FINANCIAL PERFORMANCE ANALYSIS OF THE SELECT
SUGAR MILLS IN TAMIL NADU

CHAPTER I
INTRODUCTION AND RESEARCH DESIGN

INTRODUCTION

Sugar mills are one of the agro-based industries and in India it is the second largest next to cotton and textile industry. History says that the art of making sugar went to Persia and subsequently to the world from India. The production of sugar, first from sugarcane and later from beets, is one of the oldest and best-studied technological processes. It is universally acknowledged that India is the homeland of sugarcane and sugar. There are references of sugarcane cultivation, its crushing and preparation of Gur in Atharva Veda as well as Kautalya’s Arthasastra.¹ The first sugar mill in the country was set up in 1903 in Uttar Pradesh and from there on the industry gradually has grown to its present gigantic position. At present, India is world’s largest producer of sugar next to Brazil.

The growth and performance of the sugar mills in Tamil Nadu are impressive and they are significantly related to the government policies as well. The national and international scenario in terms of production and improvement in technology also stimulated the growth factor in Tamil Nadu. The emergence of co-operative and public sector sugar mills after Independence established good performance.

As early in the Pre-Independence period, state policy and intervention had helped in promoting sugar mills and the real growth of the sugar mills essentially

¹Murugadoss K. and Pandiyan R. (2008), “Production capacity of Indian Sugar Mills needs to be improved” Kisan World, October p.14
began after the granting of tariff protection in 1932. Following the granting of tariff protection in 1932 there was almost a four-fold increase in both the number of mills and in the output of cane sugar, coupled with a rapid decline in inputs. After Independence, under the Five Year Plans, a systematic structure of ownership, location, control and licensing had emerged. Naturally Sugar policy grows to determine every aspect of sugar industry in recent decades.  

Sugarcane is produced in around 120 countries of the world and the world’s total production of sugar figures around 135 to 145 million tons. Brazil stands at the top regarding the production level followed by India and European Union. Over 3/4ths of the total sugar produced is consumed domestically in the countries in which it is produced, and the rest is traded around the globe, which is often termed as World Sugar. The consumption figures of sugar in the world in 2002-03 were around 135 million tons and these figures have shown an increasing trend during the last few years.

As most of the sugar producing countries are indulged in self consumption of sugar, the exports of sugar are concentrated among a very few countries. Major sugar exporting countries are: -

- Brazil
- European Union
- Thailand
- Australia
- Cuba
- India

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• United states
• China

The world exports of sugar hover around 40 million tons and the leading sugar exporting country is Brazil exporting to around 55% of its total produce. Brazil is followed by European Union, Thailand, Australia and Cuba in this list. These top five exporting countries constitute almost 65% of the world total exports. Australia’s dependency on its sugar exports is much more higher than that of any country as it exports over 75% of its total sugar production.

Unlike exports, imports of sugar are diversified in nature, among more than 100 countries. The sugar imports account to around 38 million tons. The major importers of sugar in the world are:

• Russia
• Indonesia
• European Union
• Japan
• USA
• Korea
• Malaysia
• China
• Algeria
• Iran

The leading sugar importing country is Russia with an average of 6 million tons. Indonesia, European Union, Japan, Korea stand on 2nd, 3rd, 4th and 5th place respectively in the context of sugar imports. Being so much of imports taking place throughout the world, there are different sugar import and production policies
practiced by different nations to protect their domestic produce from competition. A voluntary body named International Sugar Organization looks upon the trade of world sugar.

**History**

Sugarcane, the main source of sugar, is said to have originated in New Guinea. This crop spread over rest of the world in the pre-historic times but initially it was consumed raw. The process of sugar production, i.e. by evaporating the cane juice, came from India in around 500 BC. In Alexander’s reign, the people from west termed this process as “honey produced without bees”.

For a long time, the rest of the world did not know the process of cane sugar production because it was kept as a secret as it earned them a good amount of profits. Finally Arabs broke this secret and started growing sugarcane in Spain and other parts of Europe and Africa around 7th century AD. It started gaining popularity in the European continent and it was considered a luxurious product at that time. A large amount of sugar was imported from the East as it started giving competition to honey as a sweetening agent. Christopher Columbus was the person who took sugarcane to the new world. This is how the concept of sugar production spread in Europe and with the European invasions in the rest of the world; sugarcane was especially cultivated to extract sugar from it.

Initially, the cane was beaten up to extract the juice but after the invention of a press, the quantity extracted was raised to almost a double. The concept of extracting sugar from the sugarbeet or beetroot came into notice in the eighteenth century in Germany. With other inventions, modern methods of extracting juice from the cane and sugar from the juice were developed.
Sugar producing countries

- Brazil*
- India*
- European Union
- China
- United States of America
- Thailand*
- Australia*
- Mexico*
- Cuba*
- Indonesia
- Pakistan*

In the list above, the countries marked with * sign produce sugar from sugarcane. The rest of the countries produce it from sugarbeet except US as it is indulged in both cane sugar and beet sugar production. World’s total production of sugar sums up to around 135-145 million tons. The largest producer of sugar in the world is Brazil with an annual production of around 24 million tons, India being the second with about 22 million tons of sugar, European Union standing at the third place with approximately 18.5 million tons. Among other important contributing countries to the world production, China, Thailand and USA are the most important. The production of sugar is concentrated in the hands of these few producing countries that contribute to about 3/4ths of the production. The area which is cultivated for sugarcane production is dominated by the Asian continent followed by the South American continent.
Production of sugar in India

India is the second largest producer of sugar in the world after Brazil and is indulged in the production of cane sugar and not beet sugar. It produces approximately 22 million tons of sugar annually. The major states that are producing sugarcane in India are:

- Maharashtra
- Uttar Pradesh
- Karnataka
- Tamil Nadu
- Andhra Pradesh
- Gujarat

These states contribute around 85% sugarcane production of the country. The other important producers of sugar in the country are Assam, Bihar, Gujarat, Haryana, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan and West Bengal. The production of sugar in the country highly depends upon the availability of sugarcane. The leading producer of sugar is Maharashtra producing about 6 million tons of sugar followed by Uttar Pradesh and Karnataka. Uttar Pradesh constitutes the maximum area covered and the sugarcane production in the country. Two grades of sugar namely S-30 and M-30 are produced in India: grade S-30 dominating the share in total production.

The production of sugarcane in India has increased during the last ten years and is still on an increasing trend. The productivity of sugarcane in the northern areas of the country is lower than the productivity in southern areas. In India, sugar is grown over 4 million hectares of land.
Indian sugar market

As history foretells, India had been connected to sugar for a long time. In fact, it is known as the place of origin of sugar. India maintains this reputation of sugar connection by producing the second largest quantity of sugar in the world and also being the largest consumer of sugar. Indian sugar industry is the largest processing industry for agricultural products constituting of both organized and unorganized sectors.

India has been the largest producer of sugar in the world for 7 out of 10 years but now Brazil has taken a lead from India. Indian production from both the sectors sums up to 22 million tons. Indian share in the world’s total production has shown an increasing trend in the past few years and currently India is contributing to around 16%. The country has been indulged in the production of cane sugar rather than beet sugar as India’s tropical weather conditions support sugarcane production. Maharashtra holds the lead in the production of cane and sugar in the country. The consumption level of sugar in India reaches up to 18.5 million tons annually making India the largest consumer of sugar in the world. This demand and consumption level is still showing a rising trend. The government largely controls the demand and supply of sugar in India and the prices fluctuate according to the government releases of sugar.

India had been an exporter of sugar but the export-import policy depends on the production-demand mismatch in the country. The crushing period difference between India and other countries gives an advantageous edge to Indian exports. Exports from India show a rising trend as a result of the upcoming policies of free international trade. The trade figures of India correspond to the mark of 1.5 million tons. The Indian sugar industry has successfully satisfied the domestic demand till
now. That is why India no imports of sugar were done during the past few years. In India, sugar is traded at the following markets:

- Muzafarnagar
- Mumbai
- Delhi
- Ludhiana
- Kolkata
- Hyderabad
- Chennai

Also, sugar is traded at the commodity exchanges in India namely National Commodity and Derivatives Exchange Ltd., Multi Commodity Exchange of India Ltd. and National Multi Commodity Exchange of India Ltd.

PASSING OF THE CO-OPERATIVE SOCIETIES ACT, 1904

The Co-operative Societies Act was enacted in India in 1904 with a limited objective to provide cheap credit to the farmers and save them from exploitation of money lenders. It was only in the early 1930’s that the co-operative movement penetrated into the sugar sector. The increasingly high rates of interest charged by money lenders and violent fluctuations in the Gur, Jaggery and Sugar markets, led the farmers to utilize the under lying notion of self-help and self-reliance, in the Co-operative Societies Act and led to the setting up of co-operative societies and co-operative sugar factories. However the real growth of the co-operative sugar sector started after India’s independence, when the Government decided to industrialize the country by expanding the co-operative sector. The principal of co-operation was assigned an important role for the country’s economic and social development and was given priority over the other sectors. Due to the involvement of farmers’ right
from the inception, the sugar factories were never looked upon as merely processing units of sugarcane, but through the medium of the factories they endeavored for socio-economic, educational and cultural development of the entire area surrounding the sugar factories.

**EMERGENCE OF CO-OPERATIVE SECTOR**

Although, the Co-operative Societies Act was already enacted in 1904, the same year that the first vacuum pan sugar factory at Saran in Mahowrah, Bihar was established, it was only in 1933-35 that the co-operative movement made an in-road into the sugar sector in Andhra Pradesh. Although sugarcane was not one of the principal crops of Andhra Pradesh, the sugarcane growers badly affected by the violent fluctuations of the jaggery market, decided to utilize the underlying notion of self-help and self-reliance in the Co-operative Societies Act and organized co-operative societies and set-up co-operative sugar factories at Etikoppaka, Thummapala and Vuyyuru. However, because of initial teething problems, lack of organisational and managerial ability and scarcity of funds, Thummapala and Vuyyuru had to be sold off to private enterprises. Thummapala, was however, returned to the co-operative fold in 1959 in the name of Anakapalle Co-operative Agricultural and Industrial Society Ltd. Etikoppaka Co-operative Sugar Factory in Andhra Pradesh survived because of good leadership, strong backing of the Central Co-operative Bank, gradual and cautious expansion, good relationship with members, payment of higher cane price and variety of other effective incentives. During 1933-35, in Uttar Pradesh also a co-operative sugar factory was set up at Biswan which also had to be sold off to private enterprise.
GROWTH OF CO-OPERATIVE SECTOR SUGAR INDUSTRY

The growth of the Indian sugar industry in an organized manner had its beginning, when the Government of India passed the Industrial Policy Resolution on April 6, 1948, followed by the Industrial Act, 1956, wherein the principle of co-operation was assigned an important role for the country's economic development, particularly for industries based on agricultural produce such as sugarcane. Under this policy, the Government of India started giving preference to licensing of new sugar factories in the co-operative sector. This policy was reemphasized in all the subsequent Industrial Policy Resolutions made by the Government till the delicensing of sugar industry in 1998. The preferential licensing policy was mainly responsible for the rapid development of the sugar industry in India.

As a result of the preferential policy adopted by the government in the matter of licensing, there was a spurt in the establishment of sugar factories, especially in the co-operative sector of Maharashtra. The evolution of co-operative sugar industry in Maharashtra has been a trend setter for all the co-operatives in India.

Another crucial development was the adoption of social land reforms policy by the Government of independent India. Ceiling was imposed on land holdings - both irrigated and dry land. This made private sugar factories with captive large sugarcane plantations unworkable. Even the sugarcane estates developed by private sugar factories in Maharashtra State were taken over by the state government and brought under the control and management of State Farming Corporation, a State Government undertaking. The private entrepreneurs lost interest in sugar industry.

4 www.coopsugar.org/history.php
STATEMENT OF THE PROBLEM

The sugar industry occupies a key position in our country. This industry has an important role to play both in the economic stability of a country and in the supply of essential commodity for the entire population. Its further development and progress should be of great concern to everyone.

The growing sickness of sugar mills needs to be stopped in general, and serious efforts should be made to identify the reasons for such sickness and the maximum support to such mills should be revived. The sugar has marketed by both open market and levy system. This may affect the production cost of the sugar. The government of India has fixed the purchase price for the levy sugar which is less than the cost of production.

Sugar had lost all its sweetness for companies engaged in its manufacture, and consequently for their shareholders. Price and distribution controls, including the system of levy sugar forcing the industry to supply a fixed portion of its production for public distribution system at un-remunerative (in fact at below-the-cost) prices. The sugar industry is facing several problems. The sharp rise of prices created a sugar crisis in the country. Since then, the sugar industry was engulfed in a crisis due to variety of reasons, led a sub-optimal use of installed capacity. The financial performance of the sugar mills has been highly unsatisfactory despite numerous facilities and fiscal concessions being provided to them\(^5\). As on today, the sugar industry is at the crossroads.

The rapidly changing economic, technological and regulatory environment has affected the progress of Indian sugar industry due to the poor availability of raw materials.

Poor profitability is one of the problems of sugar industry. Under capacity utilization, higher costs of production, industrial disputes, and financial mismanagement are some of the reasons for poor profitability. Nearly one-fifth of total installed capacity in the Indian sugar industry is out of production\(^6\) due to industrial sickness. sugar mills have rolled down shutters on account of various reasons, notably obsolescence of plant and machinery, shortage of raw materials, industrial unrest, low capacity utilization, inefficient management, infrastructural constraints, industrial disputes, seed, manure, fertilizers and financial problems\(^7\).

The capacity utilization rate has been declining due to the problems stated above. In view of the intensive drive for consequent rise in demand for sugar in the coming years and high capital costs required for new investments, it is prudent to ensure that the available installed capacity is utilized fully. Rather than fresh investments, the task of renovation and modernization of existing capacity needs to be seriously considered.

Poor infrastructure, too many administrative hurdles, tedious bureaucratic methods, lack of commitment to innovation, high cost of production, poor productivity, poor instrumentation, poor recycling of waste sugar, recovery of chemicals from agro-based black liqueur, decolourisation and detoxification air pollution problem, lower transport facilities, regional barriers, political interference and competition from global competitors are other problems faced by the sugar

\(^7\)Venkatraman A.I. (2009), “Sugarcane Productivity” Kisan World Jan pp 20-21
industry and these problems have significant effect on its financial performance. In this context, the researcher has undertaken this study to have an insight into the financial performance of the sugar mills in Tamil Nadu.

OBJECTIVES OF THE STUDY

The aim of the study is to make an objective assessment of the financial performance of the selected sugar mills in Tamil Nadu. The following are the broad objectives of the study.

1. To study the origin and growth of the sugar industry in India in general and in Tamil Nadu in particular.
2. To appraise the liquidity position of the sugar mills and thereby analyzes the short-term solvency position of the sugar mills.
3. To analyse the long-term solvency and thereby to focus on the sugar mills’ long term indebtedness to funding agencies.
4. To examine the profitability position of the sugar mills, as changes in profitability indicate changes in efficiency.
5. To suggest suitable measures to improve the financial performance of the sugar mills in Tamil Nadu.

SCOPE OF THE STUDY

The study is conducted on sugar mills for the past ten years from 2002 – 2003 to 2011-2012. Also, the study covers only the sugar industries of Tamil Nadu. Out of the total 43 sugar industries, operating in Tamil Nadu, each 5 mills from private and co-operative sectors have been chosen for the study purpose. The trends indicated may differ from year to year as the pattern of investments and borrowings differ. The study becomes more meaningful as it covers a longer period i.e. 10 years.
PERIOD OF THE STUDY

The present study covers a period of 10 years starting from the accounting year 2002 - 2003 to 2011 - 2012. The period is considered sufficient to analyze the financial performance of select sugar mills in Tamil Nadu.

RESEARCH METHODOLOGY

The study is empirical in nature with a focus on assessing the financial performance of the sugar mills from the point of view of liquidity, long-term solvency, activity and profitability.

DATA COLLECTION

The study encompasses primary and secondary data. For collecting primary data, personal discussions were held with the officials of the select sugar mills.

SECONDARY DATA

The secondary data on the other hand are those which have already been passed through the statistical process, usually published data which are available in,

a) Technical and trade journals
b) Books, magazines and newspapers.
c) Report and publication of various associations connected with sugar industry.
d) Public records, statistics, historical documents and other sources of published information.

SAMPLING TECHNIQUE

The researcher has adopted convenient sampling method in this research study. The select sugar mills are located in various districts of Tamil Nadu and for the study purpose the mills are chosen from co-operative and public sectors as per the convenience of the researcher.
AREA OF THE STUDY

This study covers the sugar industries, operating in Tamil Nadu. Out of 43 sugar mills, 5 mills from co-operative sector sugar mills and 5 mills from private sector sugar mills are selected for the study purpose. The following are the list of mills selected for this study.

LIST OF CO OPERATIVE MILLS SELECTED

1. The Amaravathi Co-operative Sugar Mills Limited, Udumalpet.
2. The Dharmapuri District Co-operative Sugar Mills Limited, Palacode.
3. The Salem Co-operative Sugar Mills Limited, Mohanur.
5. The Vellore Co-operative Sugar Mills Limited, Vellore.

LIST OF PRIVATE SECTOR SUGAR MILLS SELECTED

2. Dharani Sugars and Chemicals Limited, Thiruvannamalai.
3. Ponni Sugars (Erode) Limited, Erode.
5. Sakthi Sugars Limited, Bhavani.

TOOLS OF ANALYSIS

The secondary data collected from the annual reports of the selected sugar mills have been regrouped and tabulated wherever necessary. These data have been analysed by using the tools like ratio analysis, mean, standard deviation, co-efficient of variation, t test, correlation, ANOVA, multiple regressions, multiple correlation and Z score analysis. The ratio analysis has been applied to examine the liquidity, activity and profitability of the selected sugar mills. Ratio is an expression of relationship between two quantitative data.
Liquidity, activity and profitability of selected sugar mills have been studied with the selected ratios. Mean represents the average of number of data taken for the study. Components of ratios have been taken for the study period of ten years. In order to represent the data of ten years by means of a single quantity, mean is computed. Standard deviation and co-efficient of variation are computed to understand the variability in the variables taken for the study.

T test is applied to identify the relationship between liquidity parameters of individual sugar mills and the group to which they belong – private sector sugar industry or co-operative sector sugar industry. Co-efficient of correlation is computed to observe the relationship between liquidity and profitability parameters of private sector sugar mills and co-operative sector sugars mills. Analysis of variance (ANOVA) has been applied to understand the relationship between activity and profitability parameters of private sector and co-operative sector sugars mills.

Multiple regression and multiple correlation are the indicators of relationship between dependent variable and many independent variables. In this study, these tools have been used to understand the factors influencing the profitability of the selected sugar mills. Z score analysis is used to examine the financial health of the selected sugar mills with selected parameters.

**TESTING OF HYPOTHESES**

This study is based on the formulation of the following null hypotheses. The validity of them has been tested with the available data through appropriate analysis.

**Ho$_1$:** There is no significant difference in the liquidity ratios between the select sugar mills in Tamil Nadu.

**Ho$_2$:** There is no significant difference in the long term solvency ratios between the select sugar mills in Tamil Nadu.
Ho3: There is no significant difference in the activity ratios between the select sugar mills in Tamil Nadu.

Ho4: There is no significant difference in the profitability ratios between the select sugar mills in Tamil Nadu.

LIMITATIONS OF THE STUDY

The following are the limitations of the study:

1. This study is confined to a period of ten years from 2002-03 to 2011-12. The changes taken place before and after this period have not been taken into consideration.

2. The figures taken from the financial statements for the analysis were historic in nature, the time value of money is not considered.

3. The area of the study for financial performance analysis of sugar mills is restricted to Tamil Nadu. Hence conclusion arrived at may lack universal application.

4. This study is based on the annual reports of sugar mills. Hence it is only a post mortem of the financial statements.

CHAPTER SCHEME

CHAPTER - I

The First chapter consists of introduction, history of Indian sugar industries, statement of the problem, objectives, scope of the study, period of study, research methodology, sampling technique, tools of analysis, testing of hypotheses, limitations of the study and chapter scheme.

CHAPTER - II

The Second chapter deals with the review of literature relevant to the study area.
CHAPTER - III

The Third chapter reveals the overall view of sugar industries in India and particularly in Tamil Nadu.

CHAPTER - IV

The Fourth chapter includes the long term and short term financial position of select sugar mills in Tamil Nadu.

CHAPTER - V

The Fifth chapter depicts the activity parameters of select sugar mills in Tamil Nadu.

CHAPTER - VI

The Sixth chapter deals with the profitability position of select sugar mills in Tamil Nadu.

CHAPTER – VII

The Final chapter covers the findings, suggestions and conclusion arrived at the study.