

# Efficiency of Primary Cooperative Agriculture Development Banks : A DEA Approach

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## Abstract

This study studies the elements that affect how well the banking business works and how well cooperative agriculture development banks work in the Indian state of Punjab. The study made use of data envelopment analysis. to figure out how well 89 different banks worked. Variables such as profitability, liquidity, bank size, and capitalization were evaluated in connection with efficiency indicators. The findings point to a satisfactory level of productivity in the operations of the cooperative development banks. Scale efficiency, technical efficiency, are significantly increased when profitability, as measured by return on assets (ROA), is high.. On the other hand, in Cooperative Agriculture Development Banks, there does not appear to be a significant influence from either the liquidity component or the capitalization on efficiency indices. these results provide valuable insights into the strengths, weaknesses, and opportunities for improvement in Cooperative Agriculture Development Banks.

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**JEL Code :** E5, C6, G21, G32, O16

**Keywords :** Efficiency; Cooperative Agriculture; Development Banks; DEA; Profitability; Liquidity; Bank Size; India

## I. Introduction

WHEN RESEARCHING BANKING efficiency, research analysts' initial thought is always, Why should regulators, customers, and other stakeholders care whether or not banks are efficient? The answer to this question is going to be different for everyone involved because everyone has their own unique perspective on the situation. Regulators view inefficient banks as riskier than efficient banks and as having a higher likelihood of failing. Why should customers, regulators, and other stakeholders care about how efficiently banks operate? The response to this inquiry will be different for each of individuals who are participating due to the diversity of their points of view. So, regulators, clients, and other stakeholders are always interested in the efficiency of banks.

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analysis, the quantity of total assets (LnTA) and the return on assets (ROA) have a considerable beneficial impact on efficiency metrics in the banking industry. Improved technical, pure technical, and scale efficiency results from higher returns on assets. Larger banks also frequently attain higher levels of technological and scale efficiency. Additionally, larger banks tend to be more efficient, maybe as a result of economies of scale and cheaper input costs. The capitalization and liquidity factors do not, however, appear to have a major effect on efficiency indicators. These results offer insightful improvements to farm credit and support for banking industry economic growth.

This study can be expanded in future research to investigate the effectiveness of banks over a longer time horizon. Additionally, the impact of some macroeconomic measures, such as GDP, inflation, exchange rates, etc., on efficiency can be researched. Another extension of the current paper would involve using the Malmquist Productivity Index (MPI) to look at productivity variations through time as a result of technological advancement or regression. Different techniques, including parametric approaches, stochastic frontier analysis (SFA), thick frontier approach (TFA), and the distribution-free approach (DFA), can be used to assess the robustness of the study's findings. The outcomes of such a strategy can then be contrasted with this study's findings, which were obtained using the DEA method.

#### VI. Limitations of The Study

Although every effort has been made to ensure that the current study is as representative of the field as possible, it still has significant limitations, which are as follows:

- i. Because the study relies on secondary data, its shortcomings may have an impact on the findings.
- ii. Due to rounding off, there can be a little discrepancy in tables between the analysis of the individual things and the total items.

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