Annual Growth Rate Analysis of Select Private Sector Sugar Mills in Tamilnadu

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I. INTRODUCTION

Indian sugar industry is the second largest agro based processing industry after the cotton textile industry in the country. India is the second major sugar producing country in the world. Sugar industry occupies an important place among organized industries in India. This industry has been instrumental in resource mobilization, employment generation, income generation and creating social infrastructure in rural areas. Indeed, sugar industry has facilitated and accelerated the pace of rural industrialization.

At present, there are 553 registered sugar factories having capital investment of Rs.50,000 crores and annual production capacity of 180 lakh metric tones. The annual turnover of the industry is to the tune of Rs.25,000 crores. The central and state governments reserve annually Rs.2,500 crores as excise duty, purchase tax, and cess from sugar industry. More than 4.50 crore farmers are engaged in sugarcane cultivation and about 5 lakh rural people have been in direct employment in the industry. Sugar industry has brought about the socio-economic changes in rural India by way of facilitating entrepreneurial activities such as dairies, poultries, fruits and vegetables processing, and providing educational, health and credit facilities. The Sugar Industry at the Global as well as Indian scenario has been dealt with in detail in chapter three.

II. METHODOLOGY

SAMPLING DESIGN

The private sector sugar industry is purposively selected for the study considering its significant contribution to economic development. Out of 46 sugar mills in the Tamil Nadu of which 16 sugar mills are in cooperative sector, 3 in public sector and 27 in private sector. At present 44 sugar mills are functioning and the remaining 2 mills are not functioning. This study is limited to analysis of the profitability of private sector Sugar Mills in Tamil Nadu alone. The first step in selecting Sugar Mills has been the identification of universal set of 13 Sugar Mills compiled by Capital Line Database, of which only 10 Sugar Mills have a financial data available for a continuous period of 10 years, namely 2000-2001 to 2009-2010. The sample has been chosen based on purposive sampling from which all further selections have been made. A list of Sugar Mills that constitutes the population has been drawn from Capital line Database. Sugar Mills for which information relating to measure profitability was available for most of the years under study have been included in the sample. However, on scrutiny, it has been found that some Sugar Mills have data for entire study period, while others do not. The inclusion of Sugar Mills having data for a heterogeneous period would undoubtedly distort the sample. The study proceeded by filtering the data on the Sugar Mills based on the availability of the variable measurements.

Tamil Nadu has been one of the important sugar producing states in India, which contributes 12 percent to the national share of sugar production. The researcher has chosen the private sector Sugar Mills for the study as these Mills are the real growth drivers of rural economy. As such, the sample finally includes 10 Sugar Mills for which the much-needed financial information was available for the entire study period. The sample Sugar Mills selected for this study are categorized based on their cane crushing capacity.

1.6.1.1. CLASSIFICATION BY CRUSHING CAPACITY

The sample Sugar Mills that are selected for this study are categorized based on their cane crushing capacity. Those firms with the crushing capacity of less than 5000 Tonnes Crushing Capacity per Day (TCD) have been considered as Small Mills and those Mills with crushing capacity of 5000 TCD and above are categorized as Big Mills.

The following 10 Sugar Mills have been selected for the study by adopting purposive sampling.
### III. REVIEW OF LITERATURE

This chapter presents the review of literature relating to the study undertaken. The collection of reviews has been made from various studies undertaken by academicians, practitioners, researchers etc, from time to time. These reviews will enlighten the existing knowledge of the researcher. Besides this, the reviews of empirical studies explore the avenues for the present and future research related to the subject matter in order to understand the research problem. The earlier attempts made by the academicians, economist, socialist, etc, are needed to study. The review of literature guides the researchers for getting better understanding of methodology used, limitation of various available estimation procedures, databases, lucid interpretation and reconciliation of conflicting results. In case of conflicting and unexpected results, the researcher can take the advantage of knowledge of other researchers simply through the medium of their published works.

**Kuchhadiya and Shiyani and Parmer** (1988) observed an increasing trend in all the variables of sugarcane and sugar production in Gujarat and India as a whole, however the growth rates were comparatively higher in the state as compared to the country as a whole. Furthermore, they revealed that the variability of production was more than the variability in area and yield of sugarcane in Gujarat as well as in India and arrived at the conclusion that the cultivation of sugarcane crop in the Gujarat state was profitable to the farmers.

**Pandey and Bhat** (1988) observed “Financial ratio patterns in Indian manufacturing companies: A Multi-Variate Analysis”, have analyzed the financial ratio patterns in Indian manufacturing industries, by taking 612 companies from 1965-66 to 1984-85. They have identified three groups of ratio that contain the maximum amount of information about profitability and applied these ratios for the analysis of only manufacturing and processing industries. The three groups of financial ratios used were:

1. Return on Investment (profit before depreciation, interest and tax to total tangible assets),
2. Sales efficiency (profit after tax to net sales) and
3. Equity intensiveness (retained cash flow operation to tangible net worth).

Their study observed a declining trend in profitability in relation to sales, share holder equity and total investment, the impact of which increase with the increasing interest burden. It was also found that these three groups of ratios of profitability showed a consistent declining trend a cross most of the firms.

**Hinge, Pawar and Narwadkar** (1989) showed that the installed capacity was over utilized in the healthy class while in the remaining classes, it was under utilized due to inadequate cane supply which in turn influenced per unit cost of production. The gap between the highest and the lowest per quintal cost of manufacturing sugar was Rs.118.3 per sugar factory per annum value of sugar was the highest in the healthy class followed by medium and sick sugar factories. The sugar factories belonging to all the classes incurred loss. However, the loss was the highest in case of the sick sugar factories. The net loss of 100 tonnes of installed capacity was observed to be largely influenced by the magnitude of return from sugar production. In spite of the low per unit cost of production of sugar, the overhead costs, were relatively very high in the case of sick sugar factories. These sugar factories sustained heavy losses. The economics of scale entirely depend on the ability of sugar factories to fully utilize the installed capacity.

**Srinivasan** (2001) suggested in his study that the opportunity for using by-product molasses, which will be available in increasing quantities, for producing industrial and potable alcohol, alcohol-based chemicals and ethanol should be fully utilized. There is also scope for adopting co-generating system on ambitious lines for generating power and producing steam with the use of bagasse in high pressure boilers. Any surplus power can be sold to Tamil Nadu Electricity Board Grids at price advantages to both parties. These measures can help in reducing all manufacturing costs noticeably.

**Jadhaw** (2001) told that approximately 70 percent of total world sugar production is consumed domestically in the countries of origin and about 25 percent is exported to other countries. It has been found from the study that the cost reduction is a continuous process of follow up. It needs evaluation, redesigning and reevaluation. It is difficult to suggest “Universal Cost Reduction Techniques”. To achieve cost reduction, it is necessary to follow the below mentioned steps:

1. Establishing our own standards
2. Measuring performance against these standards and
3. Correcting deviation from standards.

It is also pointed out that the trust areas for cost reduction are improvement of efficiency and productivity along with reducing wastage of man-hour, materials and energy.
Pokharkar, Kasar and Shinde (2001) have pointed out that basic objective of the study, has been to examine low productivity of sugarcane and profitability for different planting types in different recovery zones in Maharashtra. It has been concluded that there is a need to popularize the improved crop production technology among the sugarcane growers. It will ensure reduction in a cost of cultivation on one hand and maintain the productivity of sugarcane. The input infrastructure has to be properly developed so that crucial inputs would be available to the growers in time to improve productivity.

Samar K. Datta (2002) computed and presented the growth rates of production and yield of sugarcane in his study, based on the source from Ministry of Agriculture, Government of India: Agriculture statistics at a glance, 2001. It has been found that the compound growth rate of production of sugarcane was only 2.70 and yield of sugarcane was only 0.82 during 1991-92 to 2000-01

Bhattachrayya (2002) discussed in his study, the negative export growth of sugar and molasses during 1995-96 to 1999-2000. It showed that it was 151.62 in 1995-96, 303.89 in 1996-97, 68.68 in 1997-98, 5,81 in 1998-99 and 8.74 in 1999-2000. However, during 1999-2000, more than 70 percent of India’s agricultural exports have shown positive growth trend, while only 27 percent of agro exports(including sugar and molasses), have shown a negative trend.

Rajesh Kumar and Misra (2002) In their study, an effort has been made to delineate sugar recovery zones in the country for the efficiency planning and development of Sugar Industry. The objectives of identifying different sugar recovery zones into emphasis that the crop area, quality and quantity of water, infrastructure, cane processing technology, sugarcane supply management, etc., are quite different in different areas of the country and require appropriate approaches. The study was concentrated on this 137 Districts and 5 Zones where demarcated. More than 85 percent sugar factories are located in these Districts. As the average recovery increase from Zone I to V, average during of crushing and factory productivity have also been found to increase thereby a close association of the factors with recovery.

From the above reviews of the empirical work, it is clear that different authors have approached analysis in different ways, in varying levels of analysis. These different approaches helped in the emergence of more and more literature on the subject over the time. It gives an idea on existence and diverse works on profitability. It has been noticed that the studies on profitability in various sector provide divergent result for the period of study. The main reason for diversion in the results is the difference in methods used for the measurement of factors like profitability, liquidity etc.

All the studies arrived at analyzing profitability performance with number of factors, it facilities to understand the various structural and non-structural variables that determine profitability. It has been notified that the study on the profitability analysis in various industries used the variables such as sellers concentration; advertising intensity, economies of scale leverage, profit variability, firm growth and size, similarly few studies approached which used the quantum of sales, return on investment and appropriation of profit on investment and appropriation of profit to explore the profit variation of the industries.

Survey of the existing literature indicates that no specific study has been carried on to examine the profitability analysis of selected private sector sugar mills in Tamil Nadu. The present study is an attempt towards this direction and therefore aims to enrich the literature of profitability relating to private sector sugar industry. Further the study is intended to employ different sophisticated statistical techniques, before qualifying and any aspects of profitability for wider acceptability and appreciation.

IV. COMPOUND ANNUAL GROWTH RATE ANALYSIS

The following pages bring out Compound Annual Growth Rate Analysis of selected Sugar Mills in Tamil Nadu.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Ratio</th>
<th>Kaveri</th>
<th>Aravakonam</th>
<th>Manjari</th>
<th>Kollam</th>
<th>Panipat</th>
<th>Passi</th>
<th>Poona</th>
<th>Raebareli</th>
<th>Satara</th>
<th>Shirdi</th>
<th>Kharadi</th>
<th>Total Amount</th>
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<tr>
<td>1</td>
<td>NWEOWS</td>
<td>0.27</td>
<td>0.32</td>
<td>0.21</td>
<td>0.588</td>
<td>0.318</td>
<td>0.61</td>
<td>0.328</td>
<td>0.277</td>
<td>0.165</td>
<td>0.267</td>
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<tr>
<td>2</td>
<td>INVEST</td>
<td>0.113</td>
<td>0.106</td>
<td>0.168</td>
<td>0.218</td>
<td>0.422</td>
<td>0.254</td>
<td>0.785</td>
<td>0.507</td>
<td>0.7</td>
<td>0.658</td>
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<tr>
<td>3</td>
<td>BDE</td>
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<td>0.137</td>
<td>0.127</td>
<td>0.227</td>
<td>0.306</td>
<td>0.228</td>
<td>0.215</td>
<td>0.412</td>
<td>0.141</td>
<td>0.112</td>
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<tr>
<td>4</td>
<td>NETPROF</td>
<td>0.117</td>
<td>0.293</td>
<td>0.037</td>
<td>0.445</td>
<td>0.113</td>
<td>0.009</td>
<td>0.112</td>
<td>0.042</td>
<td>0.122</td>
<td>0.146</td>
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<td>RESPROF</td>
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<td>0.215</td>
<td>0.247</td>
<td>0.254</td>
<td>0.127</td>
<td>0.407</td>
<td>0.132</td>
<td>0.469</td>
<td>-0.246</td>
<td>-0.233</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>RRTS</td>
<td>0.666</td>
<td>0.201</td>
<td>0.092</td>
<td>0.212</td>
<td>0.155</td>
<td>0.254</td>
<td>0.297</td>
<td>0.142</td>
<td>0.097</td>
<td>0.093</td>
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<td>7</td>
<td>STOCK</td>
<td>-1.922</td>
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<td>0.091</td>
<td>0.254</td>
<td>0.155</td>
<td>0.254</td>
<td>0.297</td>
<td>0.142</td>
<td>0.097</td>
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<td>0.115</td>
<td>0.011</td>
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<td>0.254</td>
<td>0.127</td>
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<td>SL</td>
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<td>0.312</td>
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<td>12</td>
<td>SUGAR</td>
<td>0.196</td>
<td>0.136</td>
<td>0.019</td>
<td>0.114</td>
<td>0.005</td>
<td>0.136</td>
<td>0.005</td>
<td>0.136</td>
<td>0.005</td>
<td>0.136</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>SIAL</td>
<td>0.130</td>
<td>0.160</td>
<td>0.046</td>
<td>0.145</td>
<td>0.037</td>
<td>0.133</td>
<td>0.047</td>
<td>0.148</td>
<td>0.086</td>
<td>0.086</td>
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<tr>
<td>14</td>
<td>SATKU</td>
<td>0.011</td>
<td>0.293</td>
<td>0.057</td>
<td>0.109</td>
<td>0.027</td>
<td>0.132</td>
<td>0.094</td>
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<tr>
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<td>SHALWAR</td>
<td>0.186</td>
<td>0.124</td>
<td>0.034</td>
<td>0.093</td>
<td>0.228</td>
<td>0.327</td>
<td>0.122</td>
<td>0.322</td>
<td>0.163</td>
<td>0.163</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Annual Report of selected Sugar Industry.

From the above table 4.16 the compound annual growth rate shows that, the Networth was highest in Sakthi Sugars at 0.257 per cent and followed by Rajshree Sugars at 0.215 Per cent. It was lowest in Ponni Sugars at 0.041 per cent. The compound annual growth rate shows that, the Investment was highest in Rajshree sugars at 0.732 per cent. It was lowest in Jeypore Sugars at -0.259 per cent. It is clear that, annual growth rate reveals that, the Earning
before Interest and tax was highest in Rajshree sugars at 0.206 per cent. It was lowest in Bannari Amman Sugars at -0.136 per cent. The compound annual growth rate exhibits that, the total income was highest in Rajshree Sugars at 0.220 per cent. It was lowest in Jeypore Sugars at 0.048 per cent. It is clear that, annual growth rate views that, the Net Profit was highest in Sakthi Sugars at 0.466 per cent. It was lowest in Sree Ambika Sugars at -2.549 per cent. The compound annual growth rate exhibits that, the raw material was highest in Rajshree Sugars at 0.240 per cent. It was lowest in Jeypore Sugars at 0.028 per cent. It is clear that, annual growth rate reveals that, the Stock was highest in Dharani Sugars at 0.296 per cent. It was lowest in Rajshree Sugars at -2.220 per cent. The compound annual growth rate indicates that, the Total Assets was highest in Rajshree Sugars at 0.194 per cent. It was lowest in Ponni Sugars at 0.026 per cent. The compound annual growth rate exhibits that, the Current asset was highest in Rajshree sugars at 0.186 per cent. It was lowest in EID Parry Sugars at -0.002 per cent. It is clear that, annual growth rate reveals that, the Current liabilities was highest in Sree Ambika Sugars at 0.299 per cent. It was lowest in EID Parry Sugars at 0.039 per cent. The compound annual growth rate shows that, the miscellaneous expense was highest in Rajshree sugars at 0.242 per cent. It was lowest in Jeypore Sugars at 0.054 per cent. It is clear that, annual growth rate views that, the Sales was highest in Rajshree Sugars at 0.197 per cent. It was lowest in EID Parry Sugars at 0.040 per cent. The compound annual growth rate indicates that, the Debtors were highest in Rajshree Sugars at 0.294 per cent. It was lowest in EID Parry Sugars at -0.070 per cent. It is clear that annual growth rate shows that, the Shareholders fund was highest in Sakthi Sugars at 0.242 per cent. It was lowest in Kothari Sugars at -2.017 per cent respectively.

V. CAGAT

**NETWORTH**

The compound annual growth rate shows that, the Net Worth is highest in Sakthi Sugars (0.257 per cent). It is lowest in Ponni Sugars (0.010 per cent).

**INVESTMENT**

The compound annual growth rate reveals that, the Investment is positive in Rajshree sugars (0.732 per cent) and it is negative in Jeypore Sugars (-0.259 per cent).

**EBIT**

Annual growth rate exhibits that, the Earning before Interest and tax is positive in Rajshree Sugars (0.206 per cent). It is negative in Bannari Amman Sugars (-0.136 per cent).

**TOTAL INCOME**

The compound annual growth rate shows that, the total income is highest in Rajshree Sugars (0.220 per cent) and it is lowest in Jeypore Sugars (0.048 per cent).

**NETPROFIT**

Annual growth rate indicates that, the Net profit is positive in Sakthi Sugars (0.466 per cent). It is negative in Sree Ambika Sugars (-2.549 per cent).

**RAWMATERIAL**

The compound annual growth rate shows that, the raw material is highest in Rajshree Sugars (0.240 per cent). It is lowest in Jeypore Sugars (0.028 per cent).

**STOCK**

Annual growth rate reveals that, the Stock is positive in Dharani Sugars (0.296 per cent) and it is negative in Rajshree Sugars (-2.220 per cent).

**WORKING CAPITAL**

The compound annual growth rate shows that, the Working Capital is positive in Rajshree Sugars (0.166 per cent). It is negative in Jeypore Sugars (-0.119 per cent).

**TOTAL ASSET**

Annual growth rate indicates that, the Total Assets was highest in Rajshree Sugars (0.194 per cent). It is lowest in Ponni Sugars (0.026 per cent).

**CURRENT ASSET**

The compound annual growth rate exhibits that, the Current asset is positive in Rajshree Sugars (0.186 per cent). It was negative in EID Parry Sugars (-0.002 per cent).

**CURRENT LIABILITIES**

Annual growth rate refers that, the Current liabilities is highest in Sree Ambika Sugars (0.299 per cent). It is lowest in EID Parry Sugars (0.039 per cent).

**MISCELLANEOUS EXPENSES**

The compound annual growth rate indicates that, the miscellaneous expense is highest in Rajshree Sugars (0.242 per cent). It is lowest in Jeypore Sugars (0.054 per cent).

**SALES**

Annual growth rate shows that, the Sales are highest in Rajshree Sugars (0.197 per cent). It is lowest in EID Parry Sugars (0.040 per cent).

**DEBTORS**

The compound annual growth rate reveals that, the Debtors is positive in Rajshree Sugars (0.294 per cent). It is negative in EID Parry Sugars (-0.070 per cent).

**SHAREHOLDERS FUND**

Annual growth rate exhibits that, the Shareholders fund is positive in Sakthi Sugars (0.242 per cent). It is negative in Kothari Sugars (-2.017 per cent).
VI. SUGGESTIONS FOR IMPROVING THE SUGAR INDUSTRY

The sugar industry in India has been facing difficulties on the price front, viewing to rigid control by government. In addition to price control, the industry is also faced with the controversy of using generic names instead of brand names. The using cost of input has further adversely affected the profitability of the sugar mills belonging to the profitability of the sugar industry in India. The following suggestions may be considered by the sugar mills to improve their profitability and for consolidation of their financial strength.

As the sugar industry is agro-based the main determinant of profitability of sugar mills being its recovery factor, an insight into the environment conditions and economic trends is necessary to improve the quality of the raw material of the industry.

Sugar industry is cyclical in nature and so it is suggested to set up a separate research and development in each category.

Improvement in the distribution system, of the governments agencies would go a long way in ensuring proper management of working capital and improving profitability.

It has been found that selected sugar mills have borrowed funds equivalent to them share capital and reserves and surplus. Hence it is suggested that the companies shall resort to borrowings in such manner that total borrowings always less that the share capital and reserves and surplus.

It has been found that sugar mills are advised to go in for judicial mix of award and borrowed funds to finance its investment programmed.

It has been revealed that the selected sugar mills not investment adequate funds in fixed assets. So, it is advisable to find the fixed effects of selected companies in such a way to extract the maximum contribution out of investments in fixed assets.

It has been noticed that the net profit of selected mills was in variably not up to the mark during the periods of study so, a strong pitch has to be made to see that the mills earth fare return on their investment so as to maximize the wealth of the share holders.

It has been revealed that the liquidity position of the selected sugar mills were profit satisfactory. So, these mills shall estimate the capital needed properly and among for funds to meet the working capital requirements in order to offer the short-term funds effectively

Following suggestions are made to create higher yield and higher earning capacity for all the stake holders in the sugar sector:

1. Farmers are encouraged to produce sufficient sugarcane in the vicinity of the mill area for the economic viability of sugar factories.
2. Scientific rationalization of cane area will have a direct impact on the economy of the sugar industry.
3. State government may pay special attention to providing and maintaining infrastructure like irrigation, power, roads and drainage for sugarcane cultivation and transportation.
4. System and procedures for providing incentives for exports may be simplified and the mechanism should be designed to ensure expeditions payments of incentives.
5. In order to ensure that the research and development efforts get a proper fillip in the country, the efforts of existing institutions may be adequately strengthened for increasing productivity in the fields as also in the mills by introduction of new technologies and also by effective extension mechanism. Sugar development fund may also assist project linked extension activities of these institutions.
6. The national energy policy may have provisions for mandating the proportion of ‘green’ power to be purchased in the overall power purchase in a state; and payment of preferential tariff for co-generates power.

VII. CONCLUSION

Analysis of annual growth rate and its interpretation is the need of the hour in all industries across the world. True is the case in sugar industry also. In order to compete with global economic scenario and to sustain its place, sugar industry needs to monitor its financial performance continually and takes financial decisions rationally at all the firms. This, in turn, requires sound appraisal of financial management with critical evaluation of financial polices. The sugar industry should resort to tapping of bond market to get the required financial assistance. The sugar industry, being a capital intensive in nature should follow the cluster model, to reap the economies of large scale production. This model included sharing of infrastructure technology and manpower amongst the companies of sugar industry. Further, the sugar industry must evaluate its capital budgeting decisions so that fixed assets are economically procured and efficiently utilized.

REFERENCES