



ISSN 2278 – 0211 (Online)

Bank Recapitalisation and the Profitability of Banks in Ghana

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Abstract:

The scenario of banking in Ghana have been characterised by low capitalisation which have exposed the financial system of the country and consequently affected their investments. It was therefore imperative for the Bank of Ghana to take drastic measures of bank recapitalisation started 2009, which is the core of global bank reforms. While re-capitalisation of Ghana banks may address this concern, the effect of the exercise on banks' performance remains an empirical one. The main problem addressed in this study, is whether recapitalisation of Ghanaian banks have improved their profitability. We further investigated how the imposed regulatory increase in capital has affected the lending behaviour of the banks over the period. This was done using panel least squares General Methods of Moments (GMM) model. The study employed secondary data which consist of annual bank level ten-year data from 2007 to 2016, gotten from the Bank of Ghana, for 22 banks out of the 30 banks existing as at 2016. The 2007 – 2016 annual average consumer price indices and the Gross Domestic Product annual growth rate was the macroeconomic variables used for the analyses. From the empirical result, the recapitalisation exercise had a negative, significant impact on banks' profitability. This means that, the regulatory increase in capital for banks in Ghana, have not helped the profitability of the Ghanaian banking industry as returns to shareholders is concerned. This study concludes that while recapitalisation raised the capital base of the banks, it is not all the time that it transforms into good financial intermediation. This is because most of the banks allocates just 10% of their deposits to issuing of loans. The study recommends that banks need to diversify their investment and should be more of the long-term type. The government too has a role to play in providing necessary infrastructure to ensure that the cost of doing business in Ghana is reduced significantly to allow the banks to make more profit, since funding from banks will no more be a problem.

Keywords: Recapitalisation, profitability, bank performance, capital adequacy ratio

1. Introduction

Many economies have adopted stiffer roles for their banking sector just within the last decade, following the recent financial crises, to improve upon the stability of their banks. This is because bank stability is very important to the growth of the country's economy; in the same vein bank runs or failures are costly to the whole economy (Ramadan et al., 2011; and Yan et al, 2012).

The Ghanaian Banking Industry, like many African countries, have seen many reforms over the years all in a bid to making the banking sector more stable in order to strengthen its intermediation role and increase customers' confidence in the banking sector. In this direction was the introduction of the universal banking act in 2004 (started in 2003) which require banks to have a minimum capital of GH¢7,000,000. Banks had up to the end of 2006 to comply with the directive (Bawumia, 2006). This policy initiative was aimed at ensuring that banks would operate on a level playing field such as; accepting deposits and other repayable funds from the public; lending; investments in financial securities and money transmission services; the issuance and administration of means of payment (including credit cards, travellers' cheques and bank drafts); the issuance of guarantees and commitments trading for own account or for account of customers in money market instruments, foreign exchange or transferable securities; provision of advice on capital structure, acquisitions and mergers; portfolio management and advice; safe custody of valuables; electronic banking and any other services that the Bank of Ghana may determine (BankingAct, 2004). This is aimed at putting banks on the same competition and efficiency measurement scale in the banking industry.

In 2009, however, the Bank of Ghana raised the minimum capital of banks from GH¢7,000,000 (done as a requirement for acquiring the universal banking licence implemented in 2003) to GH¢60 million while maintaining the capital adequacy ratio of the universal banking act still at 10% of total assets. Attaining capitalization requirements may be achieved through consolidation (mergers and acquisition) of existing banks, increasing the debt stock (increasing deposits), and raising funds through issuing of additional shares through existing shareholders or new shareholders or

both or via foreign direct investment. One major effect as noted by Aboagye (2012) is a barrier to entry, which could increase concentration with its associated problems even if it results in increase in efficiency.

Irrespective of the cause, however, bank capitalisation and consolidation is implemented to strengthen the banking system, embrace globalization, improve healthy competition, exploit economies of scale, adopt advanced technologies, raise efficiency, improve profitability and as such improve economic growth. The ultimate goal is to make them stronger and for customers to have more confidence in the banking system and banks will be able to perform their developmental role of enhancing economic growth (Asedionlen, 2004). This will be achieved when their intermediation role is strengthened and have the financial muscle to under-take big ticket deals (Narh, 2012).

The modern economies in the world have developed mainly by making the best use of the credit availability in their systems. An efficient banking system, therefore, should meet the needs of bigger investors by making available higher amount of capital for big projects in the industrial, infrastructural and service sectors thereby enhancing economic growth. Evidently, loans and overdrafts issued by the banks increased from approximately GH¢6.2 billion by the end of 2009 (the year the directive was issued) to GH¢7 billion by the end of 2010 (when all foreign ownership banks had met the requirement) to GH¢11.7 by the end of 2012 (when all banks, both local and foreign owned, had met the requirement). The high increase on loan issued by banks from 2010 to 2016 is evident of banks' support to enhancing economic growth by making credit available to bigger investors (Ghana Banking Survey, 2016). The 2009 capital increase of 60 million cedis seem to be inadequate for banks to be players in big industries such as the emergent oil and gas industry, then came the directive from the BoG for new entrant first class banking to have a stated capital of 120 million cedis and advice the rest to increase the capital based on their risk.

Profitability is critical to the survival of banks. Firstly, dividends are paid from profits and secondly, profit is an important source of retained earnings which is an important component of bank capital. Some studies on the bank performance and profitability suggest that capitalisation has a positive impact on profitability (ROE) (e.g., Berger, 1995; Sufan & Chong, 2008; Naceur & Omran, 2011), with some (Saona, 2011; Trujillo-Ponce, 2013) seeing a negative relationship between capital and ROE, while others (e.g., Trujillo-Ponce 2013) suggest a cyclical relationship between capital and profitability, i.e. becoming more positive during economic distress periods and vice versa. While Naceur & Omran (2011) in their study found that bank regulation seem to have an impact on their performance, Denizer et al (2007) rather found that the wide range decline in the performance of banks in Turkey after the liberalisation was due to the growing macroeconomic instability in their economy and the financial sector in particular.

This study is motivated by a number of issues. First of all, the recapitalisation of the Ghanaian banks by the Bank of Ghana is similar to that of Nigeria in 2004. The central bank of Nigeria required banks in the country to recapitalise from ₦2 billion (the 2001 universal banking capital requirement) to ₦25 billion in 2004, which sent banks into consolidation through mergers and acquisitions. Adegbaaju & Olokoyo (2008) observed that the pre-recapitalisation mean of Return on Equity (ROE) of Nigerian banks is better than that of the post-recapitalisation. This means Nigerian banks made less returns on increased capital (on the average) after the recapitalisation than before. This is a contradiction to what was observed by Molyneux (1993) that higher equity will decrease the cost of capital that will lead to a positive impact on profitability. In the case of a banking reform (i.e. financial liberalisation) in Thailand, Leightner & Lovell (1998) found that the average Thai bank had a rapid productivity gain based on its own objective which did not help advance the government's objective of overall economic growth. Empirical and theoretical evidence (Berger, 1995; Kosmidou et al., 2005; Sufian & Chong, 2008; Sufian, 2011; Saona, 2011; Ramadan et al., 2011; etc.) shows a contrasting relationship between capitalisation and profitability.

Yet another motivation for this study is the unstable macroeconomics condition in the Ghanaian market. Bank performance is sensitive to macroeconomic shocks. If economic conditions are favourable, banks are encouraged to lend more and improve the quality of their assets. The value of capital tend to reduce with increasing inflation rate. This will affect the mean value of the earnings. Chiuri et al (2002) observed that, imposing a higher capital requirement on banks exerts a negative effect on bank lending in emerging economies such as the Ghanaian economy. Their evidence suggests the relevance of a careful phasing in of new capital requirements in order to avoid undesirable macroeconomic side effects. This confirmed an earlier study by Blum (1999) which cautioned that raising the capital requirement for banks could have a negative long-lasting effect on economic growth opportunities for economies where bank loans represent larger share in the corporate sector's external finance.

Banks may shrink both assets and liabilities due to capital regulation which would impact the economy in terms of the slowdown of credit supply. With a binding capital requirements, additional capital is needed to expand more lending as observed by Yudistira (2003). The effect is that, banks would lend less when macroeconomic times are bad and lend more when times are good (Blum & Hellwig, 1995).

Studies on banking reforms suggest contrasting views on the impact of a banking reform on the performance of the banking industry and the contribution to economic growth. In some cases it did not help economic growth even though it improved upon banking performance (Leightner & Lovell, 1998) in Thai banking industry; (Denizer et al., 2007) in Turkish banking sector. Others experience both increase in performance and central bank's objective of improving economic growth (Shanmugam & Das, 2004).

Globally, commercial and universal banks have not taken re-capitalisation exercise from central banks kindly, because despite the stability it promises the industry, banks are overstretched to be able to meet the new capital (Benjamin-Addy, 2013). In the case of the Nigerian banking industry, most banks have to fold up and others run into mergers (Adegbaaju & Olokoyo, 2008; and Sani & Alani, 2013). The main problem addressed in this study, is whether recapitalisation of Ghanaian banks have improved their profitability.

2. Methodology

The study adopted a descriptive research design. Twenty (22) were sampled from a population of 30 banks existing as at 2016. The study used the annual bank level, accounting data of individual banks from 2007 to 2016, gotten from the Bank of Ghana. The 22 banks were chosen because they had data for the two period (pre and post-recapitalisation) under review. Macroeconomic variable such as yearly inflation was gotten from the Ghana Statistical service official website, while the Gross Domestic Product annual growth rate was extracted from the index mundi website.

Arellano and Bond (1991) proposed one- and two-step estimators. In this paper we use the one-step GMM estimator since Monte Carlo studies have found that this estimator outperforms the two-step estimator both in terms of producing a smaller bias and a smaller standard deviation of the estimates.

$$Y_{it} = \alpha_i + Y_{it-1} + \sum_{d=1}^d \beta_d \text{Dum}_{it}^d + \sum_{k=1}^k \gamma_k X_{it}^k + \sum_{m=1}^m \lambda_m M_t^k + \mu_{it} \dots\dots\dots (1)$$

Where;

Y_{it} – is a vector of profitability measure for bank, i at time, t; which include return on equity (ROE) X_{it} – represent bank performance indicators. The bank specific variables include, capitalisation denoted by, ETA (shareholders' fund to total assets) and the Lending behaviour of a specific bank denoted by LTD (Loans to total Deposits).

M_t^k represent Macroeconomic determinants that is supposed to influence the profitability of the banks.

The microeconomic indicators are the Gross Domestic Product Growth Rate which is denoted by GDPGR and the rate of inflation also denoted by INF.

Dum_{it}^d represent a panel of two dummy variables that describes the recapitalisation exercise – meeting regulatory capital and or working with the regulatory capital for time frame under review.

Dumrecap_{it} is a dummy variable that explains whether bank, i has met the new regulatory capital at time, t or not. 1 denote a bank is operating with an amount greater than or equal to GHS 60 million and 0, otherwise. While Dumtime_{it} denote the dummy variable for the period for which the recapitalisation was implemented. 1 denoting post-recapitalisation period and 0, for pre-recapitalisation era.

$$\text{ROE}_{it} = \text{ROE}_{it-1} + \beta_1 \text{Dumrecap}_{it} + \beta_2 \text{Dumtime}_{it} + \gamma_1 \text{ETA}_{it} + \gamma_2 \text{LTD}_{it} + \lambda_1 \text{GDPGR}_t + \lambda_2 \text{INF}_t + \mu_{it} \dots\dots\dots (2)$$

3. Result and Discussion

The data was gathered from the 22 banks that were purposively sampled out from the 30 banks existing as at 2016.

Variable	Observation	Mean	Std. Dev.	Min	Max
Bank	220	11.5	6.364988	1	22
ROE	220	17.56861	21.50663	-68.3085	70.33889
ETA	220	0.139375	0.079884	0.030405	0.611884
LTD	220	0.783294	0.321993	0.223136	1.994157
GDPGR	220	7.654286	3.208697	3.99	14.39
INF	220	12.34286	3.702125	8.7	19.3
Dumcap	220	0.311688	0.464694	0	1
Dumtime	220	0.571429	0.496486	0	1

Table 1: Summary Statistics of Variables Used in Empirical Model
Source: Results Obtained from Author's Computation Using STATA

The researcher used the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity under the null hypothesis; H_0 : constant variance (No heteroscedasticity).

Based on the result ($\chi^2_{(22)} = 0.49$, p – value = 0.4848). We therefore fail to reject the null and conclude that there is no heteroscedasticity between ROE and the error term.

In checking for serial correlation, we used the Wooldridge test for autocorrelation in panel data with the null hypothesis of no first order autocorrelation. Based on the test statistic obtained ($F_{(1,21)} = 1.058$, p – value = 0.3154), we fail to reject the null hypothesis and conclude that the data does not have first order autocorrelation.

The Arrelano – Bond test was performed to test first and second order autocorrelation of the first differenced error terms. The null hypothesis is that the error terms are not serially correlated. AR (1) refers to Arellano-Bond test that average auto-covariance in residuals of order 1. The null hypothesis is that it is equal to zero (i.e. H_0 = No auto – correlation). Also, AR (2) refers to Arellano-Bond test that average auto-covariance in residuals of order 2. The null hypothesis is that it is equal to zero (i.e. H_0 = No auto – correlation). Because the difference of independent and identically distributed errors will be serially correlated, rejecting the null hypothesis at order one (i.e. AR (1)) does not mean the model is wrongly specified. But rejecting the null hypothesis of no autocorrelation at order two (i.e. AR (2)) implies that the moment conditions are not valid.

Order	Z	p-value
1	-2.5358	0.0112
2	0.2069	0.8361

Table 2: Arellano – Bond Test

The result of the Arellano – Bond test in Table 2, confirm that the moment conditions are not valid. Table 3 depicts the result for the one lagged ROE Generalised Method of Moments model in equation 2. ROE (Return on Equity) measures the income earned on each unit of shareholders' capital. Shareholder' capital is a major constituent of bank's working capital. The GMM model comprised of six independent variables, with the first lag of the dependent variable (ROE); two are bank specific variables that describe capital employed and loans per deposit. Inflation and GDP growth rate describe the macroeconomic environment of the country over the period under investigation. Two dummy variables were employed; one describing a bank having already met the regulatory capital before the regulatory directive was issued and the other describe the period before and after the regulatory capital were to be met by banks.

$$ROE_{it} = ROE_{it-1} + \beta_1 Dumrecap_{it} + \beta_2 Dumtime_{it} + \gamma_1 ETA_{it} + \gamma_2 LTD_{it} + \lambda_1 GDPGR_t + \lambda_2 INF_t + \mu_{it}$$

ROE	Coef.	Std. Err.	P-value
ROE _{it-1}	0.6203	0.0297	0.000
ETA	-44.557	7.6297	0.000
LTD	17.503	1.8559	0.000
GDPGR	-0.1646	0.1203	0.171
INF	-0.4664	0.1043	0.000
Dumcap	9.8919	2.2969	0.000
Dumtime	3.6798	1.5423	0.017
Number of observations		198	
Number of groups		22	
Observation per group		9	
Wald Test		$\chi^2_{(10)} = 8988.61$ (p-value = 0.000)	
Sargan test		$\chi^2_{(16)} = 19.92089$ (p-value = 0.3989)	

Table 3: Regression Result: ROE Dependent Variable – GMM One Lag
Source: Author's Computation from STATA

The model seems to fit the panel data reasonably well, having fairly stable coefficients, while the Wald test indicates fine goodness of fit and the Sargan test shows no evidence of over-identifying restrictions. Even though the equations indicate that negative first-order autocorrelation is present, this does not imply that the estimates are inconsistent. Inconsistency would be implied if second-order autocorrelation was present (Arellano and Bond, 1991), but this case is rejected by the test for AR (2) errors. All the variables are significant in the model, except GDPGR. This means economics growth, as measured by the researcher, does not contribute significantly to the profitability of banks.

This study examined looked at the impact the regulatory increase in capital have on the profitability of the banking industry. From empirical result, the recapitalisation period proxy by dumtime showed that the exercise had a negative significant impact on the ROE.

4 Conclusions

From the empirical result, the recapitalisation exercise had a negative, significant impact on banks' profitability. During the period of recapitalisation, assigned 1 in the dummy variable, there is a positive direction in the profitability of the banks. This means that banks were better-off, in terms of profitability, before the recapitalisation period. This means that, the regulatory increase in capital for banks in Ghana, have not helped the profitability of the Ghanaian banking industry.

It is obvious that LTD had a higher positive significant impact on ROE. This study concludes that while recapitalisation raised the capital base of the banks, it is not all the time that it transforms into good financial intermediation. This is because most of the banks allocates just 10% of their deposits to issuing of loans. This is attributed to the significant impact of the macroeconomic variables on the profitability.

Further research should be carried out to establish why banks were not able to increase their loan portfolios, despite meeting the capital base of the bank of Ghana. Furthermore, with the poor performance of the local currency in the forex market, there is the likelihood of another increase in the capital base of the banks to be able to compete with international banks. This could lead to some banks folding up, resulting in mergers and acquisitions. An extensive study can focus on this scenario.

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