

The Measurement of Savings Cooperatives Performance Efficiency as the Source of Funds for SMEs in Thailand

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Over the last 20 years. For Small and medium-sized firms (or SMEs) operations in Thailand required the source of funds for their operations, Savings cooperatives is one of the funds for them. Over 80 percent of SMEs entrepreneur acquired financial support from savings cooperatives as the micro financial institutes especially in the rural area like Kalasin province located in the North East of Thailand. With the 3-State Data Envelopment Analysis (3-stage DEA), There were 6 out of 9 savings cooperatives have performed themselves with their own performance efficiency for 30 years. There were 3 out of 9 savings cooperatives performed themselves with their own performance inefficiency which require to improve their performance since savings cooperatives is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise and its operations as the source of funds for SMEs in Thailand.

Introduction

Thailand is a country whose economy is heavily reliant on commodities and services exports. Industrial products made for more than 70% of overall export sales over the last 20 years. Since then, the country has been revitalized by the industrial sector, which is supported by domestic supporting industries. Small and medium-sized firms (or SMEs) are important components of the supporting industries. Thai SMEs have evolved in response to national development objectives and the global economy.

Thailand has seen a rise in foreign investment since 1993. Following the development of the petrochemical sector along the Eastern seaboard, more industrial estates were built to utilize the output of these upstream industries. Various companies, particularly the automobile, electronics, and electrical appliance industries, began to invest in Thailand. These three primary industries spawned a slew of supporting industries, and SMEs were a crucial component of the country's transition from agriculture to manufacturing and services. SMEs are now widely acknowledged as playing a key part in the country's economy. They are seen to be the most effective engine for economic progress. Furthermore, when compared to other business units, SMEs

generate the highest profit margins for the government.

For Small and medium-sized firms (or SMEs) operations in Thailand required the source of funds for their operations, Savings cooperatives is one of the funds for them especially in the areas of Thailand that far away from the capital city which is the financial center for their funds. The rural area in Thailand as one of the focused area to establish the SMEs as area base economic drivers for the long terms development. According to the statistics of department of Cooperatives Promotion, ministry of agriculture and cooperatives, 2022, over 80 percent of SMEs entrepreneur acquired financial support from savings cooperatives as the micro financial institutes especially in the rural area.

In Thailand, The savings cooperative is a type of financial institution whose members are people having the same occupation or living in the same community. Its purpose is to promote savings among members and provide loan funds for productive investment. Cooperative are registered under the Cooperative Act B.E. 2511 (1968). Present-day circumstances are such that people are constantly faced with an increasing cost of living. Low income people especially suffer because they never seem to earn enough to cover their daily needs. They tend to deal with this problem by turning to illegal moneylenders, who charge them very high rates of interest. By so doing their indebtedness is increased even more and the situation becomes more serious for themselves and their families.

The savings cooperative is set up to help deal with members' socio-economic problems. It is a type of financial institution promoting savings as well as providing loans, using principles of self-help and mutual help. Specifically, this cooperative's objectives are as follows 1) to encourage thrift among members. To encourage the habit of savings, the cooperative currently offers two types of savings, 2) Shares the cooperative sets that members must pay monthly shares at rates set by themselves. These may be deducted directly from monthly salaries. Dividends are paid to members at rates specified according to cooperative law, without tax deductions. When resigning from a cooperative, the member can withdraw his/her shares, 3) Deposits. Both savings and fixed deposits are offered to cooperative members. Interest on these deposits may be equal to or higher than commercial

bank rates depending on the financial status of each cooperative, 4) to provide loan services to members. Members' shares and deposits comprise the loan funds made available to members in need. Interest on these loans are usually at rates lower than that of the prevailing market. There are currently three types of loans available. Emergency loans. In crisis or emergency situations, a member may borrow up to one half of his/her monthly income, depending on the financial status of the cooperative. Repayment is normally made in two installments, without collateral. Ordinary loans. The cooperative can provide an ordinary loan up to a maximum of one-half of a member's monthly income, again depending on the financial status of the cooperative. These can be between 4 to 15 times, or within the range of Baht 40,000 to 300,000. Normal repayment is from 24 to 72 installments, with one other member acting as guarantor. The maximum amounts allowed for emergency and ordinary loans are based on the average amount of members' incomes. Special loans. When the cooperative services can be made available to members for housing and investment purposes. A member may borrow the actual amount required for investment or to purchase house and/or land, not exceeding the ceiling amount of between Baht 400,000 to 1,000,000. Repayment period is between 10 to 15 years, using real property as collateral.

After a savings cooperative is formed, members' representatives are elected to form Board of Directors to administer cooperative operations. Elections are held at annual general meetings. The highest responsibility of the individual member is attendance at the annual general meeting (AGM). The AGM gives him/her the opportunity to protect membership rights as well as the means to monitor cooperative operations and a fair sharing of benefits. It is also a forum to determine general policies, elect Committee members, and assign tasks to further benefit all the members. Within the framework of cooperative principles, laws and regulations and procedures, members must discuss problems together, share ideas, and exercise the right to vote on Committees and meeting resolutions.

The savings cooperatives performed as the source of funds for SME in Thailand especially in rural area of Thailand which people who really want to set up their own business acquired the financial supports as their loans. In this research, the research attempted to measure the savings cooperatives performance efficiency in Kalasin province located in the North East of Thailand classified as the rural area. The research work attempted to measure all of 10 savings cooperatives who continue performed their loan business for SMEs in Kalasin province over 10 years.



Figure 1 Map of Kalasin Province, Thailand

Source: www.pinterest.com/pin

Research Objectives

To measure the savings cooperatives performance efficiency as the source of funds for SME in Kalasin province, Thailand.

Materials and Methods

The population numbers of savings cooperatives in Kalasin province, Thailand were considered as 12 individuals who still have their business operation from 1991 to 2021. The purposive technique was applied as the sampling with 2 conditions of purposive technique 1) all outcome of savings business cooperatives are positive, and 2) all savings cooperatives still continuously operate their own business from 1991 to 2021. To meet these 2 purposive conditions, it turned out of 9 savings cooperatives as sample size. (Guzman, I. and Arcas, N. ,2008). (Maltz, Alan C., 2000). (Onnwan, D., et al.,2021).

The secondary data were collected from the database of the Cooperative Auditing Department from 1991 to 2021 accounted for 30 years of 9 samples. The cooperative's financial status was collected which was composed of assets, debts, and capital. Also, the cooperatives' business operation outcome was collected included income, expenditures, profits, and operation capitals. (Guzman, I. and Arcas, N. ,2008). (Maltz, Alan C., 2000). (Onnwan, D., et al.,2021). Following the studies of Maltz, Alan C., (2000), and Onnwan, D., et al., (2021), they applied both financial status and business operational performance in terms of money unit to identify the cooperatives inputs and outputs. Panel data statistical model was utilized as the data analysis. To meet its acquirement, both time series and cross-sectional data were collected. For the times series data, the financial status and the cooperative business operation data were collected from 1991 to 2021 accounted for 30 years while the cross-sectional data were collected from 9 savings cooperatives. The total number of observations was 270 observations collected.

The technical efficiency analysis of savings cooperatives in Nonthaburi province was applying the 3-state Data Envelopment Analysis (3-stage DEA). The efficiency of the production unit can be assessed as follows.

.(Guzman, I. and Arcas, N. ,2008). (Maltz, Alan C., 2000). (Onnwan, D., et al.,2021).

$$\text{Efficiency} = \frac{\text{output}}{\text{input}} \text{-----(1)}$$

According to equation (1), the outputs were defined as the total amount of income and profit of savings cooperatives while the inputs were defined as the total amount of assets debts, capital, expenditures, and operation capitals respectively. Theoretically, the popular method of benchmarking technique to measure the performance of savings cooperatives' business operations. This is a comparison of the efficiency value calculated in each production unit. The benchmark is the best practice compared to the total number of units as a study unit. The technical efficiency can be assessed as follows: (Paradi, J.C., & Scahffnit, C.,2004). .(Guzman, I. and Arcas, N. ,2008). (Uraporn, Ng.,2020).

Technical efficiency =

$$\frac{\sum_j \mu_r y_{rj}}{\sum_i \omega_i x_{ij}} ; i=1, \dots, m, r=1, \dots, s, j=1, \dots, n \text{-----(2)}$$

Where: x_{ij} is the number of inputs ith of production j
 y_{rj} is the number of output at r of production j.
 μ_r is the weight of the product r.
 ω_i is the weight of the input i
n is the number of production units
s is the number of output
m is the number of inputs

Results and Discussion

The Measurement Savings Cooperatives Performance Efficiency of the 9 savings cooperatives in Kalasin province, Thailand could be expressed in Table 1 below:

Table 1. The Measurement Savings Cooperatives Performance Efficiency of the 9 savings cooperatives in Kalasin province, Thailand

Savings Cooperatives of Nonthaburi Province, Thailand	Crste ¹	Vrste ²	Scale ³	Explanation
1 Kalasin Teacher Savings Cooperative Limited	0.913	1	0.913	drs ⁴
2 Kalasin Provincial Police Cooperative	0.879	0.901	0.976	drs ⁴

Limited				
3 Kalasin Public Health Savings Cooperative Limited	0.974	0.974	1	-
4 Sema Kalasin Savings Cooperative Limited	1	1	1	-
5 Kalasin Local Government Savings Cooperative Limited	1	1	1	-
6 Kalasin Hospital Savings Cooperative Limited	1	1	1	-
7 Kalasin Establishment Savings Cooperative Limited	1	1	1	-
8 Kalasin Private School Teacher Savings Cooperative Limited	0.963	0.99	0.972	irs ⁵
9 Non Sung Community Savings Cooperative Limited	1	1	1	-
Operating efficiency average	0.97	0.985	0.985	

Source: Calculated from the database of the Cooperative Auditing Department, 2021.

crste = technical efficiency from CRS DEA
vrste = technical efficiency from VRS DEA
scale = scale efficiency = crste/vrste

From Table 1, the results of the Technical Efficiency of the 9 savings cooperatives in Kalasin province, it was found that 6 out of 9 savings cooperatives in Kalasin province had the technical efficiency with the value of 1.00 which were 1) Kalasin Public Health Savings Cooperative Limited, 2) Sema Kalasin Savings Cooperative Limited, 3) Kalasin Local Government Savings Cooperative Limited, 4) Kalasin Hospital Savings Cooperative Limited 5) Kalasin Establishment Savings Cooperative Limited, and 6) Non Sung Community Savings Cooperative Limited. There were

3 out of 9 savings cooperatives had the technical efficiency score smaller than 1.00 expressed that all of them performed their own business with inefficiency which were: 1) Kalasin Teacher Savings Cooperative Limited, 2) Kalasin Provincial Police Savings Cooperative Limited, and 3) Kalasin Private School Teacher Savings Cooperative Limited with their technical efficiency score of 0.913, 0.976, and 0.972 respectively meaning that these savings cooperative had to improve themselves to meet the requirement of technical efficiency. By doing that, the result from Data Envelopment (DEA) expressed in table 1 showed some suggestions which was IRS (Increasing return to Scale).

This meant that when Kalasin Teacher Savings Cooperative Limited and Kalasin Provincial Police Savings Cooperative Limited decreased their input usage by 1 percent for their business operation then their outputs would be increased greater than 1 percent. It is the way to increase its technical efficiency. By doing that, Kalasin Teacher Savings Cooperative Limited and Kalasin Provincial Police Savings Cooperative Limited would decrease their input usage such as assets, debts, capital, expenditures, and operation capitals respectively.

Kalasin Private School Teacher Savings Cooperative Limited increased their input usage by 1 percent for their business operation then their outputs would be increased greater than 1 percent. It is the way to increase its technical efficiency. By doing that, Kalasin Private School Teacher Savings Cooperative Limited would increase their input usage such as assets, debts, capital, expenditures, and operation capitals respectively. The 9 savings cooperatives efficiency score in Kalasin province of Thailand showed in figure 2 below:

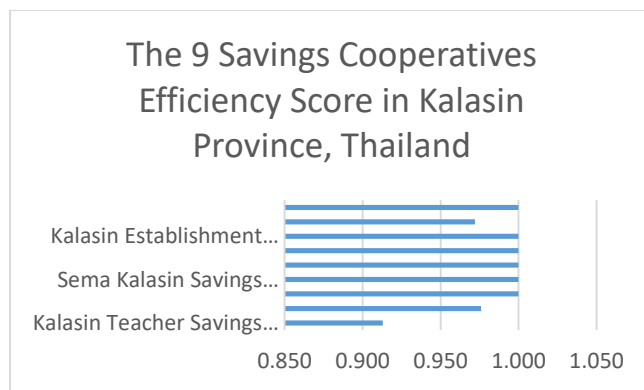


Figure 2. The 9 savings cooperatives efficiency score in Kalasin province, Thailand

Conclusion

In Thailand, Small and medium-sized firms (or SMEs) are important components of the supporting industries. Thai SMEs have evolved in response to national development objectives and the global economy. Financial support as

funds for SMEs start up is very crucial for SMEs entrepreneurs. SMEs operations in Thailand required the source of funds for their operations, There were many types of financial instructions to help SMEs as loan providers. One of them is savings cooperatives especially in the rural area like Kalasin located in the North east of Thailand. With the main objective of savings cooperatives, it is set up to help deal with members' socio-economic problems. It is a type of financial institution promoting savings as well as providing loans, using principles of self-help and mutual help. The Measurement Savings Cooperatives Performance Efficiency as the Source of Funds for SMEs in Kalasin, Thailand emerged as the main source of Funds for SMEs. With the DEA measurement efficiency score, it found that there were 6 out of 9 savings cooperatives in Kalasin province performed their own business as loan providers for SMEs with their efficiency. There were 3 out of 9 savings cooperatives performed their own business with inefficiency. They had to improve themselves to meet their efficiency. The savings cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise and its operations as the source of funds for SMEs in Thailand.

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