

The Influence of Capital Adequacy on Asset Quality Position of Banks in Tanzania

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Received: October 31, 2012

Accepted: January 4, 2013

Online Published: January 11, 2013

doi:10.5539/ijef.v5n2p179

URL: <http://dx.doi.org/10.5539/ijef.v5n2p179>

Abstract

This paper has extensively analyzed the relationship between the capital adequacy and asset quality of commercial the banks in Tanzania. The study employed Panel secondary data from 33 banks in the period (2006-2011) and the linear Regression model was used to test for the relationship between the two variables. The findings indicate that capital adequacy has a great influence on the asset quality. The increase in capital ratios has sometimes reduced the asset quality productivity and in most cases the levels of non-performing loans and non-performing asset have been increased with the increase in capital ratios. CAEL analysis indicated the banks financial position to be stable and meet the regulatory requirements. It has been recommended that the bank of Tanzania (BOT) should foster their strength in supervision as the two categories have been viewed to be very crucial and do increase the stability of the banking system.

Keywords: capital adequacy; asset quality, BOT

1. Introduction

The recent growing competition among banks has forced the bank of Tanzania (BOT) to review its minimum capital requirement of the banks in general. The minimum capital has been heightened to the balance of Tanzanian Shillings 20 billion from 5 billion to each commercial bank. This increment has been made so as to foster the asset quality of the commercial banks and also to enable these banks to absorb unforeseen circumstances in future. Furthermore, the increase will help commercial banks to promote the sound financial system and to protect themselves from the risk of failure (BOT, 2011).

The asset quality position measures the financial efficiency of the commercial banks while the capital adequacy position measures the going concern of the commercial banks. However the capital adequacy position depends on asset quality due to great risks facing commercial banks, decline in asset quality do increase the capital adequacy position in order to offer the banking protection against risk (Mitchell, 1984).

There are several contradictory arguments as to whether the increase in capital adequacy influences the asset quality of the banks or not. Other studies reveal that well capitalized banks in terms of capital adequacy tends to increase the asset quality and meanwhile other studies indicate that undercapitalized banks have good asset quality.

Therefore this study aimed at examining whether capital adequacy influences the asset quality position. Regression model was run used to test the effects of asset quality on capital adequacy and similarly how capital adequacy affects the asset quality.

The topic is of particular interest in Tanzania as the governing board has introduced the new capital ratio measures to all commercial banks, many studies have been conducted at international level and substantial literature have focused on influence of banking regulations on capital ratios, therefore to fill the above void the paper examined the influence of capital adequacy on asset quality.

The paper is structured as follows : section two entails the theoretical review and empirical review of the studied literature, section three discusses the methodology of the study, section four the findings of the study and lastly section five summarizes the conclusion of the study.

2. Capital Adequacy Position Analysis

This is a measure of the banks solvency and ability to absorb risk, it includes Core capital to TRWA + OBSE, and this ratio is calculated by taking core capital divided by sum of risk weighted assets and risk weighted off balance sheet exposures. This is intended to measure capital adequacy of the bank relative to risk profile of the bank. This measures the financial stability and reliance on debt. It normally deals with the capital structure of the firm (Berger, 1997).

A minimum capital of total risk weighted assets to core capital has been imposed to 10% in all banks and it has been beyond 19.1% in all banks which is above the minimum requirement for all banks. Meanwhile the minimum reserve has been raised to Tanzanian Shillings 20 billion from 5 billion to ensure the solvency of the banks (BOT, 2011).

2.1 The Strength of Capital Adequacy Position

According to BOT (2011), the final outcome of the Capital adequacy position analysis will show the level and quality of capital and overall financial conditions of the institutions, ability of the management to address the emerging needs for additional capital, access to capital markets, the adequacy of underwriting standards, soundness of credit administrations, the existence of assets concentrations, the extent of the management to administer and control the assets, the adequacy of loans and investment portfolio, the adequacy of internal control and management information system, the level of earnings, including trends and stability, quality and sources of earnings, the level of expenses in relation to operations, adequacy of the provisions to maintain the allowance of the probable losses, the adequacy of liquidity sources compared to present and future needs, the availability of assets readily convertible to cash without undue loss, access to money market and sources of funding, the degree of reliance on short term and volatile source of funds.

2.2 The Banking Financial Regulations Had Put the Benchmark for the Performance Analysis Which Has Been Used to Assess the Performance of the Commercial Banks in Terms of Capital Adequacy

Capital adequacy rating criteria.

	Core capital to RWA +OBS	Core leveraging (core capital to average asset)	Total capital to RWA + OBS
Ratings			
1	Above 16%	Above 12%	Above 18%
2	14%-16%	9%-12%	16%-18%
3	12%-14%	6%-9%	14%-16%
4	10%-12%	3%-6%	12%-14%
5	Below 10%	Below 3%	Below 12%

Source; BOT, 2011

2.3 Asset Quality Ratios

This measures the efficiency in utilizing the assets, it is expressed as a ratio of NPL to gross loans, this is calculated by dividing the value of non-performing loans (all loans classified as substandard or worse) with the total value of loan portfolio (including NPLs and before the deduction of specific loan loss provisions) as a denominator. This ratio is intended to identify problems in loan portfolio; an increasing ratio may signal deterioration in the quality of credit portfolio hence increase in credit risk, Also in this category there is large exposures to core capital this ratio is calculated by taking the sum of all loans with outstanding balances of 10% or more of the bank's core capital divided by core capital, this ratio is intended to identify vulnerabilities arising from the concentration of credit risk. Large exposure refers to one or more credit individual or group that exceeds 10% of core capital. The last measure in this category is NPLs net of provisions to core capital; this is calculated by dividing the value of non-performing loans less the value specific loan loss provision with the core capital. This intended to compare the potential impact on capital of non-performing loans, net of provisions. It provides an indication of the capacity of the bank to withstand NPL related losses (Bank of Tanzania regulation, 2011).

2.3.1 The Banking of Tanzania Uses the Following Standard as the Measure of Asset Quality

	Non-performing loan to gross loans	Large exposure to core capital	Non-performing loans net of provision to core capital
RATINGS	NPLs to Gross loans	Large exposure to core capital	NPLs net of provision to core capital
1	Below 5%	Below 150%	Below 20%
2	5%-10%	150%-250%	20%-30%
	10%-15%	250%-350%	30%-40%
3			
4	15%-20%	350%-400%	40%-50%
5	Above 20%	Above 400%	Above 50%

2.4 Empirical Literature

The study revisits the following literature, although not exhaustive;

Abdioglu and Ahmet (2011) investigated the determinant of capital adequacy in Turkish banks. They pointed out that there is a positive relationship between asset quality and capital adequacy, especially the ratio of loan to total asset.

Mpuga (2002) found out that there is a positive relationship between the asset quality and capital adequacy, especially the loan loss reserve.

Mitchell (1984) in his article of capital adequacy in the commercial banks pointed out that, the ultimate aim of increasing capital adequacy is due to the fluctuation in asset quality and therefore to maintain the asset quality there is a need to maintain the capital level.

Kendall (1992) indicated that the increase in capital level tends to lower the level of Non-Performing loans and hence improve the capital ratios.

Koehn and Santomero (1980) showed that an increase in capital adequacy may increase or decrease the portfolio risk which is held by the bank.

Shrieves and Dahl (1992) in their study of US commercial banks, they confirm that asset quality is associated with an increase in capital adequacy and finally Keeton (1989), Avey and Berger (1991) pointed out that an increase in capital adequacy reflects the increase in asset quality.

Santomero and Watson (1977) pointed out that the higher and tighter capital regulations tend to reduce asset quality as it tends to decrease the investment potential through lower loan growth rate and credit offers. Studies by Blum (1999), Calem and Rob (1999) indicate that higher capital requirements may increase the risks to the banking sector and finally may affect the asset quality of the banks.

Moreover Basel II stress that the increase in capital ratios tends to protect the banks and increase the asset position, therefore the restructuring of Basel II will model the bank's asset quality.

Santomero and Kim (1998) in their study of Risk in banking and capital regulation indicates that increase in capital ratios tend to lower banking risks and hence improve the asset quality, since the banking risk is associated with the asset quality. Therefore the capital ratios are the buffer against the asset quality deteriorations.

Shrieves and Dahl (1992) studied the relationship between the risks and capital requirement in commercial banks. The study confirmed that there is a positive relationship between the asset quality as measured by risks and the capital requirements. Banks with the higher capital above the regulatory requirements are expected to reduce risks exposure hence accelerate banks growth in terms of asset quality while banks with minimum capital requirements are greatly exposed to the higher risk.

3. Methodology of the Study

This study employed secondary data from the 33 banks and the main source of information was published accounts which were audited and issued to shareholders and other stakeholders for the public consumption. Section 47 of the banking and financial institutions Act of 1995 requires all banks and financial institutions to publish their quarterly balance sheet and statement of income and expenses in a newspaper in Tanzania. The objective is to keep the public informed on the financial position of banks and financial institutions operation in Tanzania, the same section similarly requires banks to file return weekly, monthly, and quarterly in the directorate of banking supervision. On the other hand the bank of Tanzania is empowered to carry out onsite physical implications and operations to ascertain compliance with prudential guidelines. The data were therefore

clean, valid and reliable and represented the actual performance of these banks. In the first case, the regression model was used to analyze the effects of asset quality on the level of capital adequacy as measured by Comparative Core Leveraging (core capital to total assets) and Comparative Core Capital to RWA and off Balance Sheet Exposure.

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (1)$$

y = is the dependent variable capital adequacy measured by Comparative Core Leveraging (core capital to total assets) and Comparative Core Capital to RWA and off Balance Sheet Exposure.

X1 is the non-performing loans to Gross loans

X2 is the large exposure to core capital

X3 is the Non-performing loans net of provision to core capital

Both Comparative Core Leveraging (core capital to total assets) and Comparative Core Capital to RWA and off Balance Sheet Exposure are used as dependent variables in different to see how it is affected by the level of asset quality

Moreover because each variable is affecting the other variable, asset quality is also being treated as the dependent variable to see how it is being affected by the capital adequacy.

$$y = \alpha + \lambda_1 X_1 + \lambda_2 X_2 + \varepsilon \quad (2)$$

y is the asset quality measured by the non-performing loans to gross loans, large exposure to core capital and Non-performing loans net of provision to core capital.

X1 and X2 are Comparative Core Leveraging (core capital to total assets) and Comparative Core Capital to RWA and off Balance Sheet Exposure respectively.

4. Findings and Results

4.1 CAEL Results of the Individual Bank

The individual banks were evaluated in terms of capital adequacy, asset quality, liquidity and earnings. In each category the banks were rated depending on the performance level. The study took trend analysis from 2006-2011.

In 2006 capital adequacy for CBA, FBME, KCB, I&M, BBRODA, KCBC, UCCB, and NIC had indicated a strong capital level relative to the institution's risk profile. AZB, NMB, STB and AKIBA had indicated a satisfactory capital level relative to the institution's risk profile. HABIBU, NBC, TPB and DIAMOND banks had the rating indicating level of capital that does not fully support the institution's risk profile and therefore a need for improvement, even if the institution's capital level exceeds minimum regulatory and statutory requirements. BBALTD and CRDB had indicated a deficient level of capital, in light of the institution's risk profile, viability of the institution may be threatened. Assistance from shareholders or other external sources of financial support may be required. Finally EXIM and PBZ had indicated a critically deficient level of capital such that the institution's viability is threatened so immediate assistance from shareholders or other external sources of financial support is required. The asset quality for the all banks had indicated strong asset quality and credit administration practices. Identified weaknesses are minor in nature and risk exposure is modest in relation to capital protection and management's abilities. Asset quality in such institutions is of minimal supervisory concern but STB and BBA LTD had indicated that asset quality or credit administration practices are less than satisfactory. Trends may be stable or indicate deterioration in asset quality or an increase in risk exposure. The level and severity of classified assets, other weaknesses, and risks require an elevated level of supervisory concern. There is generally a need to improve credit administration and risk management practices. In the context of liquidity in 2006, HABIBU, PBZ, NMB, NBC, TPB, UCCB, CRDB and AKIBA had strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs. On other hand ICB, KCB, I&M, BBRODA, STB, EXIM B, NIC and DIAMOND had satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices while BBALTD and KCB had liquidity levels or funds management practices in need of improvement and finally FBME and AZB had deficient liquidity levels or inadequate funds management practices.

In the other important aspect of earnings, ICB, HABIBU, NMB, NBC, NMB, I&M, BARODA, KCBC, CRDB, EXIM, NIC and DIAMOND had earnings that are strong. Earnings are more than sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings. AZB, PBZ and AKIBA had earnings that are satisfactory. Earnings are sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings while FBME, BBALTD, KCB, TPB, UCCB and STB had earnings that need to be improved. Earnings may not fully support operations and provide for the accumulation of capital and allowance levels in relation to the institution's overall condition, growth, and other factors affecting the quality, quantity, and trend of earnings and finally CBA had earnings that are deficient. Earnings are insufficient to support operations and maintain appropriate capital and allowance levels. Institutions so rated may be characterized by erratic fluctuations in net income or net interest margin, the development of significant negative trends, nominal or unsustainable earnings, intermittent losses, or a substantive drop in earnings from the previous years.

In 2007 capital adequacy for CBA, FBME, ICB, KCB, BBRODA LTD, KCBC, BANK M, AKIBA, NIC and DIAMOND was strong relative to the institution's risk profile. NMB, NBC and I &M had a satisfactory capital level relative to the institution's risk profile, in another category AZB, BBA LTD, HABIBU and TPB had indicated level of capital that does not fully support the institution's risk profile and therefore a need for improvement, even if the institution's capital level exceeds minimum regulatory and statutory requirements. UCCB, CRDB and STB indicated a deficient level of capital, in light of the institution's risk profile, viability of the institution may be threatened. Assistance from shareholders or other external sources of financial support may be required and finally EXIM B had indicated a critically deficient level of capital such that the institution's viability is threatened. Immediate assistance from shareholders or other external sources of financial support is also required. The asset quality of the banks had been strong with exceptional to ICB, CRDB, and STB which had showed deficient asset quality or credit administration practices. The levels of risk and problem assets are significant, inadequately controlled, and subject the institution to potential losses that, if left unchecked, may threaten its viability.

In another aspect of liquidity level PBZ, NMB, NBC, TPB, UCCB, CRDB had indicated strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs, ICB, I&M, KCBC, STB, EXIM B, and AKIBA had showed satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices while CBA, KCB BANK M, NIC and DIAMOND had showed liquidity levels or funds management practices in need of improvement. Institutions rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices and finally FBME and AZB had showed deficient liquidity levels or inadequate funds management practices. Institutions rated 4 may not have or be able to obtain a sufficient volume of funds on reasonable terms to meet liquidity needs. In the context earnings, BBALTD, HABIBU, PBZ, NMB, NBC, I&M, KCBC, UCCB, CRDB, TPB, AKIBA, NIC and DIAMOND had indicated earnings that are strong. Earnings are more than sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings. On the other hand FBME, ICB, AZB and BARODA had indicated earnings that are satisfactory. Earnings are sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings while CBA, KCB and STB had indicated earnings that need to be improved. Earnings may not fully support operations and provide for the accumulation of capital and allowance levels in relation to the institution's overall condition, growth, and other factors affecting the quality, quantity, and trend of earnings and finally BANK M had indicates earnings that are deficient. Earnings are insufficient to support operations and maintain appropriate capital and allowance levels. Institutions so rated may be characterized by erratic fluctuations in net income or net interest margin, the development of significant negative trends, nominal or unsustainable earnings, intermittent losses, or a substantive drop in earnings from the previous years.

In 2008 the capital adequacy for FBME, ICB, HABIBU, I&M, BOIND, AKIBA, BANK M, UCCB and NIC indicated a strong capital level relative to the institution's risk profile. On other hand KCB, PBZ, NMB, BANK M, and CRDB indicated a satisfactory capital level relative to the institution's risk profile. While AZB, BBALTD, NBC, STB and DIAMOND had indicated level of capital that does not fully support the institution's risk profile and therefore a need for improvement, even if the institution's capital level exceeds minimum regulatory and

statutory requirements. Finally TPB, KCBC and EXIM B had indicated a deficient level of capital. In light of the institution's risk profile, viability of the institution may be threatened. Assistance from shareholders or other external sources of financial support may be required. Asset quality and credit administration practices had been strong in these banks. Identified weaknesses are minor in nature and risk exposure is modest in relation to capital protection and management's abilities. Asset quality in such institutions is of minimal supervisory concern to all banks, but KCBC and UCCB had deficient asset quality or credit administration practices. The levels of risk and problem assets are significant, inadequately controlled, and subject the institution to potential losses that, if left unchecked, may threaten its viability. In the context liquidity HABIBU, PBZ, NMB, NBC BARODA, TPB, UCCB, and CRDB had indicated strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs. In the other hand ICB, BBALTD, I&M, KCBC, BOIND, STB, EXIM B, AKIBA, NIC and DIAMOND B had indicated satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices, while CBA, KCB, ACCBANK, and BANK M had indicated liquidity levels or funds management practices in need of improvement. Finally FBME and AZB had indicated liquidity levels or funds management practices so critically deficient that the continued viability of the institution is threatened. Earnings indicated that KCB, NMB, NBC, I&M, BBRODA, KCBC, CRDB, UCCB, STB, EXIM B, NIC and DIAMOND B had earnings that are strong. Earnings are more than sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings. On other hand AKIBA, AZB, ICB, FBME, and CBA had indicated earnings that are satisfactory. Earnings are sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity, and trend of earnings. Meanwhile BBALTD, HABIBU, PBZ, TPB and BOIND had indicated earnings that need to be improved. Earnings may not fully support operations and provide for the accumulation of capital and allowance levels in relation to the institution's overall condition, growth, and other factors affecting the quality, quantity, and trend of earnings. Finally BANK M and ACCBANK had indicated earnings that are deficient. Earnings are insufficient to support operations and maintain appropriate capital and allowance levels. Institutions so rated may be characterized by erratic fluctuations in net income or net interest margin, the development of significant negative trends, nominal or unsustainable earnings, intermittent losses, or a substantive drop in earnings from the previous years.

In 2009 capital adequacy for FBME, ICB, PBZ, AKIBA, NIC, NMB, I&M, BBRODA, CRDB, ACCBANK and UCCB showed a strong capital level relative to the institution's risk profile, BBA LTD, KCB, CBA, HABIBU, NBC, TPB, STB, EXIM B and DIAMOND had indicated level of capital that does not fully support the institution's risk profile and therefore a need for improvement, even if the institution's capital level exceeds minimum regulatory and statutory requirements. Finally AZB and BANK M had a critically deficient level of capital such that the institution's viability is threatened. Immediate assistance from shareholders or other external sources of financial support is required. In the context of asset quality, it indicated strong asset level except for NBC, BBALTD, ICB and FBME which showed deficient asset quality or credit administration practices. The levels of risk and problem assets are significant, inadequately controlled, and subject the institution to potential losses that, if left unchecked, it may threaten its viability. In the aspect of liquidity it shows that BBA LTD, HABIBU, STB, PBZ, NMB, NBC, TPB, KCBC, and CRDB had strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs, while NIC, DIAMOND B, EXIM B, UCCB, BBRODA, I&M and ICB had satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices. CBA, FBME, KCB, UBA, BOIND, and ACCBANK had liquidity levels or funds management practices in need of improvement. Institutions rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices. Finally BANK M and AZB had deficient liquidity levels or inadequate funds management practices.

In 2010 and 2011, the performance has been indicated that most banks has meet the regulatory requirements and they operated above the regulatory levels with exception to Access Bank, Bank ABC, CBA, Ecobank, FNB, UBA, Advans, Amana, Efatha, TCB and TWB which recorded losses before and after tax. The institution demand closes monitoring and supervisory requirements. The highest performing banks on ROAA are NMB. DCB, Mbinga, Citibank and Standard Chartered. The performance was higher as it indicated strongest profit relative to the institution's risk profile.

4.2 The CAEL Industry Analysis

In this regard the industry as whole was evaluated in terms of capital adequacy, earnings and liquidity.

Capital adequacy as measured by core capital to RWAs and off balance sheet has been 16% which was above the regulatory requirements of 10% while the Total capital to RWAs has been averaged to 17% which was above the regulatory requirements of 10%. In general trend the performance has been slowed down in 2011 compared to 2010. Capital adequacy measure the solvency of the banks. The whole industry the banks are well capitalized and they operate above the requirements.

Table 1. General trend

	2007	2008	2009	2010	2011	
Total capital to RWAs	17.8%	17.3%	19.0%	18.4%	16.9%	
Core capital to RWAs	16.4%	15.8%	17.8%	17.4%	16.1%	
Capital ade (exposure)	11.3%	11.8%	12.7%	12.3%	12.2%	
Capital adequacy (exposure)						
Banks	2006	2007	2008	2009	2010	2011
Large	9%	11%	11%	12%	11%	11%
Medium	13%	14%	13%	13%	12%	13%
NBFIs	20%	16%	18%	22%	30%	27%
Regional & Small	14%	14%	20%	22%	17%	25%

Table 2. Total capital to RWA

Large	14%	16%	16%	18%	16%
Medium	23%	23%	21%	21%	21%
NBFIs	44%	34%	29%	40%	47%
Regional and small	20%	21%	30%	27%	43%

Table 3. Core capital to RWA

Large	13%	15%	15%	17%	16%
Medium	20%	20%	20%	19%	20%
NBFIs	24%	32%	21%	36%	44%
Regional and small bank	18%	26%	30%	24%	39%

4.2.1 The Asset Quality

This evaluates the quality and productivity of the assets, it normally forecast whether the needs of the customers will be met and to what extent portfolio assets has been utilized to generate the revenue of the banks. The asset quality has been good for regional and small banks, followed by the medium banks, then the large banks and finally the NBFIs. NBFIs has recorded the poorest asset quality as compared to the other banks , this may be due to the large schemes of loan they offer to the customers, on other hand the small and regional banks has recorded the good asset quality level may be due small size of the loans they offer. In general the asset quality has not matched with the capital adequacy, as descriptive analysis show that when the capital adequacy increase it tends to deteriorate the asset quality. The bank with the higher capital adequacy has shown the lower asset quality. In this regard it indicates that bank with higher capital level have the tendency to increase the loan size and expand portfolio and sometimes increase the chance of the customers failure.

Table 4. Non-performing to gross loans

	2006	2007	2008	2009	2010	2011
Large	5.8%	6.4%	5.0%	7.0%	9.6%	6.5%
Medium	2.3%	4.4%	1.5%	2.2%	4.3%	5.9%
NBFIs	3.9%	7.6%	0.0%	16.7%	8.4%	15.1%
Regional & Small	0.8%	2.9%	0.8%	1.2%	2.9%	8.5%

4.2.2 Liquidity Analysis

Liquidity indicates the ability of the banks to meet its shortem obligation; the industrial average has indicated that liquidity ratio as measured by liquid assets to total assets of about 45% and liquid assets to deposit liabilities of about 54%. There was a reduction in liquidity in 2011 as compared to 2010. This has been facilitated by the reduction by governments in investment securities and money market instruments.

Table 5. Liquid assets to total assets

Year	2006	2007	2008	2009	2010	2011	average
Regional small	36%	37%	36%	44%	47%	39%	40%
NBIF	58%	59%	40%	44%	47%	39%	48%
Medium	53%	53%	46%	45%	51%	42%	48%
Large	54%	54%	44%	49%	50%	46%	50%

This is a ratio of liquid asset of the banks to the total assets. Medium banks have the highest ratio due increase in number banks, the largest banks were ranked in the second position followed by the NBIF and the last were Regional and Small banks. The higher the ratio the better as it indicates the ability of the banks to meet its daily working capital requirements. Large banks have recoded higher average score, followed by the medium and NBIF and the last was the regional and small banks.

Table 6. Liquid assets to total deposit liabilities

Year	2006	2007	2008	2009	2010	2011	average
Regional small	43%	45%	53%	58%	59%	55%	52%
NBIF	76%	76%	56%	54%	60%	50%	62%
Medium	64%	67%	52%	66%	71%	55%	63%
Large	62%	64%	47%	60%	55%	63%	59%

The NBIF was having higher ratio, medium bank was the second followed by the large banks and the last was the Regional and small banks. The ratio indicates the ability of the liquid assets to cover the customer deposit. The higher the ratio indicates the efficiency of the banks and the lower the ratio indicates the inefficiency of the bank. The medium bank has recorded the higher average ratios, followed by the NBIF, then the large banks and the last was the regional and small banks.

4.2.3 Earning Analysis

This indicates the ability of the institutions to maintain and increase the net worth through the earning operations and also indicates the ability of the banks to generate the earnings using given assets.

Table 7. ROA

Year	2006	2007	2008	2009	2010	2011	average
Regional small	1.5%	3.1%	2.2%	0.7%	0.4%	0.5%	1.40%
NBIF	2.1%	1.5%	1.5%	1.0%	1.1%	2.1%	1.55%
Medium	1.2%	2.3%	1.7%	0.9%	1.1%	0.5%	1.28%
Large	2.7%	3.7%	3%	2.8%	2.0%	2.1%	2.72%

With analysis of table 2, The large banks have maintained higher percentage of ROA compared to the other banks, this is because higher average earnings compared to the other banks associated with greater investments in loans and other securities, and the NBIF was ranked second followed by the medium banks and lastly the Regional and small banks. This aspect is very important as it measures the efficiency of the management in utilizing the assets of the banks in generating revenue and the greater the ratio the better. The lower percentage in the other banks has been attributed to the increase in non-interest expenses which is not matched with the increase to in income and the increase in loan loss provision. On average the large banks recorded the higher efficiency level, followed by the NBIF, then the regional and small banks and the last was the medium banks.

Table 8. Return on equity (ROE)

Year	2006	2007	2008	2009	2010	2011	average
Regional small	11.4%	22.2%	12.5%	3.4%	1.9%	2.1%	8.92%
NBIF	10.4%	8.3%	8.6%	5%	4.3%	7.6%	7.37%
Medium	9.3%	16.8%	13.0%	7.3%	9%	3.9%	9.88%
Large	29.35	37.0%	27.3%	23.7%	16.9%	18.5%	25.46%

With analysis of table 3, large banks maintained higher ROE compared to the other banks and this has the advantage of attracting potential shareholders as their return are well capitalized and maintained, medium banks were ranked the second , regional and small banks were the third one and the last one was NBIF. This ratio shows how the equity investors are earning from their investments. The large banks have substantially maintained their equity income compared to their banks and it was fairly stable. On average the large banks have higher Return on equity, followed by the medium banks, then the regional and small banks and the last was the NBIF.

4.3 Results of the Regression Model

When capital adequacy measured by Comparative Core Capital to RWA and off Balance Sheet Exposure is used as a dependent variable, the results shows that Non-performing loan to gross loan and Non-performing loan to core capital tend to increase the level of capital adequacy as they have the positive coefficient but large exposure to core capital analysis has a negative coefficient which means it tends to decrease the level of capital adequacy. The overall significance F statistic, R square and Adjusted R square show that the asset quality does not have great significance in influence the capital adequacy as measured by Comparative Core Capital to RWA and off Balance Sheet Exposure. When the results were again tested using Core Leveraging (core capital to total assets) as the dependent variable, it was revealed that capital adequacy has great influence on asset quality, the value of F statistic R square and adjusted R square show great significance in influencing capital adequacy, the value of R square is 0.794 and adjusted R square is 0.631. The NPL to gross loan and NPL net of provision to core capital are positive as they tend to increase the level of capital adequacy; meanwhile large exposure to core capital is negative which indicate that it tends to reduce the value of capital adequacy (See appendix i). In other case when asset quality are used as the dependent variable measured by the level of non-performing loan it indicates that Comparative Core Capital to RWA and off Balance Sheet Exposure tends to decrease the level of Non-performing loan to gross loan where Core Leveraging (core capital to total assets) tends to increase the level of Non-performing Loan to gross loan. The independent variable are significance in the determination of the level of NPL to gross loan , as the value of F statistic, R square and adjusted R square being significance. Moreover Comparative Core Capital to RWA and off Balance Sheet Exposure and Core Leveraging (core capital to total assets) indicate a significance influence on the level of large exposure to core capital as the value of R square is 0.714 and adjusted R square is 0.510. They both show the positive coefficient which indicate that they are good predictor of asset quality.

5. Conclusion

The recent increase in capital ratios to the commercial banks will tend to increase the asset quality and it will protect depositors for uncertain changes that will mirror the banking sector. The regression model evidenced the relationship between capital adequacy and asset quality. On other case it can be noted that an increase in non-performing loans has a tendency to worsen capital ratio. Bank regulators should accentuate to reduce the level of Non-performing loans and non-performing assets. Hence banks can withstand the competition level and enhance efficiency for future performance. Meanwhile the governing body should strengthen the banking system with tight regulations to empower their surviving situation. In general the asset quality has not matched with the capital adequacy, as descriptive analysis show that when the asset quality increase in terms of non-performing loans tends to increase the capital adequacy. The bank with the higher capital adequacy has shown the lower asset quality in terms of non-performing loans. This shows that bank with higher capital level have the tendency to increase the loan size and expand portfolio and sometimes increase the chance of the customer's failure. This is the context of the classification between large, small, medium and NBIFs but for the individual banks it has been revealed that the increases of assets quality in terms of large exposure to core capital tends to reduce capital adequacy as they are inversely related. While Non-performing loans a increases the capital adequacy.

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Appendix 1.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.794 ^a	.631	.588	2.16155%

model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.394 ^a	.155	.057	5.68257%	2.249
a. Predictors: (Constant), NPL tocore, NPL to GR, Lextcore					
b. Dependent Variable: core RWA					

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	207.448	3	69.149	14.800	.000 ^a
	Residual	121.480	26	4.672		
	Total	328.927	29			
a. Predictors: (Constant), NPL tocore, NPL to GR, Lextcore						
b. Dependent Variable: Core to A						
Coefficients ^a						
Model		Unstandardized Coefficients			Standardized Coefficients	
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.656	.658		8.590	.000
	NPL to GR	-.002	.004	-.078	-.597	.000
	Lextcore	.578	.197	.460	2.932	.007
	NPL tocore	.055	.020	.447	2.789	.000

YEAR	BANK	CCR _{WA}	CCA	TCR _{WA}	Rating	NPIGI	Lecc	NPecc	assrating
2006	CBA	41.61%	21.28%	43.15%	1	104.08%	6.40%	12.00%	2
2006	FBME	104.67%	51.24%	102.04%	1	0.00%	-13.26%	2.93%	1
2006	ICB	18.37%	9.23%	18.37%	1	259.88%	102.10%	25.96%	1
2006	AzB	14.38%	12.26%	14.88%	2	0.00%	-2.96%	2.88%	1
2006	BBALtd	9.98%	8.08%	11.98%	4	690.00%	46.19%	13.40%	4
2006	HBIBC	13.51%	7.65%	13.51%	3	337.31%	-3.86%	0.00%	1
2006	KCB	39.67%	24.58%	39.67%	1	123.70%	-5.24%	1.72%	1
2006	PBZ	-3.44%	-1.31%	-3.44%	5	-682.69%	-16.52%	1.92%	1
2006	NMB	24.48%	6.56%	24.48%	2	0.00%	-1.23%	5.86%	1
2006	NBC	12.68%	8.24%	12.68%	3	318.19%	15.69%	4.41%	1
2006	I&M	17.03%	12.58%	17.03%	1	238.68%	2.38%	62.00%	1
2006	BBRODA	47.74%	29.85%	47.74%	1	90.39%	7.53%	3.76%	1
2006	TPB	13.95%	6.51%	13.95%	3	0.00%	20.55%	11.11%	2
2006	KCBC	23.48%	18.43%	23.48%	1	0.00%	-32.02%	0.00%	1
2006	UCCB	21.06%	15.64%	21.06%	1	139.87%	13.61%	2.68%	1
2006	CRDB	11.71%	5.02%	12.26%	4	487.12%	-9.57%	0.00%	2
2006	STB	14.12%	9.94%	16.12%	2	447.73%	82.34%	23.55%	5
2006	EXIMB	6.98%	5.45%	8.31%	5	248.71%	-63.00%	1.33%	1
2006	AKIBA	14.44%	9.02%	14.44%	2	0.00%	-6.22%	3.14%	1
2006	NIC	19.79%	12.53%	19.79%	1	320.08%	-16.78%	0.00%	1
2006	DMNDB	11.63%	9.56%	12.40%	3	320.08%	-16.78%	0.00%	1
2007	CBA	13.14%	13.83%	13.28%	1	350.07%	8.49%	5.66%	2
2007	FBME	53.93%	37.56%	44.84%	1	22.80%	-13.25%	2.70%	1
2007	ICB	32.34%	14.09%	32.34%	1	91.13%	56.83%	27.72%	5
2007	AzB	11.34%	9.70%	11.71%	3	18.31%	-1.71%	1.74%	1
2007	BBALtd	12.81%	10.30%	12.88%	3	0.00%	25.81%	8.07%	2
2007	HBIBC	15.91%	8.36%	15.91%	3	207.46%	11.30%	3.35%	1
2007	KCB	21.47%	17.48%	21.47%	1	132.97%	4.27%	5.04%	1
2007	PBZ	3.07%	1.12%	3.16%	5	242.29%	-39.78%	0.83%	1
2007	NMB	19.38%	8.21%	19.38%	2	34.96%	12.09%	4.51%	1
2007	NBC	14.34%	10.86%	14.34%	2	290.21%	9.33%	4.18%	1
2007	I&M	16.71%	11.60%	16.71%	2	291.20%	2.04%	41.00%	1
2007	BBRODA	50.71%	22.32%	50.71%	1	121.05%	0.45%	7.99%	1
2007	TPB	12.03%	7.08%	12.03%	3	0.00%	15.25%	4.04%	1
2007	KCBC	20.17%	13.72%	20.17%	1	16.97%	-38.13%	0.00%	1
2007	BANK M	19.50%	13.39%	19.50%	1	0.00%	0.00%	0.00%	1
2007	UCCB	10.27%	8.75%	10.27%	4	139.87%	13.61%	2.68%	1
2007	CRDB	11.64%	6.40%	11.98%	4	278.78%	46.32%	6.07%	3
2007	STB	10.82%	7.25%	12.42%	4	239.47%	64.92%	23.73%	4
2007	EXIMB	9.06%	5.47%	10.24%	5	0.00%	11.80%	2.55%	1
2007	AKIBA	31.25%	22.35%	31.25%	1	729.30%	-9.86%	8.04%	2
2007	NIC	23.38%	11.92%	23.38%	1	125.54%	1.87%	4.19%	1
2007	DMNDB	17.41%	14.23%	18.06%	1	125.54%	1.87%	4.19%	1
2008	CBA	9.93%	7.61%	10.02%	4	471.65%	-1.03%	3.25%	2
2008	FBME	49.02%	33.86%	42.23%	1	38.35%	25.31%	15.30%	3
2008	ICB	25.56%	11.84%	25.56%	1	192.16%	50.27%	31.12%	4
2008	AzB	8.48%	8.05%	8.71%	3	37.72%	39.86%	4.09%	1
2008	BBALtd	12.88%	10.22%	13.76%	3	198.41%	15.51%	8.35%	2
2008	HBIBC	21.13%	10.22%	21.13%	1	153.42%	9.48%	3.05%	1
2008	KCB	13.56%	12.08%	13.56%	2	310.78%	10.78%	3.69%	1
2008	PBZ	21.54%	9.27%	21.62%	2	59.34%	-4.02%	0.31%	1
2008	NMB	17.81%	9.27%	17.81%	2	151.19%	16.72%	7.13%	2
2008	NBC	13.37%	11.52%	13.37%	3	80.25%	12.91%	4.13%	1
2008	I&M	24.44%	12.81%	24.44%	1	265.79%	0.84%	16.00%	1
2008	BBRODA	43.16%	20.39%	43.16%	1	128.37%	0.12%	6.45%	1
2008	TPB	10.89%	7.25%	10.89%	4	0.00%	20.32%	4.43%	1
2008	KCBC	10.98%	7.92%	12.98%	4	335.82%	147.88%	24.76%	5
2008	TANDHB	165.76%	89.53%	165.76%	1	0.00%	0.00%	0.00%	1
2008	BOIND	99.46%	43.43%	99.46%	1	47.08%	0.00%	0.00%	1
2008	ACCBANK	59.64%	59.64%	59.64%	1	0.00%	-1.37%	1.54%	1

2008	MBCB	16.95%	11.40%	16.95%	2	15.29%	2.38%	5.82%	1
2008	BANK M	13.16%	12.26%	13.16%	2	338.96%	0.00%	0.00%	1
2008	UCCB	27.11%	18.17%	27.11%	1	10.84%	56.44%	18.81%	4
2008	CRDB	14.16%	9.02%	14.39%	2	169.16%	24.09%	4.47%	2
2008	STB	12.22%	7.98%	13.97%	3	328.61%	77.65%	20.48%	1
2008	EXIMB	11.65%	7.35%	13.65%	4	85.46%	17.76%	4.44%	1
2008	AKIBA	31.25%	22.35%	31.25%	1	0.00%	10.63%	6.57%	1
2008	NIC	19.06%	12.48%	19.06%	1	105.06%	2.70%	2.24%	1
2008	DMNDB	15.83%	13.11%	16.54%	3	105.06%	2.70%	2.24%	1
2009	CBA	13.49%	9.03%	15.49%	3	0.00%	-1.28%	2.84%	2
2009	FBME	31.55%	26.56%	26.58%	1	0.00%	38.83%	26.88%	3
2009	ICB	27.64%	9.34%	27.64%	1	95.62%	50.10%	36.33%	4
2009	AzB	8.58%	7.85%	8.75%	4	10.77%	31.69%	3.91%	2
2009	BBALtd	16.13%	9.84%	16.58%	2	138.21%	44.99%	17.00%	3
2009	HBIBC	14.70%	9.00%	14.70%	3	128.50%	10.46%	2.72%	1
2009	KCB	15.79%	11.78%	15.79%	2	26.11%	-4.90%	1.89%	1
2009	PBZ	18.91%	9.26%	18.97%	1	0.00%	-6.14%	1.90%	1
2009	NMB	19.54%	10.07%	20.64%	1	0.00%	0.38%	3.73%	1
2009	NBC	13.01%	10.48%	13.01%	3	23.72%	41.18%	17.06%	3
2009	UBA	366.24%	61.12%	366.24%	1	0.00%	0.00%	0.00%	1
2009	I&M	19.96%	12.78%	19.96%	1	51.03%	0.56%	0.17%	1
2009	BBRODA	36.03%	19.58%	36.58%	1	87.32%	1.62%	5.49%	1
2009	TPB	13.68%	6.85%	13.68%	3	0.00%	15.37%	5.11%	1
2009	KCBC	2.15%	1.62%	2.15%	5	0.00%	384.70%	32.55%	4
2009	EFATHAB	266.94%	35.12%	266.94%	1	0.00%	0.00%	0.00%	1
2009	TWB	129.46%	41.20%	129.46%	1	0.00%	-8.47%	0.00%	1
2009	BOIND	32.96%	45.77%	32.96%	1	0.00%	0.01%	0.12%	1
2009	ACCBANK	32.24%	32.85%	32.24%	1	0.00%	0.81%	1.10%	1
2009	BANK M	11.84%	8.56%	11.84%	4	84.40%	4.45%	0.55%	1
2009	UCCB	25.65%	18.83%	25.65%	1	0.00%	21.26%	8.90%	2
2009	CRDB	18.01%	10.53%	18.21%	1	20.90%	19.18%	6.17%	1
2009	STB	12.22%	7.98%	13.97%	3	224.42%	30.96%	12.18%	3
2009	EXIMB	12.12%	7.68%	14.12%	3	0.00%	15.65%	4.11%	1
2009	AKIBA	26.05%	16.60%	26.05%	1	0.00%	21.93%	8.51%	2
2009	NIC	30.49%	19.49%	30.49%	1	0.00%	4.72%	8.97%	1
2009	DMNDB	13.51%	11.14%	13.95%	3	0.00%	4.72%	8.97%	1
2010	CBA	13.19%	6.82%	15.19%	3	205.48%	11.18%	5.41%	1
2010	FBME	9.38%	7.03%	9.38%	4	0.00%	303.51%	73.83%	4
2010	ICB	26.52%	13.07%	26.52%	1	10.22%	3.01%	4.84%	2
2010	AzB	17.34%	11.72%	17.52%	2	0.00%	7.47%	3.59%	1
2010	BBALtd	19.74%	12.25%	19.74%	1	142.58%	33.42%	21.02%	1
2010	HBIBC	18.77%	9.42%	18.77%	1	67.08%	8.04%	3.40%	1
2010	KCB	13.19%	8.40%	13.19%	2	255.21%	16.45%	12.23%	2
2010	PBZ	20.31%	9.65%	20.37%	1	0.00%	8.08%	4.50%	1
2010	NMB	20.00%	10.24%	20.00%	1	74.76%	7.93%	3.68%	1
2010	NBC	13.01%	10.48%	13.01%	3	55.40%	33.91%	9.25%	2
2010	UBA	151.35%	43.66%	151.35%	1	0.00%	0.01%	2.90%	1
2010	ECOBANK	25.25%	13.73%	25.25%	1	0.00%	-0.49%	0.00%	1
2010	TPB	9.57%	6.27%	9.57%	4	0.00%	7.74%	1.63%	1
2010	KCBC	3.46%	1.90%	3.46%	5	1267.06%	-278.17%	36.47%	3
2010	EFATHAB	3.19%	2.31%	3.19%	5	0.00%	-45.19%	0.00%	1
2010	TWB	29.59%	27.66%	29.56%	1	0.00%	4.71%	3.79%	1
2010	BOIND	43.94%	30.40%	43.94%	1	52.46%	0.01%	0.11%	1
2010	ACCBANK	34.98%	27.18%	34.98%	1	0.00%	5.12%	3.53%	1
2010	BANK M	9.99%	8.34%	9.99%	4	422.79%	22.59%	2.97%	2
2010	UCCB	11.82%	7.24%	11.82%	4	187.96%	134.98%	24.61%	4
2010	CRDB	15.74%	9.61%	15.89%	2	77.16%	51.28%	11.39%	3
2010	STB	13.52%	10.25%	14.83%	3	197.87%	-0.10%	2.58%	1
2010	EXIMB	12.70%	9.79%	14.70%	3	223.65%	-2.04%	1.54%	2
2010	AKIBA	12.01%	8.74%	12.65%	1	81.33%	25.11%	6.41%	1
2010	NIC	20.14%	15.32%	20.14%	1	18.27%	6.24%	5.92%	1

2010	DMNDB	13.58%	9.82%	13.58%	3	18.27%	6.24%	5.92%	1
2011	CBA	17.42%	7.58%	17.69%	1	191.47%	9.84%	4.07%	2
2011	FBME	0.58%	0.29%	0.58%	5	0.00%	2365.41%	53.22%	5
2011	ICB	34.00%	14.49%	34.00%	1	45.65%	12.27%	17.06%	1
2011	AzB	24.30%	15.67%	24.47%	1	33.44%	7.69%	4.64%	1
2011	BBALtd	18.15%	10.23%	17.90%	2	0.00%	16.25%	9.88%	1
2011	HBIBC	17.56%	9.82%	17.56%	2	79.01%	7.08%	2.02%	1
2011	KCB	14.83%	9.67%	14.83%	3	243.88%	24.21%	11.31%	2
2011	PBZ	19.75%	9.89%	19.80%	1	0.00%	0.13%	66.00%	1
2011	NMB	18.81%	11.05%	18.81%	1	38.03%	4.88%	2.39%	1
2011	NBC	12.07%	9.00%	12.07%	3	55.40%	33.91%	9.25%	2
2011	ECOBANK	14.91%	15.10%	15.08%	2	0.00%	4.51%	1.23%	1
2011	UBA	45.65%	28.74%	45.65%	1	29.34%	-0.30%	0.42%	1
2011	AMANI	576.05%	67.72%	576.05%	1	0.00%	0.00%	0.00%	1
2011	I&M	15.58%	12.42%	15.58%	2	333.79%	1.35%	0.58%	1
2011	MERCB	218.54%	80.25%	218.54%	1	220%	0.00%	0.00%	1
2011	FNBT	97.97%	57.66%	97.97%	1	0.00%	1.03%	0.00%	1
2011	ADVBT	186.37%	92.22%	186.37%	1	0.00%	-1.12%	4.13%	1
2011	NJCB	15.43%	19.98%	15.43%	2	0.00%	64.40%	16.17%	4
2011	BBRODA	35.23%	18.49%	36.38%	1	182.90%	-3.21%	4.18%	1
2011	TPB	12.21%	6.98%	12.21%	3	0.00%	6.22%	2.48%	1
2011	KCBC	2.37%	2.19%	2.37%	5	2324.58%	7.07%	26.46%	3
2011	EFATHAB	4.56%	2.65%	4.56%	5	0.00%	-51.05%	5.34%	1
2011	TWB	19.69%	12.97%	19.69%	1	0.00%	46.02%	20.10%	4
2011	BOIND	34.87%	24.73%	34.87%	1	203.57%	4.75%	2.80%	1
2011	ACCBANK	19.78%	18.11%	19.78%	1	0.00%	2.86%	1.23%	1
2011	BANK M	13.20%	10.40%	14.67%	3	223.65%	-2.04%	1.54%	1
2011	UCCB	21.30%	12.55%	21.30%	1	41.91%	44.41%	21.19%	4
2011	CRDB	14.24%	9.19%	14.35%	2	90.87%	49.71%	10.84%	3
2011	STB	12.70%	9.79%	14.70%	3	247.53%	25.97%	7.27%	1
2011	EXIMB	11.81%	8.38%	13.33%	4	247.53%	25.97%	7.27%	2
2011	AKIBA	16.44%	11.11%	16.44%	2	0.00%	18.62%	3.93%	1
2011	NIC	13.23%	11.73%	13.23%	3	21.52%	7.73%	3.88%	1
2011	DMNDB	13.00%	9.89%	15.00%	3	21.52%	7.73%	3.88%	3

Asset quality and earning table

YEAR	BANK	CCTF	LADL	GLTD	rating liquid	ROA	NIM	NAVEX	ear rat
2006	TIB	30.22%	120.27%	61.36%	2	3.72%	8.08%	5.52%	1
2006	CBA	19.98%	41.16%	64.36%	3	-3.70%	8.46%	10.71%	4
2006	FBME	48.56%	19.55%	103.75%	4	-1.58%	5.18%	48.91%	3
2006	twiga	10%	12.10%	32%	3	4.04%	7.88%	11.28%	1
2006	ICB	45.81%	42.63%	42.48%	2	3.74%	8.20%	6.07%	1
2006	AzB	34.42%	27.89%	107.52%	4	1.30%	7.00%	6.17%	2
2006	BBALtd	34.02%	25.80%	72.40%	3	1.30%	5.32%	4.90%	3
2006	HBIBC	60.58%	58.55%	40.93%	1	4.50%	12.74%	5.14%	1
2006	KCB	36.32%	70.01%	54.13%	2	-1.23%	5.80%	8.40%	3
2006	PBZ	68.78%	70.84%	21.32%	1	2.45%	8.75%	4.56%	2
2006	NMB	95.70%	76.51%	13.58%	1	6.28%	12.27%	7.18%	1
2006	NBC	77.64%	54.71%	53.88%	1	5.03%	9.72%	4.72%	1
2006	I&M	43.02%	44.01%	58.27%	2	5.43%	5.43%	7.94%	1
2006	BBRODA	58.04%	46.32%	73.87%	2	5.23%	9.11%	3.43%	1
2006	TPB	93.06%	48.12%	39.51%	1	2.05%	12.01%	14.39%	3
2006	KCBC	88.05%	36.90%	91.25%	3	0.23%	9.64%	7.47%	1
2006	MBCB	85.94%	77.75%	45.15%	1	1.32%	19.62%	14.94%	3
2006	UCCB	87.73%	53.40%	55.19%	1	-8.96%	16.28%	87.73%	3
2006	CRDB	70.77%	50.23%	51.96%	1	4.64%	7.86%	4.80%	1
2006	STB	54.18%	55.39%	70.81%	2	-2.73%	5.40%	6.82%	3
2006	EXIMB	38.12%	40.23%	55.00%	2	4.70%	7.69%	3.74%	1
2006	AKIBA	74.09%	46.30%	64.53%	1	3.00%	19.05%	14.67%	2
2006	NIC	43.71%	40.39%	71.99%	2	3.33%	8.02%	5.65%	1
2006	DMNDB	51.02%	38.31%	67.03%	2	4.61%	9.96%	6.36%	1

2007	TIB	14.80%	115.79%	45.17%	3	5.18%	8.80%	5.23%	1
2007	CBA	57.00%	59.83%	66.62%	3	5.23%	4.82%	5.03%	3
2007	FBME	48.91%	18.75%	110.97%	4	1.20%	4.16%	46.53%	2
2007	twiga	8.09%	11.58%	45.17%	3	1.67%	8.09%	11.58%	2
2007	ICB	54.70%	73.60%	43.27%	2	3.19%	6.93%	12.29%	2
2007	AzB	34.63%	31.19%	99.46%	4	2.13%	8.65%	6.35%	2
2007	BBALtd	33.42%	34.22%	63.76%	2	3.71%	6.74%	5.76%	1
2007	HBIBC	66.81%	66.22%	33.53%	1	4.53%	12.58%	4.36%	1
2007	KCB	35.66%	42.74%	75.19%	3	0.01%	6.90%	9.46%	3
2007	PBZ	68.78%	70.84%	21.32%	1	4.78%	10.90%	3.83%	1
2007	NMB	94.87%	67.90%	20.58%	1	5.71%	13.10%	7.61%	1
2007	NBC	79.99%	50.59%	60.79%	1	5.72%	10.30%	5.33%	1
2007	I&M	37.45%	44.30%	59.14%	2	6.16%	7.89%	3.40%	1
2007	BBRODA	53.04%	67.12%	40.25%	2	1.32%	6.48%	3.06%	2
2007	TPB	93.54%	35.69%	50.36%	1	6%	12.78%	14.46%	3
2007	KCBC	83.76%	58.93%	81.30%	2	-4.14%	15.95%	9.91%	1
2007	MBCB	76.51%	46.42%	63.09%	1	2.29%	12.90%	16.29%	3
2007	BANK M	24.28%	41.32%	75.96%	3	-6.70%	1.60%	9.11%	4
2007	UCCB	81.02%	41.86%	68.59%	1	4.57%	17.21%	9.13%	1
2007	CRDB	77.41%	50.49%	59.50%	1	5.07%	8.95%	5.43%	1
2007	STB	43.12%	68.74%	50.34%	2	2.68%	5.87%	5.75%	3
2007	EXIMB	37.80%	50.71%	54.09%	2	4.02%	7.41%	4.03%	1
2007	AKIBA	79.42%	27.45%	74.82%	2	2.33%	20.67%	15.40%	3
2007	NIC	41.30%	43.71%	78.98%	3	3.16%	8.43%	5.89%	1
2007	DMNDB	43.77%	32.27%	72.55%	3	4.61%	9.96%	6.36%	1
2008	TIB	13.12%	41.08%	87.16%	4	3.37%	6.59%	4.46%	1
2008	CBA	57.44%	61.40%	57.44%	3	1.84%	5.23%	7.51%	2
2008	FBME	46.53%	15.90%	109.22%	4	2.24%	4.23%	53.67%	2
2008	twiga	113.45%	7.34%	3.52%	4	1.73%	5.05%	11.21%	2
2008	ICB	51.75%	73.11%	46.46%	2	3.23%	9.29%	6.02%	2
2008	AzB	32.80%	14.67%	102.13%	5	0.96%	7.93%	7.12%	2
2008	BBALtd	47.32%	31.92%	65.55%	2	0.04%	8.87%	9.26%	3
2008	HBIBC	71.19%	63.07%	36.86%	1	4.08%	8.60%	3.94%	3
2008	KCB	33.10%	29.45%	74.07%	3	0.66%	7.38%	9.40%	1
2008	PBZ	70.49%	72.73%	29.13%	1	4.49%	8.46%	4.15%	3
2008	NMB	96.60%	61.45%	34.49%	1	4.86%	11.98%	6.59%	1
2008	NBC	74.91%	38.92%	75.80%	1	5.26%	9.67%	6.39%	1
2008	I&M	45.55%	31.04%	64.60%	2	6.27%	7.49%	2.95%	1
2008	BBRODA	62.05%	66.30%	43.76%	1	3.56%	13.22%	16.65%	1
2008	TPB	83.31%	30.78%	58.88%	1	1.24%	17.10%	9.36%	3
2008	KCBC	92.43%	32.71%	78.96%	2	-4.25%	17.10%	9.36%	1
2008	TANDHB	96.62%	564.94%	86.65%	3	-6.05%	17.65%	14.90%	3
2008	BOIND	29.57%	103.08%	62.88%	2	0.00%	0.33%	0.33%	3
2008	ACCBANK	76.84%	83.19%	116.16%	3	-14.82%	23.15%	-14.28%	4
2008	MBCB	76.30%	35.60%	80.76%	3	0.33%	23.08%	18.03%	4
2008	BANK M	24.28%	41.32%	75.96%	3	-2.06%	5.19%	10.18%	4
2008	UCCB	74.85%	51.60%	72.09%	1	4.87%	18.58	8.65%	1
2008	CRDB	66.40%	40.03%	66.91%	1	4.63%	9.02%	5.53%	1
2008	STB	2.80%	61.31%	41.50%	2	5.45	5.45%	4.64%	1
2008	EXIMB	43.87%	48.89%	55.91%	2	3.63%	7.14%	3.89%	1
2008	AKIBA	76.34%	42.01%	75.12%	2	4.29%	21.22%	14.22%	2
2008	NIC	33.78%	47.49%	59.42%	2	3.67%	7.19%	5.47%	1
2008	DMNDB	50.42%	33.95%	73.54%	2	3.40%	6.85%	5.06%	1
2009	TIB	34.99%	59.96%	83.60%	3	2.21%	8.22%	4.31%	2
2009	CBA	13.15%	63.46%	47.46%	3	1.91%	4.98%	5.59%	2
2009	FBME	53.67%	24.54%	82.13%	3	-4.37%	6.43%	56.33%	3
2009	twiga	10%	12.10%	32%	3	0.67%	6.91%	11.56%	2
2009	ICB	57.34%	85.42%	28.42%	2	1.26%	10.69%	5.91%	3
2009	AzB	29.18%	19.42%	90.11%	4	1.27%	8.24%	6.36%	2
2009	BBALtd	62.41%	31.43%	73.29%	1	-0.67%	7.75%	6.92%	1
2009	HBIBC	61.89%	47.95%	42.22%	1	3.78%	7.07%	3.58%	1

2009	KCB	34.84%	21.77%	71.74%	3	-0.65%	9.01%	34.84%	3
2009	PBZ	71.89%	66.50%	40.65%	1	1.86%	8.42%	5.69%	2
2009	NMB	97.89%	70.80%	47.41%	1	4.38%	10.88%	6.17%	1
2009	NBC	73.59%	43.18%	68.03%	1	4.75%	10.29%	6.06%	1
2009	UBA	16.93%	220.88%	2.64%	3	1%	3.64%	5.81%	3
2009	I&M	38.54%	36.83%	63.63%	2	4.87%	7.07%	2.99%	1
2009	BBRODA	37.05%	55.53%	55.90%	2	2.69%	3.87%	2.34%	2
2009	TPB	86.24%	44.87%	44.41%	1	15.74%	11.96%	15.74%	3
2009	KCBC	84.57%	65.17%	63.43%	1	-5.69%	14.33%	11.41%	1
2009	EFATHAB	53.79%	81.22%	9.08%	2	-23.11%	2.58%	24.53%	4
2009	MKOMZB	54.83%	300.20%	17.25%	2	-7.39%	2.72%	9.72%	4
2009	TWB	30.56%	155.54%	10.44%	2	-11.40%	1.40%	12.90%	4
2009	TANDHB	15.97%	28.23%	106.89%	5	-25.57%	16.87%	42.28%	4
2009	BOIND	20.75%	62.75%	76.49%	3	2.00%	7.77%	6.32%	2
2009	ACCBANK	52.58%	41.71%	102.05%	3	-6.38%	32.96%	28.04%	4
2009	MBCB	72.23%	41.83%	60.10%	1	2.88%	15.41%	19.95%	2
2009	BANK M	28.02%	21.83%	81.18%	4	0.95%	5.81%	7.96%	2
2009	UCCB	76.36%	49.30%	74.51%	2	4.01%	16.10%	8.59%	1
2009	CRDB	67.07%	47.72%	60.85%	1	3.64%	8.45%	5.23%	1
2009	STB	62.75%	49.11%	47.69%	1	3.02%	6.21%	5.80%	2
2009	EXIMB	34.95%	51.08%	56.78%	2	3.53%	5.95%	3.67%	1
2009	AKIBA	67.17%	45.25%	71.13%	2	1.62%	17.52%	13.76%	3
2009	NIC	43.31%	73.63%	59.96%	2	-1.00%	5.41%	6.06%	3
2009	DMNDB	47.36%	31.52%	74.17%	2	3.05%	6.85%	5.06%	1
2010	TIB	16.56%	101.82%	88.14%	4	1.76%	9.72%	5.22%	2
2010	CBA	12.75%	39.06%	54.38%	3	1.75%	4.62%	4.80%	2
2010	FBME	56.33%	37.96%	69.24%	2	-17.41%	6.00%	64.72%	4
2010	twiga	10%	12.10%	32%	3	1.67%	7.19%	13.56%	2
2010	ICB	59.45%	60.81%	46.02%	4	1.85%	3.22%	6.44%	4
2010	AzB	34.09%	39.57%	68.83%	4	1.04%	7.22%	5.55%	2
2010	BBALtd	65.56%	45.65%	59.12%	1	-1.02%	7.72%	9.54%	3
2010	HBIBC	61.49%	51.81%	39.00%	1	4.42%	5.78%	3.25%	1
2010	KCB	53.67%	21.88%	75.81%	2	1.11%	8.81%	56.48%	3
2010	PBZ	75.64%	69.00%	36.89%	1	2.71%	6.74%	4.75%	1
2010	NMB	95.14%	71.99%	48.18%	1	4.16%	9.25%	6.44%	1
2010	NBC	74.46%	43.43%	64.43%	1	0.39%	9.67%	7.18%	3
2010	UBA	21.30%	65.40%	13.84%	3	-10.67%	4.35%	17.19%	4
2010	ECOBANK	19.75%	62.85%	36.61%	2	-22.65%	0.39%	28.64%	4
2010	NJCB	96.70%	29.07%	74.91%	2	2.42%	2.42%	49.81%	4
2010	I&M	30.79%	29.81%	65.86%	3	4.93%	5.73%	2.81%	1
2010	BBRODA	44.37%	56.70%	51.81%	2	2.86%	5.84%	4.44%	2
2010	TPB	83.51%	27.34%	59.59%	1	0.80%	11.08%	14.85%	3
2010	KCBC	83.98%	91.37%	52.60%	1	1.47%	12.95%	12.32%	1
2010	EFATHAB	54.78%	54.33%	42.46%	2	-14.77%	7.81%	21.13%	4
2010	MKOMZB	40.39%	34.64%	40.41%	2	-3.85%	6.83%	11.29%	3
2010	TWB	29.54%	59.98%	61.50%	2	-9.80%	8.13%	18.30%	4
2010	TANDHB	17.88%	50.13%	59.03%	3	-39.07%	6.69%	42.94%	4
2010	BOIND	27.98%	52.88%	56.88%	2	1.52%	5.84%	4.44%	2
2010	ACCBANK	51.91%	52.67%	91.05%	3	0.19%	29.25%	21.33%	4
2010	MBCB	57.05%	52.04%	50.61%	2	-1.54%	10.88%	15.46%	3
2010	BANK M	34.61%	36.18%	73.12%	3	3.14%	7.62%	6.63%	1
2010	UCCB	70.71%	43.34%	75.73%	2	2.46%	15.42	10.41%	2
2010	CRDB	70.33%	47.81%	57.98%	1	3.16%	7.88%	5.30%	1
2010	STB	60.35%	32.88%	69.94%	1	2.31%	5.23%	6.56%	1
2010	EXIMB	58.80%	31.08%	78.02%	2	3.20%	7.19%	4.12%	1
2010	AKIBA	39.51%	30.20%	62.83%	2	3.64%	19.43%	16.13%	3
2010	NIC	27.48%	54.58%	60.89%	2	3.03%	6.65%	6.87%	1
2010	DMNDB	46.29%	41.20%	68.16%	2	2.99%	7.83%	5.08%	2
2011	TIB	29.45%	43.16%	103.02%	4	2.11%	7.60%	6.27%	2
2011	CBA	25.04%	31.54%	63.07%	2	-0.55%	5.31%	8.97%	2
2011	FBME	64.72%	55.51%	44.68%	1	-6.41%	2.52%	6.00%	4

2011	twiga	10%	12.10%	32%	3	-3.29%	7.19%	13.56%	3
2011	ICB	73.16%	87.34%	22.92%	2	-2.73%	4.24%	6.23%	2
2011	AzB	38.66%	19.13%	82.02%	4	2.19%	7.78%	6.28%	2
2011	BBALtd	60.78%	44.48%	61.00%	1	0.29%	6.41%	8.73%	3
2011	HBIBC	68.42%	44.61%	48.40%	1	3.68%	6.59%	3.65%	1
2011	KCB	56.48%	34.97%	59.69%	3	-1.09%	7.43%	53.67%	3
2011	PBZ	79.40%	52.11%	44.32%	1	1.53%	7.61%	6.77%	2
2011	NMB	94.40%	54.24%	63.19%	1	4.81%	11.66%	7.15%	1
2011	NBC	79.74%	46.08%	55.85%	1	1.10%	8.54%	8.13%	2
2011	ECOBANK	28.86%	35.67%	71.02%	3	-13.32%	7.65%	21.58%	5
2011	UBA	34.79%	54.35%	52.09%	2	-8.10%	6.83%	15.84%	3
2011	AMANI	92.60%	329.23%	11.27%	1	-3.04%	0.00%	3.07%	4
2011	I&M	25.42%	20.97%	71.26%	3	3.28%	5.29%	3.15%	2
2011	MERCB	29.48%	694.64%	0.00%	2	-13.41%	0.00%	13.42%	5
2011	FNBT	9.97%	168.99%	27.37%	3	-18.34%	1.41%	26.01%	5
2011	ADVBT	25.42%	12.48%	29.63%	4	-12.59%	12.48%	29.63%	5
2011	NJCB	47.53%	14.39%	82.22%	4	0.75%	29.47%	27.93%	3
2011	BBRODA	44.37%	56.70%	51.81%	2	2.39%	3.87%	2.34%	2
2011	TPB	84.45%	33.89%	55.59%	1	2.98%	12.07%	13.72%	2
2011	KCBC	75.16%	42.09%	68.04%	1	2.01%	14.33%	11.41%	2
2011	EFATHAB	45.50%	51.12%	50.87%	2	-5.25%	8.80%	13.47%	3
2011	MKOMZB	40.77%	40.39%	53.57%	2	-0.37%	8.57%	8.22%	3
2011	TWB	34.99%	55.28%	64.49%	2	-1.62%	11.50%	12.93%	3
2011	TANDHB	30.20%	24.08%	82.29%	4	-21.52%	17.39%	34.91%	4
2011	BOIND	30.29%	51.97%	53.80%	2	1.86%	4.89%	3.62%	2
2011	ACCBANK	33.19%	35.58%	83.94%	4	-1.17%	28.54%	23.04%	4
2011	MBCB	58.70%	25.98%	89.48%	4	3.35%	13.53%	11.81%	2
2011	BANK M	42.09%	36.82%	73.61%	2	3.59%	8.00%	5.16%	1
2011	UCCB	76.75%	45.86%	80.70%	3	4.47%	14.17%	8.47%	1
2011	CRDB	67.90%	42.08%	62.69%	1	2.82%	8.37%	5.35%	1
2011	STB	58.80%	31.08%	78.02%	3	3.20%	7.30%	6.70%	1
2011	EXIMB	39.93%	33.08%	73.64%	3	2.62%	7.23%	4.34%	1
2011	AKIBA	77.87%	23.05%	75.20%	3	1.42%	19.33%	17.35%	2
2011	NIC	24.54%	35.80%	77.72%	3	2.37%	6.64%	5.91%	2
2011	DMNDB	51.78%	36.35%	72.57%	2	3.45%	8.47%	5.24%	1