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Efficiency of Financing in Sharia Cooperatives

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Abstract

Efficiency is one of the performance's indicator in sharia cooperatives. This study uses data envelopment analysis (DEA) method to measure the efficiency of financing sharia cooperatives. DEA is one method of measuring efficiency using frontier analysis that has proven its use. Samples to be used are KJKS Kota Bambu Utara (KBU) and Kota Bambu Selatan (KBS). On average, KJKS KBU has a value high enough efficiency reached 98.7%. Meanwhile, KJKS KBS achieve 100% efficiency. This research has an important role in optimizing the efficiency of sharia cooperative, so that its presence can provide great benefits to society.

Keywords: efficiency, financing, shariah cooperative, data envelopment analysis.

Abstrak

Efisiensi merupakan salah satu indikator kinerja dalam koperasi syariah. Penelitian ini menggunakan metode data envelopment analysis (DEA) untuk mengukur efisiensi dari pembiayaan yang dilakukan oleh koperasi syariah. DEA merupakan salah satu metode yang dipergunakan untuk mengukur efisiensi dengan menggunakan analisis frontier yang telah terbukti. Sampel yang dipergunakan ialah KJKS Kota Bambu Utara (KBU) dan KJKS Kota Bambu Selatan (KBS). Secara rata-rata KJKS KBU mampu mencapai tingkat efisiensi sebesar 98.7%. sedangkan, KJKS KBS mencapai tingkat efisiensi 100%. Penelitian ini memberikan peranan penting dalam optimalisasi efisiensi pada koperasi syariah, hal ini agar koperasi syariah mampu berdampak signifikan bagi masyarakat.

Kata Kunci: efisiensi, pembiayaan, koperasi syariah, data envelopment analysis

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INTRODUCTION

Mathematically and realistically, the essence of the Indonesian economy lies in the microeconomic sector. Microeconomic sector has a significant influence on Indonesia's economic growth. Evidently, during the 1998 Asian economic crisis and the 2008 global economic crisis, it became the modal that underpinned the solid economy of Indonesia. The negative impact of the economic crisis is not able to destroy the basic foundation of Indonesia's economy which is supported by microeconomic sector.

Based on data obtained from the Ministry of Cooperation and Microeconomic Enterprises, in 2012 the number of micro enterprises in Indonesia reached at 55,856,176 units of business or about 98.79% of the total business units in Indonesia. We can compare this with large businesses amounting to only 4,968 business units or about 0.01% of total business units in 2012. Other types of business are small and medium enterprises with a portion of 1.11% and 0.09% or equivalent to 629,418 business units and 48,997 business units. It also occurred in 2011, the number of micro-economic enterprises reached at 54,559,969 business units or about 98.82%, while large businesses only reached at 4752 business units or about 0.01%. The rests of this aspect are small and medium enterprises in which each business received a portion of 1.09% and 0.08% or equivalent to 602,195 business units and 44,280 business ones.

In reality, on the ground, economic growth can not be separated from the activity of financial institutions. Financial institutions such as Sharia Cooperative (KJKS) have a very important role in the economic growth of a country, which acts as a transmissive and an intermediary role of funds. Through its intermediary role, KJKS becomes mediation between the capital owners and the business sectors. Through the support of financial institutions such as KJKS for the real sector of economy dominated by activity and business man of micro and local business and hence it will realize prosperity of society. Accoding to Yusuf (2016), sharia cooperative should to improve its quality.

The success of KJKS in disbursement of funds for Microeconomic Enterprises is supported by several factors including the efficiency of the distribution process. Checking the efficiency of credit disbursement can be an early reference in order to understand the potential for increasing finance. Efficiency assessment by using CAMEL method (Capital, Asset, Management, Earning, Liquidity) is able to know the efficiency level of its finance distribution. Capital aspects include Capital Adequacy Ratio (CAR), asset aspects include Non Performing Loan (NPL), and earning aspects include Net Income Margin (NIM),

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while liquidity aspects include Loan to Deposit Ratio (LDR) and statutory reserve requirement (GWM). The use of parametric ratios does not take into consideration the price of inputs and the output mix and the selection of the weights of the subjective ratios (Kohers, et all, 2000) so that this study is balanced with the non-parametric DEA (Data Envelopment Analysis) measurements.

Efficiency can be defined as the ratio between output and input (Kost and Rosenwig, 1979). There are three factors that cause efficiency, that is, if it is with the same input that produces a larger output, with smaller inputs, which produce the same one, and with large inputs that produce larger outputs. Efficiency in a company, especially in financial institution is one of the parameters of work that are popular to measure its performance. This is due to the efficiency that is the answer to the difficulties in calculating performance measures, such as the level of technological efficiency, allocation, and total efficiency (Hadad, et.al, 2003).

According to Silkman (1986); Muharam and Pusvitasari (2007); Radam, et.al (2002), there are three types of specific efficiency measurement approaches. First, the ratio approach, that is the ratio in measuring the efficiency which is done by calculating the output ratio with the input used. This approach will be judged to have high efficiency, if it can produce the maximum amount of output with certain inputs. The weakness of this approach is when there are many inputs and outputs to be counted simultaneously, so it can result in many calculations that give rise to unambiguous assumptions. Second, the regression approach, it is the approach that uses a model from a certain level of output as a function of different levels of input.

The regressive approach will result in an estimation of relationships that can be used to produce the level of output produced by an Economic Activity Unit (UKE) at a given level of output. The UKE will be assessed efficiently, if it is able to produce more output than the estimated one. This approach also cannot cope with many output conditions, as only one output indicator can be accommodated in a regressive equation. When multiple combinations of outputs are done in one indicator, the resulted information becomes no more inexplicable (Silkman, 1986; Muharam and Pusvitasari 2007).

Third, the frontier approach, according to Silkman (1986); Muharam and Pusvitasari (2007), this approach has two types: parametric and non-parametric. The parametric approach consists of Stochastic Frontier Approach (SFA), Distribution Free Approach (DFA) and Thick Frontier Approuch (TFA), while non-parametric aspect

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includes Data Envelopment Analysis (DEA). This research uses *non parametric frontier approach*.

According to Hadad, et.al. (2003), there are three approaches that are commonly used in parametric and non-parametric methods to define input and output relationships in financial activities of a financial institution. First, Asset approach (Asset Approach). The production of an asset reflects the primary function of a financial institution as the creator of the loan credit. Through this approach, the output is completely defined into the asset form. Second, the Production Approach. This approach considers financial institutions as producers of deposit accounts and credit accounts, then output is defined as the amount of energy, capital expenditure on fixed assets and other materials. Third, the Intermediation Approach. This approach views a financial institution as an intermediary one, which converts and transfers financial assets from a surplus unit to a unit deficit. The inputs of the financial institutions include: labor costs, capital and interest payments on deposits, then outputs measured in the form of credit loans (loans) and financial investments (financial investment). This approach sees the primary function of a financial institution as the creator of a loan credit.

The research uses the intermediation approach, since it is in line with Kurnia (2004) who said that the intermediation approach is used because it considers the bank's vital function as a financial intermediation that collects funds from surplus units and distributes them to the unit deficit. Another consideration is the characteristic and nature of the bank that performs a qualitative asset transformer of collected savings, although there is no general agreement in the approach used and in terms of determining inputs and outputs.

The study measures the efficiency level of KJKS in lending credit to the public. This level of efficiency will affect the level of success in carrying out its role in society. Some problems of the research are: Firstly, what is the level of efficiency in KJKS finance distribution from 2010 to 2013. Secondly, is there any increase or decrease in KJKS finance distribution efficiency from 2010 to 2013. Third, what factors are in play role in increasing or decreasing the efficiency of the KJKS finance channel from 2010 to 2013? Fourth, what strategy should KJKS undertake to improve efficiency in its fund distribution?

There are several objectives of the research. Firstly, to know the level of efficiency of finance distribution done by KJKS from 2010 to 2013. Secondly, to know whether there is an increase / decrease in efficiency of KJKS finance distribution from 2010 until 2013. Third, to know factors that play role in increasing and decreasing in efficiency of finance

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distribution of KJKS from 2010 to 2013. Fourth, to know what strategy should be done by KJKS manager in increasing efficiency of finance distribution process.

In fact, much research has been done in relation to the study of the efficiency of financial institutions. Studies that examine the efficiency of banks have been done both in sharia banks and conventional banks, both in domestic and abroad. Here are some previous studies that can be traced.

First, the research by Yudhistira (2003), it aims to know and analyze the efficiency of 18 sharia banks in the world during and after the economic crisis of 1998. The research at 2003 used DEA technique by using 3 input variables that consist of: total deposits, labor cost, and fixed assets. Variable output in the form of financing, current assets (liquid assets) and other operational income. The results of this study illustrate that the financial institutions studied experienced inefficiency in 1998-1999, while the conditions in 1997-2000 were more efficient. The magnitude of inefficiency in 1998-1999 was more technically influential.

Second, the research done by Sufian (2006). It aims to measure and analyze the efficiency of Islamic banking, both in foreign and domestic in Malaysia, with observations from 2001-2004. DEA analysis method is used in it. The results showed that overall Islamic banking efficiency in Malaysia has increased. This study also shows that the shariah foreign financial institutions are lower on average in its efficiency if it is compared to domestic Islamic financial institutions during the year of observation.

Third, the research by Muharam and Pusvitasari (2007). It aims to measure and analyze the efficiency of sharia banks in Indonesia in 2005. The results show that in the observation period (2005) of the twelve banks studied, only three banks achieved 100 percent efficiency (BTN Syariah, Bank Niaga Syariah, and Bank Permata Syariah). Nine other banks experienced fluctuations in the achievement of efficiency levels throughout 2005.

Fourth, the research by Ascarya, et.al (2008). The purpose of this study is to measure, analyze and compare the efficiency of Islamic banks with conventional ones during the year of 2002-2006. The results of this study indicate that sharia banks are relatively more efficient than conventional ones. The performance of sharia banks increased from year to year during the observation period of 2002-2006, except in 2004. This is because sharia banking performed an expansive step in 2004. This study also illustrates the average efficiency of BUS is relatively better than *UUS* and *BPRS*.

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METHOD

In measuring the financial efficiency of a financial institution, so many methods are used. DEA is one of the methods of measuring efficiency by using a tested frontier analysis. DEA is a relative efficiency measurement method based on a linear program. DEA measures the efficiency of an object by comparing it to the efficiency value of other objects that share the same business character. Applications of DEA model have been used as a measurement in various disciplines of science and operational activities (Cooper, et.al, 2007). In dealing with efficiency measurement by using frontier analysis, Bauer et.al (1998) suggested that efficiency measurement has its function; the estimated value of efficiency obtained through frontier analysis method should be positively related to other non-frontier performance measures. According to Berger and Humprey (1992, 1997); Putri (2008), the use of financial ratios and efficiency approaches simultaneously will be able to better measure of the institution performance so that it can provide more optimal benefits.

Table 1. Input-Output Variables

Code of Input-Output	Variable
O1	Duty
O2	Operational Expense
I1	Cash
I2	Operational Incomes
I3	Finance

The estimated DEA model consists of 2 outputs (O) and 3 inputs (I). The input-output variables used in this study can be seen in Table 1. This research uses descriptive research model that aims to describe the efficiency condition of KJKS as well as trying to find the relationship between the efficiency value owned by KJKS with the financial statements. Descriptive research attempts to examine a condition, and refers to the results of the study to make predictions in the future, under the same conditions.

RESULT AND DISCUSSION

In the DEA approach analysis there are two basic classification models based on their orientations that is DEA with input orientation and DEA with output orientation. This orientation depends on the limitations of control by the management / users of the DEA model either on inputs or outputs owned by the unit. If management has limited control over output or no connection at all between the inputs to its output, then the DEA model chosen is oriented to the input.

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The output-oriented DEA model is used on units that have sufficient input so that the unit's management focuses only on output and development through marketing or enhancing the reputation of service quality in the eyes of customers. In the DEA approach, two approaches based on the relationship between input and output variables are CRS (Constant Returns to Scale) model proposed by Charnes, et.al (1978) and VRS (Variable Returns to Scale) model developed by Banker et.al (1984) from its predecessor model. Models with CRS conditions indicate that adding to input (production) factors will not have an impact on additional production (output). While the model with VRS condition will show that the addition of a number of factors of production (input), it will provide an increase or decrease in production capacity (output).

Table 2. Efficiency of (Radial) KJKS KBU
Variable Return to Scale Used

No	Period	Eff	Period	Eff	Period	Eff	Period	Eff
1	Jan 2010	71.71%	Jan 2011	100%	Jan 2012	95.57%	Jan 2013	100%
2	Feb 2010	94.02%	Feb 2011	100%	Feb 2012	90.89%	Feb 2013	100%
3	Mar 2010	100%	Mar 2011	100%	Mar 2012	92.89%	Mar 2013	99.63%
4	Apr 2010	100%	Apr 2011	100%	Apr 2012	100%	Apr 2013	100%
5	May 2010	100%	May 2011	100%	May 2012	100%	May 2013	100%
6	Jun 2010	100%	Jun 2011	100%	Jun 2012	100%	Jun 2013	99.62%
7	Jul 2010	99.96%	Jul 2011	100%	Jul 2012	100%	Jul 2013	100%
8	Aug 2010	100%	Aug 2011	98.80%	Aug 2012	100%	Aug 2013	99.47%
9	Sep 2010	100%	Sep 2011	100%	Sep 2012	100%	Sep 2013	100%
10	Oct 2010	100%	Oct 2011	100%	Oct 2012	100%		
11	Nov 2010	99.34%	Nov 2011	100%	Nov 2012	100%		
12	Dec 2010	100%	Dec 2011	100%	Dec 2012	100%		
MEAN		97.08%		99.9 %		98.28%		99.85%

Source: The result of Analyzing Data of DEA

In this study, it is because of KJKS in DKI Jakarta already has control over its input so that the focus of development on output is maximized, then DEA model used is oriented to output, with formula of calculating efficiency value. By using the output-oriented DEA model, the focus of the research is to identify inefficiencies in the KJKS output in the sample. Sharia Cooperative (KJKS) as one of legitimate financial institution by law, in its operation aim to achieve maximum output with available input source. The

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KJKS also serves as an intermediary institution between the surplus and the deficit party, obtaining profit from the activities it undertakes.

In the midst of today's highly financial competition, it becomes an important note for KJKS to understand and analyze the efficiency level of its activities. The extent to which cost efficiency is spent is to get the expected output. Errors in doing an action can be fatal. If the low efficiency will result in the high cost of production output so that the resulting output is minimal.

Based on the Table 2, we can see the efficiency of KJKS KBU every month since January 2010 until September 2013, which became the object of research. There are several months of inefficiency or months that have an efficiency value below 100% then the month is said to be inefficient. For example in January 2010 the efficiency value is only 71.71%. Likewise, in July 2010 the value of efficiency only reached at 99.96%. Judging from the reality that occurred in early 2010 and 2011 that tend to experience inefficiency, this could be due to the low cash owned by KJKS. Because of that, in the end of the year, KJKS provided business benefits to each member. The owned cash, the operational income and the finance are higher in value than operational expenses and liabilities. In general, efficient months are more efficient than inefficient ones. But it would be different if it were calculated mathematically. In plain view, from the available data, in certain months for three consecutive years KJKS of KBU always experience efficiency, it means in April, May, September, October, and December.

If it was calculated mathematically on average in one year, then generally for the last four years KJKS of KBU experience inefficiency with different value. In 2010 it experienced an inefficiency of 97.08%. In 2011 it experienced an inefficiency of 99.9%. In 2012, it experienced inefficiency of 98.28%. As until September of 2011, it has an inefficiency of 99.85%. Efficiency is an important measure of a company including Micro Finance Institutions (MFIs) such as KJKS of KBU. By knowing the level of fair efficiency in a particular month, further evaluation and adjustment can be made if its inefficiency occurs in the month.

The increase of the efficiency of KJKS of KBU can be done by following the recommended targets in the DEA method based on the results of the data that have been done. Namely reducing the performance of Input (-) variables are excessive so that the efficiency can be achieved by the input variables. The input variables in this calculation consist of operational obligations and expenses. As for the Output variable (+) that must

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be done is to improve the performance so as to achieve the numbers suggested by DEA to achieve efficiency figures. The included in the output variable are cash, operational income and finance. To improve efficiency in certain months that have not reached at 100%, reducing the obligation or reducing operational expenses consisting of employee salaries, overtime, electricity, water, transport, office rent and so forth can do it. To improve the efficiency can also be done by raising the output variable consisting of cash, operational income and finance, for example, by improving marketing performance so that KJKS KBU's income will increase.

Table 3. Target Values of KJKS KBU in 2010
Inefficient Unit (January 2010) 71.71%

Variable	Actual	Target	To Gain	Achieved
-Duty	541,525,0000	388,326,248.8	28.3%	71.7%
-Operational Expense	10,064,050	4,163,623.6	58.6%	41.4%
+Cash	27,975,000	35,746,024.5	27.8%	78.3%
+Operational Dist	3,039,050	7,291,403.7	139.9%	41.7%
+Finance	369,500,000	369,500,000.0	0%	100%

Source: The result of Analyzing Data of DEA

Technical Analysis of Inefficiency in KJKS KBU

When it is further observed from Table 2, from four years of research data, there are 11 months experiencing inefficiencies with different values. The eleven months are January 2010, February 2010, July 2010, November 2010, August 2011, January 2012, February 2012, March 2012, March 2013, June 2013, and August 2013. But in this case will only be described for January 2010, February 2010, July 2010, November 2010, August 2011, and January 2012.

Table 4. Target Values of KJKS KBU in 2010
Inefficient Unit (February 2010) 94.02%

Variable	Actual	Target	To Gain	Achieved
-Duty	540,082,136.0	507,800,835.2	6%	94%
-Operational Expense	7,739,300.0	7,276,713.3	6%	94%
+Cash	21,918,700.0	21,918,700.0	0%	100%
+Operational Dist	7,084,200.0	11,578,647.8	63.4%	61.2%
+Finance	498,833,336.0	498,833,336.0	0%	100%

Source: The result of Analyzing Data of DEA

Increase in efficiency of KJKS of KBU in January 2010 can be done by the following manners. First, it reduces the amount of liabilities from IDR 541,525,000 to IDR 388.326.248.8. Second, it reduces operational expenses by 58.6% to achieve at 100% of efficiency level. Third, it increases the amount of cash from the original one, IDR

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27,975,000 to IDR 35.746.024.5. Fourth, it increases operational income to IDR 7.291.403.7. Thus the efficiency of KJKS KBU in January 2010 would be efficient (See Table 3).

Table 5. Target Values of KJKS KBU in 2010
Inefficient Unit (July 2010) 99.96%

Variable	Actual	Target	To Gain	Achieved
-Duty	450,515,575.9	450,515,575.9	0%	100%
-Operational Expense	6,099,183.2	6,099,183.2	0%	100%
+Cash	51,607,750.0	51,607,750.0	0%	100%
+Operational Dist	7,282,700.0	7,308,907.6	0.4%	99.6%
+Finance	416,291,660.0	416,291,660.0	0%	100%

Source: The result of Analyzing Data of DEA

The increase of the efficiency of KJKS KBU in February 2010 (Table 4) can be done in the following manner. First, it reduces the liability by 6% of the current position. Second, it reduces operational expenses by 6%. Third, it increases operational income to IDR 11,578,647.8 from the actual amount of IDR 7,084,200. Thus, the efficiency of KJKS KBU in February 2010 could be achieved.

Table 6. Target Values of KJKS KBU Tahun 2010
Inefficient Unit (November 2010) 99.34%

Variable	Actual	Target	To Gain	Achieved
-Duty	383,611,949.0	381,074,522.0	0.7%	99.3%
-Operational Expense	6,112,129.0	6,071,699.9	0.7%	99.3%
+Cash	40,449,250.0	40,449,250.0	0%	100%
+Operational Dist	3,078,575.0	6,290,922.2	104.3%	48.9%
+Finance	358,208,320.0	358,208,320.0	0%	100%

Source: The result of Analyzing Data of DEA

The increase of the efficiency of KJKS KBU in July 2010 (Table 5) can be done by increasing the amount of operational income by 0.4% or to IDR 7,308,907.6 from the current position of IDR 7.282.700.0. Thus the efficiency level of KJKS KBU in July 2010 can be achieved. The improvement of KJKS KBU's efficiency in November 2010 (Table 6) can be done in the following manner. First, it reduced the total liabilities and operating expenses by 0.7% from its current position. Second, it increased the amount of operational income to IDR 6,290,922.2 from the current position of IDR 3,078,575. Thus the efficiency level of KJKS KBS in November 2010 can be achieved.

Increasing the efficiency of KJKS KBU in August 2011 (Table 7) can be done by the following manner. First, it reduced the amount of liability by 1.2% from the current position. Second, it reduced operational expenses by 45.4% from current operational

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expenses. Third, it increased the amount of operational income from the current position of IDR 4,555,916.0 to IDR 12,528,104.3. Thus, the efficiency of KJKS KBU in August 2011 could be achieved.

Table 7. Target Values of KJKS KBU in 2011
Inefficient Unit (August 2011) 98.80%

Variable	Actual	Target	To Gain	Achieved
-Duty	566,616,896.0	559,796,923.8	1.2%	98.8%
-Operational Expense	12,332,425.0	6,732,387.8	45.4%	54.6%
+Cash	49,778,837.0	49,778,837.0	0%	100%
+Operational Dist	4,555,916.0	12,528,104.3	175%	36.4%
+Finance	540,681,991.9	540,681,991.9	0%	100%

Source: The result of Analyzing Data of DEA

The improvement of KJKS KBU's efficiency in January 2012 (Table 8) can be done by the following manner. First, it reduced the amount of liability by 10.1% from the current condition to IDR 792,013,380.4. Second, it reduced the amount of operational expenses by 4.4% from the current condition to be IDR 7909.953.9. Third, it increased the amount of finance disbursed to IDR 732,505,725.1, from the current condition of IDR 694,795,368.0 by way of an increase of 5.4%. Thus the efficiency level of KJKS KBU in January 2012 could be achieved.

Table 8. Target Values of KJKS KBU in 2012
Inefficient Unit (January 2012) 95.57%

Variable	Actual	Target	To Gain	Achieved
-Duty	880,508,433.0	792,013,380.4	10.1%	89.9%
-Operational Expense	8,276,576.0	7,909,953.9	4.4%	95.6%
+Cash	113,137,992.0	113,137,992.0	0%	100%
+Operational Dist	15,304,367.0	15,304,367.0	0%	100%
+Finance	694,795,368.0	732,505,725.1	5.4%	94.9%

Source: The result of Analyzing Data of DEA

Technical Analysis of Inefficiency in KJKS KBS

Efficiency is one of the performance parameters that theoretically one of the performance measures that underlies the entire performance of an organization. Efficiency in the banking world is one of the most popular performance parameters that are commonly used because it could provide answers to difficulties in calculating the various performance measures mentioned above (Hadad el all. 2003). The following is the result of data efficiency of KJKS of KBS. Unlike data of KJKS KBU, which reached at 4 years period, KBS KJKS data only consist of 10 months. This relates to the availability of data in the relevant KJKS (Table 9).

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Table 9. Efficiency of KJKS KBS
Variable Return to Scale Used

No	Period	Efficiency
1	August	100%
2	April 2102	100%
3	December	100%
4	February 2012	100%
5	January 2012	100%
6	July	100%
7	March 2012	100%
8	November	100%
9	October	100%
10	September	100%

Source: Result of Analyzing Data of DEA

Based on the Table 9, we can see the efficiency of each month of KJKS KBS, which became the object of research. From ten months of data obtained from KJKS KBS, its efficiency value reached at 100 percent. That is, there is no one-month inefficiency. This can be due to KJKS KBS management's optimal performance, so that every fund issued will get maximum return, either from cash, operational income or from finance.

Table 10. Target Values of KJKS KBS in August
Targets for Unit of August Efficiency 100.00%

Variable	Actual	Target	To Gain	Achieved
-Duty	840,758,723.0	840,758,723.0	0.0%	100.0%
-Operational Expense	73,725,550.0	73,725,550.0	0.0%	100.0%
+Cash	201,205,092.0	201,205,092.0	0.0%	100.0%
+Operational Dist	54,592,747.0	54,592,747.0	0.0%	100.0%
+Finance	651,491,328.0	651,491,328.0	0.0%	100.0%

Source: Result of Analyzing Data of DEA

In August, KJKS KBS reached at 100% efficiency (Table 10). Targeted obligation of IDR 840.758.723.0 reached at 100%. Also it is with targeted operational expenses that amounts to IDR 73.725.550.0 reached at 100%. In the output variable (+), the targeted cash reached IDR 201,205,092.0 is also reached 100%. Likewise with targeted operational income that reached at IDR 54,592,747.0 reached at 100%. Finally, the targeted finance reached at 651,491,328.0 was also achieved 100%. In other words, in August, KJKS KBS achieved at 100% efficiency.

In April 2012, KJKS KBS achieved 100% efficiency. The targeted obligation of IDR 577,743,639.0 reached at 100%. So it is also with the targeted operational expenses that only reached at IDR 131,016,550.0 achieved 100%. In the output variable (+), the targeted cash that reached at IDR 141,577,821.0 also reached at 100%. Likewise with the

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targeted operational income that reached at IDR 161,232,178.0, 100% of efficiency could be reached. Finally, targeted finance, which reached at IDR 502,540,446.0, also achieved 100%. In other words, in April 2012, KJKS KBS achieved 100% of efficiency.

Table 11. Target Values of KJKS KBS in 2012
Targets for Unit of April in 2012 Efficiency 100.00%

Variable	Actual	Target	To Gain	Achieved
-Duty	577.743.639.0	577.743.639.0	0.0%	100.0%
-Operational Expense	131.016.550.0	131.016.550.0	0.0%	100.0%
+Cash	141.577.821.0	141.577.821.0	0.0%	100.0%
+Operational Dist	161.232.178.0	161.232.178.0	0.0%	100.0%
+Finance	502.540.446.0	502.540.446.0	0.0%	100.0%

Source: Result of Analyzing Data of DEA

In December, KJKS KBS also achieved 100% of its efficiency. The targeted obligation of IDR 695,468,241.0 achieved 100%. Likewise, the targeted operational expense of reached at only IDR 103,065,550.0 achieved 100% of its efficiency. In the output variable (+), the targeted cash reached at IDR 168,392,019.0 reached at 100%. It is also with targeted operational income, which reached at IDR 114.923.678.0 achieved 100% of efficiency. Finally, targeted finance, which reached at IDR 576,133,350.0, also achieved 100%. In other words, in December, KJKS KBS achieved 100% of efficiency. Aminin, et.al. (2016); Ariyanti (2017) said that the management of working capital is very important to increase the efficiency in cooperative. The KJKS consistently rated in fairly health category (Sukmana and Mulyati, 2015).

Table 12. Target Values of KJKS KBS in December
Targets for Unit of December Efficiency is 100.00%

Variable	Actual	Target	To Gain	Achieved
-Duty	695.468.241.0	695.468.241.0	0.0%	100.0%
-Operational Expense	103.065.550.0	103.065.550.0	0.0%	100.0%
+Cash	168.392.019.0	168.392.019.0	0.0%	100.0%
+Operational Dist	114.923.678.0	114.923.678.0	0.0%	100.0%
+Finance	576.133.350.0	576.133.350.0	0.0%	100.0%

Source: Result of Analyzing Data of DEA

CONCLUSION

Based on the research that has been done, some conclusions can be obtained. From 2010 to 2013, KJKS KBU had a high efficiency value. It could be calculated from the value of its efficiency, it reached at 98.7%. This means that KJKS KBU is quite efficient in doing its operations. Operational funds are issued effectively to generate revenue targeted early

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on by management. As for KJKS KBS, based on the data obtained, it reached up to 100% of efficiency.

In the span of four years from 2010 to 2013, KJKS KBU experienced fluctuations in the efficiency of finance disbursement. In 2010, its efficiency reached at 97.08%. In 2011 it reached at 99.9%. In 2012 it reached 98.28%. In 2013 it reached at 99.85%. In 2011, KJKS KBU increased efficiency, but it fell back in 2012, and again rose in 2013. As for KBS KJKS, efficiency is more stable. At KJKS KBU, the most inefficient time was in 2010, especially in January and February. In January efficiency only reached at 71.71% while in February it did at 94.02%. In these two months, cash outflows were greater than cash inflows. This happened because of the amount of capital spent to do business cooperation (musyarakah). Inefficiency of KJKS could also occur due to low incomes while higher costs were incurred. It happened as in KJKS KBU in August 2011. To improve the efficiency of KJKS, management should do several things by reducing the amount of liabilities, reducing operational expenses, increasing cash amount, and increasing operational income.

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