Impact of Credit Risk Management on Bank Performance of Nepalese Commercial Bank

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Abstract- This study attempts to investigate impact of credit risk management on bank performance by taking panel data of selected 9 commercial banks operated in Nepalese economy with 72 observations for the period 2009/10 to 2016/17. The dependent variables is return on asset which measure bank performance while the independent variables are default rate, cost per loan asset and capital adequacy ratio. For the purpose of this study, the secondary data have been used. Empirical results are based on fixed effect model and random effects model for balanced panel data. The finding suggests that default rate and cost per loan asset are the significant variables explaining the banks' performance. However, Capital adequacy ratio is insignificant for the banks' performance

Index Terms- Commercial Bank, Fixed Effect, Panel Data, Random Effect Model.

I. INTRODUCTION

Banks today are the largest financial institutions around the world, with branches and subsidiaries throughout everyone's life. However, commercial banks are facing risks when they are operating (Li & Zou, 2014). Credit is a contractual agreement in which a borrower receives something of value now and agrees to repay the lender at some later date with consideration, generally with interest. Credit also refers to an accounting entry that either decreases assets or increases liabilities and equity on the company's balance sheet. Lending is the principal business activity for most commercial banks.

Credit risk is the major risk that banks are exposed during the normal course of lending and credit underwriting. Credit risk arises from non-performance by a borrower. For most banks, loans are the largest and most obvious source of credit risk; however, credit risk could stem from activities both on and off-balance sheet. It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. Alternatively losses may result from reduction in portfolio value due to actual or perceived deterioration in credit quality. Credit risk comes from a bank's dealing with individuals, corporate, banks and financial institutions or a sovereign. Credit risk does not necessarily occur in isolation. The same source that endangers credit risk for the bank may also expose it to other risk. For instance a bad portfolio may attract liquidity problem (NRB, 2010).

History shows that the major cause of bank's failure is lack of proper credit risk management. Credit risk comes from a bank's dealing with individuals, corporate, banks and financial institutions (BFIs) or a sovereign. It does not necessarily occur in isolation. The same source that compromise credit risk for the bank may also expose it to other risks like operation risk, market risk, liquidity risk etc. A bad portfolio may attract liquidity problem. The soundness and safety of bank is determined by effective credit risk management adopted by bank. Globally more than 50% of total risk in BFIs is derived from poor credit management. Credit risk has been the headline from last few years in Nepal. Many BFIs have been failed due to the credit risk. Nepal Development Bank Limited, Samjhana Finance Limited, United Bikash Bank Limited and Himalayan Finance Limited have been liquidated due to huge non-performing loans. Still there are 11 problematic BFIs as on mid July 2016 due to credit problem (Malla, 2017).

Financial performance is company's ability to generate new resources, from day-to-day operation over a given period of time and it is gauged by net income and cash from operation. The financial performance measure can be divided into traditional measures and market based measures (Aktan & Bulut, 2008). Commercial banks (CBs) face various risks that can be categorized into three groups: financial risk, operational risk and strategic risk. These risks have different impact on the performance of commercial banks.

Financial performance involves measuring the firm's effectiveness and efficiency use of resources in its operation to generate revenue. Bank performance may be defined as the reflection of the way in which the resources of a bank are used in a form, which enables it to achieve its objectives (Memmel & Raupach, 2010). Some of the reasons why we evaluate the performance of banks are to determine their operational results and their overall financial condition of bank services. (Kamandea, Zablonb, & Ariemba, 2016).

Credit risk management is one of the most essential functions of the bank in the modern banking concept. The risk is inherent in all aspect of banking operations. Credit business is a one of the major parts of the bank (Kattel, 2016). However, credit risk is a crucial factor that needs to be managed in every phase of the credit process. Since the credit assessment is a primary stage to identify of the risk level in the specific borrower, sector or portfolio. High bank failures and the significant credit problems faced by banks during the Global Financial Crisis (GFC) is a stark reminder of the importance of accurately measuring and providing for a credit risk (Allen & Powell, 2011). So that, every commercial bank strongly focuses

to developing the effective and robust credit assessment system entire the organization.

Credit risk management is very important to banks as it is an integral part of the loan process. It maximizes bank risk, adjusted risk rate of return by maintaining credit risk exposure with view to shielding the bank from the adverse effects of credit risk. Bank is investing a lot of funds in credit risk management modeling (Poudel, 2012).

Nepal has started preparations to implement the Basel-III framework for bank sector from 2014 in line with the global standard. The global financial crisis and the credit crunch that followed put credit risk management into the regulatory attention. As a result, regulators began to demand more transparency. They wanted to know that a bank has thorough knowledge of customers and their associated credit risk. And new Basel III regulations will create an even regulatory burden for banks (Kattel, 2016).

The present study attempts to achieve the following objective:

- To examine impact of credit risk management on financial performance of commercial banks of Nepal.
- To examine the relationship between the independent variables and net income (ROA) of banks

II. LITERATURE REVIEW

Traditionally, commercial banks' essential services involve the granting of credit that is held by the originating bank until maturity or payoff. Credit risk management (CRM); however, allow banks to turn around this pattern, generally by transferring the loans in part or in their entirety from their own books to any other third-party loan servicer (Bekhet & Eletter, 2014).

Bank credit is the key to economic growth (Timsina, 2016). The credit creation process works smoothly when funds are transferred from ultimate savers to borrower. The major function of commercial banks is to provide credit. Loan and advances constitute the highest portion of the total assets of banks. It is the main source for generating profit (Timsina, 2016). Saunders and Cornett, (2006) found that to address the credit risks, banks and financial intermediaries should focus center on the probability of default of the borrowers. There are a number of models accessible to analyze credit risks, some of which are qualitative models and some are quantitative models. The qualitative models indicate borrower specific factors and market specific factors.

Mosharrafa (2013) found that credit risk rating technique is an important tool for credit management as it supports a bank to realize various dimensions of credit risk involved in different borrowers and portfolio. The credit risk assessment is the source for credit risk management in commercial banks and provides the information for decision making.

Credit granting procedure and control systems are necessary for the assessment of loan application, which then guarantees a bank's total loan portfolio as per the bank's overall integrity (Boyd, 1993; Sreelakshmi, 2014). It is necessary to establish a proper credit risk environment, sound credit granting processes, appropriate credit administration, measurement, monitoring and control over credit risk, policy and strategies that clearly summarize the scope and allocation of bank credit facilities as well as the approach in which a credit portfolio is managed i.e. how loans are originated, appraised, supervised and collected, a basic element for effective credit risk management (Basel, 1999; Sreelakshmi, 2014). Credit scoring procedures, assessment of negative events probabilities, and the consequent losses given these negative migrations or default events, are all important factors involved in credit risk management systems (Altman, Caouette, & Narayanan, 1998). Most of the studies have been inclined to focus on the problems of developing an effective method for the disposal of these bad debts, rather than for the provision of a regulatory and legal framework for their prevention and control (Campbell, 2007).

According to Cuthberston and Nitzsche (2003) risk management technology has been renovated over the last decade. The swiftness of information flow and the complexity of the international financial markets qualify banks to recognize, evaluate, manage and mitigate risk in a way that was just not possible ten years ago. The most current credit modeling software in place is Basel II Accord. This accord has positively been a substance in leading the drive towards building applicable credit risk modeling and Capital Adequacy Requirements. Banks will have to have the clear knowledge about the risk and its effect with the optimal use of the resources to compete in the market. Generally in competitive market, a bank trade off the risk which allows much more competent risk transfer and portfolio optimization. However, for all these activities, banks must have a good knowledge about risk management, pricing of loan on competitive market, marginal risk adjusted contribution, monitoring of economic capital (Poudel, 2012). The banks frequently suffer from poor lending practice and it must be aware about the monitoring and other steps to control; and mitigate the risk associated with credit or lending to individual as well as companies.

Therefore, the Nepal Rastra Bank (NRB) i.e. central bank, has issued guidelines which attention to general principles that are prepared for governing the implementation of more detailed lending procedures and practices within the banks. The NRB has issued some criteria, such as the credit assessment of borrowers (macro-economic factors and firm specific analysis), the purpose of credit, track records, repayment capacity, liquidity status of collateral for new credit, as well as the renewal and expansion of existing credit (NRB, 2010).

It is mandatory for a bank to prepare Credit Policies Guidelines (CPG) for making investment and lending decisions and which reflect a bank tolerance for credit risk. Prior to consent to a credit facility, the bank should make an assessment of risk profile of its customers, such as of their business, and which can be done through the credit procedure (NRB, 2010). The credit risk management policies for ten banks in the United States has been studied by Benedikt, Ian, Judit, and Wolf (2007) and found that advance credit risk management techniques (proxies by at least one collateralized loan) help permanent to achieve their target in loan level. The findings confirm the general efficiency-enhancing implications of new risk management techniques in a world with frictions suggested in the theoretical literature.

The study Li and Zou (2014) revealed that credit risk management does have positive effects on profitability of commercial banks. Between the two proxies of credit risk management, NPLR has a significant effect on the both ROE and ROA while CAR has an insignificant effect on both ROE and

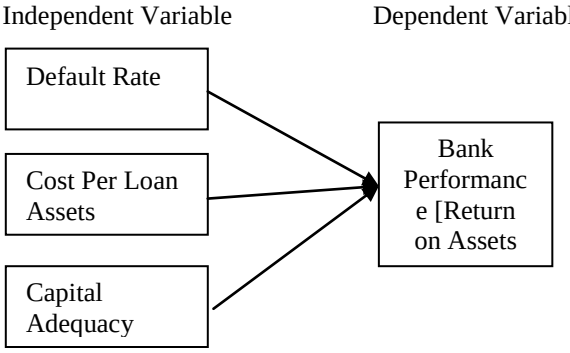
ROA. However, from 2007 to 2012, the relationships between all the proxies are not stable but fluctuating.

The study conducted by Macaulay (1988) in the United States and found credit risk management is best practice in bank and above 90% of the bank in country have adopted the best practice. Inadequate credit policies are still the main source of serious problem in the banking industry as result effective credit risk management has gained an increased focus in recent years. The main role of an effective credit risk management policy must be to maximize a bank's risk adjusted rate of return by maintaining credit exposure within acceptable limits. Moreover, banks need to manage credit risk in the entire portfolio as well as the risk in individual credits transactions (Sreelakshmi, 2014).

The result from the study by Poudel (2012) showed that credit risk management is an important predictor of bank financial performance thus success of bank performance depends on risk management. Since risk management in general has very significant contribution to bank performance, the banks are advised to put more emphasis on risk management. In order to reduce risk on loans and achieve maximum performance the banks need to allocate more funds to default rate management and try to maintain just optimum level of capital adequacy.

Credit Risk Management is one of the biggest risks faced by commercial banks and assuming even greater importance in a changing regulatory regime and volatile market conditions. Advanced credit analytics are now required to be compliant and to make sound business decisions. However, to successfully operationalize credit analytics, banks need to assess credit risks across the entire lending value chain and build an integrated risk management layer that uncovers interlinkages between credit risk and other risk categories (market risk, fraud and liquidity risks) (Otamurodov & Rakhimov, 2016; Jain, 2014).

Theoretical Framework



Sourcce: (Poudel, 2012)
Fig.1: Theoretical Framework

III. DATA AND METHODOLOGY

3.1 Research Design

The research design used for the study is a descriptive research design that basically involves obtaining information concerning the current status of phenomena or condition in term of credit risk management on financial performance in banking industry.

3.2 Sample selection

The population of interest is the twenty-eight banks that operate in Nepal. The study covered the banks (government and private banks) operating in Nepal; nine banks are involved in the study taken randomly. The study covered the period from fiscal year 2069/70 to 2074/75 because this is the period that the banking industry has undergone various changes that banks are going through merger and acquisition rapidly. Agricultural Development Bank Limited, Everest Bank Ltd., Himalayan Bank Ltd., Laxmi Bank Limited, Nabil Bank Ltd, Nepal Bangladesh Bank, Nepal Investment Bank Ltd., Nepal State Bank of India, Standard Chartered Bank Nepal has been selected as sample bank. This study examines the impact of credit risk management on financial performance of Banks in Nepal.

3.3 Source of information

Secondary data was used for the study and are gathered from various sources such as banking and financial statistics of NRB, commercial banks` individual website, Annual Supervision Report (NRB), Quarterly Financial Indicator (NRB). The study has applied time series and cross-sectional data, i.e. panel data set and panel data regression has been used to examine the credit risk of Nepalese commercial banks. The data was analyzed by calculating the profitability for each year for the period of study, trend analysis comparing the profitability ratio to default rate, cost per loan assets and capital adequacy ratio.

3.4 Variable Specification

The return on assets (ROA) is a ratio that measures company earnings before interest & taxes (EBIT) against its total net assets. The ratio is considered an indicator of how efficient a company is using its assets to generate before contractual obligation must be paid. It is calculated as: ROA= EBIT/ Total Assets. Return on assets gives a sign of the capital strength of the banking industry, which will depend on the industry; banks that require large initial investment will generally have lower return on assets (Poudel, 2012; Appa, 1996).

Default rate (DR) is the term for a practice in the financial services industry for a particular lender to change the terms of a loan from the normal terms to the default terms that is, the terms and rates given to those who have missed payments on loan (Poudel, 2012; Appa, 1996). DR ratio can be calculated as DR Ratio= Non Performing Loans/ Total loan

Cost per loan asset (CLA) is the average cost per loan advanced to customer in monetary term. Purpose of this is to indicate efficiency in distributing loans to customers (Poudel, 2012; Appa, 1996). CLA ratio can be calculated as: *CLA Ratio= Total Operating Cost/ Total amount of loans where, Operating cost = Interest received + Commission received - Operating profit.*

Capital Adequacy Ratio (CAR) is a measure of the amount of bank's capital expressed as a percentage of its risk weighted credit exposure. CAR can be calculated: *CAR= Capital fund/ Risk Weighted Assets* (Poudel, 2012). The data are taken from the annual reports of the selected sample banks' website.

3.5 Model Specification

The econometric model used in the study to estimate the banks performance and bank specific variables based on literatures for the credit risk management. The model is given as:

$Y= \beta_0+ \beta F_{it} + e_{it}$

Where, Y is the dependent variable

β_0 is constant, β is the coefficient of explanatory variable, F_{it} is the explanatory variable and e_{it} is the error term (assumed to have zero mean and independent across time period.

By adopting the economic model as in equation above specifically to this study, equation 2 below evolves.

Performance (ROA) = $\beta_0+ \beta_1 DR + \beta_2 CPLA+ \beta_3 CAR+ e_{it}$ ……..(2)

DR= Default rate

CLA= Cost per loan asset

CAR= Capital Adequacy Ratio

3.6 Model selection

Above equation is the econometric model explaining the credit risk management and banks performance of banks based on the variables. We need to identify the best method that would be more effective for the Panel Regression among the fixed and random effect model.

Housman test under the following hypothesis:

H_0 : Random Effect Model is appropriate

H_1 : Fixed effect Model is appropriate

IV. DATA ANALYSIS AND INTERPRETATION

This section deals with the various issues and analyzed the impact of credit risk management on the performance of Nepalese commercial bank. It includes descriptive statistics of variables, correlation results for dependent and explanatory variables, diagnosis test for the regression models, regression analysis and discussion of results. Data analysis was done by using E-views 10.0 software (student version).

4.1 Descriptive statistics

Table 1 shows the descriptive statistics which includes minimum value, maximum value, mean value and standard deviations with 9 sample commercial banks for the study period of 2009/2010 to 2016/17 that makes total of 72 observations.

Table 1: Descriptive Statistics

	Scale	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	%	72	0.192955	8.150799	2.118827	1.047298
Default Rate	%	72	0.100695	8.987640	1.926848	2.099650
Cost per Loan Assets	%	72	0.029540	0.171460	0.081681	0.032419
Capital Adequacy Ratio	%	72	10.19	21.08	12.84000	2.473560

Source: Annual reports of sample banks and results are drawn from E-VIEWS (Student version10.0)

Table 1 presents some descriptive statistics for the variable used in this study. The mean ROA is 2.1188%, the minimum 0.19295% and maximum 8.15079%. On the average, the default rate is 1.92685% and minimum and maximum is 0.10069% and 8.98764%, respectively. Regarding the cost per loan assets, the average is 0.08168% where minimum and maximum is 0.02954% and 0.17146% respectively. The mean of capital adequacy ratio is 12.84% and bears minimum and maximum 10.19% and 21.08% respectively.

4.2 Correlation Analysis

Correlation analysis is used to determine the extent of the correlation of different pairs of variables under study. It calculates the coefficient between 1 and -1. The following table No. 2 shows the bivariate correlation between the variables. The correlation matrix shows the correlation among variables and the significance of the correlation coefficient.

Table 2: Correlation Analysis

ROA	ROA	DR	CPLA	CAR
ROA	1			
DR	0.530069*	1		
CPLA	0.124135	0.705014	1	
CAR	0.180647	0.40116	0.156852	1

** correlation significant at 5% level*

In table 2, the study indicate that bank performance indicator ROA is significantly positively correlated with Default rate at 5% of signficance level. However there is insignificant correlation between Cost per loan assets and Return on Asset as well as with capital adequacy ratio. Correlation coefficient among the independent variables are less than 0.71, implying the absence of multicollinearity among the independent variables. Thus, there is no evidence of presence of multicollinearity among the independent variables.

4.3 Regression Analysis

4.3.1 Regression Analysis using Fixed Effect Model

Table No. 3: Regression Analysis using Fixed Effect Model

Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
(Constant)	2.24831	0.84063	2.67456	0.0096
DR	0.53781	0.09007	5.9710	0.0000*
CPLA	-11.8491	4.47383	-2.6485	0.0103*
CAR	-0.01541	0.05418	-0.2845	0.7770
R-square=0.661452			Adjusted R^2 = 0.599386	
S.E of regression = 0.66287			Prob(F-statistic)= 0.0000	
F-staticstics = 10.65705			D-W stat = 2.005066	

**Correlation coefficient significant at 5%*

Results of the fixed effect model are presented in Table No. 3. For the model, ROA as the dependent variable, DR and CPLA are significant variable to describe the ROA of commercial banks and CAR has insignificant relation with ROA at 5% level of significance. The beta coefficients are indicators of the predictive powers of the individual variables. The beta coefficient shows the positive relation between DR and ROA and negative relationship between CPLA and ROA. There is negative and insignificant relationship between capital adequacy and bank performance (ROA). The coefficient of capital adequacy ratio is insignificant meaning that it cannot explain the variation of dependent variable (ROA). The R square value demonstrates the percentage of independent variables can explain the variations in the dependent variable. In this research, independent variables (DR, CPLA and CAR) can explain 66.17 percent of the variations in performance of bank (ROA). The remaining 33.83 percent variations of ROA can be explained by other independent variables which are not covered in this study.

4.3.2 Regression Analysis using Random Effect Model

In this Section, regression model is applied to explain the relationship between bank performance (ROA) and explanatory variables (DR, CPLA and CAR) of credit risk management. The random and fixed effect has been calculated to run the Housman test.

Table 4: Regression Analysis using Random Effect Model

Variables	Coefficient	Std. Error	t-Statistic	Prob.
(Constant)	2.68063	0.76569	3.50096	0.0008
DR	0.50253	0.08069	6.22796	0.0000 *
CPLA	-13.0096	4.26805	-3.07157	0.0031 *
CAR	-0.03577	0.04866	-0.73512	0.4648
R-square=0.376588		Adjusted R^2 = 0.349083		
S.E of regression = 0.66055		Prob(F-statistic)= 0.0000		
F-staticstics = 13.69228		D-W stat = 1.754098		

**Correlation coefficient significant at 5%*

From the table 4, the regression results are obtained based on Random effect model using panel data of sample with the help of E-views software version 10.0 student version. This table shows regression results based on the panel data of 9 commercial banks with 72 observations for the period of 2009/10 to 2016/17. In the random effect model, the beta coefficient of variables is similar that DR has positive relation with ROA and CPLA and CAR has negative relation with ROA. The R square value of 37.66% demonstrates the 37.66% of independent variables can explain the variations in the dependent variable (ROA). Remaining 62.44% variation can be explained by other independent variables which are not included in this study.

The p-value for the F-statistics is significant with DR and CPLA indicating independent variable has influence in explaining credit risk management in Nepal whereas, insignificant with CAR. Further, The Durbin- Watson statistics value is greater than R- square value (i.e. 1.754098 > 0.376588), which mean that the error term is independent and is free of autocorrelation.

4.4 Housman Test Result

This is used as a test to determine the right model between the fixed and random effects model. A fixed group effect model examines individual differences in intercepts, assuming the same slopes and constant variance across individual (group and entity). A random effect model assumes that individual effect (heterogeneity) is not correlated with any regressor and then estimates error variance specific to groups (or times) (Adefemi, 2017).

The Hausman test hypothesis is:

Null hypothesis (H_0): Random effect model is appropriate.

Alternative hypothesis (H_1): Fixed effects model is appropriate**.**

Table No. 5: Correlated Random Effects – Housman Test

Dependent Variable ROA		
Chi. Sq. Statistic	**Chi- Sq. d.f.**	**P-Value**
2.523663	3	0.4710

The result of Housman Test is presented in table 5. This test is used to determine which model is better among fixed effect and random effect. P-values of cross section random for model is more than 0.05, hence, we do not have sufficient statistical evidence to reject the null hypothesis. Hence, we accept the null hypothesis i.e. Random effect model is appropriate for the model.

V. CONCLUSION

This study is conducted specially with the aim of investigating the impact of credit risk management on financial performance (ROA) of Nepalese commercial banks. The study is conducted using the sample of 9 commercial banks operated in Nepali economy with 72 observations for the period 2009/10 to 2016/17. Random Effect Model (REM) and Fixed Effect Model (FEM) of panel data analysis are used as tool of analysis.

The result of the study showed that credit risk management is an important predictor of bank financial performance thus success of bank performance depends on risk management. Credit risk management is crucial on the bank performance (ROA) since it have a significant relationship with bank performance. Hausman test reveals that Random effects model (REM) is most appropriate model because p-values of cross section random for model is more than 0.05. Default rate does not meet our prior expectation due to the positive significant coefficient. The result shows the higher default rate lead to higher return of asset for the bank. Based on the study other factors not studied in this research has a very significant contribution of 62.44% to bank performance therefore require further research to efficiently manage the credit risk hence

improve bank financial performance which is similar to the study of Poudel, (2012).

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APPENDIX I: Pooled Regression Model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/23/19 Time: 20:13
Sample: 2009 2016
Periods included: 8
Cross-sections included: 9
Total panel (balanced) observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DR	0.472788	0.071656	6.597997	0.0000
CPLA	-16.98251	4.303648	-3.946073	0.0002
CAR	-0.049739	0.043677	-1.138801	0.2588
C	3.233635	0.640177	5.051154	0.0000

R-squared	0.415951	Mean dependent var	2.118827
Adjusted R-squared	0.390184	S.D. dependent var	1.047298
S.E. of regression	0.817842	Akaike info criterion	2.489658
Sum squared resid	45.48288	Schwarz criterion	2.616140
Log likelihood	-85.62769	Hannan-Quinn criter.	2.540011
F-statistic	16.14285	Durbin-Watson stat	1.122236
Prob(F-statistic)	0.000000		

APPENDIX II: Random Effect Model

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 08/23/19 Time: 20:14
Sample: 2009 2016
Periods included: 8
Cross-sections included: 9
Total panel (balanced) observations: 72
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DR	0.502529	0.080689	6.227959	0.0000
CPLA	-13.10961	4.268054	-3.071566	0.0031
CAR	-0.035771	0.048660	-0.735117	0.4648
C	2.680633	0.765685	3.500961	0.0008

Effects Specification	S.D.	Rho
Cross-section random	0.575810	0.4301
Idiosyncratic random	0.662878	0.5699

Weighted Statistics

R-squared	0.376586	Mean dependent var	0.798765
Adjusted R-squared	0.349083	S.D. dependent var	0.818737
S.E. of regression	0.660552	Sum squared resid	29.67039
F-statistic	13.69228	Durbin-Watson stat	1.754098
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.384035	Mean dependent var	2.118827
Sum squared resid	47.96834	Durbin-Watson stat	1.084981

APPENDIX III: Fixed Effect Model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/23/19 Time: 20:14
Sample: 2009 2016
Periods included: 8
Cross-sections included: 9
Total panel (balanced) observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DR	0.537808	0.090070	5.971014	0.0000
CPLA	-11.84913	4.473829	-2.648544	0.0103
CAR	-0.015413	0.054180	-0.284483	0.7770
C	2.248307	0.840627	2.674559	0.0096

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.661452	Mean dependent var	2.118827
Adjusted R-squared	0.599385	S.D. dependent var	1.047298
S.E. of regression	0.662878	Akaike info criterion	2.166560
Sum squared resid	26.36444	Schwarz criterion	2.546005
Log likelihood	-65.99617	Hannan-Quinn criter.	2.317618
F-statistic	10.65705	Durbin-Watson stat	2.005066
Prob(F-statistic)	0.000000		