

# Effect Of Bad Debt, Market Capitalization, Operation Cost, Capital Adequacy, Cash Reserves On Financial Performance of Commercial Banks In Bahrain

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**Abstract---** *The purpose of this study to examine the effect of bad debt, market capitalization, operation cost, capital adequacy, cash reserves on financial performance. The analysis was conducted to collect the essential data from the annual reports of 7 commercial banks listed in Bahrain Bourse for the period 2014 to 2018. Panel data analysis is employed with a total number of 35 observations. The results of the multiple regression analysis with Pooled OLS revealed that all independent variables; non-performing loans, operating costs, cash reserve, and also capital adequacy have a positive and significant relationship with the financial performance. While only market capitalization has an insignificant relationship with financial performance. This study therefore this study recommends that the management of commercial banks in Bahrain should strive to reduce as much as possible the nonperforming loans (bad debt) .also the management of commercial banks to improve the volume and value of assets at its disposal.*

**Keywords---** *Non- Performing Loans, Financial Performance (ROE), Bahrain.*

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## I. INTRODUCTION

The central bank always seeks to ensure that the country has a high healthy financial system, as the stability of the financial intuitions and financial markets are the mirror of the country's economy. The main role of the bank is to mobilize the capital from surplus units to deficit units whether for government, firms, or individuals.

This means that financial sector stability has become one of the main modern macroeconomic policies for countries (Feldman and Wagner, 2002). In the present global arrangement, there is a growing concern among financial institutions and other corporate organizations regarding financial performance (Ali, 2019). The stability of the financial sector has more attention by researchers especially after the last global financial crisis which had affected the financial markets, financial institutions, and the country's economy as well (Ali, Omar, & Bakar (2016); Ali, Rosni & Omar, 2016).

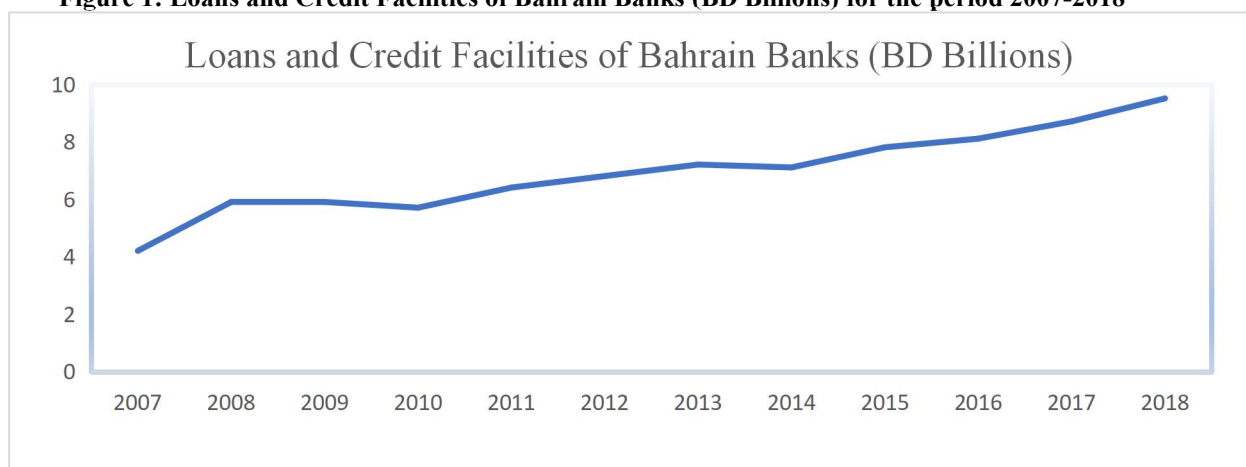
The banking system plays a vital role in the country's economy. They play an important role by promoting the economic development through offering financial services and redistributing the resources that help the economic growth, Banks promote capital formation, investment in new enterprises, promotion of trade and industry, development of agriculture, and balanced development of different regions (Kalpana and Rao, 2017). In other words, if the banking system in a country is efficient, effective, and disciplined it brings about the rapid growth in the different sectors of the economy. Accordingly, Messai (2013) stated that the minimizing of nonperforming loans is one of the necessary conditions for improving economic growth.

Despite this, there is high achievement profitability of the banking system, and the banks try to help the development of the right type of investments by extending loans to the right person, but there are various risks that might face bank operations. One of the main risks facing commercial banks and financial institutions is credit risk. Credit risk for the bank happens when the client (borrower) default to in honoring debt obligations on the due date or at maturity (Coyle, 2000). However, credit risk is the possibility of losing the outstanding loan partially or totally, due to credit events (default risk) (BCBS, 2001). Moreover, John (2018) stated that all over the world financial institutions face massive risks on non-performing loans. Stuti and Bansal (2013) addressed that the level of (bad debt) Non-performing loans is the best indicator for the health of the banking system in the country.

The banking sector in Bahrain is currently the largest non-oil contributor to GDP in the country which represents 16.8% of real GDP in 2018. During the last few decades, the credit risk which contains the non-performing loans sharply raised, and that pushed financial and economic scholars to investigate and explain this phenomenon.

Loans and credit facilities of Bahrain banks have obviously increased during the last decade which recorded 4.2 BD billion in 2007 and 9.5 BD billion in 2018. As clearly shown in the following figure (1) the Loans and credit facilities reached growth by 5.60% for the period from 2007 to 2018 (Central Bank of Bahrain, 2018). Despite, the increasing of loans in Bahrain banks which will improve the financial performance of these banks, also it helps the country to grow its economy, which during some those loans will be intended to be invested in different sectors around the country. However, the increase of the loans might be a reason to raise the ratio of nonperforming loans among banks which directly affects their financial performance. Bank performance is the ontological benchmark to any organization in terms of vision and mission achievements. In order to ensure that the bank is staying competitive, then the bank performance plays a significant role to ensure that the organization could be successful in the future (Ali, Omar, & Bakar 2016; Ali, Rosni & Omar, 2016).

**Figure 1: Loans and Credit Facilities of Bahrain Banks (BD Billions) for the period 2007-2018**



**Source:** Central Bank of Bahrain, (2018), Annual Report, <https://www.cbb.gov.bh/wp-content/uploads/2019/04/CBB-Annual-Report-2018-English-1.pdf>

The current study trying to add new values for the existing literature in this filed through examine the effect of nonperforming loans on financial performance on the banking system in Bahrain for the last five years 2014-2018.

In details, the study investigates the relationship between Non-Performing Loans (NPL) and (Bad Debt (BD)), Market Capitalization (MC), Operation Cost (OC), Capital Adequacy (CA), and Cash Reserve (CR), and financial performance represents by Return on Equity (ROE).

## **AI. LITERATURE REVIEW**

For the last few decades, the effect of (bad debt) nonperforming loans on the financial performance for the financial sector has received much attention from several authors, particularly in developing countries. However, Different studies have been conducted to explore the relationship between nonperforming loans (NPL) and financial performance which presented by different factors such as ((ROA), (ROE), (EPS), liquidity (LIQ) and profitability), most of the results showed that there is a statistically significant relationship between an NPL and financial performance. While some results showed that there is no statistically significant relationship. The current part of the study reveals some for examples of empirical evidence that have been conducted.

Among researchers, who have confirmed that there is a significant relationship between NPL and financial performance the study can cite the research conducted by Chege and Bichanga (2017) who applied study on 44 commercial banking in Kenya for the period 2011-2015 used descriptive statistics, inferential statistics included Pearson correlation, Multiregression, and ANOVA. Another study published by Kumari et. al., (2018) which conducted on private and public banks in India for the period 2013-2017 by using the Panel data regression model. Also, Gabriel et. al., (2019) examined the influence of the nonperforming loans on the financial performance of Nigerian commercial banks for the period 1985-2016 employed the multiple regression techniques to analyze data. These findings indicate that a high level of NPL would reduce financial performance in commercial banks in Nigeria.

Accordingly, to examine the effect of credit risk on the bank's financial performance, Awoyemi (2014) studied the influence of credit risk on the performance of seven Commercial Banks in Nigeria using ROE and ROA as an indicator for the financial performance from 2005 to 2011 employed the regression model, panel regression model. The findings showed that credit risk has a statistically significant effect on financial performance. Moreover, Alshatti (2015) also found a significant impact of credit risk on financial performance in Jordanian commercial banks for the period 2005 to 2013, used the descriptive, quantitative, descriptive, ratios, and econometrics analysis to determine the relationship between variables. While a study conducted by Al-Khouri (2011) to measure the effect of bank's specific risks and the overall banking environment on the financial performance of 43 commercial banks operating in six of the Gulf Cooperation Council (GCC) countries for the period 1998-2008 using a fixed-effect regression model. The results demonstrated that liquidity risk, capital risk, and credit risk are the key bank's specific risks that influence bank performance (ROA) while only liquidity risk influences profitability when measured by ROE. Therefore, Khalid (2012) investigated the effect of loan quality on bank performance using profitability and ROA as a proxy of the financial performance for the periods of 2006-2007 and 2010 to 2011 employed the multiple regression models to analyze the relationship among variables. The findings support the hypothesis stated that the higher the quality of the loan processing activities before loan approval, the lower the non-value-added activities that are required to process problematic loans, and thus the higher the banking operating performance will be. Also, (Madishetti and Rwechungura, 2013; Laryea et al., 2016; Akter and Roy, 2017) found there is a significant effect of NPL on profitability.

Despite, there is a positive result confirmed that there is a significant relationship among NPL and financial performance but also there are some studies confirmed adverse relationship such as the study conducted by Noman

et al., (2015) who measured the impact of credit risk on profitability of 18 private commercial banks during 2003-2013. Moreover, Adebisi & Matthew (2015) investigated the influence of nonperforming loans on the profitability of the banking industry for (2006-2012), adopted regression statistical tools to analyze the influence among dependent and independent variables.

Agu & Nwankwo,(2019) examined the effect of capital adequacy on the Bank's financial performance. The study used secondary data from 2010 -2017. The result of the showed that Owner's equity has positive and no significant effect on Net Interest Income of Commercial Banks. This study also confirmed that Loans and Advances had a positive and significant relationship with Net Interest Income of the Banks. The study further showed that Total Deposits had negative and no significant effect on Net Interest Income of Commercial banks. In the light of above findings, the study concluded that loans and advances are the important and positive predictor of Commercial Bank financial performance measured in terms of net interest income. A recent study by Malimi, (2017). Compliance of capital adequacy and NPL ratios prudential requirement and analysis on the effect posed by Capital Adequacy, Profitability, and Loan Growth on Non-Performing Loans. Data was collected from the Bank. The banking sector ratios showed that commercial banks had a strong Capital adequacy ratio greater the 10% required by the Bank. However, the banking sector failed to meet NPL 5% threshold. Regression test used to examine the relationship between the variables, the result found that capital adequacy,& profitability posed an insignificant influence on NPL while the loan to asset ratio & interest margin had a significant influence.

Oganda, Mogwambo & Otieno (2018) argued that Banks optimize their liquidity risk by assuming the externalities posed by their choices on the overall risk of the financial system. The aim of the study was to examine the impact of cash reserves on performance among commercial banks. The research result stated that cash reserves were a negative correlation with financial performance indicated by ROE giving a significant negative relationship with the performance of Equity bank. they recommended that banks must reduce cash reserves and instead invest this money in productive investments, diversify their investments of these funds, and diversify their sources of funding,. From the previous discussion the hypotheses for the current study can be formulated as follow:

H1: bad debt (Nonperforming loans) has a significant relationship on ROE.

H2: market capitalization has a significant relationship on ROE.

H3: operation cost has a significant relationship on ROE.

H4: capital adequacy has a significant relationship on ROE.

H5: cash reserves have a significant relationship on ROE.

Banks exposed to various kinds of risks that directly influence their financial performance, which affect the profitability and the stockholder's wealth indeed. One of the significant risks that the bank's sector face is nonperforming loans. This risk related to the inability of the borrowers to pay or cannot pay their debt (Coyle, 2000; Gestel and Baensens, 2008, p. 24). On the other hand, increasing nonperforming loans in banks and other financial institutions will adversely affect the economic growth progress in the country. Bernanke (2007) stated that only a strong financial system can foster economic development, while an unfavorable financial system may avoid the economy to reach its potential. Nevertheless, a feeble financial system struggling with nonperforming loans and deficient capital or corporation whose solvency has corroded because of declining asset values or high leverage are examples of financial conditions that could weaken economic development.

However, the financial accelerator theory is considered very significant which is developed by Bernanke & Gertler (1989). This theory tries to clarify how small economic shocks have a comparatively huge influence on

borrowing and the activities of lending. It depends on the interaction among economic agents' net worth and the exterior finance premium that arises due to asymmetric information among borrowers and lenders. Wherever economic agents' net worth is known as the number of liquid assets plus the collateral value of illiquid assets less outstanding obligations and the exterior finance premium is described as the difference among the cost of funds raised on the exterior and opportunity costs interior to the firm (Bernanke, Gertler & Gilchrist, 1999). financial accelerator theory argues that the less the amount of his/her own wealth the borrower contributes to the project, the greater his interests will diverge from the interests of the supplier of the external funds. Borrowers were more eager to undertake riskier projects. That is, projects that have a high probability of large return, but also those offering low returns. From the borrower's perspective, these projects are preferred since the firms' losses in the cases when the project's return is low are limited to zero by legal regulation. 11 From the lenders' point of view, these projects are unfavorable since they bear all, or most of, the costs in the case of low project returns. The theory argues that due to economic shocks, the borrowers may not have the ability to borrow and are likely to avoid repayment of their loans (Manyuanda, 2014).

## BI. RESEARCH METHODOLOGY OF THE STUDY

The current research aims to examine the relationship between NPL and the FP of commercial banks listed on Bahrain Bourse. For this purpose, secondary data were collected from the annual reports of the seven commercial banks listed on Bahrain Bourse over the period (2014 to 2018). However, to examine the effect of independent variable nonperforming loans on dependent variables return on equity (ROE), the following model is estimated:-

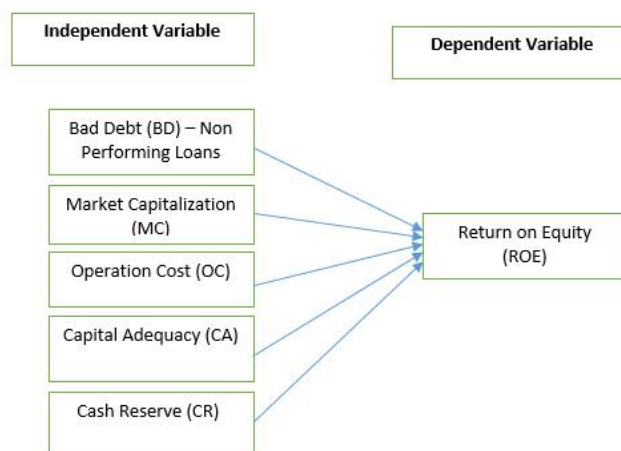
$$ROE_{it} = \beta_0 + \beta_1 BD_{it} + \beta_2 MC_{it} + \beta_3 OC_{it} + \beta_4 CA_{it} + \beta_5 CR_{it} + \epsilon_{it}$$

Where;

$\beta_0$ : is an intercept,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$ : denote estimated coefficient for specific bank  $i$  at time  $t$ ; ROE: represents the return on equity,  $\beta_1 BD$ : indicates bad debt;  $\beta_2 MC_{it}$ : denotes the market capitalization;  $\beta_3 OC$ : represents operation cost;  $\beta_4 CA$ : denotes capital adequacy,  $\beta_5 CR$ : indicates cash reserves, and  $\epsilon_{it}$ : represents error terms for intentionally/unintentionally omitted or added variables.

Appropriate statistical techniques are used to test and analyses the data. These include descriptive statistics, correlation, and multiple regression. Figure 2 clarifies the relationships between non-performing loans and the financial performance of commercial banks.

**Figure 2: Research Framework**



Panel data regression can be estimated through numerous models. Pooled ordinary least squares, fixed-effects model, and random effects model among these models (Gujarati, 2003). According to the results of the three models, the OLS is the appropriate model among others for the current study. Moreover, the diagnostic tests have been applied in this study which includes; Multicollinearity, Heteroskedasticity, Autocorrelations, and normality to ensure that data is valid to be estimated.

#### IV. EMPIRICAL RESULTS

The findings revealed below in Table 1 the non-performing loan (BD) range between 4.79 and 8.18 with an average 7.09 for each bank. This indicates that Bahraini banks face a bad debt during the study period as which could adversely affect their financial performance. Also, the table showed that the market capitalization for commercial banks recorded the minimum 4.70 while the maximum 6.31 with mean 5.508 this means that the market value for each bank as the share price times the number of outstanding shares. For the operation cost the table demonstrated the range between 4.38 and 5.87 with an average 4.926 which represents the operating expenses per bank includes; staff costs, property costs and other short term costs. Capital adequacy has 12.11 as minimum value whereas the maximum value was 36.30 with mean 19.784. However, the values differed among banks in the current study, this ratio affects bank stability, and with sufficient CA banks can face any anticipated risk in the future. In the case of cash reserve, the table revealed that banks recorded a minimum value 3 while the maximum value reached 5.69 with average 4.663.

**Table 1 : Descriptive Statistics**

Variables	N	Minimum	Maximum	Mean
ROE	35	-.24	.18	.0708
BD	35	4.79	8.18	7.0962
MC	35	4.70	6.31	5.5081
OC	35	4.38	5.87	4.9263
CA	35	12.11	36.30	19.7840
CR	35	3.00	5.69	4.6628

#### Diagnostic Tests Results

The results of diagnostic tests for current study showed that in the multicollinearity test the mean of Variance Influencer Factor (VIF) was 3.66 which is less than Ten (10), this explain that the model does not multicollinearity problematic. However, the results also revealed that there is no heteroscedasticity problem as Breusch-pagan/ cook-Weisberg for heteroskedasticity that the Chi2 is 1.61 with P value 0.188, this indicates there is a constant variance of the error terms as the P value is higher than 0.05. Accordingly, the results demonstrated that (H0) can be accepted once the Wooldrige is 4.068 with P value higher than 0.05 which recorded 0.090. In case of normality test the findings showed that the error terms for the statistical tests is valid as the probability value also greater than (0.05).

**Table 2: Pooled OLS Multiple Regression Results**

Independent variables	Coefficient	P-value
Constant	-1.37	0.00*
LBD	0.476	0.00*
LMC	-0.010	0.332
LOC	0.043	0.006*
LCA	0.093	0.018**
CR	3.16	0.015**
R2	0.878	-

Adj R <sup>2</sup>	0.356	-
F Test	41.72	0.000*
VIF	3.66	-

\*, \*\*, Significant at 1%, and 5% level, respectively.

The Findings in Table 2 demonstrate a significant positive relationship ( $\beta = 0.476$ ,  $p = 0.00$ ) between NPL or (BD) and financial performance (ROE). This implies that when the non-performing loans increase by 1 the return on equity in Bahrain commercial banks will increase by 0.476. Accordingly, the hypothesis can be accepted which showed that there is a significant relationship between non-performing loans and financial performance. The current finding is consistent with recent studies such as (Madishetti and Rwechungura, 2013; Laryea et al., 2016; Charge and Bichanga, 2017; Akter and Roy, 2017; Kumari et al., 2018). However, the findings also confirmed that there is a positive significant relationship between operation costs, capital adequacy, cash reserve, and return on equity. This means that the more operation costs spent by the bank the more profit will be generated and the consequence more return on equity. Moreover, higher capital adequacy and higher cash reserve mean the bank considered safe and likely to meet its financial obligations which will affect positively the ROE. Whereas, the result showed that only market capitalization has an insignificant relationship with financial performance.

#### IV. CONCLUSION

The research was carried out to examine the impact of NPL (bad debt), market capitalization, operation cost, capital adequacy, cash reserves on financial performance (ROE). The results of the research were as follows: non-performing loans, operating costs, cash reserve, and capital adequacy have a positive and significant relationship with the financial performance (ROE) of the commercial bank listed in Bahrain Bourse. However, market capitalization has an insignificant relationship with financial performance.

The current research recommends the following: The research recommends that the management of commercial banks in Bahrain must endeavor to reduce and minimize as much as possible the Non-performing loans (bad debt). As well as the management of commercial banks to improve the volume and value of assets at its disposal. The current study was limited to the effect of nonperforming loans on financial performance (ROE) of commercial banks in Bahrain. Another research should be carried out that looks at the effect of nonperforming loans on financial performance (RON & ROA) for other sector such as the investment sector.

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