximum cash income on any idle funds. Cash management is concerned with minimizing unproductive cash balances, investing temporarily excess cash advantageously, and to making the best possible arrangements for meeting planned and unexpected demand on the firm’s cash flows within the firm, and cash balances held by the firm at a point of time.

Cash management must be thought of in terms of the overall liquidity needs of the firm, specifically its current assets and liabilities. In order to reduce the influence of uncertainties with regard to cash needs and to ensure adequate liquidity, firms have to gauge the need for protective liquidity. The efforts involved for this purpose usually take the form of:
Assessment of the probabilities or odds that each of these will develop within a given period in future, such as 5 years. Assessment of the probabilities and developments creating cash drains will occur at the same time.

Assessment of the likely amount of cash drain that will result if each of the contingencies develops. An important policy decision regarding cash management is: what should be the optimal amount of cash balance to consider the form impact of the following factors:

1. The philosophy of the management regarding liquidity and risk of insolvency.
2. The expected cash inflows and outflows based on the cash budget forecasts encompassing long-ranging and short-range cash needs.
3. The size of sales in relation of fixed asset investment.
4. The degree of deviation between the expected and actual net cash flows.
5. The maturity structure of the firm’s liabilities.
6. The firm’s ability to borrow at short notice in the event of an emergency.
7. Efficient planning and control of cash.
8. The status of the firm’s receivables and inventory.
9. The credit position of the firm.
10. The nature of business.
Analysis of Cash Management

Proper cash management is “life blood of a business” all the more so in product like cement where the value of sales of all major cement producers is in few hundred crore of rupees each. It has been analysed in this chapter what should be an ideal cash-sales ratio and what actually it is for cement industry in general and for various regions and Dalmia Cement in particular and what are the factors responsible for current state of affairs.

Cash is needed to meet day-to-day transactions for purchase of raw materials; payment of wages, salaries and royalty and factory overheads; payment for coal, electricity, furnaces oil and other inputs and goods in process; cash is also blocked in finished goods stock at factory and depots and distribution channels, advance payment of taxes and other future liabilities and sales on credit. On the one side purchase on credit, advance receipts for supplies and other short-term receipts are other side of the coin. All these factors affect not only overall current assets but also cash management. It is, therefore, necessary to properly understand and plan current assets cycle, which may be summarized as under for cement industry.

Current assets cycle, which may be summarized as under for cement industry.
Cycle of Current Assets & Cash

Accounts Receivable → Cash Sales → Wages, Salaries Advance Payment & Overheads → Finished Cement Clinker → Work in Process Grinder Mill Clinker → Accounts Receivable → Accounts Receivable → Accounts Receivable → Cash → Supplier
The cash is required basically to meet day-to-day running of business for purchase of materials, other inputs, energy payment of wages, salaries, overheads, and consumables. Funds are also required to meet cost of inventories (raw-materials, spares, consumables, goods in process, finished products and providing credit to buyers). Sometime funds are also needed to pay advance of excise duty, sales tax, property and water tax and income tax.

Many a times emergencies also arise which are not foreseen and reserve cash has to be kept to meet uncertainties with regard to cash receipts and payment whether for current assets and liabilities or to meet long-term funds.

The proper cash management is given great importance in financial management with a view to minimize its cost, ensure adequate cash for all requirements and avoid surplus cash with the organization. The aim of cash management is to minimize cost of interest on borrowings, earning maximum interest from surplus funds and avoid or atleast reduce uncertainties of surplus or short funds so that need of borrowings to meet emergencies is avoided. At the same time planning is needed for proper investment of surplus funds whether in securities, additional inventories or utilise them for prepaid payment of borrowings.

In order to ensure above objectives it is necessary to take a number of steps for cash planning such as cash deciding policy for credit purchase and sales. It also implies to fix optimum level of inventories and investment of surplus funds.
To what extent these planning tools have been adopted by cement industry in last one decade has been studied with the help of published data of selected cement companies and discussions with the industry.

Money, as is well assumed, has a time value. In inflationary economy (which is the case in India) current value of money is more than future value but if one takes the gain in the value of stocks the above statement is not always true. If the prices of inputs and outputs rises faster than rate of interest it will be more profitable to minimize cash balances. But as in India the rate of interest on working capital loans from banks is between 18-20 per cent and the rate of inflation is less, it is advisable to manage with the minimum possible cash but it is not always in the hands of management because of changing market and economic conditions and policies of the government. In our country cement industry has been victim of uncertainties. There is no fixed trend in the rate of growth in demand of cement. There have been periods of surpluses and shortages as described in earlier chapter soon after decontrol on production and prices number of new cement plants were established all over the country creating situation of surplus and increased competition forcing industry to give liberal credit to trade and creating situation of surplus and increased competition forcing industry to give liberal credit to trade and industry requiring more cash resources. Then there was a period of tight supplies and now again sales are less than
capacity forcing industry to reduce prices and provide more liberal credit to buyers.

In case of cement supplies to the PWD and other government departments and consumers (which accounts generally to more than one-third of sales). Credit has to be given and the terms by convention are decided by buyers and not by seller. Thus producers to a great extent are not able to manage cash as they wish and are governed by market forces.

The cement though is not a seasonal industry consumption goes down during rainy season because construction becomes difficult and some areas become unapproachable in July-September. In these areas sales are accelerated in April-July to keep stock for rainy season. But it is a fact that market is sluggish in monsoon season not only because of dampening in construction activity but also due to risk of spoilage of cement in transit during rainy season which reduces its movement. To what extent this factor has actually affected cash flow and cash management could not be studied in next part of analysis because only financial year-end data could become available. In the absence of monthly cash flow it has not been possible to study impact of this factor on cash sales ratio.

**Cash Planning**

**Cash flows:**

Inflows and outflows are inseparable parts of the business operations of all firms. The firm needs cash to invest in inventories, receivable and fixed assets and to make
payments for operating expenses in order to maintain growth in sales and earnings. It is possible that a firm may be making adequate profits, but may suffer from the shortage of cash as its growing needs may be consuming cash very fast. The “Cash poor” position of the firm can be corrected if its cash needs are planned in advance. At times, a firm can have excess cash with it if its cash inflows exceed cash outflows. Such excess cash may remain idle. Again, such excess cash flows can be anticipated and properly invested, if cash planning is esorted to.

Thus, cash planning can help anticipated future cash flows and needs of the firm and reduces the possibility of idle cash balances (which lowers firm’s profitability) and cash deficits (which cause firm’s failure).

Cash planning is a technique to plan for and control the use of cash. It protects the financial condition of the firm by developing a projected cash statement from a forecast of expected cash inflows and outflows for a given period. The forecasts may be based on the present operations or the anticipated future operations. Cash plans are very crucial in developing the overall operating plans of the firm.

Cash planning may be done on daily, weekly or monthly basis. The period and frequency of cash planning generally depends upon the size of the firm and philosophy of management. Large firms prepare daily and weekly forecasts. Small firms may not prepare formal cash forecasts because of the non-availability of information and non-sophistication of
operations. But, if, the small firms prepare cash projections, it is done on monthly basis. As the firm grows and business operations become complex, cash planning becomes inevitable for its continuing success.

**Cash forecasting and budgeting:**

Cash budget is the most significant device to plan for and control the cash receipts and payments. A cash budget is a summary statement of the firm’s expected cash inflows and outs over a projected time period. It gives information on the timing and magnitude of expected cash flows and cash balances over the projected period. This information helps the financial manager to determine the future cash needs of the firm, plan for the financing of those needs and exercise control over the cash and liquidity of the firm.

**Cash forecasting**-- Cash forecasts are needed to prepare cash budgets. Cash forecasting can be done on short-term or long-term basis. Generally, forecasts conferring periods of one year or less considered short-term. Those extended beyond one year are considered long-term.

**Short-term forecasts:**

It is comparatively easy to make short-term forecasts. The important uses of carefully developed short-term cash forecasts are:

1. It helps to determine operating cash requirements.
2. It helps to anticipate short-term financing.
3. It helps to manage money market investments.
Short-term forecasting methods— Two most commonly used methods of short-term cash forecasting are:

1. The receipt and disbursements method.
2. The adjusted net income method.

Receipts and disbursements method:

Cash flow in and out in most of companies on a continuous basis. The prime aim of receipts and disbursements forecasts is to summarize these flows during a predetermined period. In case of those companies where each item of income and expenses involve flow of cash, this method is favoured to keep a close control over cash.

Adjusted net income method:

This method of cash forecasting involves the tracing of working capital flows. It is sometimes called the sources and uses approach. Two objectives of the adjusted net income approach are- (i) to project the company’s need for cash at some future date, and (ii) to show whether the company can generate this money internally, and if not, how much will have to either borrow or rise in the capital market.

Long-term cash forecasting:

Long-term cash forecasts are prepared to give an idea of the company’s financial requirements of distant future. They are not as detailed as the short-term forecasts are. Once a company has impact, of say, new product developments or plant acquisitions on the firm’s financial condition three, five or more years in the future.
Long-term forecasting methods- The short-term forecasting methods, the receipts and disbursements method and the adjusted net income method, can also be used in long-term cash forecasting. This method not only reflects more accurately the impact of any recent acquisitions but also foreshadows financing problems these new additions may pose for the company.

Cash Control Techniques:

The important techniques of controlling cash are:

1. Cash budgeting
2. Ratio analysis
3. Fund flow statement
4. Financial reports
5. Linear programming
6. Goal programming
7. Simulation technique, and
8. Portfolio management.

Some of these are discussed below:

1. Cash budgeting– Cash budget is a time phased schedule of cash receipts and disbursements, and show the estimated cash inflows and outflows over a certain period. It is a tool of planning cash need of a business concern and serves as a cash control device. The cash budget report aims at ascertaining deviation of actual operations from budgeted ones and making it possible to compare actual with estimated cash balances at the end of each plan period. If there is a marked difference between the actual and projected balances, the cash budget for
the succeeding period should be revised and included in the report.

2. **Ratio analysis**-- It involves the use of accounting ratios rather than obsolete figures as an index of financial performance of a business concern. However, the analysis and interpretation of ratios does not only evaluate and control the overall financial performance of a concern, but also the different facts of its financial activities.

3. **Fund flow statement**-- The analysis of financial statements through the preparation of the statements of changes in financial position of a business concern provides a very useful tool for financial planning and control. Such statements explain the charges in such or working capital and are accordingly called “Cash flow statement” or “funds flow statement”.

   These statements are prepared periodically to show the changes in a concern’s cash position and charges in its net working capital position, they provide evaluating techniques to the management to know the sources and uses of a concern’s fund over a period of time.

4. **Financial reports**-- Cash reports provide a comparison of actual develops with forecast figures. They are helpful in control and revision of cash forecasts on a continual basis. Among the several types of cash reports, the important ones are-- (i) the daily cash report, (ii) the daily treasury report, and (iii) the monthly cash report. The daily cash report, as the name implies, shows the cash picture on a daily basis. An
amplification of the daily cash report and the daily treasury report provides a comprehensive picture of changes in cash, marketable securities, debtors and creditors. The monthly cash report shows the picture of cash changes on a monthly basis.

Control and Review

There are five major approaches for effective control are:

1. Exploitation of techniques of cash mobilization to reduce operating requirement of cash.
2. Major efforts to increase the precision and reliability of cash forecasting.
3. Maximum efforts to define and quantify the liquidity reserve needs of the firm.
4. The development of explicit alternative sources of liquidity.
5. Aggressive search for more productive uses for surplus money assets.

Some of the important techniques of controlling cash are cash budgeting, ratio analysis, linear programming, goal programming, simulation and portfolio management. Ratio analysis is widely in application. Some of the important ratios used as measures of cash control are discussed below:

(1) Cash turnover – The ratio explains the speed with which cash is turned over. The higher the turnover, the less the cash balance required for any given level of sales; and other things remaining constant, it implies greater efficiency. The ratio can also be used to establish the cash balances to be held; once the sales forecasts for various periods have been made, the
required cash balance can be calculated, using historical cash turnover figures. However, the ratio shows only what is happening to the cash balance without indicating the imperfections and irregularities, caused in cash flows by the income through sales, which may be partly responsible.

(2) Cash as Percentage of Current Assets

The ratio of cash in current assets provides an index of current operations and, used correctly, helps determine the minimum level of cash. Monthly control of cash and his records give some indication of trends. An increasing level of cash in current assets could be caused by a reduction in the credit given by the company’s suppliers or by too high cash balance. The first may be unavoidable; the second is not. The further analysis is required to determine the cause.

Current Ratio of Selected Cement Companies has been shown in Table 4.1.

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>1.47</td>
<td>3.09</td>
<td>3.16</td>
<td>2.36</td>
<td>2.25</td>
<td>2.46</td>
</tr>
<tr>
<td>2004-05</td>
<td>1.92</td>
<td>2.45</td>
<td>3.79</td>
<td>2.48</td>
<td>3.64</td>
<td>2.86</td>
</tr>
<tr>
<td>2005-06</td>
<td>1.77</td>
<td>2.32</td>
<td>2.32</td>
<td>2.67</td>
<td>2.96</td>
<td>2.41</td>
</tr>
<tr>
<td>2006-07</td>
<td>1.56</td>
<td>1.56</td>
<td>2.21</td>
<td>3.17</td>
<td>3.66</td>
<td>2.43</td>
</tr>
<tr>
<td>2007-08</td>
<td>1.55</td>
<td>0.80</td>
<td>1.29</td>
<td>2.66</td>
<td>3.91</td>
<td>2.04</td>
</tr>
<tr>
<td>Company Average</td>
<td>1.65</td>
<td>2.05</td>
<td>2.55</td>
<td>2.67</td>
<td>3.28</td>
<td>2.44</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix

The current ratio of all the cement companies shows fluctuating trend throughout the study period except
Mangalam which shows decreasing trend. The minimum Current Ratio in ACC is 1.47 (2003-04), Mangalam is -0.80 (2007-08), Gujarat Ambuja is 1.29 (2007-08), Shree Cement is 2.36 (2003-04), and in the India Cement is 2.25 (2003-04). The maximum Current Ratio in ACC is 1.92 (2005-06), Mangalam is 3.09 (2003-03), Gujarat Ambuja is 3.79 (2004-05), and Shree Cement is 3.17 (2006-07) and in India cement is 3.91 (2007-08).

Liquid Ratio of Selected Cement Companies has been presented in Table 4.2

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0.39</td>
<td>1.39</td>
<td>0.60</td>
<td>0.58</td>
<td>0.47</td>
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<tr>
<td>2004-05</td>
<td>0.73</td>
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<td>0.39</td>
<td>0.92</td>
</tr>
<tr>
<td>2005-06</td>
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<tr>
<td>2006-07</td>
<td>0.50</td>
<td>0.63</td>
<td>0.40</td>
<td>1.05</td>
<td>0.56</td>
<td>0.63</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.48</td>
<td>0.26</td>
<td>0.17</td>
<td>1.43</td>
<td>0.51</td>
<td>0.57</td>
</tr>
<tr>
<td>Company Average</td>
<td>0.56</td>
<td>0.89</td>
<td>0.61</td>
<td>1.03</td>
<td>0.47</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix.

The liquid Ratio of all the cement companies shows fluctuating rend throughout the study period except Mangalam which shows decreasing trend. The minimum Liquid Ratio in ACC is 0.39 (2003-04), Mangalam is 0.26 (2007-08), Gujarat Ambuja is 0.17 (2007-08), Shree Cement is 0.58 (2003-04), and in India Cement is 0.39 (2004-05). The maximum Liquid Ratio in ACC is 0.73 (2004-05), Mangalam is 1.39 (2003-
04), Gujarat Ambuja is 1.32 (2004-05), and Shree Cement is 1.43 (2007-08) and in India Cement is 0.56 (2006-07).

Cash as Percentage to Total Assets of Selected Cement Companies has been shown in Table 4.3.

Table 4.3
Cash as Percentage to Total Assets of Selected Cement Companies for the years from 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>1.91</td>
<td>2.42</td>
<td>2.55</td>
<td>0.54</td>
<td>2.86</td>
<td>2.06</td>
</tr>
<tr>
<td>2004-05</td>
<td>2.26</td>
<td>3.42</td>
<td>5.64</td>
<td>1.69</td>
<td>1.09</td>
<td>2.82</td>
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<tr>
<td>2005-06</td>
<td>1.76</td>
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<td>2006-07</td>
<td>1.05</td>
<td>2.25</td>
<td>1.37</td>
<td>1.45</td>
<td>0.77</td>
<td>1.38</td>
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<tr>
<td>2007-08</td>
<td>0.83</td>
<td>2.63</td>
<td>0.53</td>
<td>2.39</td>
<td>0.33</td>
<td>1.34</td>
</tr>
<tr>
<td>Company Average</td>
<td>1.56</td>
<td>2.76</td>
<td>2.65</td>
<td>1.70</td>
<td>1.21</td>
<td>1.98</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix

The Cash as percentage to Total Assets of all the cement companies shows fluctuating trend throughout the study period except India Cement which shows decreasing trend. The minimum Cash as percentage to Total Assets in ACC is 0.83 (2007-08), Mangalam is 2.25 (2006-07), Gujarat Ambuja is 0.53 (2007-08), Shree Cement is 0.54 (2003-04), and in India Cement is 0.33 (2007-08). The Maximum cash as percentage to Total Assets in ACC is 2.26 (2004-05), Mangalam is 3.42 (2004-05), Gujarat Ambuja is 5.64 (2004-05), and Shree Cement is 2.44 (2005-06) and in India cement is 2.86 (2003-04).

Cash to Net Working Capital of Selected Cement Companies has been given in Table 4.4.
Table 4.4
Cash to Net Working Capital of Selected Cement Companies
for the years 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
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<td>0.16</td>
<td>0.21</td>
<td>0.04</td>
<td>0.17</td>
<td>0.15</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.15</td>
<td>0.26</td>
<td>0.40</td>
<td>0.11</td>
<td>0.04</td>
<td>0.19</td>
</tr>
<tr>
<td>2005-06</td>
<td>0.14</td>
<td>0.24</td>
<td>0.31</td>
<td>0.14</td>
<td>0.04</td>
<td>0.17</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.10</td>
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<td>2007-08</td>
<td>0.09</td>
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<td>0.19</td>
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<td>0.01</td>
</tr>
<tr>
<td>Company Average</td>
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<td>0.09</td>
<td>0.26</td>
<td>0.11</td>
<td>0.06</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix.

The Cash to Net Working Capital of all the cement companies shows fluctuating trend throughout the study period except ACC and India Cement which shows decreasing trend. The minimum Cash to Net Working Capital in ACC is 0.09 (2007-08), Mangalam is -0.45 (2007-08), Gujarat Ambuja is 0.18 (2006-07), Shree Cement is 0.04 (2003-04), and in India Cement is 0.01 (2007-08). The Maximum Cash to Net Working Capital in ACC is 0.15 (2003-04 and 2004-05), Mangalam is 0.27 (2006-07), Gujarat Ambuja is 0.40 (2004-05), and Shree Cement is 0.19 (2007-08) and in India Cement is 0.17 (2003-04).

Cash to Current Assets of Selected Cement Companies has been presented in Table 4.5.

Table 4.5
Cash to Current Assets of Selected Cement Companies
for the years from 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0.05</td>
<td>0.11</td>
<td>0.14</td>
<td>0.02</td>
<td>0.10</td>
<td>0.08</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.07</td>
<td>0.16</td>
<td>0.30</td>
<td>0.07</td>
<td>0.03</td>
<td>0.12</td>
</tr>
<tr>
<td>2005-06</td>
<td>0.06</td>
<td>0.13</td>
<td>0.17</td>
<td>0.09</td>
<td>0.03</td>
<td>0.10</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.04</td>
<td>0.10</td>
<td>0.10</td>
<td>0.06</td>
<td>0.02</td>
<td>0.06</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.03</td>
<td>0.11</td>
<td>0.05</td>
<td>0.12</td>
<td>0.01</td>
<td>0.06</td>
</tr>
<tr>
<td>Company Average</td>
<td>0.05</td>
<td>0.12</td>
<td>0.15</td>
<td>0.07</td>
<td>0.04</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix.
The cash to current assets of all the cement companies shows fluctuating trend throughout the study period except India Cement which shows decreasing trend. The minimum cash as percentage to current assets in ACC is 0.04 (2007-08), Mangalam is 0.10 (2006-07), Gujarat Ambuja is 0.05 (2007-08), Shree Cement is 0.02 (2003-04), and in India Cement is 0.01 (2007-08). The maximum cash to current assets in ACC is 0.07 (2004-05), Mangalam is 0.16 (2004-05), Gujarat Ambuja is 0.30 (2004-05), and Shree Cement is 0.12 (2007-08) and in India Cement is 0.10 (2003-04).

Cash to Current Liabilities of Selected Cement Companies has been given in Table 4.6

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0.07</td>
<td>0.33</td>
<td>0.45</td>
<td>0.06</td>
<td>0.22</td>
<td>0.22</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.14</td>
<td>0.38</td>
<td>1.12</td>
<td>0.16</td>
<td>0.11</td>
<td>0.38</td>
</tr>
<tr>
<td>2005-06</td>
<td>0.10</td>
<td>0.31</td>
<td>0.41</td>
<td>0.23</td>
<td>0.08</td>
<td>0.23</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.06</td>
<td>0.15</td>
<td>0.21</td>
<td>0.19</td>
<td>0.07</td>
<td>0.13</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.05</td>
<td>0.09</td>
<td>0.06</td>
<td>0.32</td>
<td>0.03</td>
<td>0.11</td>
</tr>
<tr>
<td>Company Average</td>
<td>0.08</td>
<td>0.25</td>
<td>0.45</td>
<td>0.19</td>
<td>0.10</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix.

The cash to current liabilities of all the cement companies shows fluctuating trend throughout the study period except India Cement which shows decreasing trend. The minimum cash to current liabilities in ACC is 0.05 (2007-08), Mangalam is 0.09 (2007-08), Gujarat Ambuja is 0.06 (2007-08), Shree Cement
is 0.05 (2003-04) and in India Cement is 0.03 (2007-08). The maximum cash to current liabilities in ACC is 0.14 (2004-05). Mangalam is 0.38 (2004-05), Gujarat Ambuja is 1.12 (2004-05), and Shree Cement is 0.32 (2007-08) and in India Cement is 0.22 (2003-04).

**Liquidity Analysis**

The concept of liquidity within a business is vital to the understanding of financial management as it is the basic criteria to test the short-term financial position of the enterprise. Liquidity may be defined as the ability to realize value in money the real liquid asset. It has two dimensions--The time required converting the assets into money, and risks involved.

(1) The certainty of the reliable price. Liquidity refers to affirm continuous ability to meet its short-term maturing obligations. Since cash is used to meet a firm’s obligations, emphasis is given on holding large investment in current assets which include cash and ‘near cash’ items like receivables, short term securities etc. thus, holding relatively large investment in current assets will result in no difficulty in paying the claims of the creditors and others.

According to Mauraw Bahadur, “Analysis of liquidity provides the measure of the ability of the enterprise to meet its obligation. It is not sufficient that the final accounts show a profit and the balance sheet a rosy picture of financial health of the enterprise. All this will look meaning less, unless the cash inflows and outflows are so regulated that at all times there is
enough cash available to meet obligations as and when they mature. The analysis of liquidity should therefore, be taken into consideration, the size of the components of current assets which can be readily converted into cash to meet maturing liability. The size, character and sequence of maturity of liabilities are also of significant importance and deserve due attention.” The term liquid assets is used to describe money and assets that are readily convertible into money. Liquidity has two dimensions viz. time and risk.

The time dimension of liquidity concerns the speed with assets other than cash. The risk dimension raises the question of the degree of certainty about the conversion of inventories, receivable and others into cash with a little sacrifice in price as possible. Viewed from these, all assets will have a degree of liquidity and assets that comprise cash and near cash items in most liquid assets. The liquidity of any business results from its ability to generate cash. The financially sound company is able to build up a reserve of cash in excess of requirement for operation. This surplus of cash is then available for the financing of expansion and for payment of debts and dividends. The working capital of a business represent the amount of current assets which the enterprise has in excess of the claims of the current creditors and with which, therefore, it is free to work. From this statement it would appear that the greater the amount of working capital, or net current assets, the greater the degree of liquidity of the business, and so it is
alleged that the amount of working capital is a measure of liquidity.

The word liquidity was used by the financial accounting standard Board (FASB) “the amount of time that is expected to elapse until an asset is realized or otherwise converted into cash or until a liabilities has been paid”.

Liquidity management therefore involves the amount of investment in the group of assets to meet short-term maturing obligations-creditors and others. From the point of financing, normally a major portion of the fund required for financing current assets is obtained from long-term sources, equity and for debt, while the rest is met from short-term sources. It goes without saying that if the maturing obligations are met continuously as and when become due, creditors and others will have a feeling of confidence in the financial strength of the firm and this will sustain the credit reputation of the firm and a going firm will accordingly face difficulty in holding a particular level of current assets. But failure to meet such obligations on a continuous basis will affect the reputation, and hence credit worthiness of a firm, which will, in turn, make it more difficult to continue to finance the level of current assets from the short-term source.

The word liquidity suggests a kind of measurement or qualification of the prospect of meeting maturing obligations.

In a sound business, the source of finance should be supplemented by own cash generation. The quantum of conversion of current assets into cash or in other words, near
liquid asset may have to be supplemented by outside borrowing to make sufficient liquid fund available to meet current obligations. The current obligations will also include the repayment of borrowing.

At last we can say that the term ‘Liquidity’ means conversion of assets into cash during the normal course of business and to have regular flow of cash to meet outside current liabilities (generally within a year) as and when due and payable and also to ensure money for day-to-day business operations. Hence, the flow of current assets should circulate within a year, so that timely payment is made to outsiders for interest, dividends etc. If the major part of current asset is blocked in inventories and credit sales (Sundry debtors), not any ready cash will not be available to pay current debt but also there is a risk of shortage in the total current asset available because of possible fall in the value of inventories, possible losses in account of bad debts. The quality of current asset is therefore very important for analyzing liquidity. However, a firm has a strong liquidity of it is able:

1. to meet the claims of short-term creditors.
2. to maintain sufficient working capital for efficient normal operations.
3. to meet current interest and dividend requirements.
4. to maintain a favourable credit rating. The efficient management of working capital requires constant attention to process of rapid conversion of receivable and inventory into cash.
Measurement of Liquidity and Trends

Working capital trend in financial analysis, the direction of change over a period of time is of crucial importance. Working capital is one of the important fields of financial management. It is, therefore, very essential for an analyst to make a study about the trend and direction of working capital. Further, a study should also be made about the trend of the components of the working capital movements to provide a deep and broad base while examining the working capital management of an industry. This analysis will provide a base 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. Further, any one trend by itself is not very important and, therefore, an analyst should make comparison with related trends. To illustrate, an upward trend in working capital, coupled with a downward trend in sales would usually reflect an unfavourable situation, an upward trend of current assets, inventories, accounts receivable, cash in bank balances and other current assets, in connection with a downward trend of current liabilities would usually be viewed favourably. All such conclusions throw light on one or more aspects of the working capital position and have to be reconciled with those other aspects.

Working Capital Chain Indices of Selected Cement Companies has been shown in Table 4.7.
Table 4.7
Working Capital Chain Indices of Selected Cement Companies
for the Years from 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>2004-05</td>
<td>128.54</td>
<td>79.13</td>
<td>135.58</td>
<td>11165.65</td>
<td>240.53</td>
<td>140.09</td>
</tr>
<tr>
<td>2005-06</td>
<td>114.72</td>
<td>77.43</td>
<td>92.03</td>
<td>135.46</td>
<td>284.97</td>
<td>140.92</td>
</tr>
<tr>
<td>2006-07</td>
<td>98.56</td>
<td>48.05</td>
<td>96.04</td>
<td>190.83</td>
<td>426.14</td>
<td>171.92</td>
</tr>
<tr>
<td>2007-08</td>
<td>97.43</td>
<td>-30.71</td>
<td>37.11</td>
<td>136.87</td>
<td>543.84</td>
<td>156.91</td>
</tr>
<tr>
<td>Company Average</td>
<td>107.85</td>
<td>54.78</td>
<td>92.15</td>
<td>135.96</td>
<td>319.10</td>
<td>141.97</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix-I.

The working capital chain indices of all the cement companies shows fluctuating trend throughout the study period except India Cement which shows increasing trend. The average of industry shows increasing trend throughout the study period. The minimum working capital chain indices in ACC are 97.42 (2007-08), Mangalam is -30.71 (2006-08), Gujarat Ambuja is 37.41 (2007-08), Shree Cement is 100.00 (2003-04) and in India Cement is 100.00 (2003-04). The maximum working capital chain indices in ACC are 128.54 (2004-05). Mangalam is 100.00 (2003-04), Gujarat Ambuja is 135.58 (2004-05), and Shree Cement is 190.83 (2006-07) and in India Cement is 543.84 (2007-08).

The linear least square trend values of working capital in the Cement industry are shown in the table 4.8
Table 4.8

Working Capital Trend of Selected Cement Companies
for the years from 2003-04 to 2007-08

(Rs in lakh)

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>37841.00</td>
<td>4258.03</td>
<td>29267.43</td>
<td>7727.09</td>
<td>5025.25</td>
<td>16823.76</td>
</tr>
<tr>
<td>2004-05</td>
<td>36683.90</td>
<td>3158.57</td>
<td>25403.29</td>
<td>8801.59</td>
<td>10189.57</td>
<td>16847.38</td>
</tr>
<tr>
<td>2005-06</td>
<td>35526.80</td>
<td>2059.11</td>
<td>21539.16</td>
<td>9876.09</td>
<td>15353.89</td>
<td>16871.01</td>
</tr>
<tr>
<td>2006-07</td>
<td>34369.70</td>
<td>959.65</td>
<td>17675.02</td>
<td>1095.60</td>
<td>20518.21</td>
<td>16894.64</td>
</tr>
<tr>
<td>2007-08</td>
<td>33212.60</td>
<td>-139.81</td>
<td>13810.89</td>
<td>12025.10</td>
<td>25682.54</td>
<td>16818.26</td>
</tr>
<tr>
<td>Company Average</td>
<td>35526.80</td>
<td>2059.11</td>
<td>21539.16</td>
<td>9876.09</td>
<td>15353.89</td>
<td>16871.01</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix-I.

The trend is calculated on the basis of the statistical technique (Least Square Method), i.e, \( Y = a + bx \),

In case of ACC eqn. comes to \( Y_c = 35526.80 + (-1157.10x) \).

In case of Managalam eqn. comes to \( Y_c = 2059.11 + (-444.33x) \).

In case of Gujarat Ambuja eqn. comes to \( Y_c = 21539.16 + (-3864.14x) \).

In case of Shree Cement eqn. comes to \( Y_c = 9876.09 + (1074.50x) \)

In case of India Cement eqn. comes to \( Y_c = 15353.89 + (5164.32x) \)

To test the significance between the actual values and the trend values of working capital of cement companies (under study) Chi-square test has been applied. The calculated values of chi-square in selected cement companies are shown in the table 4.9.
Table 4.9
Chi-square Test of Working Capital of Cement Industry in India
for the years from 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>634.50</td>
<td>58.51</td>
<td>1186.95</td>
<td>27.77</td>
<td>9.08</td>
</tr>
<tr>
<td>2004-05</td>
<td>873.01</td>
<td>10.75</td>
<td>1555.79</td>
<td>12.25</td>
<td>188.00</td>
</tr>
<tr>
<td>2005-06</td>
<td>144.17</td>
<td>352.07</td>
<td>0.04</td>
<td>0.13</td>
<td>175.63</td>
</tr>
<tr>
<td>2006-07</td>
<td>105.44</td>
<td>746.80</td>
<td>1288.39</td>
<td>773.81</td>
<td>0.01</td>
</tr>
<tr>
<td>2007-08</td>
<td>37.67</td>
<td>-7362.42</td>
<td>1910.47</td>
<td>360.79</td>
<td>9.17</td>
</tr>
<tr>
<td>Sum of Chi-square</td>
<td>1794.80</td>
<td>-6194.29</td>
<td>5941.64</td>
<td>1174.76</td>
<td>381.88</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix-I.

In ACC, Mangalam, Gujarat Ambuja, Shree and India Cement the calculated value of Chi-square is 1794.80, -6194.29, 5941.64, 1174.76 and 381.88 respectively, while the table value of Chi-square at 5% level of significance is 1.145. As the calculated value of Chi-Square is more than the table value it shows that the difference between the actual value and the trend values of current assets in all the companies were significant except Managalam. Mangalam calculated value is less than table value so the difference between the actual value and the trends values is insignificant.

Net Working Capital to Current Liabilities (Net working Capital/Current Liabilities)-- it shows the financing mix that is used for financing the current assets. It also reveals the equity and long-term vis-à-vis current liability financed portion of current assets. From the liquidity angle it throws light on the equity and long-term financed asset cushion for a given amount of current liabilities.
Net Working Capital to Current Liabilities of Selected Cement Companies has been presented in Table 4.10

Table 4.10
Net Working Capital to Current Liabilities of Cement Industry in India for the years 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0.47</td>
<td>2.09</td>
<td>2.16</td>
<td>1.36</td>
<td>1.25</td>
<td>1.46</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.92</td>
<td>1.45</td>
<td>2.79</td>
<td>1.48</td>
<td>2.64</td>
<td>1.86</td>
</tr>
<tr>
<td>2005-06</td>
<td>0.77</td>
<td>1.32</td>
<td>1.32</td>
<td>1.67</td>
<td>1.96</td>
<td>1.41</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.56</td>
<td>0.56</td>
<td>1.21</td>
<td>2.17</td>
<td>2.66</td>
<td>1.43</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.55</td>
<td>-0.20</td>
<td>0.29</td>
<td>1.66</td>
<td>2.91</td>
<td>1.04</td>
</tr>
<tr>
<td>Company Average</td>
<td>0.65</td>
<td>1.05</td>
<td>1.55</td>
<td>1.67</td>
<td>2.28</td>
<td>1.44</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix.

The Net Working Capital to Current Liabilities of all the cement companies shows fluctuating trend throughout the study period except Mangalam which shows decreasing trend. The minimum Net Working Capital to current liabilities in ACC is 0.47 (2003-04), Mangalam is -0.20 (2007-08), Gujarat Ambuja is 0.29 (2007-08), Shree Cement is 1.36 (2003-04) and in India cement is 1.25 (2003-04). The maximum Net Working Capital to current liabilities in ACC is 0.92 (2004-05), Mangalam is 2.09 (2003-04), Gujarat Ambuja is 2.79 (2004-05), and Shree Cement is 2.17 (2006-07) and in India Cement is 2.91 (2007-08).

**Working Capital Turnover (sales/net working capital):**

A close relationship exists between sales and net working capital. With any increase in sales volume, there is a corresponding increase in the working capital. Therefore, a
good amount of net working capital may be needed to support the increase in sales. The ratio helps to assess the degree of efficiency in the use of short-term funds for generating sales.

In order to test the efficiency with which working capital is utilized the working capital turnover is calculated. It is calculated by dividing the net working capital to sales indicating whether a business is being operated with a small or large amount of net working capital is relation to the cost of sales.

A high working capital turnover may be the result of favourable turnover of inventories and receivables or may reflect an inadequacy of working capital. On the other hand, a low turnover of working capital may be an outcome of the excess of working capital of slow turnover of inventories and receivables or a large cash balance or investment of working capital in the form of temporary investment.

However, a very high turnover of working capital might indicate that the working capital is insufficient for the given volume of business. A very low working capital turnover ratio should clearly be taken to mean that the capital is not sufficiently active. So we can say a high ratio indicates that management is aggressive in its use of working capital. However, an excessive high ratio indicates poor working capital management may be inadequate at present sales.

Working Capital Turnover of the Selected Cement Companies has been shown in Table 4.11.
Table 4.11
Working Capital Turnover of Selected Cement Companies
for the years from 2003-04 to 2007-08

<table>
<thead>
<tr>
<th>Year</th>
<th>ACC</th>
<th>Mangalam</th>
<th>Gujarat Ambuja</th>
<th>Shree Cement</th>
<th>India Cement</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>6.46</td>
<td>5.44</td>
<td>3.40</td>
<td>2.88</td>
<td>3.78</td>
<td>4.39</td>
</tr>
<tr>
<td>2004-05</td>
<td>4.85</td>
<td>6.00</td>
<td>3.12</td>
<td>3.46</td>
<td>1.73</td>
<td>3.83</td>
</tr>
<tr>
<td>2005-06</td>
<td>5.99</td>
<td>6.46</td>
<td>4.93</td>
<td>3.73</td>
<td>2.11</td>
<td>4.64</td>
</tr>
<tr>
<td>2006-07</td>
<td>7.34</td>
<td>12.43</td>
<td>4.98</td>
<td>2.95</td>
<td>1.46</td>
<td>5.83</td>
</tr>
<tr>
<td>2007-08</td>
<td>8.03</td>
<td>-14.43</td>
<td>14.62</td>
<td>4.82</td>
<td>1.20</td>
<td>2.85</td>
</tr>
<tr>
<td>Company Average</td>
<td>6.53</td>
<td>3.18</td>
<td>6.21</td>
<td>3.57</td>
<td>2.06</td>
<td>4.31</td>
</tr>
</tbody>
</table>

Source: Based on data provided in Appendix-I.

The working capital turnover of all the cement companies shows fluctuating trend throughout the study period. The minimum working capital turnover in ACC is 4.85 (2004-05), Mangalam is -14.43 (2003-04), Gujarat Ambuja is 3.12 (2004-05), Shree Cement is 2.88 (2003-04) and in India Cement is 1.20 (2007-08). The maximum working capital turnover in ACC is 8.03 (2007-08), Mangalam is 12.43 (2006-07), Gujarat Ambuja is 14.62 (2007-08), and Shree Cement is 4.82 (2007-08) and in India Cement is 3.78 (2003-04).
References:


Yair E Orgler, Cash Management; Methods and Models (Belmont, California: Wordsworth Publishing company Inc., 1970).


