



**ORIGINAL RESEARCH PAPER**

**Education**

**AN ANALYSIS OF FINANCIAL EFFICIENCY THROUGH Z-SCORE MODEL OF MODAKKURICHI PRIMARY COOPERATIVE CREDIT SOCIETY**

**KEY WORDS:**

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**ABSTRACT**

Primary Agricultural Cooperative Credit Societies actively engaged in the provision of integrated service to the farmers and served as a point of dissemination of the technology and the improved cultivation practices. The study has done with the objectives of measure the overall performance of the Modakkurichi Primary Agricultural Cooperative Credit Society and to analyses the financial efficiency through Z-Score analysis of Modakkurichi Primary Cooperative Credit Society. The secondary data collected were analysed and presented in the form of table and Z-Score for better understanding of the position and problem of the society under the study. The study covered a period for ten years 2009-2010 to 2018-2019. It can be seen from the analysis that the Z-Score for the Modakkurichi Primary Agricultural Cooperative Credit Society was in too healthy zone (3 and above) during the period 2009-2010 to 2018-2019 which implies that it is good sign for a healthy financial position of the society from the point of view of long perspective.

**I. INTRODUCTION**

Agriculture Development is a dominant sector of Indian economy. It is the backbone of Indian economy. As per census, near about 70 percent of the population resides in the rural area and depending directly or indirectly upon agriculture for their livelihood. In the running way, Agriculture credit reaches a important role in the economy. Primary Agricultural Cooperative Credit Society fulfills this credit needs. Primary Agricultural Cooperative Credit Societies actively engaged in the provision of integrated service to the farmers and served as a point of dissemination of the technology and the improved cultivation practices. It is expected to increase the prosperity of farmers by availing better services particularly in the area of technological intervention. At present in Tamil Nadu, there are 4450 Primary Agricultural Cooperative credit societies.

**II. OBJECTIVES**

The study has done with the following objectives.

- To measure the overall performance of the Modakkurichi Primary Agricultural Cooperative Credit Society.
- To analyses the financial efficiency through Z-Score analysis of Modakkurichi Primary Cooperative Credit Society.

**III. METHODOLOGY**

Secondary data regarding Membership Growth, Share Capital, Reserve Fund, Deposits, Lending Operations, Profit and Loss account and Balance Sheet were collected from Audit Reports; Bye-Laws of the Bank and necessary clarification were also obtained through personal discussion with the bank officers. In the process of analysing, the data collected were analysed and presented in the form of tables and Z-Score for better understanding of the position and problem of the society under the study. The study covered a period for ten years 2009-2010 to 2018-2019. The data presented research study pertains to the above mentioned period.

**IV. RELATED LITERATURE**

**Heiko and Martin (2007)** of IMF conducted a study on co-operative banks and their financial stability. The study was based on individual bank data drawn from the Bank Scope Database for 29 major advanced economies and emerging markets that were Members of the Organization for Economic Co-operation and Development. They found that co-operative banks in advanced economies and emerging markets had higher scores than commercial banks, suggesting that co-operative banks were more stable.

**Thirupathi (2013)** in his study "An Analysis of Financial Performance of Select cooperation Primary Agricultural Credit Societies in Mettur Taluk, Salem District" and he

observed that the PACCS functioning at grass-root level have direct contact with the rural people and meet the financial requirements of 10.983 crore members. PACCS rely heavily on external support and have not yet been able to become self-reliant with respect to resources through deposit mobilization and internal accruals, affecting their growth and expansion of business activities. The present study explores the sources of funds of PACCS and the mobilization and deployment of funds. The present study explores the sources of funds of PACCS and the mobilization and deployment of fund. The suggestions given aim at helping the societies to improve their performance and achieve their objectives.

**Khoichung Rangamlian (2017)** this paper assessed or measured the sustainable development and growth of Kamrup (Rural) District of Assam through the Primary Agricultural Co-operative Societies. The formal co-operative movement in Assam took place around 1904 when the first co-operative credit societies Act was promulgated by the then British Government. The design used for the study is basically descriptive and analytical. Interviewing method was used for gathering the required information from the board of directors, secretary and staff of the society. The most important objective of the society is distribution of essential commodities among the members at reasonable price. The society has adequate infrastructure, assets and is involved in Public Distribution System (PDS) business successfully. The society is maintaining the spirit of co-operative philosophy and ideology. The members as well as non-members of the society are directly getting benefit to fulfill their daily requirements.

**V. ANALYSIS AND INTERPRETATION**

To test the model, Altman calculated the Z-Score for new groups of bankrupt and non-bankrupt but sick bank (i.e. with reported deficits) in order to discover how well the Z-Score model could distinguish between sink bank and the terminally ill. The model formed by Altman for the Modakkurichi Primary Agricultural Cooperative Credit Society financial health is as follows;

$$Z = 0.012 \times 1 + 0.014 \times 2 + 0.033 \times 3 + 0.006 \times 4 + 0.999 \times 5$$

- Where: Z = overall index or score
- X1 = Working capital/total assets
- X2 = Retained earnings/total asset
- X3 = Earnings before interest and tax/total asset
- X4 = market capitalization/ total liabilities
- X5 = revenues/total assets

The result indicated that, if the Altman Z-Score is close to or below 3 situation, it is wise to do some serious due diligence before considering investing.

**Table 1: Z-Score of Modakkurichi PACCS**

YEAR	1.2X1	1.4X2	3.3X3	0.6X4	0.999X5	Z
2009-2010	0.25	0.56	0.16	2.79	0.03	3.04
2010-2011	0.49	1.29	0.33	2.38	0.07	4.3
2011-2012	0.11	0.23	0.07	1.99	1.06	3.59
2012-2013	0.11	0.25	0.09	2.20	1.05	3.03
2013-2014	0.45	1.54	0.27	1.59	0.06	3.91
2014-2015	0.20	0.71	0.17	2.54	0.01	3.02
2015-2016	0.27	0.85	0.46	2.91	0.01	4.5
2016-2017	0.35	0.12	0.38	3.09	0.03	3.62
2017-2018	0.37	0.14	0.16	3.42	0.05	3.15
2018-2019	0.29	0.11	0.13	3.55	0.05	3.3
<b>Mean</b>	2.89	5.8	2.22	26.46	2.42	3.54
<b>Median</b>						3.44
<b>SD</b>						0.51
<b>CV</b>						15.25
<b>CAGR</b>						0.82

The Modakkurichi Primary Agricultural Cooperative Credit Society Z-Score was more than 2.99 in all the years of the study. X1 indicates Working Capital to Total Asset; X2 denotes Retained Earning to Total Asset; X3 denotes Earnings before Interest and Tax to Total Asset; X4 Indicates Market Value of Equity to Long Term Debts; X5 denotes Revenue to Total Asset. Hence it finds out the Z value for the year 2009-10 to 2018-19. The mean value of Z value is 3.54 and median value is 3.44 and standard deviation is 0.51 coefficient of variance of Z value is 15.25 and compound annual growth rate is 0.82. It can be seen from the analysis that the Z-Score for the Modakkurichi Primary Agricultural Cooperative Credit Society was in too healthy zone (3 and above) during the period 2009-2010 to 2018-2019 which implies that it is good sign for a healthy financial position of the society from the point of view of long perspective.

**VI. CONCLUSION**

In view of the a fore mentioned analysis, this study concludes that variables X1 and X4 are significantly contributors in Z-Scoring and model is potent tool for financial analysis, model application contributes to financial stability. This study has confirmed the use of multivariate statistical method in the Z-Score. Financial performance of the Modakkurichi Primary Agricultural Cooperative Credit Society has been analyzed by using Z-Score model for the past ten years. The overall analysis using Z-Score model reveals that the society is in the safe zone.

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