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Working Capital Management in Sugar Mills in Chittoor District of Andhra Pradesh

1. INTRODUCTION
Sugar industry is one of the major agro-based industries in India, which has been instrumental in mobilization of resources, generation of employment opportunities, income generation and providing social infrastructure in rural areas. In the global context, Indian sugar industry ranks 5th amongst the sugar producing countries in the world. Sugar mills in co-operative, private and public sectors have been instrumental in initiating a number of entrepreneurial activities in rural India.

Financial management is directly concerned with the overall management of an enterprise and it involves taking policy decisions related to the line of business, size of the firm, varieties of equipments used, extent of debt, liquidity etc., which in turn determines the level of profitability. Therefore, financial management is crucial and significant for every industry.

Every firm needs working capital irrespective of their nature. Manufacturing organization require much working capital than the trading organization. Efficient management of working capital is important for the successful of an enterprise, where as inefficient management of working capital may caused to various problems such as reducing of liquidity position, lowering of profits and utility that leads to wending of company. Therefore, adequate working capital is required for uninterrupted operation of an organization. Need for the working capital depends on operating cycle.

2. STATEMENT OF THE PROBLEM
Sugar industry faces many problems such as fluctuations in the production due to inadequate availability of sugarcane and power failure. The profitability of the sugar industry comparatively very low because of high cost of production. In fact, these units are incurring losses continuously. The industry has failed to retain more profits, consequently been forced to define more on external sources. That indicates unbalancing capital structure of the sugar mills is directly reflecting on the maintenance of the liquidity position.

3. NEED FOR THE STUDY
The sugar industry has been facing the problems like improper supply of raw material, low crushing capacity, limited financial resources, systematic working capital management, lack of utilization of technology etc. To cope with the present day situations a dominant understanding of financial management is necessary to utilize the available limited resources, mobilization of resources efficiently and effectively. Hence, it is necessary to study the working capital management practices in various sugar mills. To analyse the working capital management, the present study focused on Sri Venkateshwara Co-operative Sugar Factory Limited and Sugar Sagar & Allied Products Limited in Chittoor district of Andhra Pradesh.

4. OBJECTIVES
- To analyse the working capital structure in select sugar mills in Chittoor district.
- To examine the status and structure of Current Assets and Current Liabilities.
- To evaluate the operating cycle.

5. METHODOLOGY
The present study is confined to two sugar mills in Chittoor district of Andhra Pradesh. The two sugar mills namely Sugar Sagar & Allied Products Limited (SSAPL) located at Nellore and Sri Venkateshwara Co-operative Sugar Factory Limited (SVCSFL) located at Gudalurmandem. The present study covers important aspects of working capital management like current assets, current liabilities, operating cycle etc.

The present study mainly depends upon secondary data collected from the annual reports of Sugar Sagar & Allied Products Limited and Sri Venkateshwara Co-operative Sugar Factory Limited. The data has been analyzed with the help of financial and statistical tools like ratio analysis, averages and other statistical tools Graphs and diagrams are presented to illustrate the facts and figures.

6. ANALYSIS AND INTERPRETATION
In order to maintain flows of revenue from operations, every firm needs certain amount of current assets. For e.g. Cash is required either pay for expenses or to meet obligations for services received of goods purchased by a firm. Similarly inventories are required to provide the link between production and sale. Accounts receivable have raised when goods are sold on credit etc. Working capital management is concerned with that arise in attempting to manage the current assets, the current liabilities and the inter relation ship that exists between these.

4.1 STRUCTURE OF WORKING CAPITAL
The various components of working capital viz., cash, debits, inventories and current assets. The structure of working capital of two sugar mills is presented in Table 1.

It can be noticed from the table 1 that the investment in inventory is playing a dominant role in the total current assets of Sri Venkateshwara Co-operative Sugar Factory Limited. On an average the company proportion of inventory to its current assets stood at 67.64 per cent. Other current assets are playing next role, its proportion in total assets have an average of 25.41 per cent. The proportion of debits stood at 6.87 per cent on an average during the study period. The share of cash is having lesser proportion which had an average around 5 per cent. In Sri Venkateshwara Co-Operative Sugar Factory Limited huge amount of funds were blocked in inventory that lead to low liquidity position and lower quick ratio.
In the case of Sagar Sugars and Allied Products Limited, proportion of inventory to the total current assets is 6.4 per cent during the initial period of the company i.e., 2001-02, it increased 39.4 per cent during 2005-06 later on it declined. The average inventory share in the current assets is 38.25 per cent for the study period. Debtors occupied an important role, it also constitutes around 32.66 per cent towards current assets. Its proportion to total current assets varies between 15.7 per cent and 71.3 per cent during the study period. Other current assets also playing an important role its proportion to current assets was between 11.2 per cent to 51.2 per cent. The share of other assets stood at 29.32 per cent on an average during the study period. The proportion of cash is around 6.5 per cent on an average during the study period.

6.2 FINANCING OF WORKING CAPITAL
Finance of working capital indicates whether a firm is cautious or offensive in raising loans particularly for day-to-day transactions. Financing of working capital in SycsFL and SSAPL is shown in Table 2.

It is evident from Table 7 that the financing of working capital in Sri Venkateswara Co-Operative Sugar Factory Limited for the study period. The above table reveals that net working capital of the SV Co-operative sugar mill is negative during 2003-04 and 2004-05. It means that not only the entire amount of current assets but a portion of fixed assets also financed by the current liabilities. In the years of the study period the net working capital is positive but not satisfactory. The company's working capital financing policy was highly aggressive causing poor short term solvency. The problem was so severe during the two years because of negative net working capital. During the study period the net working capital not showed constant growth. The percentage of net working capital to the current assets varies between 4.7 per cent and 60.89 per cent. The average of percentage of net working capital to the current assets stood at 28 per cent.

The net working capital and working capital finance of Sagar Sugars and Allied Products Limited for the study period 2002-03 to 2010-11 is shown in Table 2. The Table reveals that the amount of working capital showing increasing trend from 2002-03 to 2006-07, later on it shows declining trend for the rest of the study period. The current assets also showing same trend during the study period. Net working capital to the current assets varies between 31 per cent and 92 per cent. The average net working capital to the current assets stood at 56.44 per cent. The table is evident that during study period the financing policy of the firm was conservative. The company could not be maintained consistently for all the funds mobilized through long term sources were used in acquisition of fixed assets, at the same time some portion is invested in current assets also. The net working capital is having increasing trend about 1925.53 during 2006-07 later on it declined 98.11 over the base year. It means that the current assets are financed not only with the short term liabilities but also with long term sources during the study period.

6.3 CURRENT RATIO
Current ratio is the popular ratio which is used to judge the short-term financial strength of an enterprise. This ratio explains the relationship between current assets and current liabilities. Table 3 presents Current ratio of SycsFL and SSAPL.

The current ratio of Sri Venkateswara Co-Operative Sugar Factory Limited for the study period i.e., 2001-02 to 2010-2011. During the study period the current ratio is varied between 1.05 and 2.58. The average current ratio for the entire study period of 10 years is stood at 1.75:1, which indicates the firm's liquidity position is good. Except 2001-02, 2008-09 and 2009-2010 the current ratio is below the standard norm of 2:1. Hence, the firm's capacity towards payment of current liabilities is not satisfactory.

The current ratio of Sagar Sugars and Allied Products Limited varies between 1.44:1 and 5.06:1. The average of current ratio of study period stood at 2.84:1 that implies the liquidity portion of the firm is good because it is more than standard norm of 2:1. Current ratio during 2003-04, 2004-05, 2007-08 and 2010-11 is above the standard ratio and during other years it is below standard norm. The overall liquidity position of the firm is satisfactory.

6.4 WORKING CAPITAL TURNOVER RATIO
The efficiency with which the working capital is used to generate sales can be judged with the help of working capital turnover ratio. Table 4 presents working capital turnover ratio in SycsFL and SSAPL.

The working capital turnover ratio of SycsFL is not satisfactory through out the study period except few years, this ratio is less than 1 time, that indicates working capital was not adequate and sales volume have been accelerated in terms of working capital. The average of debtors turnover ratio for the entire study period is 0.8 times. This low ratio indicates excess of working capital or over-investment in current assets. The working capital turnover ratio varies between 0.37 times to 1.84 times.

It is evident from the Table 4 that SSAPL working capital turnover ratio varies between 0.63 times to 2.21 times through out the study period, it shows fluctuating trend. The average of stock turnover ratio in the case of SSAPL stands at 1.05 times. It indicates that the SSAPL could not accelerate the safe volume in proportion to the increased investment in working capital. On the other hand, it is evident that the excessive amount of working capital or particularly in non-operating inventory.

6.5 OPERATING CYCLE
The most important technique used in measuring the adequacy and efficiency of working capital is operating cycle. The operating cycle of SycsFL and SSAPL is presented in Table 5.

Table 5 reveals that inventory holding period is lengthy during the study period. The creditors payment period is satisfactory during the study period except in 2003-04 in Sri Venkateswara Sugar Factory limited.

The trend of operating cycle of Sagar Sugars and Allied Products Limited is depicted in Table 6. It can be noticed that the operating cycle shows negative values for 2002-03, 2004-05, 2008-09 and 2009-10, this is due to lengthy creditors payment period. It implies that the firm gets liberal credit from creditors. The creditors suppliers of raw material follows liberal credit policy towards SSAPL is well. For calculating operating cycle period for the SSAPL work in progress is not considered. However, operating cycle period varies from 13 days to 191 days. Such high operating cycle period indicates a slow turnover and the consequent liquidity problem and deferred payment to suppliers which is harmful to the company in terms of credit worthiness.

In Sagar Sugars and Allied Products Limited the operating cycle for few years shows negative figures because of it was newly formed company at the same time it get more credit on liberal basis from the creditors. To test the efficiency in managing the working capital position only by observing the changes in operating cycle is not good enough, the inference drawn with the help of that results is not impressive. Hence, trend in operating cycle and changes in working capital are studied to assess the efficiency of the management. It both operating cycle and gross working capital trend shows an increasing trend, that implies an inefficiency in the management in managing the working capital. Length of operating cycle indicates firm's inefficiency in acquiring raw materials, production process, demand forecasting and selection of a customer. On the other hand, increasing gross working capital indicates high opportunity cost of funds blocked up in various current assets.
### Table 1: Structure of Working Capital

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash (Rs. in lakhs)</th>
<th>Debtors (Rs. in lakhs)</th>
<th>Inventory (Rs. in lakhs)</th>
<th>Other Current Assets (Including Loans &amp; Advances)</th>
<th>Total (Rs. in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVCSFL</td>
<td>SSAPL</td>
<td>SVCSFL</td>
<td>SVCSFL</td>
<td>SSAPL</td>
</tr>
<tr>
<td>2001-2002</td>
<td>102.76</td>
<td>206.16</td>
<td>3715.75</td>
<td>489.66</td>
<td>3974.50</td>
</tr>
<tr>
<td>2002-2003</td>
<td>142.93</td>
<td>206.16</td>
<td>383.09</td>
<td>483.01</td>
<td>3257.85</td>
</tr>
<tr>
<td>2003-2004</td>
<td>9.21</td>
<td>193.87</td>
<td>426.38</td>
<td>483.01</td>
<td>3257.85</td>
</tr>
<tr>
<td>2004-2005</td>
<td>12.77</td>
<td>226.06</td>
<td>412.74</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2005-2006</td>
<td>218.00</td>
<td>426.38</td>
<td>403.22</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2006-2007</td>
<td>300.09</td>
<td>511.57</td>
<td>426.43</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2007-2008</td>
<td>226.54</td>
<td>243.27</td>
<td>3715.48</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2008-2009</td>
<td>335.11</td>
<td>214.04</td>
<td>2657.10</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2009-2010</td>
<td>320.27</td>
<td>266.96</td>
<td>161.53</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td>2010-2011</td>
<td>99.40</td>
<td>261.78</td>
<td>354.06</td>
<td>527.35</td>
<td>354.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>235.73</td>
<td>276.44</td>
<td>3715.48</td>
<td>527.35</td>
<td>354.78</td>
</tr>
</tbody>
</table>

Note: Figures given in parentheses indicates percentages.

### Table 2: Financing of Working Capital

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Assets (Rs. in lakhs)</th>
<th>Net Working Capital (Rs. in lakhs)</th>
<th>% of Net Working Capital to Current Assets</th>
<th>Trend compare to the base year 2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVCSFL</td>
<td>SSAPL</td>
<td>SVCSFL</td>
<td>SSAPL</td>
</tr>
<tr>
<td>2001-2002</td>
<td>3974.50</td>
<td>3165.26</td>
<td>91.13</td>
<td>100</td>
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<tr>
<td>2002-2003</td>
<td>3376.25</td>
<td>2439.94</td>
<td>91.13</td>
<td>56.62</td>
</tr>
<tr>
<td>2003-2004</td>
<td>1358.90</td>
<td>1230.96</td>
<td>91.13</td>
<td>100</td>
</tr>
<tr>
<td>2004-2005</td>
<td>3162.19</td>
<td>2972.92</td>
<td>91.13</td>
<td>56.62</td>
</tr>
<tr>
<td>2005-2006</td>
<td>9118.68</td>
<td>2056.12</td>
<td>91.13</td>
<td>100</td>
</tr>
<tr>
<td>2006-2007</td>
<td>15593.69</td>
<td>1730.90</td>
<td>91.13</td>
<td>56.62</td>
</tr>
<tr>
<td>2007-2008</td>
<td>15670.53</td>
<td>12988.73</td>
<td>91.13</td>
<td>100</td>
</tr>
<tr>
<td>2008-2009</td>
<td>16554.55</td>
<td>11711.62</td>
<td>91.13</td>
<td>56.62</td>
</tr>
<tr>
<td>2009-2010</td>
<td>12562.82</td>
<td>7327.81</td>
<td>91.13</td>
<td>100</td>
</tr>
<tr>
<td>2010-2011</td>
<td>12323.17</td>
<td>7419.84</td>
<td>91.13</td>
<td>56.62</td>
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<tr>
<td>Average</td>
<td>10826.44</td>
<td>7156.23</td>
<td>91.13</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: Figures given in brackets indicates negative values.

Source: Annual and Audit Reports of S.V. Sugars and Sugar Sagar (different issues).

### Table 3: Current Ratio in Sril Venkateswaras Co-operative Sugar Factory Limited and Surya Sugars and Allied Products Limited

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Assets (Rs. in lakhs)</th>
<th>Current Liabilities (Rs. in lakhs)</th>
<th>Current Ratio (CA/CL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVCSFL</td>
<td>SSAPL</td>
<td>SVCSFL</td>
</tr>
<tr>
<td>2001-2002</td>
<td>3974.50</td>
<td>1624.56</td>
<td>2.45</td>
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<td>2002-2003</td>
<td>3376.25</td>
<td>2055.29</td>
<td>1.64</td>
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<td>2003-2004</td>
<td>1358.90</td>
<td>689.02</td>
<td>1.97</td>
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<td>2004-2005</td>
<td>3162.19</td>
<td>656.08</td>
<td>4.82</td>
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<td>2005-2006</td>
<td>9118.68</td>
<td>5082.77</td>
<td>1.79</td>
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<td>2006-2007</td>
<td>15593.69</td>
<td>8462.79</td>
<td>1.84</td>
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<td>2007-2008</td>
<td>15670.53</td>
<td>2771.80</td>
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<td>2008-2009</td>
<td>12562.82</td>
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<td>0.60</td>
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<td>2009-2010</td>
<td>12323.17</td>
<td>7182.16</td>
<td>2.24</td>
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<tr>
<td>Average</td>
<td>10826.44</td>
<td>7156.23</td>
<td>1.55</td>
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Source: Annual and Audit Reports of S.V. Sugars and Sugar Sagar (different issues).
### Table 4: Working Capital Turnover Ratio in Sril Venkateswara Co-operative Sugar Factory Limited and Sugar Sugars and Allied Products Limited

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Rs. in lakhs)</th>
<th>Working capital (Rs. in lakhs)</th>
<th>Working Capital Turnover Ratio (in times)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVCSFL</td>
<td>SS&amp;APL</td>
<td>SVCSFL</td>
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<tr>
<td>2001-2002</td>
<td>2302.79</td>
<td>—</td>
<td>3974.50</td>
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<td>2002-2003</td>
<td>2261.82</td>
<td>452.79</td>
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<td>2003-2004</td>
<td>1874.95</td>
<td>3601.5</td>
<td>1661.24</td>
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<td>2004-2005</td>
<td>1283.28</td>
<td>11838.76</td>
<td>1836.96</td>
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<td>2005-2006</td>
<td>1088.78</td>
<td>25670.08</td>
<td>2922.68</td>
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<td>2006-2007</td>
<td>2862.68</td>
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<td>2007-2008</td>
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<td>2008-2009</td>
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<td>2009-2010</td>
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<td>2992.68</td>
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<td>2010-2011</td>
<td>2155.68</td>
<td>14939.61</td>
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<td>Average</td>
<td>2464.50</td>
<td>11137.70</td>
<td>3253.74</td>
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Source: Annual and Audit Reports of S.V.Sugars and Sugar Sugars (different issues).

### Table 5: Operating Cycle in Sril Venkateswara Co-operative Sugar Factory Limited & Sugar Sugars Limited

<table>
<thead>
<tr>
<th>Year</th>
<th>Inventory Holding Period(A)</th>
<th>Debtors collection Period(B)</th>
<th>Creditors Payment Period(C)</th>
<th>Total Operating Cycle (A+B-C)</th>
<th>Cash Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVCSFL</td>
<td>SS&amp;APL</td>
<td>SVCSFL</td>
<td>SS&amp;APL</td>
<td>SVCSFL</td>
</tr>
<tr>
<td>2001-2002</td>
<td>408.33</td>
<td>32.68</td>
<td>24.91</td>
<td>616.10</td>
<td>22.41</td>
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<td>2002-2003</td>
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<td>36.51</td>
<td>645.75</td>
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<td>2003-2004</td>
<td>358.82</td>
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<td>2004-2005</td>
<td>368.69</td>
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<td>45.40</td>
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<td>2005-2006</td>
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<td>81.39</td>
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<td>2006-2007</td>
<td>204.21</td>
<td>28.55</td>
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<td>2007-2008</td>
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<td>2008-2009</td>
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<td>2009-2010</td>
<td>175.48</td>
<td>174.54</td>
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<td>2010-2011</td>
<td>341.12</td>
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<td>183.88</td>
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<tr>
<td>Average</td>
<td>292.32</td>
<td>141.24</td>
<td>141.02</td>
<td>60.66</td>
<td>271.90</td>
</tr>
</tbody>
</table>

Note: Figures given in brackets indicates negative values.

Source: Annual and Audit Reports of S.V.Sugars and Sugar Sugars (different issues).