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# CASH MANAGEMENT OF PUBLIC SECTOR UNDERTAKING

## A CASE STUDY OF MADHYA PRADESH STATE ELECTRICITY BOARD (MPSEB)

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*CASH* management involves the efficient collection and disbursement of cash and any temporary investment of cash while it resides with the firm. Cash management includes management of marketable securities also, because in modern terminology money comprises marketable securities and actual cash in hand or in a bank. Thus cash management is concerned with the management of cash inflow and cash outflow of the business concern, cash flows within the business concern and cash balance held by the business concern at any point of time. Management of cash is of paramount importance for the overall activities of a business concern to survive and for smooth running.

During the study period it was found that there was high volatility in total cash payment and cash ratio. High cash turnover ratio indicates that board has better utilization of cash resources and better financial management of cash but this table indicates that only for few years it had high ratio and during most of the study period it had low ratio which is not worthwhile for the board. The average annual growth of the total cash payment was 79.55% while the average cash growth was (-) 17.22% which indicates dangerous cash management by the board. The cash management position of MPSEB is not satisfactory because it has not maintained adequate amount of cash in hand and cash at bank.

***Key Words: Daily Cash Payments, Basic Defensive Internal, Super Quick, Debt Services.***

## Introduction

Cash is the most crucial component of the working capital of a firm. Its effective management is the key determinant of efficient working capital management. It is the most unproductive of all assets while fixed assets like machinery and plant, etc., and current assets such as inventory help the business in increasing its earning capacity, cash in hand does not add anything to the business concern. "Managers, therefore spend much time and effort in planning cash receipts and disbursements to ensure a desirable level of cash and they take great care to prevent cash from being lost, stolen or misused." (Lester, 1976) Today, the financial manager's prime function is not only to manage cash resources of the firm efficiently but also at the same time he has to set a minimum level of cash so that the firm's liquidity is not jeopardized and the firm's profitability is maximized (Srivastava, 1979).

Cash management is one of the key components of working capital management. The term cash management is usually used for management of both cash and near cash assets. Although the concept of cash management is not new, it has assumed greater importance in modern business due to significant changes in the conduct of business and ever increasing difficulties in the cost of borrowings. It is the duty of the finance manager to provide adequate cash to all segments of the business concerns. He also has to ensure that no funds are blocked in the idle cash since this will involve cost in terms of interest to the business organization.

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Cash is one of the important ingredients of working capital of a business. It is both the beginning and end of the working capital cycle, irrespective of its length and breath. From the point of liquidity, cash is the most liquid of all current assets. A firm should keep required amount of cash to protect itself from the problems of liquidity and prevent disruptions in the process of production. The importance of cash in an organization hardly requires any emphasis. According to Walter "A business enterprise should keep its cash and near cash reserves below the requirements of one month's normal expenditure. If cash and near cash reserves happen to be more than this limit, it should be taken for granted that excessive cash is being kept by the firm" (Walter, 1957). Cash is the life blood of a business enterprise and its steady and healthy circulation throughout the entire business operation is the basis of business solvency.

## Justification of the Study

Cash management involves the efficient collection and disbursement of the cash. "Cash management includes management of marketable securities also, because in modern terminology money comprises marketable securities and actual cash in hand or in a bank" (Singhvi, 1970). Thus cash management is concerned with the management of cash inflow and cash outflow of the business concern, cash flows within the business concern and cash balance held by the business concern at any point of time. Management of cash has the paramount importance for the overall activities of a business concern to survive and for smooth running.

An effort has been made in this article to make an in-depth study of MPSEB in respect of its performance and its cash management. The findings may help scholars and researchers to develop new ideas, techniques and methods in respects of the management of cash.

## Objectives of the Study

The following are the main objectives of our study:

i. To analyze the short term solvency, utilization of cash resources and capacity of financial management of MPSEB.

ii. To analyze that, the ability of financial obligation is dependent on the ability to generate daily cash requirement of MPSEB.

iii. To analyze the long term solvency of cash to debt services ratio of MPSEB.

## Hypothesis of this Study

This study has following null hypothesis:

- Cash management position of MPSEB is not satisfactory during the study period.

## Limitation of the Study

i. The study is limited to 10 years (1995-96 to 2004-05) performance of the company.

ii. The data used in this study have been taken from published annual reports only. As the requirement and necessity some data are grouped and sub grouped.

iii. For making a clear cut opinion, ratio analysis techniques of financial management has been used.

## Methodology of the Study

The data of MPSEB for the years (1995-96 to 2004-05) used in this study have been taken from secondary sources e.g., Published annual reports of the company. Editing, classification and tabulation of the financial data, which has been collected from the above-mentioned sources, have been done as per the requirement of the study. For evaluating the performance and position of cash in this study the technique of ratio analysis has been used.

For assessing the behavior of data statistical techniques have been also used e.g. mean, growth rate, coefficient of correlation.

## Analysis of Cash Management of MPSEB

The cash position of MPSEB has been analyzed by ratio analysis technique. In these techniques we have used various ratios for judging the short term solvency, cash efficiency, capacity of daily payment of cash and long term solvency. In this light we have to calculate the following ratios.

1. Cash turnover ratio
2. Daily cash payment ratio
3. Basic defensive internal ratio
4. Cash position ratio
5. Absolute liquid or super quick ratio
6. Cash to debt service ratio

**1. Cash Turnover (CT) Ratio:** This ratio is useful to find out efficiency of cash utilization of cash sources. This ratio is to be calculated as

$$= \frac{\text{Total cash payment (including payment by cheques)}}{\text{Cash and bank balance including marketable securities}}$$

**Table 1: Statement of Cash Turnover Ratio**

*(Rs. in Crores)*

| **Year** | **Total Payment of Cash including Cheques (Rs.)** | **Cash (Rs.)** | **CT Ratio** |
|---|---|---|---|
| 1995-96 | 4356.60 | 81.66 | 53.33 |
| 1996-97 | 5353.96 | 43.22 | 123.87 |
| 1997-98 | 5914.28 | 66.11 | 89.46 |
| 1998-99 | 6584.23 | 36.16 | 182.33 |
| 1999-00 | 7718.16 | 108.62 | 71.05 |
| 2000-01 | 7946.79 | 179.15 | 44.35 |
| 2001-02 | 7091.42 | 38.64 | 183.52 |
| 2002-03 | 6116.86 | 29.14 | 209.90 |
| 2003-04 | 6928.02 | 155.22 | 44.03 |
| 2004-05 | 7822.50 | 67.60 | 115.70 |
| Mean | 6583.28 | 80.55 | |
| Growth Rate | 79.55% | -17.22% | |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** The above stated Table 1 indicates the relationship between total payment of cash to cash, bank and marketable securities. In this study it has been seen that the ratio of cash turnover in the year 1995-1996 was 53.33 which increased to 123.87 in the year1996-1997, there after it decreased to 89.46 in the year 1997-1998. Again the ratio increased to182.33 in the year 1998-1999, there after there was decrease in ratio to 71.05 in the year 1999-2000. But in the year 2000-2001 it further decreased to 44.35. In the year 2001-2002 and 2002-2003 the ratio increased to 183.52 and 209.90 respectively. In the year 2003-2004 it again decreased to 44.03. Then in the year 2004-05 the ratio increased to 115.70. Hence, it has been seen that there was high variance in the ratios. The mean position of total payment of cash was 6583.28 crores and its growth rate was 79.55% while the cash position mean was 80.55 and its growth rate was (-) 17.22% (percent) as compared to total payment of cash.

**2. Daily Cash Payment (DCP) Ratio:** This ratio is also useful to find out payment capacity of per day whether the company or corporation is able to make daily payment or not. A business unit should compare its own past records of cash balances and competitors in the industry to hold cash balances." Management need not hold huge amount of cash in reservoirs if production cycle is running smoothly. However, if the cycle is disrupted at any stage for some reason or the other" (Singhvi, 1970).

$$= \frac{\text{Cash and bank balances}}{\text{Average daily cash payment}} \text{ or } \frac{\text{Days in cash}}{\text{Cash turnover ratio}}$$

**Table 2: Statement of Daily Cash Payment Ratio**

*(Rs. in Crores)*

| Year | Days in Year | Cash Turnover | DCP Ratio |
|---|---|---|---|
| 1995-96 | 365 | 53.33 | 6.84 |
| 1996-97 | 365 | 123.87 | 2.94 |
| 1997-98 | 365 | 89.46 | 4.08 |
| 1998-99 | 365 | 182.33 | 2.00 |
| 1999-00 | 365 | 71.05 | 5.14 |
| 2000-01 | 365 | 44.35 | 8.29 |
| 2001-02 | 365 | 183.52 | 1.98 |
| 2002-03 | 365 | 209.90 | 1.73 |
| 2003-04 | 365 | 44.63 | 8.17 |
| 2004-05 | 365 | 115.70 | 3.15 |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** The above stated table no. 2 indicates the statement of daily cash payment ratio. In this study it has been seen that the ratio in the year 1995-1996 was 6.84 which has decreased to 2.94 in the year 1996-1997, thereafter it again increased to 4.08 in the year 1997-1998. Again the ratio decreased to 2.00 in the year 1998-1999, thereafter it increased to 5.14 and 8.29 in the year 1999-2000 and 2000-2001 respectively. But in the year 2001-2002 and 2002-2003 the ratio decreased to 1.98 and 1.73. In the year 2003-2004 it again increased to 8.17. Then in the year 2004-05 the ratio decreased to 3.15. Hence, it has been seen that there was high variance in the ratios.

**3. Basic Defensive Interval (BDI) Ratio:** This ratio is also helpful to judge the ability to meet current financial obligation. It depends upon the ability to generate daily cash requirement of a firm.

Defensive internal ratio is a measure of liquidity by comparing the liquid assets against projected daily cash requirement.

Liquid asset = All current assets except stock and prepaid expenses

$$\text{Projected daily cash requirement} = \frac{\text{Projected cash operating expenditure}}{\text{No. of days in the year (365 days)}}$$

**Table 3: Statement of Basic Defensive Interval Ratio**

*(Rs. in Crores)*

| Year | Liquid Assets (Rs.) | Projected Daily Cash Requirement | BDI Ratio |
|---|---|---|---|
| 1995-96 | 2069.75 | 11.93 | 173.49 |
| 1996-97 | 2083.95 | 14.66 | 142.15 |
| 1997-98 | 2189.00 | 16.20 | 135.12 |
| 1998-99 | 2362.62 | 18.00 | 131.25 |
| 1999-00 | 3654.93 | 21.14 | 170.29 |
| 2000-01 | 3856.78 | 21.77 | 177.16 |
| 2001-02 | 2755.49 | 19.42 | 141.88 |
| 2002-03 | 3468.69 | 16.75 | 207.85 |
| 2003-04 | 3035.96 | 18.98 | 159.95 |
| 2004-05 | 4561.83 | 21.43 | 212.87 |
| Mean | 3103.9 | 18.03 | |
| Growth Rate | 120.40% | 79.63% | |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** The above stated Table 3 indicates the relationship between liquid assets to projected daily cash requirement. In this study it has been seen that the ratio in the year 1995-1996 was 173.49 which has decreased to 142.15 in the year 1996-1997, there after it again decreased to 135.12 in the year 1997-1998. Again the ratio decreased to 131.25 in the year 1998-1999, thereafter it increased to 170.29 and 177.16 in the year 1999-2000 and 2000-2001 respectively. But in the year 2001-2002 the ratio decreased to141.88. In the year 2002-2003 it again increased to 207.85 then in the year 2003-2004 the ratio decreased to159.95. Then in the year 2004-05 the ratio increased to 212.87 as compared to liquid assets. Hence, it has been seen that there was high variance in liquid assets position as compared to projected daily cash requirement. The mean position of liquid assets was 3103.9 crores and its growth rate was 120.40% while the average mean position of projected daily cash requirement was 18.03 and its growth rate was 79.63% as compared to liquid assets.

**4. Cash Position (CP) Ratio:** It is helpful to judge the short term solvency position of MPSEB and also to find out the cash capacity of financial management. It has considered only current assets. In a comfortable financed business, cash probably will not run less than 5 to 10 percent of the current assets (Singhvi, 1970).

$$= \frac{\text{Current assets}}{\text{Cash at bank in hand}}$$

**Table 4: Statement of Cash Position Ratio**

*(Rs. in Crores)*

| Year | Current Assets (Rs.) | Cash (Rs.) | CP Ratio |
|---|---|---|---|
| 1995-96 | 2475.68 | 81.66 | 30.30 |
| 1996-97 | 2537.52 | 43.22 | 58.71 |
| 1997-98 | 2655.54 | 66.11 | 40.16 |
| 1998-99 | 2835.93 | 36.16 | 78.42 |
| 1999-00 | 4071.64 | 108.62 | 37.48 |
| 2000-01 | 4280.80 | 179.15 | 23.89 |
| 2001-02 | 3096.87 | 38.64 | 80.14 |
| 2002-03 | 3844.79 | 29.14 | 131.94 |
| 2003-04 | 3542.16 | 155.22 | 22.82 |
| 2004-05 | 5209.93 | 67.60 | 77.06 |
| Mean | 3455.09 | 80.55 | |
| Growth Rate | 110.44% | -17.22% | |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** As in above Table 4 the relationship between current assets to cash is indicated. It was found that in the year 1995-1996 the ratio was 30.30 which increased to 58.71 in the year 1996-1997 and in the year1997-1998 the ratio decreased to 40.16. There after it has been seen that in the year 1998-1999 the ratio increased to 78.42. But in the year 1999-2000 and 2000-2001 the ratio decreased to 37.48 and 23.89 respectively. Again it has been seen that there was increase in the ratio in the year of 2001-2002 to 80.14 and in the year 2002-2003 the ratio was 131.94, thereafter it decreased to 22.82 in the year 2003-2004. In the year 2004-2005 the ratio again increased to 77.06. Hence, we see that there was much variance during the study period. The average mean position of current assets was 3455.09 crores and its annual growth rate was 110.44% while the average mean position of cash was 80.55 crores and its growth rate was (-)17.22%.

**5. Absolute Liquid (AL) or Super Quick (SQ) Ratio:** It is the ratio of absolute liquid assets to quick liabilities however, for calculation purpose; it is taken as ratio of absolute quick assets to current liabilities. This ratio is useful for finding out hard cash payment capacity of their current liabilities which means that how much a firm can immediately pay their quick liabilities in a short time period. Higher ratio is more beneficial for creditors or short term borrowers. An absolute liquid asset includes cash in hand, cash at bank and short term or temporary investment.

$$= \frac{\text{Absolute liquid assets}}{\text{Current liabilities}}$$

**Table 5: Statement of Absolute Liquid or Super Quick Ratio**

*(Rs. in Crores)*

| Year | Cash (Rs.) | Current Liabilities (Rs.) | AL Ratio |
|---|---|---|---|
| 1995-96 | 81.66 | 1976.75 | 0.04 |
| 1996-97 | 43.22 | 2289.57 | 0.02 |
| 1997-98 | 66.11 | 2715.03 | 0.02 |
| 1998-99 | 36.16 | 3622.34 | 0.01 |
| 1999-00 | 108.62 | 5316.46 | 0.02 |
| 2000-01 | 179.15 | 6536.03 | 0.03 |
| 2001-02 | 38.64 | 5702.46 | 0.01 |
| 2002-03 | 29.14 | 6140.11 | 0.01 |
| 2003-04 | 155.22 | 7568.97 | 0.02 |
| 2004-05 | 67.60 | 5145.50 | 0.01 |
| Mean | 80.55 | 4701.32 | 0.02 |
| Growth Rate | -17.22% | 160.30% | |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** In above Table 5 the relationship between cash to current liabilities is indicated in which it has been seen that in the year 1995-1996 the ratio was 0.04 of cash to current liabilities in MPSEB which then decreased to 0.02 in the year 1996-1997 and remained constant till 1997-1998. But in the year 1998-1999 it decreased to 1% and then it again increased to 0.02 and 0.03 in the year of 1999-2000 and 2000-2001 in respective years. In the year 2001-2002 and 2002-2003 it decreased to 1% then it increased in the year 2003-2004 to 0.02. In the year 2004-2005 it decreased to 1%. Hence, we can see that there was less variance in cash and current liabilities ratio. The average mean of cash was 80.55 crores and its growth rate was (-) 17.22% while the average mean of current liabilities was 4701.32 crores while its growth rate was 160.30% as compared to cash balance.

**6. Cash to Debt Service (CDS) Ratio:** This ratio is helpful to judge long term solvency of the business; it has to develop confidence among lenders that firm is able to make payment of principal amount and interest. It also realizes confidence among creditors that firm has been earning adequate amount of profit.

$$= \frac{\text{Cash}}{\text{Borrowings + interest}}$$

Or

$$= \frac{\text{Cash available}}{\text{Periodic cash payment of debt (principal + interest)}}$$

**Table 6: Statement of Cash to Debt Service Ratio**

*(Rs. in Crores)*

| Year | Cash (Rs.) | Long-term Debt including Interest (Rs.) | CDS Ratio |
|---|---|---|---|
| 1995-96 | 81.66 | 4698.77 | 0.02 |
| 1996-97 | 43.22 | 4856.59 | 0.01 |
| 1997-98 | 66.11 | 5189.24 | 0.01 |
| 1998-99 | 36.16 | 6336.87 | 0.01 |
| 1999-00 | 108.62 | 7625.59 | 0.01 |
| 2000-01 | 179.15 | 8294.64 | 0.02 |
| 2001-02 | 38.64 | 7543.47 | 0.01 |
| 2002-03 | 29.14 | 7348.10 | 0.00 |
| 2003-04 | 155.22 | 8039.43 | 0.01 |
| 2004-05 | 67.60 | 5309.33 | 0.01 |
| Mean | 80.55 | 6523.80 | |
| Growth Rate | -17.22% | 12.99% | |

***Source: Compendium of Power Statistics of MPSEB from 1995-96 to 2004-05.***

**Interpretation:** The above stated Table 6 indicates the relationship between cash to long term debt including interest. In this study it has been seen that the cash position in the year 1995-1996 was 0.02 which has decreased by 1% in 1996-1997and remained constant till the year 1999-2000 after it again increased by 1% in the year 2000-2001. Again the cash position decreased to 0.01in the year 2001-2002. The cash position decreased and became 0.00 in the year 2002-2003. In the year 2003-2004 it again increased to 0.01 and remained constant till 2004-05. Hence, it has been seen that there was high variance in cash position as compared to long term debt including interest. The mean position of cash was 80.55 crores and its growth rate was (-) 17.22% while the average mean of long term debt including interest was 6523.80 crores and its growth rate was 12.99% as compared to cash balance.

## Findings and Conclusions

Table 1 is indicating cash turnover ratio which is to find out efficiency of cash utilization of cash resources. During the study period it is found that there was high volatility in total cash payment and cash ratio. High cash turnover ratio indicates that board has better utilization of cash resources and better financial management of cash but this table indicates that only for a few years it has high ratio and during most of the study period it had low ratio which is not worthwhile for the board. The average annual growth of the total cash payment was 79.55% while the average cash growth was (-) 17.22% which indicates dangerous cash management by the board. The cash management position of MPSEB is not satisfactory because it has not maintained adequate amount of cash in hand and cash at bank.

Table 2 indicates payment capacity of per day whether the corporation is able to make daily payment or not. Table 2 indicates high volatility in daily cash payment ratio. It has been seen that in the study period board is having highest daily cash payment during the 2000-01 i.e., 8.29 crores and lowest in the year 2002-03 i.e., 1.73 crores. It has high fluctuation in daily cash payment. Overall position of daily cash payment of MPSEB is not satisfactory because board is not having sufficient amount of cash for daily cash payment.

Table 3 indicates statement of basic defensive interval ratio. This ratio is also helpful in judging the ability to meet current financial obligation and measure the liquidity by comparing the liquid assets against projected daily cash requirement. The higher ratio means more safety of short term liability. It has been concluded that there is more fluctuation in liquid assets and projected daily cash requirement. The average annual growth rate of liquid assets is 120.40% while the projected daily cash requirement is 79.63% this shows that liquid assets has been increasing more as compared to projected daily cash requirement. Higher this ratio indicates more safety of short term liabilities; hence this ratio is also not satisfactory so that corporation feels to satisfy short term liabilities. Although liquid assets has been continuously increasing but short term liabilities has been increasing at a faster rate.

Table 4 indicates the cash position ratio. This ratio is helpful to judge short term solvency of MPSEB. The cash position of MPSEB is not satisfactory because in the current assets the cash position stands less than 5% which is not sufficient. It must be at least near to 8% to 10%. The short term solvency of MPSEB is not satisfactory due to inadequate amount of cash in their current assets.

Table 5 indicates absolute liquid or super quick ratio. In this table it was found that current liabilities are not secured in the view of hard cash payment. Absolute liquid assets having average annual growth (-)17.22% while the annual growth of current liabilities was 160.3% which indicates that cash position has been decreasing while current liabilities is continuously increasing in same direction. The position of super quick ratio is also not satisfactory because absolute liquid assets like cash in hand, cash at bank and short term investment are not sufficient for payment of current liabilities during the study period.

Table 6 indicates long term solvency of the business. Cash to debt service is also not satisfactory because the board does not have sufficient amount of cash during the study period to pay long term loans and interest during the study period. This situation does not develop confidence among lenders of the board because board does not have sufficient amount of cash to make the payment of principal amount and interest.

This conclusion is also examined by research tool. In this regard we have taken mean, correlation; student t test for significance of the hypothesis i.e. cash management of MPSEB is not satisfactory.

Where,

$r = +0.48 \qquad n = 10$

The coefficient of correlation between current assets and cash position was +0.48 this indicates there is a low positive relationship among them.

The significance of r value is examined by t student test. The null hypothesis is that the cash management position of MPSEB is not satisfactory.

$$t = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

$t = 1.54$, $t005 = 3.35$

Calculated value is 1.54 and table value i.e., t value at 5% level of significance is 3.35. It has been seen that table value is more than calculated value. Hence null hypothesis is accepted that cash management position of MPSEB is not satisfactory.

## Sugessions

On the basis of findings we offer following suggestions:

1. MPSEB should curtail their cash expenditure and increase their cash in hand, cash at bank, and marketable securities.
2. Board should try to increase their liquid assets and decrease current liabilities so that firm can easily meet out the current liabilities. At present the current liabilities or short term liabilities are not secured.
3. Board should not only increase cash in hand, cash at bank, and marketable securities but also increase other current assets for payment of short term liability.
4. Board should curtail their long term borrowings from short term funds so that financial obligation may be managed properly.
5. MPSEB should try to maintain adequate amount of cash in hand and cash at bank among total current assets so that liquidity could be maintained.

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