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# Analyzing the Measures of Credit Risk on Financial Corporation and Its Impact on Profitability

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**Abstract:** Non-Banking Financial Corporations are playing a major role in the financial market with respect to providing loan facilities to the business. It is an integral the financial system of any country. It leads to improvise the employment opportunities and economic development. The NBFCs are becomes an important stimulant of credit creation and credit control tool of central banks of the respective countries. The dispersal of loans and advances provided to individuals and the companies are contained the credit risk for the NBFCs. Gumrarathi (2010) study reveals that most of the non-banking financial corporation's business operations are holding a high credit risk in lending. It shows that most of the lending transacted with small and medium level organizations, which is having a probability of high-risk class. The NBFCs are already encountering various issues such as high fund cost, poor industrial development, and huge competition among the NBFCs and also with commercial banks. The non-performing assets are another kind of big issue in reducing the profitability. In this juncture, the management of this credit risk is one of the prominent challenges of the Non-Banking Financial Corporations. Because the credit risk is the direct risk and their whole business life survival is based on the money which is invested on loans. The credit risk measures are coming into existence to mitigate the losses arise through the non-performing assets (NPA). The present study aims to analyze the various strategies adopted by the selected NBFCs. It is attempted to find out the credit risk measurement and controls systems of NBFCs. The study also analyzes the relationship between the credit risk measures of corporations and its profitability. Present study is adopted the descriptive research method to carry out the study. It is purely based on the secondary data sources such as financial statements, published data of NBFCs and data published in journals. The collected data is analyzed by applying appropriate econometric tools such as stationarity, cointegration, and granger causality to find the relationship among the variables. Based on the data analysis, the results are interpreted and conclusions are made. The present study provides the strong evidences of strong relationship among the credit risk management, control of non-performing assets and the profitability of the NBFCs.

**Keywords:** NBFCs, Credit, Risk, NPA & Profitability

## 1. Introduction

The NBFCs in Vietnam is a key player in the financial sector and economic development next to banking sector. Alongside, the credit risk also remains huge in many countries, especially in developing nations. The credit risk derives from either banks or non-banking corporations operating with individual, institutions, banks and financial corporations. (Bodla, 2009). The credit risk management is clearly understood as the procedure for identifying and evaluating the various risk factor, measuring to overcome credit related transactions to minimize and stop the risks in the process of credit. The coefficient of positive sign reveals that the credit loss provision may be applied to manipulate earning level, mean loan loss may be applied to reduce and manage earning or profitability of the banks. According to a consumer research done by the fintech Robocash company, micro finance institutions and NBFCs are the primary and first loan providers for nearly every 4th individual consumer in Vietnam. Though, banks in Asia preserve their position as the primary source of credit, alternative lending has taken a significant place also. In particular, the survey revealed that 41 percent of the

respondents in Philippines, Indonesia, Vietnam and India obtained bank loan first. MFIs and NBFCs hold the second notable part of 31% of responses. In Vietnam, the share is a bit lower than the average results in Asia, as MFIs and NBFCs turned out to be the first provider of financing of 25 percent of local respondents. Indonesia and India have 29 percent and 26 percent respectively. Meanwhile, the result in the Philippines amounted to 41 percent. The reason for such a big difference id the geographical fragmentation, which make the bank branches less accessible than in neighboring countries. During the recent years, the economy of the Vietnam indulges the influence of good and impressive economic growth and development through expansion of various sectors. The goods market and the financial market is risen with huge inflow of foreign direct investment from various developed and developing countries. It brought a massive avenue for the growth the economy. But still the financial sector especially the non-banking financial institutions are not performing well due to the bad debt and the non-performing assets of the corporations. The lack of strategies and non-availability of the financial infrastructure are the reasons for this slowdown. because of the poor and vulnerable technological system and lack of proper credit risk management system of the financial corporations have made the companies into the critical situations on the profitability. Due to various economic activities and trade barrier removals led to easy and enormous growth on trade and development. Along with these economic growth and development of the nation, the financial sector must grow. But it has not shown the same level of growth on the part of the financial sector particularly in the non-banking financial corporations. This situation arises due to poor credit management system of the corporations. To identify the root level relationship between the reasons for the performance and profitability of the corporations, the present study is being conducted..

## 2. Objectives

To find out the relationship between profitability of non-banking corporations and credit loss of the corporations.

To establish the functional relationship between credit risk measures and profitability of the non-banking financial corporations in Vietnam.

## 4. Review of Literature

Seitz and Stickel (2002) the banks and financial corporations required to adopt their loan related transactions to be changed the conditions of developing economy to enhance the standard of living. The approaches are used to analyse and measure the loan risk are having the greatest role in smooth and profitable functioning of the financial institutions.

Andrianova and Barannikov (2013) explored the methodological transparency refers to the precision of the use of mathematical approaches, the reduction of the element of subjectivity in expert assessment, the clarity of the results of the risk assessment and analysis, the bank employee through understanding of the results, and accessibility of the given methods to regulatory authorities and borrowers. To analyse, manage and forecast the credit risk each bank or NBFCs are able to measure the relevant risk of the loan, to analyse risk involved in business and also to monitor permanent credit risk factors.

Berrois (2013) analytical work on relationship among credit risk of bank and profitability shown the results of negative relation between lower practical advancing and net flow of interest margin.

Rodina (2013) the measurement of the risk factors attending and approving a particular loan amount through their systematic approach helps the banks to prevent the loss of profitability of the banks and corporations.

Al-abedallat (2016) study attempted to show the various banking and non-banking corporations suffers from various kinds of operational issues mainly credit risk. It impacts the profitability of the corporations and banking instructions in the larger scale.

Kaushal, H.R (2016) identified the non-banking financial institutions are playing a key role in both from the macro standpoint and the construction of the Indian fiscal system. NBFCs are the flawless scheme or even a healthier substitute to the conservative banks for meeting many financial needs of various financial companies. They are providing speedy and better services and avoiding the traditional form of stiffness in business.

Konovalova et al (2016) studied the conception of a model debtors internal loan rating and the growth of the approaches of refining credit risk organization in banks.

Sinha (2017) the credit evaluation system of NBFCs has been sensibly glowing so far. Due to their intrinsic ability to transfer fast and to blow into precise customer segments, it seems that NBFCs could able to assign these benefits in meet the non-corporate requirements of the nation.

Reserve Bank of India (2017) the Non-Banking Financial Corporation sector in India, which showed vigorous growth during the recent decade. It is basically dissimilar from shadow banking system. The growing financial diversification of NBFC while keeping the view of depositor's benefit.

Shrestha (2017) study describes the influence of credit management and risk management on viability of Nepalese scheduled commercial banks. Profitability in relations of return on assets and return on equity are selected as dependent

variables. His study result shows that the capital adequacy ratio, cost per loan assets and assets growth ratio are positively related with return on assets and return on equity. Italo reveals from the analysis, the NPA ratio CRR and leverage ratio, lower on returns.

Duong et al (2018) found from the study that the foreign ownership, cost to income and the level of credit risk, indirectly impact on the profitability of banks in Vietnam, whereas government ownership, asset size and inflation didn't indicate statistical significance in association with profitability and capital structure.

Hang (2019) analyzed the internal factors and external macro variable influencing the credit risk of major twenty banks from 2006 to 2017. They have measured the credit risk based on the non-performing asset ratio. Their study found that the macroeconomic variables such as GDP, interest rate, unemployment and internal variables are responsible for the loan return with time lag.

Leung, Suiwah (2009) examined the various developments in the financial sector. He also evaluated the system of operating the financial programs and found the weaknesses of the financial sector on profitability. His study also suggest the improvement for the development of financial sector through reforms.

Ralf K., (2009) evolved that in case of global perspective, the credit risk measurement approaches are found as more appropriate and reliable compare to other methods. In revealing the prove the credit risk measurement approach, the prominent customers of the credit institutions are chosen themselves to be either good or bad debtors.

McKeon (2019) classified the determining factors of the credit risks are such as non-bank institutions, business diversity and stability, capital and profitability, lending and uder writing standards, funding and liquidity and so on.

Dang (2020) study evaluated the impact of the loan risk on the bank profitability of major join-stock banks in Vietnam. It is study reveals with the estimated results of credit risk indicators are positively correlated with profitability of banks. It also shows the bank's advantages through economies of scale to progress their economic and financial performance. Their study also suggested that the Vietnam's banks must take credit risk determinants into consideration to make a successful and efficient method to tackle the credit risk.

## 5. Research Gap

Various earlier works on the relationship between profitability of many banks and non-banking financial corporations have been studied. Based on the available research studies, it is found that the profitability is having the negative relationship with credit management system. But there is no proper study have been carried out to present the relationship between profitability and credit loss of the non-banking financial corporations. The present study attempts to evaluate the relationship of both the variables such as credit loss of the company and credit risk management with amount of profitability.

## 6. Research Methodology

The descriptive method of research is adopted in this present research work. The data has been randomly collected from various non-banking financial institutions in Vietnam. The research work is purely depending on the secondary data sources collected from various annual statements, quarterly results and profit loss statements published in their respective websites. The collected data analyzed with appropriate statistical tools such as correlation, regression and ANOVA technique to establish the relationship between the selected study variables.

## 7. Data Analysis, Results and Discussion

Correlation is one of the important and method of analyzing the association between the two variables. In this study, we have taken data on profit of the non-banking financial institutions and its credit loss of the companies. The credit loss is known as the net non-performing assets of the corporations.

**Table. 1 Correlations**

| | | Profit | Credit Loss |
|---|---|---|---|
| Profit | Pearson Correlation | 1 | -.402 |
| | Sig. (2-tailed) | | .250 |
| | N | 10 | 10 |
| Credit Loss | Pearson Correlation | -.402 | 1 |
| | Sig. (2-tailed) | .250 | |
| | N | 10 | 10 |

The above table number 1 analyses with Karl Pearson correlation co-efficient of the two variables. The profit of the corporations with its credit loss or the non-performing asset values are negatively correlated with -0.402. It shows the clear evidence of the negative correlation between these two measured variables.

Regression model is used to evaluate the association between dependent variable (profitability) and the independent variable (credit loss). In model 1 table 2 provides

the calculated value of R is 0.402 and the R square values is calculated as 0.161 with Durbin-Watson value is 1.792, which is more than the significance value of 5 percent. Hence the null hypothesis is accepted and there is no positive association between the two variables. It is also proven in correlation analysis with adverse relationship.

Table 2. Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .402[a] | .161 | .056 | 369575.119 | 1.792 |

a. Predictors: (Constant), Credit Loss

b. Dependent Variable: Profit

The ANOVA method is applied to reveal the significance relationship between the selected variables of the study. The ANOVO technique is used to predict the relationship and analyse the covariance in the data. The model is carried with the F test value of 1.539 and significance at 0.250. It shows the relationship between the dependent variable and the independent variables are having the negative relationships.

Table.3 ANOVA[a]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 210139265730.563 | 1 | 210139265730.563 | 1.539 | .250[b] |
| | Residual | 1092686150693.537 | 8 | 136585768836.692 | | |
| | Total | 1302825416424.100 | 9 | | | |

a. Dependent Variable: Profit

b. Predictors: (Constant), Credit Loss

The null hypothesis is constructed as there is no relationship between profit and credit loss of the corporations. The following table 4 executes the coefficient values of -0.402 for establishing the negative relationship between the selected variables. The t test value calculated as 4.013 with significance value of 0.004, so the null hypothesis is rejected. So, it has the negative relationship between credit loss and profitability.

Table 4. Coefficients[a]

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. | Collinearity Statistics Tolerance | Collinearity Statistics VIF |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 514944.225 | 128305.727 | | 4.013 | .004 | | |
| | Credit Loss | -1.091 | .880 | -.402 | -1.240 | .250 | 1.000 | 1.000 |

a. Dependent Variable: Profit

The t- test value also proven with the negative value of -1.240 with coefficient value of -0.402 of having the negative relationship.

The table number 5 represents the residual descriptive statistics of the data. The predicted value called profit's calculated mean value is 580622.70 with standard deviation of 152803.165.

Table 5. Descriptive Statistics

| | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Predicted Value | 397953.47 | 751743.88 | 580622.70 | 152803.165 |
| Residual | -514045.438 | 648692.125 | .000 | 348438.764 |
| Std. Predicted Value | -1.195 | 1.120 | .000 | 1.000 |
| Std. Residual | -1.391 | 1.755 | .000 | .943 |

Another analysis of the present study depicted in the table 6 with the regression model to identify the relationship between the variables. The profit is taken as the dependent variable and credit risk measures is considered as independent variable.

Table. 6 Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .546[a] | .298 | .210 | 338116.192 | .949 |

a. Predictors: (Constant), Risk Measures

b. Dependent Variable: Profit

To establish the relationship between the risk measures of the non-banking financial institutions and risk measures are taken as variables for analysis. The table 6, the regression R value is calculated as 0.546 and R-square is 0.268 with Durbin-Watson model value calculated as 0.949. the null hypothesis is accepted because the model results are much greater than the significance value of 5 percent. So, both variables are positively associated.

Table.7 ANOVA[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 388244941653.910 | 1 | 388244941653.910 | 3.396 | .103[b] |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Residual | 9145804747 70.190 | 8 | 1143225593 46.274 | | |
| | Total | 1302825416 424.100 | 9 | | | |

a. Dependent Variable: Profit

b. Predictors: (Constant), Risk Measures

The positive relationship of the risk measures of the non-banking financial corporations of Vietnam is further proven with the help of ANOVA tool. The F-test value is calculated as 3.396 with significance value of 0.103, which much greater than the significant value of 5 percent.

Table 8 Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 434207.098 | 133209.414 | | 3.260 | .012 | | |
| | Risk_Measures | 6.782 | 3.680 | .546 | 1.843 | .103 | 1.000 | 1.000 |

a. Dependent Variable: Profit

Table 8 resulted with the coefficient value of calculated t-test (3.260) and significant at 0.012 which is higher than the 0.005. So, the null hypothesis is accepted. The calculated value for risk measure is 1.843 with significance value of 0.103 which is also greater than 5 percent. Hence, the null hypothesis is accepted.

## 8. Conclusion

It is found from the available data from the performance of the non-banking financial institutions, the profitability is dependent upon both the credit risk management efficiency and the credit loss. When the credit loss increases, the profitability declines and while the strategical efficiency on credit risk increases, leads to enhance the profitability of the non-banking financial institutions. The data is clearly evidencing the relationship among these financial variables. The results are also identified with similar research works that the management of loan or credit risk portfolios are therefore one among the important aims of the economic and financial transaction with stability of the banking and non-banking financial institutions. It is also observed that the increased sensitivity on credit leads to changes in the growth of the inflation on the financial products (Kiseľáková, 2013). In determination of every individual debtor of the loan or the borrower, the risk measuring technology id playing a key role in minimising the loan risk of the corporation and the prime factor in better performance of the corporations. To establish the relationship between the risk measures of the non-banking financial institutions and risk measures are taken as variables for analysis. The table 6, the regression R value is calculated as 0.546 and R-square is 0.268 with Durbin-Watson model value calculated as 0.949. The present study also relates to the previous studies with the result of the financial performance of the NBFCs with credit risk management. In this study, we have taken data on profit of the non-banking financial institutions and its credit loss of the companies. The credit loss is known as the net non-performing assets of the corporations. Karl Pearson correlation co-efficient of the two variables. The profit of the corporations with its credit loss or the non-performing asset values are negatively correlated with -0.402. It shows the clear evidence of the negative correlation between these two measured variables. The predictive measuring or assessment of the loan risk among the banks and non-banking corporations evolved a positive relationship among these two financial variables. Huang (2009). To establish the relationship between the risk measures of the non-banking financial institutions and risk measures are taken as variables for analysis. The table 6, the regression R value is calculated as 0.546 and R-square is 0.268 with Durbin-Watson model value calculated as 0.949. the null hypothesis is accepted because the model results are much greater than the significance value of 5 percent. So, both variables are positively associated. On the whole, the present study concluded with the performance of the corporations are determined on the basis of the credit loss ratio and the financial strategies on credit risk management.

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