AN ANALYSIS ON THE INFLUENCE OF LIQUIDITY, SOLVABILITY, AND ACTIVITY ON OWNER’S EQUITY RENTABILITY WITH THE CHANGE IN THE NUMBER OF MEMBERS AS MODERATING VARIABLE IN KPRI (EMPLOYEES’ COOPERATIVE) IN SIMALUNGUN REGENCY

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Abstract: The objective of the research was to find out and analyze 1) the influence of liquidity (current ratio, quick ratio, and debt ratio), solvability (debt to equity ratio and debt to asset ratio), and activity (receivable turnover, working capital turnover, total asset turnover, and cash turnover) partially on owner’s equity rentability and 2) interacting capacity between liquidity, solvability and activity and the change in the number of members in moderating the correlation with owner’s equity rentability. The research objects were 36 Indonesia Employees’ Cooperatives in Simalungun Regency, and all of them were used as the samples, using census sampling technique. The data were obtained from the financial statement of the cooperatives in Simalungun Regency and analyzed by using multiple linear regression analysis and interaction test or Moderated Structural Equation Modeling (MSEM). The result of the research showed that 1) liquidity and activity had significant influence on owner’s equity rentability while solvability did not and 2) the interaction of the change in the number of members and liquidity could not moderate their correlation with owner’s equity rentability, while interaction of the change in the number of members and solvability and interaction of the change in the number of members and activity could moderate their correlation with owner’s equity rentability.

Keywords: Liquidity, Solvability, Activity, Change in the Number of Members, Owner’s Equity Rentability

I. INTRODUCTION

Various kinds of efforts are made to obtain business capital in doing economic activities, and cooperatives participate in supporting business capital.

A cooperative is one of the legal entities established in Indonesia as it is stipulated in Law No. 25/1992 on Cooperatives. Cooperative is defined as a business which consists of people or cooperative legal entities which operates according to cooperative principles; it is also an organization on people’s economy, based on consanguinity principle. The success of a cooperative in operating its business can be seen from its performance in its financial statement.

Financial statement can provide the real description of financial condition of a certain cooperative (Firdaus, 2014). In this case, financial ratio analysis can be used for finding out the financial condition (Saraswati, et., al., 2014). One of the financial ratios is rentability which is used as a measuring device to find out whether a company has efficiently used its capital. For a company, rentability is generally more important than profit since big profit cannot always be used as a benchmark that it has worked efficiently.

Munawir (2007) points out that high rentability is more important than big profit. This research discussed Owner’s Equity Rentability (henceforth OER) which measured capacity to produce profit by using owner’s equity in a cooperative.

KPRI (Employees’ Cooperative of the Republic of Indonesia) in Simalungun Regency is a cooperative organization which operates in savings and loan business. Its members are government employees and retired government employees in this Regency.

Table 1
OER of KPRI in Simalungun Regency in the Period of 2010-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Mean (%)</th>
</tr>
</thead>
</table>

Source: Accountability Report of ECRI in Simalungun Regency (processed data)

OER of KPRI in Simalungun Regency in the period of 2010-2015 fluctuated and tended to decrease. OER in 2013 and 2015 was below the average OER in the research period which indicated that the rate of return on owner’s equity in KPRI in Simalungun Regency was low. This condition was caused by the lack of efficiency in using working capital in the cooperative and high operational cost in those years. Low rentability can also cause cooperative members to be uninterested...
in investing their capital and the decrease in the number of active members.

The status of cooperative members in a cooperative business entity is the owners and the users. As the owners, they have to able to participate in Annual Members’ Meeting (AMM) and in adding up their capital for the cooperative’s business activity. As the users, they have to make use of the business activity of the cooperative. The more the economic relationship of the members with the cooperative is, the more possible for the cooperative to develop (Sitio and Tamba, 2001).

The mean value of liquidity measured with Current Ratio (CR), Quick Ratio (QR), and Cash Ratio (KR) of the KPRI in Simalungun Regency in the period of 2010-2015 fluctuated and tended to decline which indicated that the capacity of current assets of the cooperative in meeting its current liability tended to decline. During the period of the research (2010-2015), liquidity tended to decline which was in accordance with the tendency of OER which also declined. This was not in accordance with the available theory in which liquidity was inversely proportional to profitability.

Another phenomenon which also occurred was that the mean value of solvability measured with Debt to Equity Ratio (DER) and Debt to Asset Ratio (DAR) during the period of the research fluctuated and tended to decline which indicated that the capacity of the company to pay all its financial liabilities if the cooperative was liquidated at that time tended to decline. Solvability during the period of the research, if it was compared with the tendency of OER indicated movement to the same direction. However, in 2014 and in 2015, the movement of Solvability (DER and DAR) indicated movement which was inversely proportional to OER. By the time DER and DAR inclined, OER declined and vice versa.

The mean activity measured with Receivable Turnover (RTO), Working Capital Turnover (WCT), Total Asset Turnover (TAT), and Cash Turnover (CTO) in the KPRI in Simalungun Regency during the periods of 2010-2015 tended to decline. This indicated that the effectiveness of making use of the company’s resources in its activity concerning investment declined. The activity ratio during the period of the research which tended to decline was in accordance with the tendency of OER which also declined. This condition was in line with the available theory which stated that when activity ratio increased, OER would also increase, and vice versa. However, from 2013 until 2015, the activity ratio had reversed movement, compared with the movement of OER.

Based on the explanations of some experts and the available phenomena, the objectives of the research were as follows:

1. To find out and to analyze the influence of liquidity (current ratio, quick ratio, and cash ratio), solvability (debt to equity ratio and debt to asset ratio), and activity (receivable turnover, working capital turnover, total asset turnover, and cash turnover) on OER in the KPRI in Simalungun Regency.
2. To find out and to analyze the interaction between liquidity (current ratio, quick ratio, and cash ratio) and the change in the number of members (henceforth CNM), solvability (debt to equity ratio and debt to asset ratio) and CNM, activity (receivable turnover, working capital turnover, total asset turnover, and cash turnover) and CNM were able to moderate their correlation with OER in the KPRI in Simalungun Regency.

II. LITERATURE STUDY AND HYPOTHESIS DEVELOPMENT

2.1 OER

According to Munawir (2007: 33), OER is the difference between the available capital for the owner of a company and the amount of owner’s equity which is instilled by the owner of the company. The profit which is taken into account is the business profit after it has been reduced by foreign interest capital and income tax or earning after tax (EAT), while the capital which is taken into account is only owner’s equity which is available in the company.

2.2 Liquidity

According to Subramanyam and Wild (2010: 43) liquidity is the capacity of a company to meet its reliability in a short term. It is a term which is often used to indicate the stock of cash and the other assets which can easily be used as cash in order to meet short-term liability or company’s current liabilities.

Liquidity ratios generally used are as follows:

1. Current Ratio

Current ratio indicates how far current asset can cover current liabilities. The farther the difference between current asset and current liability is, the higher the capacity of a company to meet its short-term liability. Low current ratio is usually considered indicating that there is a problem in liquidity; on the other hand, too high current ratio is also not good because it indicates that there is more idle money which can eventually reduce the company’s profitability (Sawir, 2009: 10).

2. Quick Ratio

According to Horne and Wachowicz (2005:168), quick ratio indicates the capacity of a company to meet its short-term liabilities with the most liquid assets. Calculation of quick ratio is
done by reducing current assets from the stock because stock is the element of current asset which liquidity is low and often undergoes price fluctuation which causes financial loss when liquidity occurs.

3. Cash Ratio

One of the assessment components of the health of a cooperative is its liquidity assessment. Measurement for a cooperative’s liquidity is done with two methods: 1) cash ratio and 2) loan volume ratio on the received funds. Measurement of cash ratio is done by comparing an amount of cash plus the Bank with the liability of current cooperative. Measurement for loan volume ratio on the received fund is done by comparing loan volume with the funds received by a cooperative (the Decree of the State Minister of Small and Medium Business and Cooperatives of the Republic of Indonesia No14/Per/M.KUKM/XII/2009)

2.3 Solvability

Solvability indicates the capacity of a company to meet all its financial liabilities if it is liquidated (Riyanto, 2010:32).

The methods which is generally used to measure solvability ratio, according to Kasmir (2010: 112), are

1. Debt to Equity Ratio which is used to value debt with equity. This ratio is useful to find out the number of funds provided by a borrower for the owner of a company.
2. Debt to Asset Ratio is a debt ratio which is used to find out how far a company’s assets are financed by debt or how big company’s loan influences asset management.

2.4 Activity

What is meant by activity in this research is the same as asset management. Measuring the efficiency and effectiveness of asset management in a company or an agency can be done by measuring activity ratio. According to Astuti (2004: 32), activity ratio indicates how fast current asset can be converted to cash.

Measuring activity ratio can be done by the following ways:

1. Receivable Turnover

According to Riyanto (2010: 91), receivable turnover had direct effect on the amount of capital invested in receivables. The higher its turnover, the faster the turnover which indicates that it takes a short time for capital attached to receivable so that by the increase in its turnover, less amount of capital is needed to be invested in receivable to maintain certain net credit sales.

2. Working Capital Turnover

Working Capital Turnover is the capacity of work capital turnover (net) in a period of cash cycle of a company (Riyanto, 2010:335).

3. Total Asset Turnover

According to Kasmir (2010: 114), asset turnover is a ratio which is used to measure the turnover of all assets owned by a company. Brigham and Houston (2010:136) point out that if a company has too many assets, its capital cost will be high and its profit will be less. On the other hand, if the assets are too small, the opportunity to get profit will be vanished.

4. Cash Turnover

Riyanto (2010:95) points out that cash turnover is the difference between sale and the average amount of cash. Wild, et. al., (2005: 42) point out that the higher the level of cash turnover, the faster the cash returns to a company. Therefore, cash can be reused to finance operational activity so that it does not disturb the company’s financial condition. The higher the cash turnover is, the higher the efficiency of using its cash.

2.5 CNM

Cooperative membership should be based on economic mutual interest in the scope of cooperative business, it can be obtained after meeting all the requirements stipulated in the Articles of Association, it cannot be transferred, each member has the same right and liability for the cooperative according to the Articles of Association (Law No. 25/1992 on Cooperatives).

Besides the user of service, a cooperative member is also the owner so that he can influence the cooperative’s success. In this case, a member is demanded to actively participate in the cooperative’s business activity. Business continuity of a cooperative is closely related to its members’ active role. The more the cooperative members who deposit their money in a cooperative are, the more increased the volume of its activity.
2.6 Conceptual Framework

Conceptual framework of the research was as follows:

![Conceptual Framework Diagram]

**Picture 1. Conceptual Framework**

2.6 Hypothesis

Based on the introduction, literature study, and conceptual framework, the hypothesis of this research was as follows:

**H1**: Liquidity (current ratio, quick ratio, cash ratio), solvability (debt to equity ratio, debt to asset ratio), and activity (receivable turnover, working capital turnover, total asset turnover, and cash turnover) partially had the influence on OER in KPRI in Simalungun Regency.

**H2**: Interaction between liquidity (current ratio and quick ratio, and cash ratio) and CNM, solvability (debt to equity ratio and debt to asset ratio) and CNM, activity (receivable turnover, working capital turnover, total asset turnover, and cash turnover) and CNM could moderate their correlation partially with OER in KPRI in Simalungun Regency.

III. METHODOLOGY

The research used associative causal design and quantitative method. Secondary data were obtained from the Accountability Report of KPRI in Simalungun Regency in the period of 2010-2015 and from the other sources.

The research also used census method. The population was employees’ cooperatives in Simalungun Regency that had Cooperative’s Legal Entity and the members of PKP-RI (Central Cooperative of the Republic of Indonesia) of Simalungun Regency with the research period of 2010-2015.

The research data used data pooling, in time series and cross section. There were 36 (thirty six) cooperatives in Simalungun Regency which were used as the research subjects. The research period was six years so that the data consisted of 216 (two hundred and sixteen) data altogether.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition of Operational</th>
<th>Indicator</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner’s Equity Rentability (OER) (Y)</td>
<td>OER is the capacity to yield profit or Surplus of a Cooperative (henceforth SoC) using owner’s equity deposited by a cooperative member.</td>
<td>OER is measured by comparing SoC with Owner’s Equity in a cooperative. [ \text{OER} = \frac{\text{SoC}}{\text{Owner’s Equity}} \times 100% ]</td>
<td>Ratio</td>
</tr>
<tr>
<td>Liquidity (X₁)</td>
<td>Liquidity is the capacity to meet short-term obligation which falls due from company’s current assets.</td>
<td>1. Current Ratio (CR) – ( X_{11} ) measuring company’s capacity to meet its short-term obligation with all current assets. [ \text{CR} = \frac{\text{Total Current Assets}}{\text{Short-term Liability}} \times 100% ] 2. Quick Ratio (QR) – ( X_{12} ) measuring company’s capacity to meet its short-term obligation with the most liquid assets. [ \text{QR} = \frac{\text{Current Assets} - \text{Stocks}}{\text{Short-term Liability}} \times 100% ]</td>
<td>Ratio</td>
</tr>
<tr>
<td>Solvability (X₂)</td>
<td>Solvability is the capacity to meet all sort and long term obligations if the company is liquidated.</td>
<td>1. Debt to Equity Ratio (DER) – ( X_{21} ) measuring company’s capacity to meet its obligation or liabilities by owner’s equity as security. [ \text{DER} = \frac{\text{Total Debt}}{\text{Total Equity}} \times 100% ] 2. Debt to Assets Ratio (DAR) – ( X_{22} ) measuring company’s capacity to meet its obligation or liabilities by total assets as security. [ \text{DAR} = \frac{\text{Total Debt}}{\text{Total Asset}} \times 100% ]</td>
<td>Ratio</td>
</tr>
<tr>
<td>Activity (X₃)</td>
<td>Activity is a company’s capacity to manage its assets in order to make them efficient and effective.</td>
<td>1. Receivable Turnover (RTO) – ( X_{31} ) indicating how many times a company bills its loan in a certain period. [ \text{RTO} = \frac{\text{Income}}{\text{Average Receivables}} ] 2. Working Capital Turnover (WCT) – ( X_{32} ) capacity of work capital modal turns over in a cash cycle period. [ \text{WCT} = \frac{\text{Current Assets} - \text{Short-term Liability}}{\text{Average Working Capital}} ] 3. Total Asset Turnover (TAT) – ( X_{33} ) Measuring how much income from each available asset in a company. [ \text{TAT} = \frac{\text{Income}}{\text{Total Asset}} ] 4. Cash Turnover (CTO) – ( X_{34} ) indicating how many times a company has had cash turnover during a reporting period. [ \text{CTO} = \frac{\text{Income}}{\text{Average Cash &amp; Bank}} ]</td>
<td>Ratio</td>
</tr>
<tr>
<td>Change in the Number of Members (CNM) (Z)</td>
<td>Change in the Number of Members (CNM) describes the increase and the decrease in CNM as capital owners and fund users in a cooperative.</td>
<td>CNM is measured by reducing the number of cooperative’s members in the current year from the member in the previous year. [ \text{PJA} = X_{2} - X_{1} ] Where: ( \text{NM} = \text{Number of Members} ) ( y = \text{current year} ) ( p = \text{previous year} )</td>
<td>Ratio</td>
</tr>
</tbody>
</table>
3.1 Method of Analyzing the Data

The research was analyzed by using Structural Equation Modeling (SEM) method. Ghozali (2014: 61) points out that SEM is the combination of factor analysis and path analysis. They become one comprehensive statistic method.

3.2 Hypothetical Test

1. First Hypothetical Test

The first hypothetical test was used to test the influence of liquidity, solvability, and activity on OER with regression equation as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e \]

2. Second Hypothetical Test

In this research, moderation test was used for moderation significance test by using interaction approach with regression equation as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4 (X_1.Z) + b_5 (X_2.Z) + b_6 (X_3.Z) + e \]

Explanation:

- \( Y \) = OER
- \( a \) = Constant
- \( b_1 \) = Regression coefficient for Liquidity
- \( b_2 \) = Regression coefficient for Solvability
- \( b_3 \) = Regression coefficient for Activity
- \( b_4 \) = Regression coef. for moderating variable 1
- \( b_5 \) = Regression coef. for moderating variable 2
- \( b_6 \) = Regression coef. for moderating variable 3
- \( X_1 \) = Liquidity
- \( X_2 \) = Solvability
- \( X_3 \) = Activity
- \( Z \) = CNM
- \( e \) = Error term

The influence of moderation is considered significant when probability value (p-value) of \( X.Z \) coefficient < 0.05

IV. RESEARCH RESULT

1. Result of the First Hypothesis Test (Without Moderating Variable)

The result of AMOS output with Maximum Likelihood Model SEM method without moderating variable

<table>
<thead>
<tr>
<th>Regression Weights: (Group number 1 - Default model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{Estimate} )</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>x13 ( \leftarrow ) X1</td>
</tr>
<tr>
<td>x12 ( \leftarrow ) X1</td>
</tr>
<tr>
<td>x11 ( \leftarrow ) X1</td>
</tr>
<tr>
<td>Y ( \leftarrow ) X1</td>
</tr>
<tr>
<td>Y ( \leftarrow ) x21</td>
</tr>
<tr>
<td>x34 ( \leftarrow ) X3</td>
</tr>
<tr>
<td>x32 ( \leftarrow ) X3</td>
</tr>
<tr>
<td>x31 ( \leftarrow ) X3</td>
</tr>
<tr>
<td>Y ( \leftarrow ) X3</td>
</tr>
</tbody>
</table>

Source: Result of Data Processing with Amos

Based on Table 2, it was found that probability value for liquidity (X1) and Activity (X3) on OER (Y) was \( p < 0.05 \) which indicated that liquidity and activity had significant influence on OER. Probability value for Solvability (X2) on OER was \( p = 0.07408 > 0.05 \) which indicated that Solvability had insignificant influence on OER.

Table 3

Result of First Regression Equation Constant Output

<table>
<thead>
<tr>
<th>Intercept</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>X13</td>
<td>8.256727</td>
<td>22.11713</td>
<td>3.85526</td>
<td>*** par_11</td>
</tr>
<tr>
<td>X12</td>
<td>755.90634</td>
<td>92.85502</td>
<td>8.14072</td>
<td>*** par_12</td>
</tr>
<tr>
<td>X11</td>
<td>760.82245</td>
<td>95.22321</td>
<td>7.98988</td>
<td>*** par_13</td>
</tr>
<tr>
<td>Y</td>
<td>8.69080</td>
<td>.81586</td>
<td>10.65232</td>
<td>*** par_14</td>
</tr>
<tr>
<td>X34</td>
<td>920.6615708</td>
<td>24405.97908</td>
<td>3.77228</td>
<td>*** par_16</td>
</tr>
<tr>
<td>X32</td>
<td>294.33097</td>
<td>77.58857</td>
<td>3.79348</td>
<td>*** par_17</td>
</tr>
<tr>
<td>X31</td>
<td>23.82079</td>
<td>.49153</td>
<td>48.46284</td>
<td>*** par_18</td>
</tr>
</tbody>
</table>

Source: Result of Data Processing with Amos

Regression equation to find out the influence of liquidity, solvability, and activity on OER is as follows:

\[ Y = 8.69080 + 0.01181 X_1 + 0.00014 X_2 + 0.00001 X_3 \]

From the result of the first regression equation, it was found that when independent variables (liquidity, solvability, and activity) were assumed to have 0 values, OER would be 8.69080. Regression coefficient of b1, b2, and b3 indicated direct relationship of liquidity, solvability, and activity with OER: if the values of liquidity, solvability, and activity increased, OER would also increase and vice versa.

Determination coefficient could be observed from the value of Square Multiple Correlations which indicated how far independent variables could explain dependent variable of this research model. The value of Square Multiple Correlations was 0.29598 which indicated that the variables of liquidity, solvability, and activity could explain OER of 29.598%, while the remaining 70.402% were influenced by other variables excluded from the research model.

2. Result of the Second Hypothetical Test (with Moderating Variable)

a. Interaction between \( Z \) and \( X_1 \) in Moderating their Correlation with \( Y \)

Graph of the Result of Interaction between the number of members (Z) and Liquidity (X1) in moderating their correlation (X1.Z) with OER (Y) as follows:
Interaction between CNM (Z) and Liquidity (X1) in Moderating their Correlation (X1.Z) with OER (Y)

From Picture 2, it was found that Interaction between CNM (Z) and Liquidity (X1) in Moderating their Correlation (X1.Z) with OER (Y) could be seen in Table 4 below:

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y &lt;- X1</td>
<td>.00474</td>
<td>.00099</td>
<td>4.77100 ***</td>
</tr>
<tr>
<td>Y &lt;- Z</td>
<td>-0.00800</td>
<td>.13031</td>
<td>-0.06137 .95107</td>
</tr>
<tr>
<td>Y &lt;- X1.Z</td>
<td>-0.00007</td>
<td>.00028</td>
<td>-0.25138 .80152 ***</td>
</tr>
</tbody>
</table>

Source: Result of Data Processing with Amos

The result of the research showed that significance value (p) of X1.Z = 0.80152 > 0.05 which indicated there was insignificant interaction of CNM (Z) and Liquidity (X1); in other words, they could not moderate the correlation of X1.Z with OER (Y). Beta coefficient value (b4) was -0.00007 which indicated that there was reverse correlation of interaction between CNM and Liquidity (X1.Z) and OER (Y). When the interaction of CNM and Liquidity (X1.Z) increased 1 unit, OER would decrease to 0.00007 units and vice versa with the assumption that the other independent variables were considered stable or similar to zero (0).

b. Interaction between Z and X2 in Moderating their Correlation with Y

Graph of the result of interaction between CNM (Z) and Solvability (X2) in moderating their correlation (X2.Z) with OER (Y) as follows:

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y &lt;- X2</td>
<td>-.00052</td>
<td>.00011</td>
<td>-4.71679 ***</td>
</tr>
<tr>
<td>Y &lt;- Z</td>
<td>.17162</td>
<td>.07694</td>
<td>2.23049 .02572</td>
</tr>
<tr>
<td>Y &lt;- X2.Z</td>
<td>-.00036</td>
<td>.00004</td>
<td>-10.05724 ***</td>
</tr>
</tbody>
</table>

Source: Result of Data Processing with Amos

From the result of the research, it was found that significance value (p) < 0.05 which indicated that there was significant interaction of CNM (Z), or it could be said that it could moderate the correlation of X2.Z with OER (Y). Beta coefficient value (b5) was -0.00036 which indicated that there was reverse correlation of interaction between CNM and Solvability (X2.Z) and OER (Y). When the interaction of CNM and Solvability (X2.Z) increased 1 unit, OER would decrease to 0.00036 units and vice versa with the assumption that the other independent variables were considered stable or similar to zero (0).

c. Interaction between Z and X3 in Moderating their Correlation with Y

Graph of the result of interaction between CNM (Z) and Activity (X3) in moderating their correlation (X3.Z) with OER (Y) as follows:

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y &lt;- X3</td>
<td>.000010</td>
<td>.000009</td>
<td>1.063328 .287633</td>
</tr>
<tr>
<td>Y &lt;- Z</td>
<td>.152610</td>
<td>.092160</td>
<td>1.655922 .097738</td>
</tr>
<tr>
<td>Y &lt;- X3.Z</td>
<td>-.000003</td>
<td>.00001</td>
<td>-3.698590 ***</td>
</tr>
</tbody>
</table>

Source: Result of Data Processing with Amos
From the result of the research, it was found that significance value (p) < 0.05 which indicated that there was significant interaction of CNM (Z), or it could be said that it could moderate the correlation of X3.Z with OER (Y). Beta coefficient value (b6) was -0.00003 which indicated that there was reverse correlation of interaction between CNM and Activity (X3.Z) and OER (Y). When the interaction of CNM and Activity (X3.Z) increased 1 unit, OER would decrease to 0.00003 units and vice versa with the assumption that the other independent variables were considered stable or similar to zero (0).

The second regression equation could be seen from the result of AMOS output intercept as follows:

### Table 7  
Result of Second Regression  
Equation Constant Output of  
Intercepts: (Group number 1 - Default model)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y = 8.837355 + 0.00474 X1 + 0.00052 X2 + 0.000010 X3 + 0.000007 X1.Z + 0.00036 X2.Z – 0.000003 X3.Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where:

- Y = OER
- X1 = Liquidity
- X2 = Solvability
- X3 = Activity
- Z = CNM
- X1.Z = Interaction between Liquidity and CNM
- X2.Z = Interaction between Solvability and CNM
- X3.Z = Interaction between Activity and CNM

Determination coefficient of the second regression equation (with moderating variable) indicated that the value of Squared Multiple Correlations was 0.321448 which indicated that liquidity, solvability, and activity, interaction between liquidity and CNM, between solvability and CNM, and between activity and CNM could explain OER of 32.1448%, while the remaining 67.8552% were explained by other variables excluded from the research model.

Whether moderating variable could strengthen or weaken its correlation with OER could be seen in Table 8 below:

### Table 8  
Differences in the Result of the First and Second Regression Equation

<table>
<thead>
<tr>
<th>Regression 1</th>
<th>Regression 2</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y = 8.69080</td>
<td>8.837365</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Y ← X1</td>
<td>0.01181</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Y ← X21</td>
<td>0.00014</td>
<td>-0.00052</td>
<td>0.07408</td>
</tr>
<tr>
<td>Y ← X3</td>
<td>0.00001</td>
<td>0.000010</td>
<td>***</td>
</tr>
<tr>
<td>Y ← X1Z</td>
<td>-0.00007</td>
<td>0.80152</td>
<td></td>
</tr>
<tr>
<td>Y ← X2Z</td>
<td>-0.00036</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Y ← X3Z</td>
<td>-0.000003</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

Determinant Coefficient: 0.29598 to 0.321448  
Source: Result of Data Processing

From Table 8 above, it was found that significance value of the result of the second regression (P2) with moderating variable showed the value < 0.05 which indicated that moderating variable was able to moderate its correlation with OER.

The result of the research also showed that beta coefficient of each moderating variable was negative which indicated that moderating variable weakened the influence of liquidity, solvability, and activity on OER. Regression value showed that the value was small because the variable of CNM (Z) which was only measured from the variance of increase or decrease in each period during the research period (2010-2015) had not been reflected in the increase or decrease in the number of cooperative members since it was established.

It was also found that there was the increase in value of Square Multiple Correlations from 0.29598 to 0.321448 which indicated that there was the increase in the capacity of the variables of liquidity, solvability, and activity to explain OER after there was the change in the number of members which was interacted into each independent variable. It indicated that the interaction of moderating variable was able to moderate the correlation of liquidity, solvability, and activity with OER.

V. DISCUSSION AND RESEARCH RESULT

5.1 Influence of Liquidity on OER

The result of the analysis which had been done showed that liquidity had positive and significant influence on OER. It was found that each increase in liquidity would have the impact on the increase in OER and vice versa.

Liquidity (current ratio, quick ratio, cash ratio) of KPRI in Simalungun Regency underwent fluctuation and tended to decline during the period of research (2010-2015), followed by CNM which also tended to decline. This was caused by the increase in current assets of KPRI in Simalungun Regency which was lower than the increase in its current liabilities. The increase in current liabilities
are usually found in the amount of cash and Bank and the channel of credit to cooperative members (savings and loan), while the increase in short-term liability which usually occurs because of the increase in voluntary savings and surplus of a cooperative for cooperative’s operational activities such as the increase in administrative load for channeling credit for its members, and cost for billing the loan of savings and loan terms. The increase in operational cost can cause the surplus of a cooperative to decrease so that it will influence OER in a cooperative.

On the hand, KPRI in Simalungun Regency in the period of 2010-2015 should control its current assets and current liabilities in order to increase its SoC so that its OER can also increase.

5.2 Influence of Solvability on OER

The result of the research showed that positive beta in which the increase in Solvability which was proxied with Debt to Equity Ratio (DER) could increase OER and vice versa. DER in KPRI of Simalungun Regency underwent fluctuation and tended to decline in the period of this research (2010-2015), followed by the decrease in OER, caused the financing source of the cooperative which came from owner’s equity, underwent higher increase that of the total of debt. The total debt of KPRI in Simalungun Regency tended to in increase, in which voluntary deposit with interest and some funds obtained from the exclusion of SoC such as education funds, charitable donation, and funds for developing working area which had not been used, tended to increase.

The difference between interest which was imposed on borrowers (cooperative’s members) and the interest which was paid to creditors (depositors of voluntary deposit) was very small which caused SoC to decrease while OER in the cooperative which increased could cause the increase in the distribution of SoC so that OER decreased.

Based on the result of the test, it was found that significance value of DER (X21) was 0.07408 > 0.05 which indicated that Solvability (DER) did not have any influence on OER because the source of the cooperative’s income came from channeling credit to its members. Actually, the source of financing to channel credit to the members can come from borrowed capital and from owner’s equity in a cooperative. Meanwhile, in the research object, financing from owner’s equity was not optimal due to the decrease in the number of members. However, if owner’s equity increased, along with the increase in the number of members (the increase in owner’s equity from principal savings, mandatory savings, and voluntary savings), and the activity in a cooperative increased (the increase in the funds which could be channeled), SoC would also increase which would eventually influence OER.

The result of the second regression (with moderating variable) showed that the value of beta was negative in which the increase in solvability (DER) could decrease OER; on the other hand, the decrease in solvability could increase OER. It was because the increase in equity in borrowed capital (credit) would increase interest expense paid for cooperative members as depositors. The increase in operational cost could decrease SoC which would have the impact on the decrease in OER. The increase in equity from owner’s equity could also decrease the value of OER because owner’s equity was a divisor in calculating OER.

It is recommended that KPRI in Simalungun regency control its total debts and owner’s equity in order to increase cooperative’s OER.

5.2 Influence of Activity on OER

Based on the result of the test, it was found that activity had positive ad significant influence on OER. It was also found that each increase in activity would have the impact on the increase in OER and vice versa. The value of Receivable Turnover (RTO), Working Capital Turnover (WCT), Total Asset Turnover (TAT), and Cash Turnover (CTO) tended to decrease, followed by the decrease in OER. This condition indicated that the activity of KPRI in Simalungun Regency was not optimal because current assets needed to channel credit such as non-optimal cash, high loan of savings and loan, while its rotation to be cash which could be re-channeled to the other members was low. Therefore, income (operating income) decreased while operational cost which had to be paid by the cooperative increased and SoC also decreased which eventually OER decreased.

It is recommended that KPRI in Simalungun Regency optimize its working capital in order to increase SoC so that OER in the cooperative would increase.

5.3 Interaction of CNM in Moderating the Correlation of Liquidity, Solvability, and Activity with OER

Interaction between Liquidity (current ratio, quick ratio, cash ratio) and CNM (X1.Z) indicated that significance value (P2) was 0.80152 > 0.05 which indicated that interaction of X1.Z could not moderate its correlation with OER. This was because the research objects were Savings and Loan Cooperatives whose members were Government employees who worked at the Agencies of the Simalungun District Administration and retired employees in this Regency so that the number of members was small and the interaction with liquidity did not influence OER in the cooperatives.
Interaction between solvability (debt to equity ratio, debt to asset ratio) and CNM (X2.Z) indicated significant value which indicated that interaction of X2.Z was able to moderate its correlation with OER.

Interaction between activity (receivable turn over, working capital turn over, total asset turn over, cash turn over) and CNM (X3.Z) indicated significant value which indicated that the interaction of X3.Z was able to moderate its correlation with OER.

This significance value indicated the up and down of the number of members which could cause the up and down of cooperative’s OER which came from principal savings and mandatory savings received from the members. Participation of active members could increase operating income which would eventually increase profit and rentability of the cooperative.

The result of the research showed that beta had negative value in which the increase in CNM could decrease capital rentability and vice versa. This was because new members could borrow the money while their savings were too small to be borrowed which would eventually decrease cooperative’s profit (SoC) which had the impact on the decrease in capital rentability itself.

VI. CONCLUSION AND SUGGESTION

a. Conclusion
Based on the result of the research, it could be concluded that

1. Partially, there was the influence of liquidity, solvability, and activity on OER in KPRI of Simalungun Regency in the period of 2010-2015. Liquidity and activity had significant influence on OER, while solvability had insignificant influence on OER.

2. Interaction between CNM and independent variables in moderating its correlation with OER in KPRI of Simalungun Regency was as follows:
   a) Interaction between CNM and Liquidity (debt to equity ratio, debt to asset ratio) could not moderate their correlation with OER;
   b) Interaction between CNM and Solvability (debt to equity ratio, debt to asset ratio), and interaction between CNM and Activity (receivable turn over, working capital turn over, total asset turn over, cash turn over) could moderate their correlation with OER.

b. Suggestion
Some suggestions would be given as follows:

1. The next researchers should increase the value of determination coefficient by using other factors other than the ones which have been taken in this research in order to explain their influences on OER;

2. The next researchers who want to do their researches which resemble this research should use the longer period in order to obtain wider range of data so that the result of the research objects will be better;

3. The next researchers who want to do their researches which resemble this research should choose the other research objects other than Savings and Loan Cooperatives.

REFERENSI


