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Original Research Article

Capital Adequacy and Banking Risk in Basel III

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Since the financial crisis of 2008, banking supervision has been a core activity in all banks governed by supervisory committees all over the world. The Pakistan's banking system is not an exceptional case. The State bank of Pakistan is required to open the foreign direct investment along with tight banking policies in order to assess the bank's performance through capital adequacy ratio which would be a useful tool for controlling the banking system. This paper has been presented to look at the relationship between the extent of capital adequacy, risk factor and profitability signs in Pakistanis commercial banks via theoretical and empirical study. State bank provides the adequate dissemination on regulations, Basel accord, and bank information is provided. Use the panel data sets of banks from Pakistan and USA over the period 2004 – 2014 and by following the bank specific variables, capital adequacy ratio, bank size, return on assets, liquidity risk, leverage, management quality and macroeconomic variables, GDP, Inflation, which have significant impact on bank efficiency and performance.

Keywords: Capital adequacy, Macroeconomics factors, Commercial banks, Bank variables.

INTRODUCTION

Firms capital structure mismatch to its value in firm's efficient performance was initially realized by Modigliani and Miller's (1958). For banks which works jointly, their shareholders' unexpected losses are limited while gains get bigger than the fix interests for both depositors and creditors. In a well performed market, including all published data, creditor's required big loan interest in order to cover the high risks which impose managers to maximize both credit value and share values. Thereby, market value of bank is an autonomous factor in its capital structure and capital regulations in this framework is not required.

M & M theorem is not reasonable for banks. This was argued by Sealey (1985), Baltensperger&Milde (1987). Banks which lack information dissemination are not efficient, according to theoretical proof. Since creditors, which are unable to exactly evaluate the portfolio's risks resulted the banks to have incentives to increase leverage and possess higher risk. Banks regulations should impose specific prerequisites for banks in order to defend their defaulters for example capital requirement, higher rate of current assets, liquidity etc.

Minimum capital requirement can be considered as a source to increase the performance and safety in banks. He welcomed deposit insurance system to tackle with information asymmetry (Dowd 1999).

At the spot time, Harold in 1999 concluded that apart from regulations, customers are also concerned about stabilization of financial system. By increasing bank size is not only appropriate solutions for banks to minimize bank risk, but specific capital requirement strengthen the financial system too.

Hence, banks would establish an appropriate capital level to increase the return on equity as well as follow capital adequacy regulations. A study on the relationship between banks' profitability and capital requirement in banking sector of Germany, Canada, Holland, Japan, England, US, and Switzerland, Jackson et al. (1999) found inconclusively divergent results from their source.`

Prudential regulation, mostly force the capital requirement in order to produce compulsory tools to save the banks against unexpected losses and liquidity risks (Dewatripont and Tirole, 1993; Goodhart et al., 2003; Pennacchi, 2005; Goodhart, 2008;). Some important principles– to minimize bank risks include;–maintaining the adequate capital for banks, risk sensitivity, make it obligatory for banks to put capital aside and take into account unexposed losses.

Thereby, capital possesses requirements and intrinsically correlated with capital to make 'LOW' capital buffers reconstruct their buffers in order to raise capital and minimize risk. By the way, capital requirements cannot contribute in risk saving, but risk taking behavior can effectively preserve the

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banks efficiency and safety of risk; (Koehn and Santomero, 1980; Kim and Santomero, 1988; Clare, 1995; Blum, 1999).

Therefore, the successful implementation of BASEL II possesses not only successful regulations, but also creates forehead challenges in BASEL II framework in reducing risks and adopting risk taking behaviors. Banks reflect regulatory pressure by adjusting their capital ratios, primarily through capital rather than through risk. These findings only partially support the efficiency hypothesis of Ediz et al. (1998), Aggarwal and Jacques (1998, 2001), Rime (2001) and Van Roy (2008).

The introduction of the Federal Deposit Insurance Corporation Improvement Act (FDICIA), where capital ratio buckets were incepted that mandated temporary corrective action rules and primarily intervention in banks with shortages of capital and/or excess of leverage introduced by Aggarwal and Jacques (1998, 2001). Rime (2001) studied during the period 1989- 1995 on Swiss banks. Van Roy (2008) used a simultaneous equations model between 1988 and 1995 to test the behavior of banks from six G-10 countries, but the conclusion partially supported the efficiency hypothesis possesses only for US.

In theoretical framework, bank profitability is measured through return on assets (ROA), return on equity (ROE), and net interest margins (NIM). ROA depends on the bank's policy decisions along with uncontrollable factors concerning economic growth and government regulations.

ROA is the best instrument for measuring bank profitability in many regulations (Hassan and Bashir, 2003). Rivard and Thomas (1997) found that bank profitability is best measured by ROA also ROA represents a better way a firm can generate returns on its portfolio of assets.

Many policy makers recommend ROA, ROE, Bank size as the best tools for measuring and maintaining financial assets and liquidity for banks. Previous studies on capital adequacy as a source of profitability of banks reserve that high capital adequacy ratio should be considered important for a bank which deals with potential operating profit and operate cautiously. There is a negative relationship between equity to asset ratio and bank performance as implied by (Goddard, Molyneux, and Wilson 2004). On the spot time, banks with higher equity to asset ratio should have lower needs of external funding, normally which generate higher profitability (Pasiouras and Kosmidou, 2007). Yu Min-The (2006), explain the adequate capital for banks at the level on which the deposit insuring agency would break even in warranting the deposits of individual banks with banks premium

George and Dimitrios (2004) employed non-parametric analytic technique in screening the performances of the Greek banking sector via capital adequacy. He concluded that data envelopment analysis may be used as either substitute or complement to ratio analysis for measuring an organization's performance by taking into account the macroeconomic indicators. Various studies suggest that banks holding big size, capital, assets and deposits with higher level of performing capital have significant impact on performance

There is a positive link between a greater equity and profitability in EU banks as proved by Staikouras and Wood (2003). Abreu and Mendes (2001) also proved that there is a positive link between impact of equity level and profitability. Goddard et al. (2004) supports again the direction of the relationship between banks prior finding of positive relationship between capital/asset ratio and bank's earnings. A study of theoretical framework was implemented in this paper for controlling fair capital holding by banks in Pakistan during the year …2004 to 2014.

HYPOTHESIS TO BE DEVELOPED

Ho: There is positive relationship between CAR and bank efficiency
H1: There is no positive relationship between CAR and bank efficiency
Ho: There is positive relationship between bank size and bank efficiency
H2: There is no positive relationship between bank size and bank efficiency
Ho: There is positive relationship between LR and Bank efficiency
H3: There is no positive relationship between LR and Bank efficiency
Ho: There is positive relationship between Credit risk and bank efficiency
H4: There is no positive relationship between Credit risk and bank efficiency
Ho: There is positive relationship between LEV and bank efficiency
H5. There is no positive relationship between LEV and bank efficiency
Ho: There is positive relationship between Management quality and bank efficiency
H6: There is no positive relationship between Management quality and bank efficiency
Ho: There is a no positive relationship between consumer price index and bank efficiency
H7: There is a no positive relationship between consumer price index and bank efficiency.

METHODOLOGY

Use the panel data sets of banks residing in Pakistan and USA over the period 2004 – 2014. Fixed Effect Linear Regression (LSDV) analysis is applied to measure the bank efficiency for each bank in each year and numbers of variables to examine whether the effect associated with the financial fragility crowding out the hypothesis of bank efficiency. Measure the impact of bank capital adequacy and bank efficiency, according to bank specific characteristics and macroeconomic indicators in low developed country Pakistan and developed country USA. We develop the Fixed Effects Regression model (LSDV) to test our hypotheses.

$$Y_{it} = \beta_0 + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + \beta_4 X4_{it} + \beta_5 X5_{it} + \beta_6 X6_{it} + \beta_7 X7_{it} + \varepsilon$$

$$ROA_{it} = \alpha + \beta_1 CAR + \beta_2 \ln(TA) + \beta_3 LR + \beta_4 CR + \beta_5 LEV + \beta_6 MAN + \beta_7 CPI + \varepsilon$$

Where:

- CAR represents the Capital Adequacy Ratio (bank efficiency) for bank i at time t.
- $\ln(TA)$, represents the natural logarithms of total assets (Size) for bank i at time t.
- P represents the Return on Assets (ROA) that is profitability for bank i at time t.
- Credit risk represents the ratio between Loans Loss Provision and total loans that are (credit) for bank i at time t.

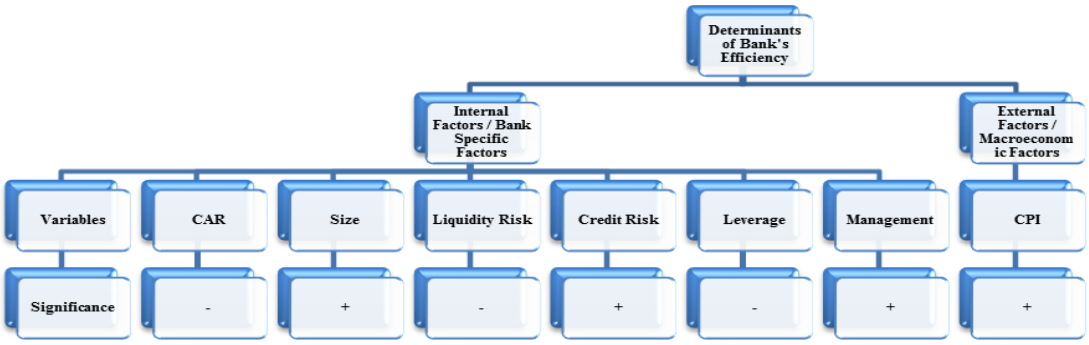

Figure 1. Determinants of Bank's Efficiency

- LR represents the Liquidity (Advance to Total Assets Ratio) for bank i at time t.
- Leverage represents the ratio of shareholders Equity to Total Liabilities for bank i at time t.
- CPI represents the annual inflation rate is the variation of Consumer Price index (CPI) for country i at time t.
- MAN represents the management quality for country i at time t.
- α = Value of intercept.
- i = 1 to 5 banks.
- t = 2004 – 2014.
- ε = Error term for regression model.

Empirical Result

Use the panel data sets of banks from Pakistan and USA over the period 2004 – 2014. Pooled OLS Regression analysis is applied for measuring the bank solvency for each bank in each year and numbers of variables to examine whether the effect associated with the financial fragility crowding out the hypothesis of bank solvency.

ANALYSIS AND DISCUSSION

The Table 1 shows the average value (Mean) of selected variables of the five banks of lowly developed country Pakistan (HBL, NBP, MCB, UBL, and ABL) and five banks of developed country USA (JPM, BAC, City, WFC and BNY) during the period of eleven years (2004 – 2014).

Descriptive Statistics

Before multiple regression model testing, descriptive statistics, normality tests are used to measure a goodness of fit of a normal model to the data and data set is well-modeled by a normal distribution. Table 1 shows the descriptive statistics and data set is well-modeled and goodness of fit.

The results of descriptive statistics show that the mean value of ROA (bank efficiency) is significantly positive, which mean that the banking system in Pakistan as well as banking system in USA is efficient. In the below (Table 1) regression model the value of Skewness is near to zero and normality of data is not high (+/– 3) enough, therefore normality (normal distribution) of data is acceptable in the above descriptive statistic model.

Kurtosis value of ROA (Bank Efficiency) is positively related with bank-specific determinants like CAR, Size, LR, CR, LEV, MAN and macroeconomic determinants like CPI (Inflation). If the P value is greater than 0.05%, then we cannot reject the null hypothesis. So data is normally distributed and goodness-of fit for regression model.

Correlation Matrix

Statistical measures of the degree to which the movements of variables that represent the correlations between all pairs of data set. The correlation matrix reveals that there is no multicollinearity among explanatory variables as coefficient of correlations is below 0.90. So variables show the result that the entire variables are different relationship or quantities as measured by other variables.

Appropriate Regression Model Tests for Bank Efficiency

First apply the Wald Test on Pooled OLS to determine the appropriate regression model that is pooled OLS or Fixed Effect Regression (LSDV) Model.

ROA=C(1)+C(2)*CAR+C(3)*SIZE+C(4)*LR+C(5)*CR+C(6)*LEV+C(7) *MAN+C(8)*CPI+C(9)*DUMMY

Wald Test

Value of coefficient of dummy variable (C 9 = 0) is considering zero in Wald test to calculate the null hypothesis. If the P value in F-statistic is less than 0.05. So reject the null hypothesis and apply the Fixed Effect Regression (LSDV) Model. In the model shown in Table 4, P value in F-statistic is greater than 0.05.

Table 1. Descriptive statistics

	ROA	CAR	SIZE	LR	CR	LEV	MAN	CPI
Mean	1.164545	14.57045	23.43136	65.02545	7.081818	7.064545	6.694545	6.450000
Median	1.185000	14.62000	23.51000	67.02500	6.150000	7.155000	6.855000	5.500000
Maximum	2.260000	17.53000	29.78000	83.41000	16.20000	8.420000	9.290000	20.30000
Minimum	0.060000	11.63000	16.67000	45.09000	0.700000	5.880000	4.110000	-0.400000
Std. Dev.	0.491748	1.838816	6.250970	12.05023	5.198410	0.795414	1.682995	5.134825
Skewness	-0.027967	-0.172065	-0.004506	0.001104	0.317092	0.080703	-0.176208	0.969155
Kurtosis	3.259138	1.805854	1.012365	1.910284	1.652176	1.803737	1.800988	3.482154
Jarque-Bera	0.064424	1.415709	3.621544	1.088529	2.033919	1.335673	1.431674	3.657061
Probability	0.968301	0.492700	0.163528	0.580269	0.361693	0.512817	0.488783	0.160649
Sum	25.62000	320.5500	515.4900	1430.560	155.8000	155.4200	147.2800	141.9000
Sum Sq. Dev.	5.078145	71.00610	820.5673	3049.371	567.4927	13.28635	59.48195	553.6950
Observations	22	22	22	22	22	22	22	22

Therefore, we can't reject the null hypothesis and apply the Pooled Linear Regression Method (OLS) Model.

Pooled Linear Regression Method (OLS)

Regression Analysis is a statistical process that uses several explanatory variables to predict the outcome of a response variable and find the relationship between the explanatory and response variables. The result of the regression analysis of developed model reveals the value of R^2 is 0.731114 which indicate the 73 percent variability in the banking efficiency.

Therefore, bank-specific variables and macroeconomic variables explain the 73 percent of the fluctuation in bank efficiency. If the value of R^2 is greater than 0.60 or 60 % than the model is goodness of fit. The value of adjusted R-squire (R^2) is 0.731114 which is improved estimation in R^2 in regression model. The F-statistics value of 5.438096is significant and the adjusted value of R^2 is 73% of the variability in the bank efficiency and the goodness of fit of the estimated model.

Serial Correlation or Auto Correlation Test (Durbin-Watson Test Statistic)

Durbin-Watson test is the statistic test of null hypothesis that detect the presence of serial correlation or autocorrelation of residuals in the regression model. Residuals are not auto correlated against the alternative if the residuals follow an ARI process. The value of Durbin-Watson statistic is always between 0 and 4. Values toward 0 indicate positive autocorrelation and values approaching 4 indicate negative autocorrelation. A value near 2 (1.5 – 3.5) indicates no autocorrelation in the sample.

$$d_{pd} = \frac{\sum_{i=1}^{N} \times \sum_{t=2}^{T} \times (e_{i,t} - e_{i,t-1})^2}{\sum_{i=1}^{N} \times \sum_{t=1}^{T} \times e_{i,t}^2}$$

The value of Durbin-Watson statistic is 1.639149indicate that there is no serious correlation or autocorrelation in the above regression model.

F-statistic:Analysis of Variance (ANOVA)

F-statistic:Analysis of Variance (ANOVA) is a collection of statistical model that is used to compare the means of more than two samples.

The result of ANOVA table shows that F-statistic F = 5.438096 and the value of probability P = 0.003526that is below 0.05. So the regression analyses of independent variables are jointly significant to explain the dependent variable. Therefore the independents variables CAR, Size, CR, LR, LEV, and CPI (Inflation) are jointly significant to explain the bank efficiency.

T-Statistic

T-statistic is the ratio of estimated value of coefficients (β)to its standard error in an unstandardized coefficients and that is use in hypothesis testing in regression model. If the value of T-Statistic is greater than two so the particular variable is significant.

$$\text{T-Statistic} = \frac{Estimated\ Coefficients}{Standard\ Error} > 2 = \text{Significance}$$

In the regression model (Table 5), the value of size (SIZE)= 2.625193, CR=2.552469, MAN=2.625193, CPI=2.256001in T-Statistic is, that is greater than 2. Therefore the independent variable SIZE, CR, MAN, and CPI, are significant effect on bank efficiency.

P-value

P-value is the result of the observed sample for testing the hypothesis in regression model. Traditionally suppose the value of α = 5% before applying the test. If the p-value is less than 0.05 indicates the significance of hypothesis and null hypothesis is rejected or alternative hypothesis is accepted. If the p-value is greater than 0.05 indicate the weak evidence against the null hypothesis and null hypothesis is accepted or alternative hypothesis is rejected.

Table 2. Statistical measure of correlation matrix

	CAR	SIZE	LR	CR	LEV	MAN	CPI
CAR	1						
SIZE	-0.235363	1					
LR	-0.815774	0.366776	1				
CR	0.573178	-0.874825	-0.624621	1			
LEV	0.784703	-0.054563	-0.538266	0.456635	1		
MAN	0.241638	0.825857	-0.178758	-0.520769	0.292561	1	
CPI	0.150909	-0.822688	-0.125554	0.734152	0.078990	-0.746304	1

Table 3. Regression statistical model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 10/30/15 Time: 23:17
Sample: 2004 2014
Periods included: 11
Cross-sections included: 2
Total panel (balanced) observations: 22
ROA=C(1)+C(2)*CAR+C(3)*SIZE+C(4)*LR+C(5)*CR+C(6)*LEV
+C(7) *MAN+C(8)*CPI+C(9)*DUMMY

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	5.270272	2.125063	2.480054	0.0276
C(2)	-0.022272	0.097600	-0.228201	0.8230
C(3)	-0.352761	0.094186	-3.745384	0.0024
C(4)	0.025134	0.020641	1.217638	0.2450
C(5)	-0.177625	0.079078	-2.246188	0.0427
C(6)	0.107745	0.210384	0.512134	0.6171
C(7)	0.561816	0.222309	2.527179	0.0253
C(8)	-0.060531	0.028792	-2.102360	0.0556
C(9)	-0.130933	0.308125	-0.424935	0.6778

R-squared	0.734798	Mean dependent var	1.164545
Adjusted R-squared	0.571596	S.D. dependent var	0.491748
S.E. of regression	0.321862	Akaike info criterion	0.862700
Sum squared resid	1.346736	Schwarz criterion	1.309036
Log likelihood	-0.489704	Hannan-Quinn criter.	0.967844
F-statistic	4.502397	Durbin-Watson stat	1.717385
Prob(F-statistic)	0.008302		

Table 4. Wald Test

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
t-statistic	-0.424935	13	0.6778
F-statistic	0.180570	(1, 13)	0.6778
Chi-square	0.180570	1	0.6709

Null Hypothesis: C(9)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(9)	-0.130933	0.308125

Restrictions are linear in coefficients.

Table 5. Pooled Linear regression method

Dependent Variable: ROA
Method: Panel Least Squares
Date: 10/30/15 Time: 23:32
Sample: 2004 2014
Periods included: 11
Cross-sections included: 2
Total panel (balanced) observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.777228	1.727460	2.765463	0.0152
CAR	-0.013621	0.092617	-0.147069	0.8852
SIZE	-0.334135	0.080888	-4.130842	0.0010
LIQ	0.028564	0.018433	1.549582	0.1435
CR	-0.157698	0.061783	-2.552469	0.0230
LEV	0.077224	0.191870	0.402483	0.6934
MAN	0.527436	0.200913	2.625193	0.0200
CPI	-0.062335	0.027631	-2.256001	0.0406

R-squared	0.731114	Mean dependent var	1.164545
Adjusted R-squared	0.596671	S.D. dependent var	0.491748
S.E. of regression	0.312300	Akaike info criterion	0.785586
Sum squared resid	1.365442	Schwarz criterion	1.182328
Log likelihood	-0.641442	Hannan-Quinn criter.	0.879046
F-statistic	5.438096	Durbin-Watson stat	1.639149
Prob(F-statistic)	0.003526		

In the regression model shown in Table 5, the p value of independent variable Size is 0.0010, CR=0.0230 MAN=0.0200 CPI=0.0406 that is less than 0.05. Therefore size, CR, MAN, and CPI has a significant impact on ROA (bank efficiency) in bothlow developed country (Pakistan) and developed country (USA) in Basel III. P value of independent variables CAR, LR and LEV, have greater than 0.05. Therefore, CAR, LR and LEV have no significant impact on ROA (bank efficiency) in both low developed country (Pakistan) and developed country (USA) in Basel III. The Result of regression model indicates that bank efficiency only relies on bank size, CR, MAN and CPI.

Capital Adequacy Ratio (CAR) and Bank Performance (Capital)

Bank Capital Adequacy Ratio (CAR) is an important bank specific independent variable in our regression model. Table 1 shows that mean value of Capital Adequacy Ratio (CAR) for lower developed country Pakistan is 15.08% and developed country USA is 14.06%. Therefore lowly developed country banks are more solvent than banks of a developed country. But both banks of countries have a sufficient minimum capital reserve that is 8% according to Basel III accord. Lower developed country has more liquid reserves than developed country due to unstable political system, mismanagement, credit policies and lack of adopt of IT services.

As the result indicates, interest rate in lowly developed country is higher than that of a developed country, but banks of lowly developed country are more solvent and efficient than banks of a developed country.

Table 5 indicates that the beta coefficient of independent variable bank Capital Adequacy Ratio (CAR) is -0.0136 and the standard error is 0.0926. The estimate of beta coefficient indicates that 1.36% change in the bank efficiency due to bank Capital Adequacy Ratio (CAR).

T-statistics is the ratio of estimated value and its standard error is -0.1470 and P-value is 0.885 greater than 0.05 indicate the insignificance of hypothesis and null hypothesis is accepted. The regression analysis confirms an insignificant negative relation between the capital adequacy ratio (CAR) of bank and bank efficiency. The results show that bank efficiency does not rely on bank Capital Adequacy Ratio (CAR). Banks are more efficient solvent and profitable after adopting the Basel III accords, which eliminate the risk of “Too Big to Fail” in Basel II. Negative sign shows that if the bank capital adequacy increase than bank profitability decrease.

The result of regression model indicates that bank efficiency doesn’t rely on bank capital adequacy ratio (CAR) individually, therefore, accept the alternative hypothesis that CAR will increase the bank performance in Basel III accords.

Bank Size and Bank Performance (Size)

The natural logs of total assets (Ln_TA) are used as a proxy of the bank size and the relationship between bank size and capital adequacy ratio (CAR) is positive. According to Jackson (2002) banks with huge scopes tend to have excess of capital reserves are able to retain their good rating. Bank size is an important bank specific independent variable in our regression model.

Table 1 shows the size of the banks that is the proxy value of natural logarithm of total assets and the mean value of size for lower developed country Pakistan is 17.33 and developed country USA is 29.53. So developed country banks are bigger than banks of under-developed country.

Table 5 shows that the beta coefficient of independent variable bank size is 0.3341 and the standard error is 0.0808.

The estimate of beta coefficient indicates that 33.41%change in the bank efficiency due to bank size.

T-statistics is the ratio of estimated value and its standard error is -4.1308 and P-value is 0.001less than 0.05 indicate the significance of hypothesis and null hypothesis is rejected. The regression analysis confirms a significant negative relation between the size of bank and bank efficiency. The results show that bank efficiency relies on bank size. The result of regression model indicates that bank efficiency relies on bank size individually, therefore, accept the alternative hypothesis that Capital adequacy ratio (CAR) of Basel III will increase the bank efficiency.

Bank Liquidity and Bank Performance (Liquidity)

The financial crisis of 2007 has exposed the role of liquidity in financial permanence. Certainly, the subprime crisis has managed to a drying up of liquidity. Bank liquidity is an important bank specific independent variable in our regression model. Table 1 shows the liquidity of banks that is the ratio of liquid reserves to total assets and the mean value of liquidity for lower developed country Pakistan is 11.54% and developed country USA is 6.10%.

Therefore, underdeveloped country banks are more efficient and solvent than banks of developed country. Underdeveloped country has more liquid reserves than developed country due to unstable political system, miss management, credit policies and lack of adopt of IT services. As a result, liquidity reserves in under developed country are higher than developed country, but banks of lower developed country are more solvent and efficient than banks of developed country.

Table 5 indicates the beta coefficient of independent variable bank liquidity is 0.0285 and the standard error is 0.0184. The estimate of beta coefficient indicates that 2.85% change in the bank efficiency due to bank liquidity.

The regression analysis confirms an insignificant positive relation between the liquidity of bank and ROA (bank efficiency). The results show that ROE (bank efficiency) doesn't rely on bank liquidity. Positive sign shows that if the bank liquidity improves than bank efficiency is also increase. The result of regression model indicates that bank efficiency doesn't rely on bank liquidity individually, therefore accept the alternative hypothesis that Capital adequacy ratio (CAR) of Basel III increase the bank efficiency.

Credit risk and Bank Performance (Loans)

Table 5 indicates the beta coefficient of independent variable bank loan quality (NPL) is 0.0594 and the standard error is 0.149. The estimate of beta coefficient indicates that 5.94% change in the bank efficiency due to bank loan quality.

T-statistics is the ratio of estimated value and its standard error is 0.399 and P-value is 0.696 greater than 0.05 indicate the insignificance of hypothesis and null hypothesis cannot be rejected. The regression analysis confirms an insignificant positive relation between the loan quality of bank and CAR (bank efficiency). The results show that CAR (bank efficiency) doesn't rely on bank loan quality. Positive sign shows that if the bank loan quality improves then bank efficiency is also increased.

The result of regression model indicates that bank efficiency relies on bank loan quality, individuals, therefore accept the null hypothesis that Capital adequacy ratio (CAR) of Basel III can increase the bank efficiency.

Bank Leverage and Bank Performance (Leverage)

Bank leverage is an important bank specific independent variable in our regression model. Table 1 shows the leverage that is the ratio of equity to total liabilities and the mean value of leverage for lower developed country Pakistan is 7.14% and developed country USA is 6.99%. Lowly developed country banks are more stronger and solvent than banks of developed country. Both banks of lower developed country and developed country have a sufficient minimum leverage ratio to meet the obligations that is 3% according to Basel III accord.

Table 5 represents the beta coefficient of independent variable bank leverage is 0.0772 and the standard error is 0.1918. The estimate of beta coefficient indicates that 7.72% change in the bank efficiency due to bank leverage.

The regression analysis confirms an insignificant positive relation between the leverage ofbank and CAR (bank efficiency). The results show that CAR (bank efficiency) doesn't rely on bank leverage. Positive sign shows that if the bank leverage improves than bank efficiency is also increased.

The result of regression model indicates that bank efficiency doesn't rely on bank leverage individually, therefore accept the alternative hypothesis thus Capital adequacy ratio (CAR) of Basel III will increase the bank efficiency.

Management of Bank and Bank Performance (Management)

Bank management is an important bank specific independent variable in our regression model. Table 1 shows the management of the banks that is the proxy value of expenditure total advance ratio and the mean value of management for lowly developed country Pakistan is 5.38 % and developed country USA is 8.01 %. So banks of lowly developed country are more profitable than banks of developed country.

Table 5 shows that beta coefficient of independent variable bank management is 0.5274 and the standard error is 0.2009. The estimate of beta coefficient indicates that 52 % change in the bank performance due to bank management.

The regression analysis confirms a significant negative relation between the management of bank and bank performance. The results show that bank performance relies on bank management. Banks are more efficient solvent and profitable because banks rely on management individually in Basel III, which eliminate the risk of "Too Big to Fail" in Basel II. Negative sign shows that if the performance of bank management decrease than bank needs more profitability.

The result of regression model indicates that bank management relies on bank efficiency individually, therefore accept the null hypothesis that management quality will increase the bank performance in Basel III accords.

Inflation (CPI) and Bank Performance (Inflation)

The regression analysis confirms a significant negative relation between the inflation and CAR (bank efficiency). The results show that CAR (bank efficiency) rely on inflation (CPI). Great depression was started on 4 September 1929 after fall in stock prices in United States and became worldwide stock market crash on 20 October 1929. It became severs worldwide economic depression and worldwide GDP fell 15% during 1929 to 1932. The result of regression model indicates that bank efficiency rely on inflation (CPI) individually, therefore, accept the null hypothesis that Capital adequacy ratio (CAR) of Basel III will increase the bank efficiency.

CONCLUSION

This study examined the impact independent variables on bank's performance in the Pakistani banks and USA banks during the period of 2004 - 2014. Banks with more capital adequacy ratio (CAR) return on assets (bank Size), Leverage, Liquidity risk, management quality and macro factors i.e., economic growth (GDP), and inflation (CPI) are perceived to have more efficient, solvent and such an advantage can be translated into higher profitability (internal and external factors) are measured as factors of bank profitability in Pakistan and USA.

For this purpose, we developed the Hypothesis that is Capital adequacy ratio (CAR) and higher liquidity ratio (LCR, NSFR) of Basel III have positive impact on bank efficiency, solvency and performance. An Analyzed the bank efficiency, solvency and performance over the bank specific and macroeconomic determinants.

The result shows that hypothesis has accepted and has a significant impact on bank efficiency, solvency and performance in Pakistani and USA banks. The result of regression model indicates that bank performance rely on bank specific and macroeconomic variables individually therefore accept the null hypothesis that is Capital adequacy ratio (CAR) and higher liquidity ratio (LCR, NSFR) of Basel III have positive impact on bank efficiency, solvency and performance.

RECOMMENDATION

Based on the conclusions, the study mentions that the regulatory authorities and bank management should involve each other, and come up with ideal regulatory policies on Capital Adequacy ratio, Asset Quality ratio and Liquidity ratio that would not negotiate on bank intermediation competence and at the same time ensure that claim deposits detained by the banks are not at risk of bank catastrophe.

The consequence of the regression analysis presentation, Management Quality to have the highest effect on bank efficiency should be a mark, that banks should also struggle to employee the greatest management aptitude obtainable and wage them well as they are the people who regulate its process through conclusions, guarantee the bank's smooth business, grips risks and movements control and eventually regulate the salaries the bank will ultimately get in any accounting series.

Moreover, the new researchers may want to go additional on whether the CAMELS model is talented to be used as a banking managerial tool in Europe or not. Consequently, in the further research one might want to reflect this paper as an orientation to increase the possibility and improve outcomes of the research.

REFERENCES

Aggarwal, R., and K. Jacques (1998).“Assessing the impact of prompt corrective action on bank capital and risk”. Federal Reserve Bank of New York Economic Policy Review 4 (3), 23-32.

Aggarwal, R., and K. Jacques (2001). “The impact of FDICIA and prompt corrective action on bank capital and risk: Estimates using a simultaneous equations model”. Journal of Banking and Finance 25, 1139-1160.

Goodhart, C A E (2004), Some New Directions for Financial Stability?, The Per Jacobsson Lecture, Zürich, Switzerland, 27 June.

BALTENSPERGER, ERNST and HELLMUTH MILDE (1987), Theorie des Bankverhaltens, Berlin et al.

Goodhart, C. A.E., C. Osorio, and D.P. Tsomocos (2009), “Analysis of Monetary Policy and Financial Stability: A New Paradigm”, University of Oxford mimeo, October.

Goodhart, C, U Peiris, D Tsomocos and A Vardoulakis (2010), “Dividend restrictions as macroprudential regulation”. VoxEu. 18 February 2010 (http://www.voxeu.org/index.php?q=node/4631).

Goodhart, C, U Peiris, D Tsomocos and A Vardoulakis (2010), “On Dividend Restrictions and the Collapse of the Interbank Market”, Annals of Finance, forthcoming.

Goodhart, C and D. Schoenmaker (1995), “Should the Functions of Monetary Policy and Banking Supervision be Separated?”, Oxford Econ. Papers Vol 47, p. 539-560.

Goodhart, C., Surinand, P. and D. Tsomocos (2005), “A risk assessment model for banks”, Annals of Finance 1(2), p. 197-224.Goodhart, C., Surinand, P. and D. Tsomocos (2006), “A model to analyze financial fragility”, Economic Journal 27(1), p. 107-42.

Dokko, J, B Doyle, M Kiley, J Kim, S Sherlund, J Sim, and S Van den Heuvel (2009), “Monetary policy and the housing bubble,” Finance and Economics Discussion Series 2009- 49. Washington: Board of Governors of the Federal System, December.

Dowd, K., (1999). Does Asymmetric Information Justify Bank Capital Adequacy Regulation. Cato Journal, Vol. 19, pp. 39 – 47

Koehn, M., Santomero, M. A., (1980). Regulation of Bank Capital and Portfolio Risk. The Journal of Finance, pp. 1235 – 1243

Dowd, K., (1999). Does Asymmetric Information Justify Bank Capital Adequacy Regulation. Cato Journal, Vol. 19, pp. 39 – 47

Modigliani, F., Miller, M., (1958). The cost of capital, corporation finance and the theory of Investment. The American Economic Review, Vol. 68, 261 – 297

Prato. Abreu, M. and Mendes, V (2000). Commercial bank interest margins and profitability: Evidence for some EU countries, presented on the 50th International Atlantic Economic Conference Asediolen, (2004).

George, E. H. and Dimitrios, S. S. (2004). Efficiency measurement of the Greek commercial banks with the use of financial ratios: A data envelope analysis approach. Management Accounting Research, 15(2), 201-224.

Dewa Tripont, Mathias and Jean Tirole (1993), The Prudential Regulation of Banks, Cambridge, Mass.- London.

Do bank capital adequacy requirements reduce risks - Blum - 1999

Goddard, J., Molyneux, P., and Wilson, J.O.C. (2004). The profitability of European banks: A cross sectional and dynamic panel analysis. The Manchester School, 72 (3), 363–381.

Pasiouras, F., Kosmidou K., C.And Gaganis, (2006). A Pooled Study of the Internal and External Determinants of Australian Banks Profits and Margins, Working Paper, Financial Engineering Laboratory, Technical University of Crete..

Staikouras, C., Wood, G., 2004. The determinants of European bank profitability. International Business and Economics Research Journal, 3 (6), 57-68.

Pennacchi, G. (2005). “Risk-based capital standards, deposit insurance, and procyclicality”. Journal of Financial Intermediation, 14 (4), 432-465.

Rime, B. (2001). “Capital requirements and bank behaviour: Empirical evidence for Switzerland”. Journal of Banking and Finance 4, 789-805.

Van Roy (2008). “Capital requirements and bank behavior in the early 1990s: cross-country evidence”. International Journal of Central Banking 4(3), 29-60.