

KPA International Symposium in Indonesia 2014

Startup, Technology & Productivity in Korea and Indonesia

Venue : Convergence Hall in Ministry of Cooperatives and SMEs,
Jakarta / Indonesia

Date & Time : August 20 ~ 24, 2014

Co-hosted by : Korea Productivity Association
Indonesia Cooperative Management Institute (IKOPIN)
SKKU graduate school of global entrepreneurship

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Magister Management
Post Graduate Program

Indonesia Institute of Cooperative Management (IKOPIN)

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Estimation of Cooperative Financial Performance Model Through Capital Structure and Credit Risk Approach

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Abstract

To measure the financial performance of the cooperative, especially cooperatives with lending and borrowing activities, will be based on performance measures of savings and loans which include aspects of capital, asset quality, efficiency, liquidity, and growth as well as the identity of cooperatives

There are two aspects that need to be considered by the management in financial decision making, which is the rate of return (return) and risk (risk). The study of financial decisions have found that the financial sustainability of the cooperative is influenced by the capital structure and credit risk

Keywords: financial performance cooperative, capital structure, credit risk

1. Introduction

A cooperative enterprise serve as organizational cooperative to implement various economic decisions. The task of cooperative management are : (1). Improve the economic conditions of household members through the services provided to them (2). Improve the participation of members , so the success of cooperative organizations should be assessed based on two tasks, which should generate benefits for members at a time are cooperative enterprise performance improvement.

The success of the cooperative performance should be distinguished between a company's success and the success of the cooperative as an individual company members (member economy), this is in line with the opinion Duffer (1994)

As a corporation, cooperative success is measured on the financial aspects such as assets, liabilities, equity, sales, operating results/profit and others. Assessment of the success of cooperatives should be seen as a cooperative enterprise that carries out economic activities and cooperatives serve their members.

2. Cooperative Financial Performance

Performance is a reflection of the success of the business . Anthony, Banker, Kaplan, and Young (1997) defines performance measurement as "the activity of measuring the performance of an activity or the entire value chain". of the above definition can be concluded that the measurement of performance measurement is performed action activities in the value chain in the company, used as feedback that will provide information about the achievement of implementing a plan and the point where the company requires an adjustment to the activity planning and control (Anderson and Clancy,1991)

Financial ratio analysis is used to assess the financial performance, usually expressed in financial ratios are divided into four main categories. (a) the ratio of profit, which is indicated to assess the level of profits of an enterprise; (b) the ratio of the activity, which tries to measure the efficiency of the operations of the company (c) the leverage ratio, is shown to measure capital structure of a company; and (d) the liquidity ratio, measure how liquid the company to meet short-term obligations. (Chang and Flores, 1989. Rasio liquidity is used as an indicator of the ability to pay the short term debt (usually one year),example current ratio. Current Ratio aims to compare the position of current assets to current liabilities held that must be repaid in the short term

The ratio of the activity or efficiency ratio consists of the average receivables collection period (average collection period), which measures the average number of days the funds tied up in receivables before they are charged. Total

assets turnover ratio (total asset turnover), is the ratio used to measure the properties owned companies can generate revenue, or in other words, to measure how much the company earned income.

Profitability ratio or the ratio of the main results consist of the ratio of the increase in operating revenues (profit margin), the ratio of operating income compared to total assets (return on total assets) and the ratio of operating income compared to investment (profit margin), is the ratio of the extent of the increase profitability or operating profit obtained from revenues. Return on total assets is the ratio used to measure the amount of operating income generated by the assets of the company.

Debt Leverage ratio compared with total assets (debt to total assets) and the ratio of total liabilities compared to total capital (debt equity ratio). Debt to total assets is used creditors and investors to see the magnitude of the risk faced by them in connection with participation in the company funds. The greater this ratio the greater the possibility that the company is unable to pay its obligations. This ratio is the ratio between the total liabilities and total assets. Debt-equity ratio is a ratio used by lenders to look at the capital structure or financing company. This ratio is the ratio between total liabilities and total equity.

To measure the financial performance of the cooperative, especially cooperatives engaged in lending and borrowing activities, will be based on performance measures of performance savings and loans which include aspects of capital, asset quality, efficiency, liquidity and growth as well as the identity of the cooperative

The overall financial performance of the approach, in this paper will proxied with *return on assets*, which illustrates how much the ability of cooperatives in obtaining profit of every unit funds used (Pankaj K. Agarwal, et al, 2010).

3. Capital Structure

Capital structure or the capitalization of the firm is the permanent financing represented by long-term debt, preferred stock and shareholders' equity, a firm's capital structure is only part of its financial structure. "(Weston and Copeland, 2007). Capital structure is the mix of long-term debt and equity maintained by the firm. Modigliani and Miller (1958) put forward a financial theory which states that the value of a company is only dependent on future earnings expectations based on the size of the yield which is discounted at a certain interest rate. This theory is known as the theory of capital structure of Modigliani and Miller First Proposition. Proposition two states if the expected yield of a company remains the additional debt will increase the yield of the capital cost and magnitude comparable with additional debt.

The second proposition of Modigliani and Miller's, produce a formula known as the weighted average cost of capital is used as the discount rate. Modigliani and Miller in 1963, then refine the theory presented above with the added assumption that the use of tax debts can provide benefits in the form of tax savings. With these assumptions among which are the perfect market and the absence of transaction costs.

The development of the theory of capital structure of Modigliani and Miller, among is *the trade-off theory*. A company has a large debt usage will have difficulties greater risk and financial distress.

The trade-off theory of capital structure is formed as a theory, as contained in the proposition I and II Modigliani Miller unrealistic applied in the real world. The assumptions applied in this theory are i.e :

1. The application of corporate tax.
2. The existence of individual tax imposed on investment returns such as dividends, capital gains and interest.
3. The cost of bankruptcy and financial distress.
4. Agency problems between managers, shareholders and bondholders.
5. Characteristics of assets, earnings volatility and firms' investment opportunity set.
6. The structure of corporate ownership and control.

Alternative theory regarding the structure of the pecking order theory of capital that describes the company's priorities in the use of sources of income. This theory was stated by Myers (1984). This theory is based on assumptions relating to the behavior of financial companies: dividend policy is sticky. This statement implies that the manager seeks to sustain the divide payment for any benefits achieved by constant at all levels cost. The company

prefer to use internal sources such retained earnings rather than external funding such as the issuance of shares or debt securities.

- If the company chooses more external funding, many companies will have a funding source that has the safest risk.
- If the company needs more external funding, the company will choose the funding of the safest debt risk, then higher risk debt, convertible securities, preferred stock and common stock .

In a cooperative enterprise preferred stock and common stock may be analogous to the principal savings and mandatory savings, Hanel, A (1989) defines a financial contribution of members as equity or shares, reserves and deposit formation. Thus the cooperative financing sources as well as with other business entities can be obtained from its own capital resources (equity) as well as the source of loan capital (debt).

Modigliani and Miller (1958) argued that the leverage (capital structure) is independent of the value of the company, and is known to irrelevance theory. Furthermore, as quoted by Brigham, EF, (2009) Modigliani and Miller concluded that leverage will increase the value of the company due to debt interest reduces the taxable income. The debate shows that there is no single theory of capital structure, focus specifically on the theory underlying this paper, which is about the pecking order theory. Pecking order theory based on the assumption that managers know more information about the company's prospects than outside investors, so that outside investors trying to catch signal activity manager to suspect the company's prospects. This theory criticizes the assumption Modigliani and Miller argue that there is symmetric information; in fact, very difficult to find information symmetrical, because managers tend more to get information from the investors.

Cooperative equity consists of member savings, other deposits which have the same characteristics as compulsory savings, capital investments, capital contributions, reserves and results of operations. The equity of cooperative has four criteria common are:

1. Derived from owners who determine ownership and or from the company that is in the form of reserves or retained earnings,
2. Risk Capital and income is not fixed, meaning that if the company is to benefit the owners of capital or equity receives profit from the company, on the contrary when the company suffered a loss of capital owners do not accept profit.
3. An owner claims when the company is liquidated or dissolved,
4. Embedded in the company in the long term is not limited, or also called as the permanent capital.

Thus the loan capital has the opposite characteristics of equity characteristics.

Companies including cooperatives are often faced the decision of selecting a source of capital, whether equity or loan. The use of debt is expected to provide additional operating profit (EBIT) is greater than the interest paid. The use of debt is expected to increase the profitability of its own capital (Return on Equity). (Sued Husnan 2006):

Another capital structure theory has been developed include: Agency theory, Signaling theory, Asymmetric theory, Information theory, and Pecking order theory. Agency theory, proposed by Jensen and Meckling (Horne and Wachowicz, 1998), management is an agent of the shareholders, as owners of the company. The shareholders expect the agent will act on their interests so as to delegate authority to the agent. To be able to function properly, the management should provide incentives and adequate supervision. Control can be done in ways such as the binding agent, the examination of financial statements, and limited against management decisions can be taken. Surveillance activities of course costs called agency costs. Agency costs by Horne and Wachowicz, (1998), are the costs associated with the management oversight to ensure that management acts consistent with the firm contractual agreement with creditors and shareholders.

Signaling theory, a sign or signal, is an action taken by the management company that provides guidance to investors about how management sees the company's prospects Brigham and Houston (2001: 36), with the prospect of a profitable company will try to avoid the sale of capital stock and commercialize any required new ways, including the use of debt that exceeds the normal capital structure targets. Companies with less favorable prospects will tend to increase their own capital from outside the company.

Asymmetric Information Theory, or the inequality of information by Brigham and Houston (2009), is a situation where managers have different information (better) about the prospects of the company owned by investors, information asymmetry occurs because the management has more information than financiers (Suad Husnan, 2006).

Pecking Order Theory, this theory states that: (1) companies like internal financing (revenue from the company's operating results in the form of retained earnings), (2) if funding from outside (external financing) the company issuing the safest securities in advance, which began with the issuance of bonds, followed by securities are characterized options (such as convertible bonds), (3) if still not sufficient, the new shares issued. In accordance with this theory there is not a target of debt to equity ratio, because there are two types of capital itself, namely internal and external. In the financial management of the agency relationship arises between shareholders with management, the shareholders with creditors, and management with creditors. In the cooperative company members act as principal and his agent is manager (management). Cooperative consisting of supervisors, administrators, managers/employees. For companies that have separated the management of the business of the owner and submitted to management, managerial skills supplied by the managerial labor market, capital needs are supplied by the shareholders (stakeholders) and lenders (debt holders). Agency problems (moral hazard) which may arise in the use of cooperative services, in contrast to other organizations that service user and the owner are the same person. This shows that the cooperative members have a dual role (dual identity), members must participate in the position as the owner and the other side is also participating as a service user. Participation of members have a crucial position in the cooperative management, because the participation of members will affect the implementation and performance management. Agency problems in savings and credit cooperatives have also emerged, namely the management of savings and credit cooperative with members, members other than the owner as well as clients (borrowers and / or depositors). It will also lead to the agency problem, as long as there are several possibilities for failure (the return of the borrower) or likely to fail to comply with contractual savings (making money by depositors) either because of a shortage of cash and no misappropriation of money

In the cooperative enterprise, management must perform the mandate of the members who serves as owner and service users. To carry out this mandate required strategic efforts to increase the capabilities and its commitment so that the company can produce a competitive advantage cooperative in accordance with the expectations of the members.

In this paper the measurement of capital structure in accordance with microfinance institutions to approach use *Total Debt to Total Assets* is the ratio of Total Debt to Total Assets and *Total Debt to Equity* which is the ratio of total debt to equity (Rai Anand K. Rai, Sandhya, 2012)

4. Credit Risk

Risk is the chance of financial loss or the variability of return associated with a given asset (Gitmann J Laurence, 2005)

Risk is the possibility of differences between the actual return earned by the expected return. Risk is an integral part of the financial services (Deekhand, 2009). Risks encountered must be managed efficiently and effectively. If the cooperative does not manage risk well, it will likely fail to meet the social and financial objectives. Risks that are not managed properly will result in financial losses, thus, investors, lenders, borrowers and savers tend to lose confidence in the cooperative which will result in difficulty in raising funds

There are two aspects that need to be considered by the management company in financial decision making, which is the rate of return and risk of the financial decisions. The rate of return is expected reward obtained in the future, while the risk is defined as the uncertainty of the expected benefits. Risk is the possibility of deviation from the average of the expected rate of return that can be measured by the standard deviation by using statistics.

A more risky financial decisions necessarily expected to provide greater return, which in finance known as "High Risk High Return". There is a trade off between risk and return, so that in the selection of a variety of alternative financial decisions that have risks and returns that are different, making financial decisions need relative risk decision. Used to measure the relative risk coefficient of variation, which describes the risk per unit of expected rewards are indicated by the standard deviation divided by the expected level of return.

Business risks associated with the uncertainty of the return on assets of a company in the future, which refers to the variability of expected profit before interest and tax (EBIT). Business risk is a direct result of investment decisions, which is reflected in the structure of its assets. What is meant by business risk in this case is the level of risk of the company's assets if the company does not use debt.

Business risk is influenced by various factors, among others:

1. The variability of demand for the company's products. The more stable the company's product sales (*ceteris paribus*), the smaller the business risk.
2. Variability selling price. The easier the price change, the greater the risk faced by business.
3. Variability input costs. Increasingly erratic input costs, the greater the risk faced by business.
4. The ability to adjust the sales price when there is a change in input costs. The larger the company's ability to adjust the selling price and cost changes, the smaller the business risk.
5. The level of use of fixed costs (operating leverage). The higher the level of use of fixed costs, the greater the risk of business.

Financial risk is due to the use of debt in the company's financial structure, which resulted in the company must bear the burden remains on a periodic basis such as interest expense. This will reduce the certainty of the amount of remuneration for shareholders, since the company must pay interest before deciding profits for shareholders. Thus, the financial risks caused variability in net income is greater.

If the management company can take advantage of funds from debt to operating profit greater than the interest, the use of debt can provide benefits for the company and will increase returns to shareholders. Conversely, if management can not utilize the funds properly, the company suffered losses.

According to Risk Management Certification Agency (2007), credit risk is the risk of the borrower does not pay its obligations. For many banks, credit risk is the biggest risk because margins are usually worn to cover the credit risk is relatively small compared to the amount of the loan.

Credit risk can occur in a variety of segments, including cooperative experiencing financial difficulties, it will not be able to meet the social goals in providing services to the poor and would have difficulty doing business (Padgett, 2009). A comprehensive approach to risk management reduce the risk of losses to build credibility in the market, and create new opportunities for growth.

Microfinance Institutions including Cooperative (Konishi, Yasuda, 2004 cited by Deekhand, 2009) which relies on depositors and other sources of borrowed funds are also vulnerable to changes in interest rates. Cooperatives have many choices in funding sources and can diversify the type of credit so that they can better manage risk, it becomes increasingly important to manage these risks properly.

Cooperative managers need to set up systems that encourage and provide incentives for loan officers to prevent non-performing loans quickly. Credit risk is a risk that the member does not fulfill its obligations to the cooperative.

Credit risk is likely to give a negative effect on the interests of owners, customers and other stakeholders of financial institutions resulting from the inability to meet current cash obligations in a timely and cost-effective. Credit risk typically arises from the inability of management to anticipate and plan for changes in the sources of funding and the need for cash. Efficient liquidity management requires maintaining sufficient cash reserves (to meet customer withdrawals, disburse funds and unexpected cash shortages) and to maximize income (put cash to work in the loan market or investment). Cooperatives should refer to the Liquidity Management to improve the liquidity of cooperative managers.

Liquidity management is an effort to find a balance between managing to not have too much cash or cashless. If the cooperative holding too much cash, it will be difficult to obtain enough income to cover its operating costs, resulting in the need to increase interest rates above the competitive level. If the cooperative holding cashless, could have a crisis of confidence and loss of clients who no longer trust the institutions have funds available when needed. Effective liquidity management of the cooperative protect cash shortage while also ensuring an adequate return on investment.

The risk approach in this paper will be measured by *Bad Debt Ratio* is a measure how much the borrower not return credit (Financial Systems Development and Banking Services, 2000).

5. Estimation Model

Based on the previous description, the purpose of this paper to examine the factual knowledge about the effects of capital structure, credit risk, on financial performance implications on the sustainability of the Cooperative

5.1. Capital Structure Relationship with Financial Performance

Performance the company is a reflection of the success of the business enterprise performance measurement is a measurement performed actions terhadap various activities in the value chain in the company, used as feedback that will provide information on the achievements of the implementation of the plan and the point where the company requires an adjustment to the activity planning and control of Anthony, Banker, Kaplan, and Young (1997), Anderson and Clancy (1991). (Sony Yuwono, 2003)

Pandey (1999) says that the company's capital structure refers to the level of debt relative to equity on the balance sheet, capital structure is the way a fund company assets through some combination of equity, debt or obligation

According to trade-off the theory expressed by Myers (2001), "The company will owe a particular debt to a level, where the tax savings (tax shields) of additional debt is equal to the cost of financial difficulties (financial distress)" Cost of financial difficulties (Financial distress) is the cost of bankruptcy (bankruptcy costs) or reorganization, and agency (agency costs) increased as a result of the decline in the credibility of a company. The trade-off theory in determining the optimal capital structure incorporate several factors such as taxes, agency costs (agency costs) and the cost of financial difficulties (financial distress) but maintains the assumption of market efficiency and symmetric information as a counterweight and benefits of the use of debt. Optimal debt level is reached when the tax savings (tax shields) reaches the maximum amount of the financial distress costs (costs of financial distress). The trade-off theory has implications that the manager will be thinking in terms of a trade-off between tax savings and financial difficulties in determining the cost of capital structure. Companies with a high level of profitability would try to reduce the tax by increasing the ratio of debt, so that additional debt will reduce taxes.

According to Myers (1996), companies prefer to use funding from internal capital, the funds derived from cash flow, retained earnings and depreciation. The order of the use of funding sources with reference to the pecking order theory is: internal funds, debt and equity.

Preferably internal funds from external funding because of internal funds allow the company to not depend outside financiers. External funds preferably in the form of debt than equity capital for two reasons, the first consideration of issuance costs, and the second bond issuance costs less than the cost of new shares (Sud Husnan 1996 :), this is caused due to the issuance of new shares will decrease long stock price. Second, managers worry that the issuance of new shares will be interpreted as bad news by investors, and stock prices will fall. This caused by the possibility of the existence of asymmetric information between management and the investors.

5.2. Credit Risk Relationship With Financial Performance

Risk is an integral part of the financial services. When financial institutions experiencing troubled loans, it means a risk of (Ronald Chua, Paul Mosley, 2000). Each institution conducting cash transactions or make investments at risk for the loss of those funds. Development financial institutions do not have to avoid the risk or ignore the risk. Like all financial institutions, the risks faced by microfinance institutions including cooperatives should be managed efficiently and effectively. If the cooperative does not manage risk well, it will likely fail to meet the social and financial objectives. When the risk is not managed properly it will result in financial losses, thus, investors, lenders, borrowers and savers tend to lose confidence in the organization that will result in financial difficulties. When experiencing financial difficulties, the cooperative is not able to meet the objectives in providing social services to the poor and would have trouble doing business.

Managing risk is a complex task for any financial organization. Business Financial institutions have stressed that risk management as an important element of the long-term success. So that the organization should focus on the organization's ability to identify and manage the risks of the future as the best predictor of long-term success.

Good risk management framework (Financial Systems Development and Banking Services, 2000) allows management to quantitatively measure the risk and enhance the allocation of capital and liquidity to manage the risks faced by the institution, and to evaluate the impact of potential disruptions to the financial system or institution.

For cooperatives, better risk management will provide greater the benefit for the organization and the community. As an institution that continues to grow and thrive, which serve more customers and more attractive funds, it is necessary to strengthen the internal organization, in order to identify and anticipate potential risks to avoid unexpected losses.

A comprehensive approach to risk management to reduce the risk of loss, build credibility in the market, and create new opportunities for business expansion. Risk is the possibility of an adverse event occurs and the potential for negative implications for the institution.

Risk management is the process of managing the probability or severity of adverse events of an acceptable range or within the limits set by the cooperative.

Cooperative faces many risks that threaten the financial viability and sustainability. The simple way to begin the process of thinking about risk management is to first identify, understand and assess the risks that can have a considerable impact on the organization. Once risks are identified, the cooperative may designing strategies and mechanisms to control and assign responsibilities to individuals and teams to overcome.

Risks arising from microfinance institutions include credit risk, credit risk and risk portfolios.

Credit risk is the risk to earnings or capital due to late payment loan obligations. Transaction risk refers to the risk in individual loans. Portfolio risk refers to the risk inherent in the loan portfolio composition as a whole.

Cooperatives that use the savings as a source of loan funds must have sufficient cash to fund loans and withdrawals from savings. Cooperatives that rely on depositors and other sources of loan funds are also vulnerable to changes in interest rates. As an institution that has more options in funding sources and more diverse products, it becomes increasingly important to manage these risks properly.

Credit risk, the risk that the most frequently encountered cooperative (Deekhand, 2009), is the risk to earnings or capital due to the borrower fails to pay back. Credit risk includes the risk of the transaction and portfolio risk. Transaction risk refers to the risk in individual loans. Cooperative reduce transaction risk through selection techniques to borrowers. Portfolio risk refers to the risk inherent in the composition of the overall lending portfolio. Diversification policy (avoid concentration in certain sectors), the maximum loan amount, type of loan, and credit structure reduces the risk of the portfolio.

Management should continue to review all sources and uses of funds in order, management can ensure that the cooperative has enough reserves to cover potential loan losses.

Cooperatives have to develop a very effective lending methodology to reduce the credit risk associated with lending to micro enterprises. Another important thing that affects the cooperative credit risk include diversification of assets, lending larger individuals, and the possibility of restricting certain sectors (agriculture or seasonal loans for example). Each types of loans have different risk profiles and require the structure of a typical loan

Credit risk is the risk that the cooperative can not meet its current liabilities in a timely manner

Credit risk typically arises from the inability of management to anticipate and plan for changes in the sources of funding and the need for cash. Requires an efficient liquidity management in maintaining adequate cash reserves, can also invest as much as possible to maximize income (effective cash to work in the loan market or investment).

With the combination of long-term loans and short term loans, cooperatives can take advantage of cheaper funds in the future, while the set interest rates higher in the asset, the cooperative has increased the interest rate risk in the hope of improving profitability. (Deekhand, 2009)

Interest rate risk interacts with the level of credit risk. Liquidity and interest rate risk occurs simultaneously when due and their inability to pay short-term obligations. Portfolio investment risk refers to the long-term decisions.

5.3. Model financial performance based on the capital structure and credit risk

$$Y = \beta_0 + b_1 \cdot X_1 + b_2 \cdot X_2 + b_3 \cdot X_3 + b_4 \cdot X_4 + b_5 \cdot X_5$$

$$ROA = \beta_0 + b_1 \cdot TDTA + b_2 \cdot TDTE + b_3 \cdot LDR + b_4 \cdot BDR + b_5 \cdot ALZ$$

where:

Y = Return on assets

β_0 = constant

X_1 = Total debt to total assets

X_2 = Total debt to equity

X_3 = Loan to deposit ratio

X_4 = Bad debt losses

X_5 = Average loan size

b (1 ... 5) = regression coefficient of each independent variable

6. Conclusion

Model of financial performance through a cooperative approach to capital structure and credit risk in cooperative sustainability focused on the relationship between variables are proxied by total debt to total assets and total debt to equity to measure the capital structure, the loan to deposit ratio and bad debt ratio to measure credit risk and return on assets to measure the financial performance

Based on some of the results of empirical research findings indicate that there is significant influence either simultaneously or partial capital structure and credit risk on financial performance in the Cooperative that will have an impact on sustainability of cooperative business.

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