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The Effect of Credit Risk Management and Capital Adequacy on Financial Performance of Business Banks

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Abstract

The main purpose of the research to study the effect of credit risk management and capital adequacy on financial performance of business banks from 2009 to 2014. The statistical population of the research is all state and private banks and final sample volume is 25 banks based on available information. In this research, amount of loans, previous maturity of credits, loss reserve on loans and previous maturity of credits, liquidity ratio and capital adequacy of banks were used to study their effects on the performance of banks (return on asset). The results of data analysis using multivariate - linear regression at 95% confidence level indicated that there is a negative relationship between loss reserve on loans and previous maturity of credits and banks' performance. On the other side, the results indicated that there is a positive relationship between liquidity ratio and capital adequacy ratio with banks' performance.

Keywords: Credit Risk, Capital Adequacy, Financial Performance, Return of Assets

1. Introduction

Of obvious features of today competitive world is fast and deep changes in technical - scientific arenas and continuous challenges of social - economical systems in international competition. The companies enjoy proper conditions that use optimally existing facilities and new resources for producing goods and delivering desirable high - quality service, customer - orientation, unique and flexible features. Competitive advantage is one of the elements that guarantee the persistence of organization. Obtaining competitive advantage is a random event, but it requires a long term planning and strategy on different dimensions of organizational activities[1]. On the other side, saving and capital creation are key terms in economical development process of any nation. Capital creation process in any nation is required public participation in investment process and saving should be sought in public economical participation of investors[2]. Public participation in economy for capital participation should be done via saving with cotemporary methods and update on financial assets such as bank deposits, bond, insurance policy, pensions, participation in investment projects and similarly. Resources of current deposits in banks are the most valuable and yet the cheapest resources[2]. According to the importance of role of deposits and saving in economy, banks play significant role in capital attraction and monetary policies in any economy. The profitability of banking activities is regarded as the main reason and one of the most important factors to banking. The guidelines that contribute top management to making decisions are the decisions which encompass health, welfare and bank's progress in present time and the development and growth of bank in future[3]. The research studies the effect of credit risk and capital adequacy on financial performance of business banks. Hence, main problem, hypotheses, their operational definitions and used statistical methods were developed to test the hypotheses and finally the findings will be provided. Patrikber et al[4] studied predictability effect of profit on bank debts. Using a sample with 8022

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bank debt contracts from American companies, they found that there is a positive relationship between profit predictability and more desirable loan condition such as lower interest rate, longer maturity, limiting terms and lower security. Also the results indicated that the relationship between profit predictability and cost of bank loan depend on availability to private information about borrowers, competition between banks, bond and company size. Frances et al[5] studied information content of economical added value, residual profit and two common measurement criteria including operational cash flow and the comparison of relationship between economical added value and accrual profit with stock return of banks and financial institutions. One of the research questions is that does economical added value explain annual changes of stock return better than net profit and cash flows resulting from operations or not? There analysis results indicated that net profit has more explanatory power than residual profit, economical added value and cash flows resulting from operations in banks and financial institutions. Bala Yang et al[6] studied simultaneously factors affecting on capital adequacy using structural equations modeling and determined the relationship between them in banks and financial institutions. They concluded that when debt ratio has positive effect on stock return, stock return has negative effect on capital adequacy. Also, these findings indicated that growth opportunities and profitability have negative effect on financial leverage. Valesh[7] investigated the relationship between stock return and capital structure of banks and financial instaurations and stated that the effects of stock price has significantly more importance to determine debt ratios to dividend than previous identified factors. He introduced stock return as a first - order repulsive estimation for debt ratios which maybe only effect is has been inferred about debt changes. Penman[8] studied information content of residual profit and abnormal profit growth model in banks and financial institutions. The findings indicated that evaluation model of residual profit provides more accurate and low - fluctuation estimations than growth model of abnormal profit in banks and financial institutions. Machuga et al[9] studied information content of cash profit model in profit prediction of any stock for 4382 samples of American bank and financial institution from 1981 to 1996. In this research, the ability of cash profit model, current period profit, cash flows and return for profit prediction of any stock were investigated. Using regression method, data analysis indicated that cash profit model has increased information content than operational cash flow and return in profit prediction. Applying residual profit - oriented profit growth separation, Balachanderan and Monherm[10] tested that if board of directors in banks and financial institutions take into account different value of profit growth components in determining CEO's reward or not. They found that the relationship between CEO' reward and profit growth resulting from increased capital is more than the growth of residual profit of banks and financial institutions and they concluded that board of directors of banks and financial institutions provide to some extent a motivation to CEOs reduce shareholders' wealth.

2. Research Method

The research tries to survey the effect of credit risk management and capital adequacy on financial performance of business banks. So the research is an applied research because its results can be applied in formulation of the laws and regulations of the stock exchange. From standpoint of methodology, the research is a post - event research and in terms of inference, the research is an inductive research. Also, the research is from correlation type in terms of method and nature. The purpose of the research is to determine the relationship between the variables. For this purpose, appropriate criteria were selected to measure the variables. The research is done from 2009 to 2014 and 25 banks were selected as final sample.

2.1 Research Hypotheses

2.1.1 First Hypothesis

There is a significant relationship between loan amount and past due credit with banks' performance.

2.1.2 Second Hypothesis

There is a significant relationship between loss reserve on loan and past due credit with banks' performance.

2.1.3 Third Hypothesis

There is a significant relationship between liquidity ratio and banks' performance.

2.1.4 Fourth Hypothesis

There is a significant relationship between capital adequacy and banks' performance.

2.2 Test of Research Hypothesis and Operational Definition of the Variables

In the research, regression model was used to test the variables:

$$ROAi,t= \beta_1 + \beta_2 NLP\ i,t + \beta_3 LLP\ i,t + \beta_4 LA\ i,t + \beta_5 LR_{i,t} + \beta_6 CAR_{i,t} + e_{i,t}$$

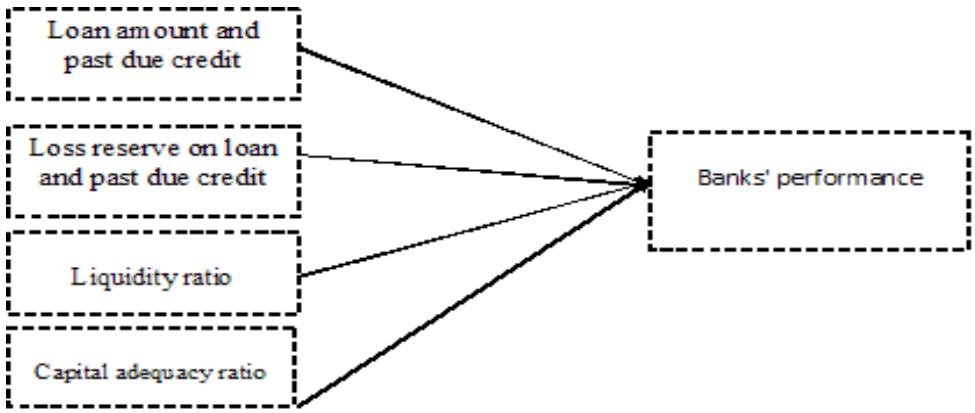

Figure 1. Research variables in the form of a conceptual model.

2.2.1 Dependent Variable

ROA: criterion of bank's performance: in the research, ROA is calculated from dividing net profit to total assets[11].

2.2.2 Independent Variables

NLP: Loss reserve to total loans and credits to total bank's assets[12].

LLP: Loss reserve to loans and past due credits[12].

LA: Ratio of total loans and credits to total assets.

LR: Liquidity ratio which is calculated dividing total long - term deposits[12].

CAR: Capital adequacy ratio: it consists of based capital ratio to weighted asset to risk. To calculate capital adequacy ratio is extracted using balance sheet, asset categories including the items of top line and down line and placed in residual column of assets based on balance sheet. Based capital is calculated from the sum of main capital and supplementary capital and capital adequacy ratio is calculated from the obtained figure on the sum of weighted assets to risk for the year in question. The ratio is one of measurement ratios of performance and financial stability of banks and financial institutions. Banks must have enough capital to cover risks arising from their activities and be careful to transfer the damages to depositors. Therefore, banks enjoy minimum desirable capital amount to cover their operational risks. This figure is almost 12% weighted assets to risk (risk any asset based on nature of the asset and relative risk level). According to the laws of Iranian central bank, minimum desirable capital adequacy ratio equals 12 per cent for Iranian banks. Depending to the circumstances, central bank can determine higher limit for all or some banks and credit institutions[11].

3. Research Findings

3.1 Testing Research Hypotheses

After testing regression data and assurance about their relationships, table 4 provide the results of fitted regression equation. F-statistics amount (10.324) indicates that regression model is significant. As can be seen at lower section of table 4, determination coefficient and adjusted determination coefficient are 55.8% and 48.3%, respectively. It can be concluded that only 48.3 percent of changes of under - studied banks' performance can be explained by independent variables.

In the table, positive (negative) figures indicate the level of direct (reverse) effect of any variables on under - studied banks' performance.

3.1.1 How to Judge?

If calculated sig figure by software is lower than confidence level (5%), the variable is significant and relative hypothesis is supported. According to t-statistics figure, if this statistics is higher than its equivalent in table t (student) with same confidence level (5%), relative hypothesis is supported.

Table 1. Results of fitted regression equation

Variable		Variable Coefficient	Coefficient Amount	t-Statistics	Significant Level
Constant		B1	1.709	2.909	0.002
Past due credits and loans to total loans and credits	NLP	B2	-1.567	-2.302	0.041
Loss reserve on total loans and past due credits	LLP	B3	-1.909	-2.654	0.034
Total loans and credits ratio to total assets	LA	B4	1.452	2.823	0.019
Liquidity ratio	LR	B5	1.311	3.121	0.011
Capital adequacy ratio	CAR	B6	0.991	2.543	0.037
Determination coefficient		0.558	F-statistics	10.324	
Adjusted determination coefficient		0.483	Significance (P-value)		0.016
			Watson - Durbin statistics		1.965

3.1.1.1 Test of First Hypothesis

"There is a significant relationship between amount of loans and past due credits with banks' performance".

According to Table 1, significant level of the variable of amount of loans and past due credits (0.041) is lower than determined significance level (5%) in the research. Also, absolute value of t-statistics related to the variable (2.302) is bigger than obtained t in table with same freedom degree. Then H_0 is rejected at 95% confidence level and H1 is supported. So there is a significant relationship between amount of loans and past due credits with banks' performance. On the other side, according to coefficient amount of the variable (-1.567), it can be concluded that if amount of loans and past due credit increase 1 unit, banks' performance will be reduced 1.567 units.

3.1.1.2 Test of Second Hypothesis

"There is a significant relationship between loss reserve on loans and past due credits with banks' performance".

According to table 1, significant level of the variable of loss reserve on loans and past due credits (0.034) is lower than determined significance level (5%) in the research. Also, absolute value of t-statistics related to the variable (2.654) is bigger than obtained t in table with same freedom degree. Then H0 is rejected at 95% confidence level and H_1 is supported. So there is a significant relationship between loss reserve on loans and past due credits with banks' performance. On the other side, according to coefficient amount of the variable (-1.909), it can be concluded that if loss reserve on loans and past due credit increase 1 unit, banks' performance will be reduced 1.909 units.

3.1.1.3 Test of Third Hypothesis

"There is a significant relationship between liquidity ratio and banks' performance".

According to table 1, significant level of the variable of liquidity ratio (0.011) is lower than determined significance level (5%) in the research. Also, absolute value of t-statistics related to the variable (3.121) is bigger than obtained t in table with same freedom degree. Then H0 is rejected at 95% confidence level and H_1 is supported. So there is a significant relationship between liquidity ratio and banks' performance. On the other side, according to coefficient amount of the variable (1.311), it can be concluded that if liquidity ratio increases1 unit, banks' performance will be increased 1.311 units.

3.1.1.4 Test of Fourth Hypothesis

"There is a significant relationship between capital adequacy and banks' performance".

According to table 1, significant level of the variable of capital adequacy of banks (0.037) is lower than determined significance level (5%) in the research. Also, absolute value of t-statistics related to the variable (2.543) is bigger than obtained t in table with same freedom degree. Then H0 is rejected at 95% confidence level and H1 is supported. So there is a significant relationship between capital adequacy and banks' performance. On the other side, according to coefficient amount of the variable (0.991), it can be concluded that if capital adequacy increases1 unit, banks' performance will be increased 0.991 units.

4. Conclusion

The results of data analysis indicate that there is a reverse relationship between past due credits and loans amount and also loss reserve on loans and past due credits with banks' performance. Loss reserve on loans and past due credits has the more reverse effect. Also the results indicate that there is a direct relationship between liquidity ratio and capital adequacy with banks' performance. Liquidity ratio of banks has the more direct effect on financial performance of banks. According to the results, it should be noted that one of the influential factors on financial performance of banks is credit risk. Loan is included main part of business banks' assets. The specialty of these banks is to attract deposits from investors and to grant loan to applicants. Attracted deposits guarantee banks to repay their obligations on certain due dates, while paid loans lead banks to default borrowers. Because of increasingly trend of banking demands to various reasons including sanction conditions, unwillingness to repay loans from customers and lack of prevention of demands, have been led banks not make proper return for shareholders along with various challenges such as lack of resources and reduced profitability. So attention to incentive schemes can achieve bank's goals in the challenge. Improved indexes of the challenge and its effect via releasing blocked resources and relative reserves in optimal consume management, profitability challenge and other incomes lead to observe credit discipline and credit hygiene behalf authorities and demands determination.

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