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# Liquidity-Profitability Trade-off in Commercial Banks: Evidence from Tanzania

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**Abstract**
This paper examines the relationship between banks' profitability and liquidity by using three different models. It is a longitudinal study whereby five banks from Tanzania were taken into consideration for the time period from year 2006 to 2013. By using Hausman test and thereafter fixed effects approach, all the models revealed that there is no statistically significant relationship between banks' profitability and liquidity. Thus, it can be concluded that the banks can focus on increasing their profitability without affecting their liquidity, and vice versa. However, this is not guaranteed because the situation might change or one might come out with different kind of results if a different sample is used.
**Keywords:** Liquidity, Profitability, Commercial banks, Tanzania

## 1. Introduction

Efficient management of working capital is an important aspect of the overall corporate strategy towards creating shareholder value (Makori and Jagongo, 2013). The approach that a firm uses in managing working capital can have a significant impact on both its liquidity and profitability (Shin and Soenen, 1998). Although the main purpose of many firms is to maximize profit, maintaining liquidity of the firm also is an important objective. This suggests that it is important for a firm to strike a balance between liquidity and its profitability so as to create shareholders value. Therefore there is a need to understand the relationship between liquidity and profitability of a firm in a given industry so as to be able to make proper decisions as far as working capital management is concerned.

A number of studies have analyzed the relationship between liquidity and firm's profitability in different industries and countries. As it can be seen in the literature review section, the results are quite mixed. For instance, Abuzar (2004) found a significant negative relationship between the firm's profitability and its liquidity level in joint stock companies in Saudi Arabia, Niresh (2012) found that there is no significant relationship between liquidity and profitability among the listed manufacturing firms in Sri Lanka, Shahchera (2012) found a negative impact of liquid asset holdings on bank profitability for a sample of Iranian banks, while Lartey, Antwi and Boadi (2013) found a very weak positive relationship between liquidity and profitability of the listed banks in Ghana. Since there are mixed results on the subject matter; this study intends to shed some more light on liquidity-profitability trade off, with specific reference from Tanzanian banks.

## 2. Literature Review and Conceptual Framework

This section gives a brief review of both theoretical and empirical literature, identifies the knowledge gap filled by this research, gives the conceptual framework and discusses the models used in the study.

### 2.1 Theoretical Literature Review

Profitability of the bank determines its ability to increase capital (through retained earnings), support the future growth of assets, absorb loan losses and provide return to investors. The largest source of income for banks is net interest revenue which is calculated by taking interest income from lending activity minus interest paid on deposits and debt. The second essential source of banks' income is from investing activities, foreign exchange, precious metal trading, commissions and transaction fees, and trust operations are also substantial sources of income. The key financial ratios that are used in assessing the profitability of a bank include: Net Interest Margin (NIM), Return on Assets (ROA), Return on Equity (ROE), Operating Profit Margin and. Non-interest Income to Assets Ratio (Credit and Finance Risk Analysis, 2012).

On the other hand, for banks, liquidity refers to reserves of cash, securities, bank's ability to convert an asset into cash, and unused bank lines of credit. Liquidity must be adequate to meet all maturing unsecured debt obligations due within a one-year time horizon. Despite different approached that can be used to analyze bank's liquidity, the following are the key ratios that can be used to examine bank's liquidity: (i) Loans as a Percentage of Deposits (LDR) – obtained by dividing loans (gross) by total deposits, and the maximum is suggested to be 80% to 90%; and (ii) Liquid Assets to Total Deposits (LADR) – calculated by dividing liquid assets by total deposits, and measures deposits matching to investments and whether they could be converted quickly to cover redemptions (Credit and Finance Risk Analysis, 2012).

## 2.2 Empirical Literature Review

*2.2.1 Evidences from Non-Banking Industries*

Saleem and Rehman (2011) in their study covering Oil and Gas Companies of Pakistan, found that there is a significant impact of only liquid ratio on ROA while insignificant on ROE and ROI. The results further showed that ROE is no significant effected by the current ratio, quick ratio and liquid ratio while ROI is greatly affected by current ratios, quick ratios and liquid ratio. Bolek and Wiliński (2012) analyzed the same in construction sector companies listed on Warsaw Stock Exchange and found that the only statistically significant variable of liquidity that affect profitability is the quick ratio and the probability of its influence on return on assets was 98.24%.

Niresh (2012), have taken into consideration 31 listed manufacturing firms in Sri Lanka for a period of 5 years from 2007 to 2011, found that there is no significant relationship between liquidity and profitability among the listed manufacturing firms. Contrary to that, Priya and Nimalathasan (2013) conducted the same kind of study by this time sampling 10 out of the 31 listed manufacturing companies in Sri Lanka over a period of 5 years from 2008 to 2012 and found that there is a significant relationship exists between liquidity and profitability among the listed manufacturing companies!

Zygmunt (2013), with evidence from Polish listed IT companies for the time period 2003-2011, found a mix of positive and negative relationship between liquidity and profitability in different models. Likewise, Ben-Caleb, Olubukunola and Uwuigbe (2013) studied 30 manufacturing companies listed on the Nigeria Stock Exchange for the period 2006-2010 and found a mix of insignificant positive and negative relationship between liquidity and profitability in different models. In the same manner, Bolek (2013) found that different measures of profitability are associated with different indicators of liquidity in different ways.

Addin, Nayebzadeh and Pour (2013) investigated the relationship between modern liquidity indices and stock return in a sample of 82 active companies listed on Tehran Stock Exchange, for a period from year 2001 to 2010. Modern liquidity indices used included comprehensive liquidity index, net liquidity balance, and cash conversion cycle. Results showed a positive significant relationship between comprehensive liquidity index and stock returns while there was no significant relationship between the index of cash conversion cycle as well as net liquidity balance and stock returns.

*2.2.2 Evidences from Banking Industry*

Bordeleau and Graham (2010), using a sample of large U.S. and Canadian banks, found that profitability is generally improved for banks that hold some liquid assets; however, there is a point at which holding further liquid assets reduced banks' profitability, ceteris paribas. Furthermore, the findings suggested that this relationship varies depending on a bank's business model and the state of the economy. Shahchera (2012), using a sample of Iranian listed banks using panel data over the period of 2002-2009, found an evidence of a non‐linear relationship between profitability and liquid asset holdings. Lartey, Antwi and Boadi (2013), using seven out of the nine banks listed on the Ghana Stock Exchange for the period 2005-2010, found a very weak positive relationship between liquidity and profitability.

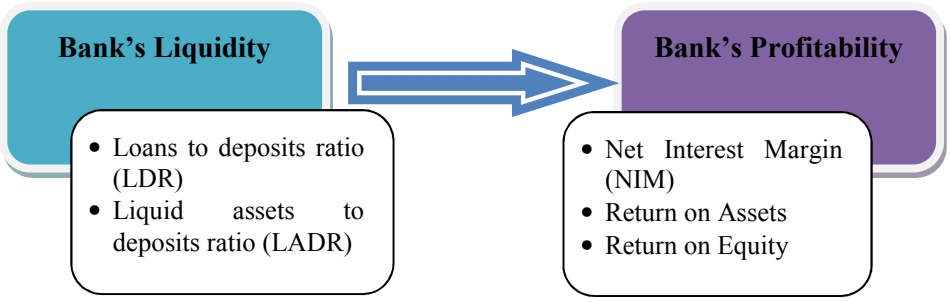
Nimer, Warrad and Omari (2013), by using financial reports of 15 Jordanian banks listed at Amman Stock Exchange (ASE) for the period from 2005-2011, concluded that liquidity has a significant negative influence on the profitability because of banks having excessive liquidity instead of investing the money to generate profit. On the same grounds, Munteanu (2013), using panel data of Eastern and Central European commercial banks over the period 2003-2010, found a slight positive and negative impact of liquidity on both ROE and ROA, explaining a non-linear relationship between the variables. Lastly, Ibe (2013) found that there is a significant relationship between cash and short term fund and bank profitability for Nigerian banks.

## 3. Research Gap, Conceptual Framework and Research Models

To the best of her knowledge, and having gone through all the available literature, the researchers found no research that has been conducted in Tanzania on the relationship between liquidity and profitability of banks. Thus the researchers found this to be an opportunity to conduct this research in Tanzania so as to contribute to the body of knowledge. Hence, it was necessary to come out with the conceptual framework for the research as shown in Figure 1 below:

**Figure 1: Conceptual Framework**




**Source**: Researchers' Conceptualization

In line with the conceptual framework, the research also applied the following three regression model equations:

$$NIM = \alpha_1 + \alpha_2 LDR + \alpha_3 LADR + \varepsilon_1 \quad \ldots\ldots (1)$$

$$ROA = \beta_1 + \beta_2 LDR + \beta_3 LADR + \varepsilon_2 \quad \ldots\ldots (2)$$

$$ROE = \delta_1 + \delta_2 LDR + \delta_3 LADR + \varepsilon_3 \quad \ldots\ldots (3)$$

Whereby $\alpha_1$, $\beta_1$ and $\delta_1$ are constant terms (intercepts); $\alpha_2$, $\beta_2$ and $\delta_2$ are the coefficients of LDR; $\alpha_3$, $\beta_3$ and $\delta_3$ are the coefficients of LADR; and $\varepsilon_1$, $\varepsilon_2$ and $\varepsilon_3$ are the error terms in the respective equations. The hypotheses in line with the above three equations are as follows:

$H_0$: $\alpha_2$, $\beta_2$, $\delta_2$, $\alpha_3$, $\beta_3$, and $\delta_3$ = zero

$H_1$: $\alpha_2$, $\beta_2$, $\delta_2$, $\alpha_3$, $\beta_3$, and $\delta_3 \neq$ zero

## 4. Methodology

In this study, longitudinal study research design was applied on selected banks. This study employed quantitative techniques hence it is a quantitative research (Kothari, 2004). The population of the study included the thirty four (34) licensed commercial banks in Tanzania[1]. Purposive sampling method (Lufumbi, 2009) was used in selecting the banks; and the selected banks include National Microfinance Bank (NMB), CRDB Bank PLC, National Bank of Commerce (NBC), Barclays Bank Tanzania Limited and Exim Bank (Tanzania). The reason for selecting these banks is because, according to Tanzania Bank Survey (2012), the selected banks were among the top ten banks in the country, in all the named criteria. Other big banks such as the Federal Bank of Middle East (FBME), Citibank Tanzania, Standard Chartered Bank Tanzania, Stanbic Bank Tanzania, Diamond Trust Bank (Tanzania) and Azania Bancorp also appeared in the top ten lists in some of the factors but not in all the above mentioned factors.

The study used secondary data (mainly annual reports of the selected banks for the time period from 2006 to 2013), through documents review method (Cooper and Schindler, 2006). Ethical issues, such as those discussed by Jones and Kottler (2006) and Sinha, Singh and Kumar (2009) were taken into consideration. From the financial statements of the selected banks, the financial ratios mentioned in research model (LDR, LADR, NIM, ROA and ROE) were calculated for all the periods, making a total of 40 observations. After that the panel dataset was subjected to "xtset" command to check for the suitability of the data for longitudinal analysis. Thereafter, the Hausman test was applied to decide whether the analysis would be done by using fixed effects or random effects approach; and lastly the panel data regression approach (using "xtreg" command) was used to establish whether there is correlation between the dependent (profitability) and independent (liquidity) variables (Gujarati, 2003).

## 5. Data Analysis and Findings

### 5.1 Preliminary Tests on the Panel Dataset

After importing data in STATA software, the first thing was to set STATA to handle panel data by using the command "xtset". This command was also important in testing whether the dataset is suitable for longitudinal analysis (analysis of panel data). As shown in Table 1 below, the results showed that the panel data is suitable for econometric analysis.

[1] http://www.bot.go.tz/BankingSupervision/RegisteredBanks.asp, cited on 07th May 2014

**Table 1: Suitability of Panel Data**

```
. xtset bank year
       panel variable:  bank (strongly balanced)
        time variable:  year, 2006 to 2013
                delta:  1 unit
```

**Source:** STATA Output of Research Data (2014)

To determine on whether to use fixed effects or random effects approach, Hausman test as conducted as pointed out by Greene (2008). The results are as shown in Table 2 below.

**Table 2: Hausman Test Results**

```
. hausman fixed random

                 ---- Coefficients ----
              |      (b)          (B)          (b-B)     sqrt(diag(V_b-V_B))
              |    fixed       random       Difference          S.E.
--------------+----------------------------------------------------------------
          ldr |  -.0045261    -.0195278        .0150017        .0029245
         ladr |  -.0166345    -.0237057        .0070711               .
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        8.61
                Prob>chi2 =      0.0135
                (V_b-V_B is not positive definite)
```

**Source:** STATA Output of Research Data (2014)

According to this test, if the final result is less than 0.05, one has to use fixed effects approach; otherwise one has to use random effects approach. In this case, the final result is 0.0135 (which is less than 0.05), thus the appropriate approach in analysis this panel dataset is fixed effects approach.

### 5.2 The Results on the Relationship between Liquidity and Banks' Profitability

*5.2.1 Results Based on Net Interest Margin as a Dependent Variable*

As we can see in Table 3 below, the command that was used in STATA software was "xtreg nim ldr ladr, fe". In this command "nim" stands for net interest margin (dependent variable) while "ldr" and "ladr" stand for loans to deposits ratio and liquid assets to deposits ratio respectively (independent variables). It can be seen that the coefficients of the regressors for both independent variables were negative, showing that there is a negative relationship between net interest margin (profitability measure) and the explanatory variables (liquidity measures i.e. LDR and LADR). However, the absolute t-values for both explanatory variables are less than 1.96 (for a 95% confidence) indicating that the explanatory variables do not have significant influence on the dependent variable. In addition to that the two-tail p-values for both explanatory variables are greater than 0.05, again suggesting that the explanatory variables do not have significant influence on the dependent variable. Lastly, the Prob > F value for the model is greater than 0.05 (it is 0.8865) in this case, which fails to prove that all the coefficients in the model are different than zero.

The overall interpretation of these results is that there is no statistically significant relationship between banks' profitability (as measure through net interest margin) and banks' liquidity (as measured through LDR and LADR). Although the coefficients of the regressors are both negative (suggesting a negative relationship between the regressors and the dependent variable), this relationship is not statistically significant as suggested by the t-values, p-values and Prob > F value.

**Table 3: Liquidity-Profitability Relationship Based on Net Interest Margin as a Measure of Profitability (Dependent Variable)**

```
. xtreg nim ldr ladr, fe

Fixed-effects (within) regression               Number of obs      =        40
Group variable: bank                            Number of groups   =         5

R-sq:  within  = 0.0073                         Obs per group: min =         8
       between = 0.1159                                        avg =       8.0
       overall = 0.0444                                        max =         8

                                                F(2,33)            =      0.12
corr(u_i, Xb)  = 0.1844                         Prob > F           =    0.8865

------------------------------------------------------------------------------
         nim |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         ldr |  -.0045261   .0210691    -0.21   0.831    -.0473915    .0383393
        ladr |  -.0166345   .0338433    -0.49   0.626    -.0854892    .0522201
       _cons |   .0681786   .0190596     3.58   0.001     .0294015    .1069556
-------------+----------------------------------------------------------------
     sigma_u |  .01689105
     sigma_e |  .01284638
         rho |  .63354255   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(4, 33) =    10.58                 Prob > F = 0.0000
```

**Source:** STATA Output of Research Data (2014)

*5.2.2 Results Based on Return on Assets as a Dependent Variable*

As we can see in Table 4 below, the coefficient of the regressor is negative for ldr (-0.0055258) and positive for ladr (0.0339101), showing that there is no defined relationship between liquidity (measured by LDR and LADR) and banks' profitability (measured by ROA); it can be positive or negative. The absolute t-values for both explanatory variables are less than 1.96 (for a 95% confidence) indicating that the explanatory variables do not have significant influence on the dependent variable. The two-tail p-values for both explanatory variables are greater than 0.05, again suggesting that the explanatory variables do not have significant influence on the dependent variable. Lastly, the Prob > F value for the model is greater than 0.05 (it is 0.3070), which fails to prove that all the coefficients in the model are different than zero.

The overall interpretation of these results is that there is no statistically significant relationship between banks' profitability (as measure through return on assets) and banks' liquidity (as measured through LDR and LADR). This starts with the inconsistency in the coefficients of the regressors, whereby one coefficient is positive while another one is negative, and thereafter comes to be proved by t-values, p-values and Prob > F value that even the suggested relationship (whether positive or negative) is not statistically significant.

**Table 4: Liquidity-Profitability Relationship Based on Return on Assets as a Measure of Profitability (Dependent Variable)**

```
. xtreg roa ldr ladr, fe

Fixed-effects (within) regression               Number of obs      =        40
Group variable: bank                            Number of groups   =         5

R-sq:  within  = 0.0691                         Obs per group: min =         8
       between = 0.0013                                        avg =       8.0
       overall = 0.0220                                        max =         8

                                                F(2,33)            =      1.22
corr(u_i, Xb)  = -0.0584                        Prob > F           =    0.3070

------------------------------------------------------------------------------
         roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         ldr |  -.0055258   .0167987    -0.33   0.744    -.0397029    .0286514
        ladr |   .0339101   .0269837     1.26   0.218    -.0209886    .0888089
       _cons |   .0146623   .0151965     0.96   0.342    -.0162552    .0455798
-------------+----------------------------------------------------------------
     sigma_u |  .01218637
     sigma_e |  .01024259
         rho |  .58601765   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(4, 33) =     6.11                 Prob > F = 0.0009
```

**Source:** STATA Output of Research Data (2014)

*5.2.3 Results Based on Return on Equity as a Dependent Variable*

As we can see in Table 5 below, the coefficient of the regressor is negative for ldr (-0.1403065) and positive for ladr (0.3123373), showing that there is no defined relationship between liquidity (measured by LDR and LADR) and banks' profitability (measured by ROA); it can be positive or negative. From other econometric measures from the same table, we can see that the absolute t-values for both explanatory variables are less than 1.96 (for a

95% confidence) indicating that the explanatory variables do not have significant influence on the dependent variable. In addition to that the two-tail p-values for both explanatory variables are greater than 0.05 (the value is 0.399 for LDR and 0.245 for LADR), again suggesting that the explanatory variables do not have significant influence on the dependent variable. Lastly, the Prob > F value for the model is greater than 0.05 (it is 0.1831) in this case, which fails to prove that all the coefficients in the model are different than zero. The overall conclusion drawn from these results is that there is no statistically significant relationship between banks' profitability (as measure through return on assets) and liquidity (as measured through LDR and LADR).

**Table 5: Liquidity-Profitability Relationship Based on Return on Equity as a Measure of Profitability (Dependent Variable)**

```
. xtreg roe ldr ladr, fe

Fixed-effects (within) regression               Number of obs      =        40
Group variable: bank                            Number of groups   =         5

R-sq:  within  = 0.0978                         Obs per group: min =         8
       between = 0.2627                                        avg =       8.0
       overall = 0.1199                                        max =         8

                                                F(2,33)            =      1.79
corr(u_i, Xb)  = 0.1594                         Prob > F           =    0.1831

------------------------------------------------------------------------------
         roe |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         ldr |  -.1403065   .1643364    -0.85   0.399    -.4746515    .1940384
        ladr |   .3123373   .2639735     1.18   0.245    -.2247209    .8493955
       _cons |   .1950161   .1486626     1.31   0.199    -.1074403    .4974725
-------------+----------------------------------------------------------------
     sigma_u |  .10075756
     sigma_e |   .1002002
         rho |  .50277346   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(4, 33) =     4.85                 Prob > F = 0.0035
```

**Source:** STATA Output of Research Data (2014)

Having conducted the econometric tests using three different dependent variables against the same explanatory variables and obtaining more or less the same kind of results, the researchers are confident to suggest that there is no statistically significant relationship between banks' profitability and liquidity for the banks operating in Tanzania. These results are true on the basis of the sample taken, time period considered and the kind of study conducted (longitudinal study).

## 6. Conclusion and Recommendations

Liquidity-profitability trade-off is among the most serious issues discussed by business practitioners because both liquidity and profitability are important aspects of any business. Looking at the banking industry, with evidence from Tanzania, the econometric tests revealed that there is no statistically significant relationship between banks' profitability and liquidity using all the variables that were taken into consideration. This leads to the conclusion that the banks can focus on increasing their profitability without affecting their liquidity, and vice versa. However, this is not guaranteed because the situation might change, especially changes in the macroeconomic environment that are outside the control of the firm. In addition to that, there is a possibility for other researchers to come out with different results if they use a different sample, time period or research approach. The policy implication of the current findings is that the banks have a chance to focus on increasing their profitability without worrying too much about liquidity, but this should not be done so aggressively because it is not guaranteed that the situation will remain the same.

Apart from the findings on liquidity-profitability trade-off, there are other observations that researchers spotted out, which made them to come out with the following recommendations so as to bring about improvements in some areas in banking industry performance in Tanzania:

i. Some of the banks were found to incur losses in some years, and this is mostly associated with bad loans. The notion behind this is that these banks were aiming at getting super profits so they ended up giving loans to their clients without enough analysis of risks. As a result a lot of customers defaulted and the banks incurred huge losses. The researchers recommend that the banks should keep on being careful while selling loans. Thorough risk assessment should be done before availing loans to customers. As pointed out in the conclusion, it is not guaranteed that profitability has no impact to banks' liquidity; hence there is a possibility that the banks that keep on incurring losses will end up being illiquid and thereafter insolvent at a certain point of time, a situation that will definitely lead into bankruptcy.

ii. Although there are just some few instances, it is good to point out that there are some observed cases whereby the banks did not optimally utilize the deposits as theoretically suggested by the loans to deposits ratio. From the theory, it is suggested that the ratio of between 70% and 80% (0.7 to 0.8) is good, and the maximum should be around 80% to 90% (0.8 to 0.9). However, there is one instance

whereby the bank used less than 20% of the deposits in lending money while there were two instances whereby another bank exceeded the 90% maximum limit of lending, which is dangerous for the bank. The researchers therefore recommend that the banks should keep on using the deposits optimally to lend money to the public. It is as well recommended that the central bank should recheck its reserve ratio requirement; if this ratio is too high, it will narrow down the banks capacity to utilize their deposits profitably.

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*APPENDIX: PROFITABILITY AND LIQUIDITY RATIOS FOR FIVE BANKS FROM 2006 TO 2013*

| Bank | Year | NIM | ROA | ROE | LDR | LADR | | Bank | Year | NIM | ROA | ROE | LDR | LADR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2006 | 0.1023 | 0.0441 | 0.3848 | 0.1998 | 0.2662 | | 3 | 2010 | 0.0210 | -0.0094 | -0.0995 | 0.7024 | 0.2291 |
| 1 | 2007 | 0.0924 | 0.0335 | 0.3184 | 0.5129 | 0.1427 | | 3 | 2011 | 0.0560 | 0.0077 | 0.0787 | 0.6808 | 0.2479 |
| 1 | 2008 | 0.0914 | 0.0352 | 0.3050 | 0.6052 | 0.1500 | | 3 | 2012 | 0.0576 | 0.0022 | 0.0243 | 0.6437 | 0.2591 |
| 1 | 2009 | 0.0785 | 0.0285 | 0.2473 | 0.4609 | 0.2961 | | 3 | 2013 | 0.0581 | 0.0062 | 0.0505 | 0.5241 | 0.2732 |
| 1 | 2010 | 0.0638 | 0.0256 | 0.2342 | 0.4657 | 0.3043 | | 4 | 2006 | 0.0526 | 0.0083 | 0.1042 | 0.9047 | 0.2921 |
| 1 | 2011 | 0.0830 | 0.0331 | 0.2530 | 0.7058 | 0.2395 | | 4 | 2007 | 0.0512 | 0.0219 | 0.1911 | 0.7574 | 0.4632 |
| 1 | 2012 | 0.0940 | 0.0348 | 0.2734 | 0.6562 | 0.2286 | | 4 | 2008 | 0.0600 | 0.0002 | 0.0019 | 0.9281 | 0.2261 |
| 1 | 2013 | 0.0979 | 0.0407 | 0.2937 | 0.6216 | 0.2796 | | 4 | 2009 | 0.0417 | -0.0097 | -0.0837 | 0.9257 | 0.2492 |
| 2 | 2006 | 0.0615 | 0.0295 | 0.3816 | 0.5126 | 0.3792 | | 4 | 2010 | 0.0342 | -0.0070 | -0.0560 | 0.6400 | 0.3289 |
| 2 | 2007 | 0.0671 | 0.0327 | 0.3567 | 0.5806 | 0.3977 | | 4 | 2011 | 0.0495 | 0.0003 | 0.0030 | 0.6410 | 0.2821 |
| 2 | 2008 | 0.0667 | 0.0270 | 0.2874 | 0.6573 | 0.2861 | | 4 | 2012 | 0.0390 | -0.0050 | -0.0610 | 0.6580 | 0.1959 |
| 2 | 2009 | 0.0621 | 0.0247 | 0.2206 | 0.5857 | 0.3627 | | 4 | 2013 | 0.0604 | 0.0020 | 0.0160 | 0.7930 | 0.2838 |
| 2 | 2010 | 0.0570 | 0.0210 | 0.2008 | 0.5563 | 0.3195 | | 5 | 2006 | 0.0499 | 0.0296 | 0.3605 | 0.5566 | 0.1874 |
| 2 | 2011 | 0.0469 | 0.0139 | 0.1480 | 0.6898 | 0.2780 | | 5 | 2007 | 0.0477 | 0.0227 | 0.2744 | 0.5473 | 0.1962 |
| 2 | 2012 | 0.0611 | 0.0262 | 0.2537 | 0.7130 | 0.1763 | | 5 | 2008 | 0.0442 | 0.0233 | 0.1833 | 0.5496 | 0.2048 |
| 2 | 2013 | 0.0603 | 0.0233 | 0.2211 | 0.7507 | 0.1680 | | 5 | 2009 | 0.0377 | 0.0240 | 0.2172 | 0.6707 | 0.2011 |
| 3 | 2006 | 0.0661 | 0.0326 | 0.3225 | 0.5237 | 0.4010 | | 5 | 2010 | 0.0454 | 0.0234 | 0.2140 | 0.7405 | 0.1678 |
| 3 | 2007 | 0.0760 | 0.0338 | 0.3015 | 0.5866 | 0.3574 | | 5 | 2011 | 0.0424 | 0.0148 | 0.1393 | 0.7863 | 0.1760 |
| 3 | 2008 | 0.0893 | 0.0370 | 0.3350 | 0.7371 | 0.1591 | | 5 | 2012 | 0.0424 | 0.0141 | 0.1249 | 0.7021 | 0.2189 |
| 3 | 2009 | 0.0888 | 0.0330 | 0.2750 | 0.6455 | 0.1993 | | 5 | 2013 | 0.0417 | 0.0132 | 0.0963 | 0.7130 | 0.2252 |

**Source:** Annual Reports/Financial Statements of the Banks from 2006 to 2013

**Key:** Bank 1 – NMB, Bank 2 – CRDB Bank, Bank 3 – NBC, Bank 4 – Barclays, Bank 5 – Exim
NIM – Net Interest Margin, ROA – Return on Assets, ROE – Return on Equity
LDR – Loans to Deposits Ratio, LADR – Liquid Assets to Deposits Ratio

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