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THE RELATIONSHIP BETWEEN MARKET SHARE AND PROFITABILITY OF GHANAIAN BANKS

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ABSTRACT

As an important indicator of banks' performance, market share has been of interest to researchers and managers owing to its contribution to profitability and the variations in the face of the banking sector. This study aims at revealing the various factors that affect the market share of banks in Ghana and examine its relationship with profitability. We employ the fixed and random effect as well as the system General Methods of Moments estimation techniques on panel data for 12 banks in Ghana. The results from this study show that non-performing loans and liquidity are significant determinants and relate negatively with the market share of banks while leverage and bank size are also significant determinants but relate positively with the market share of these banks. The study further revealed that market share positively and significantly affects the profitability of banks. Banks are therefore recommended to adopt ways such as innovation, strengthening of customer relationships, and smart hiring practices that will help them increase their market share to improve on the performance and profitability of the banks.

Contribution/Originality: This study is one of the few studies which have investigated the drivers of market share as well as the effect of market share on profitability in Ghana. The findings will guide the bank of Ghana in developing appropriate policies to accelerate the growth of the Ghanaian banking industry.

1. INTRODUCTION

Achievement of economic growth as a macroeconomic goal has attracted a variety of policies by different countries. Be it fiscal or monetary, policies introduced are mostly geared towards the attainment of growth in the economy. The activities of banks have been noted to play a significant role in the growth of the economy (Saravani, Tash, & Mahmodpour, 2015). In Ghana, the monetary policy committee of the central bank has reduced the policy rate to 14.5 percent (Bank of Ghana, 2020). Thus, a reduction in the monetary policy rate by 150 basis points from the then 16 percent. Such an attempt is aimed at making the banking sector more functional by reducing the cost of credit to customers. The private sector or businesses and sometimes government, rely on credits from banks in undertaking relevant projects and investment activities that go a long way to induce growth in the economy in the long run. Saravani et al. (2015) therefore argue that with suitable monetary policies and resourceful performances from the banks, a substantial change in the national economy can be achieved.

The Ghanaian banking sector is made up of 27 universal banks. Out of this number, there are 16 and 11 foreign and domestic owned respectively. It is worthy to note that 6 of these banks hold greater than half of the total assets of the sector. The implication is that a decision by these few banks is likely to impact the sector and the economy at

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large. Market share is identified among the important indicators of performance for banks (Al Arif & Rahmawati, 2018). Through improvement in performances and service delivery, banks strive towards gaining a considerable share of the total market. Market share is also important to banks because it has a positive and significant relationship with the organization's profitability level (Genchev, 2012). This positive association between market share and profitability according to Mueller (1986) is a straight result of economic stability and a competitive environment.

Market governance achieves competitiveness as a quality and activities created grounded on relative as well as a competitive advantage. Fu and Heffernan (2009) explain that market share is among the most influential factors that affect the competitive power of organizations.

There is increasing attention of managers of businesses, academic researchers on both competitiveness and market share of the banking sector due to the speedy changes in the face of the banking sector. A focus on the determinants of market share is worthy of investigation. This is partly because there an increasing pressure in decision making and a major challenge facing managers on how to increase profits in the current competitive world of business (Etale, Bingilar, & Ifurueze, 2016). Managers, therefore, need to comprehend the drivers of profitability, which can rarely be talked about without market share according to several empirical studies (Etale et al., 2016; Genchev, 2012; Jacobson, 1988; Mueller, 1986). Increased efficiency contributes to the variation in profitability among firms as Etale et al. (2016) explain. Large market share is obtained by efficient firms and attains higher profits to bring a causal relationship between profitability and size. Despite the importance of market share and its relationship with the profitability of banks, it is surprising that no study has been conducted in Ghana. This study is, therefore, motivated by the relatively limited if not the absence of such a study in Ghana given the significant role being played by the banking sector in the Ghanaian economy. The paper, therefore, tries to fill the research gap. This paper tries to find answers to these questions:

1. What are the determinants of the market share of Ghanaian banks?
2. What is the relationship between market share and profitability of Ghanaian banks?

The results from this study show that non-performing loans and liquidity are significant determinants and relate negatively with the market share of banks while leverage and bank size are also significant determinants but relate positively with the market share of these banks. The results of this study further revealed that market share positively and significantly affects the profitability of banks.

The findings of this study have several implications for managers and prospective investors of these banks. Directors and managers of these banks should try as much as possible to reduce non-performing loans. When this is done liquidity will improve and help them increase their market share which in the long-run leads to improve profitability. Prospective investors can also use this study to help them invest in banks that have a large market share, high liquidity, and high profits. The bank of Ghana should also develop an appropriate policy to accelerate the growth of the Ghanaian banking industry.

In explaining the relationship between market share and profitability of banks in Ghana, we structure the rest of the study as follows: literature on both theoretical and empirical studies are presented next, followed by the method and data employed. Results, discussions, conclusions, and recommendations are then given.

2. LITERATURE REVIEW

2.1. Theoretical Framework

This part of the study looks at the theories underlying the relationship between market share and firm performance. The market power theory, efficiency theory, Strategic management theory, and Product quality assessment theory are important theories that provide clarity in the direction and behavior of firms to how profitability is affected by market share.

2.1.1. Market Power Theory

This theory explains that sizeable market share leads to advantages in market power. When a firm can increase prices or produce inferior products because its competitors are unable to provide a better alternative (Jacobson, 1988). Thus, firms with a high market share can negotiate lower prices of purchases from suppliers and as well charge exorbitant selling prices from customers because of the monopoly or monopsony position available (Boulding & Staelin, 1990). It is therefore obvious that market power would make increased profits possible.

2.1.2. Efficiency Theory

A common and major notion behind the connection between higher market share and profitability refers to the ability of such firms to take advantage of the available economies of scale as a means of reducing cost hence making way for higher profits (Gale, 1972; Jacobson, 1988; Jacobson & Aaker, 1985). The available economies of scale come as a result of the spread of fixed marketing costs as well as the fixed cost of production over the more units produced. The cost advantages, therefore, serve as barriers to any possible new competition (Edeling & Himme, 2018). Economies of scale are exploited in areas such as marketing, risk-taking, procurement, and research and development. According to Gale and Branch (1982), the connection between market share and profitability is influenced by the function of market share in cost reduction than the increased market power generated.

2.1.3. Strategic Management Theory

Successful business strategy influences the profitability of a business (Weetman, 2010). According to Norreklit and Mitchell (2007) firms may achieve financial results that are satisfactory if firms supply good products at smaller prices, getting the customers satisfied, and winning market share as well as the image initially and later raise the prices charged to reduce the level of satisfaction. It is argued that there is the creation of loyal customers and improvement in market share through this strategy. The increase in market share, therefore, will improve the profitability of the organizations.

2.1.4. Product Quality Assessment Theory

This theory explains that market share leads to high profits because customers view market share as a sign of product quality. In an environment of uncertainty and imperfect information on the performance of products, customers develop confidence for products that are associated with higher market share, hence the ability to command higher prices and profits (Jacobson, 1988).

2.2. Empirical Literature Review

2.2.1. Determinants of Market Share

Being of significant interest to stakeholders especially academic researchers, the market share and profitability of banks has been measured differently. However, the focus concerning market share is to capture the proportion of total customers available to a particular bank. Empirical works considered are those focused on either the determinants of market share or the relationship between market share and profitability. Saravani et al. (2015) evaluated the stability of Sepah Bank and its determinants using panel data that spans for 5 years. The unit root test revealed that the market share of Sepah Bank is not stable. The cost of advertisement, the share of a branch, and information technology are found to be the significant factors influencing the market share. Also, Al Arif and Rahmawati (2018) employed that multiple regression approach in studying the factors that influence the market share of the Indonesian Islamic banking industry. The study found that operational efficiency rate, default rate conventional bank's interest rate, as well as the default rate, significantly influence the market share of the Indonesian Islamic banking industry. Variables such as the ratio of liquidity, and profitability do have a statistically significant influence on the market share of the said banking industry.

Studies by Saputra (2014) and Purboastuti, Anwar, and Suryahani (2015) concluded that factors that exist within the organization do influence the market share of banks. The studies measured the rate of default using non-performing financing, profitability using the return on equity, and the ratio of liquidity using the fixed deposit receipt. It was found that the default rate, liquidity ratio, as well as profitability ratio, significantly affect the market share of banks. Again, investigating the various determinants of the market in the Iran banking system using an approach to commercial banks for the period 1991 to 2005, Rabizade (2007) found that the market of banks is influenced greatly by the banks' key ratios. Using investment banks acting as advisors in mergers and tender offers, the key determinants of the market were examined by Rau (2000). The empirical findings showed that contingent fee payments that are charged by banks, as well as the percentage of deals, completed positively affect the market share of investment banks. The study as well found that the performance of acquirers that are advised by the bank does not significantly affect the market share of investment banks. For investment banks that function as book managers in initial public offerings, Dunbar (2000) found that one-year abnormal performance, specialization of the industry, the reputation of the analyst, association with withdrawn offers and IPO first-day returns have a significant effect on the market share of established banks. From the literature reviewed the following 4 hypotheses will be tested:

H1: There is a positive relationship between bank size and market share.

H2: There is a positive relationship between liquidity and market share.

H3: There is a negative relationship between non-performing loans and market share.

H4: There is a positive relationship between bank ownership and market share.

2.2.2 Market share and Profitability

Research on the relationship between market share and firm performance has yielded mixed results. A rise in market share leads to improvement in profitability because the market is observed as a driver of return on investment (Buzzell, Gale, & Sultan, 1975). According to Etale et al. (2016) usually, market share is used in expressing the position of competition, and its improvement is associated with success while a fall is associated with failure. However, Ailawadi, Farris, and Parry (1999)argue that increased market share may not improve the performance of financial performance. According to Buzzell (2004), the most common explanation as to why market share leads to higher profitability is higher economies of scale, experience, and market power, as economies of Scale provide larger firms with cost advantages.

The association between market share and profitability is investigated by Genchev (2012) using 22 banks in Bulgaria for the period 2006 to 2011. Using return on equity (ROE) as an indicator of banks' profitability, the study found a positive and statistically significant effect relationship between market share and profitability. However, no statistically significant association was found between concentration in the sector and profitability. The relationship between market share and profitability in New York was surveyed by Buzzell et al. (1975). A panel of 45 quoted firms for the period 1970 to 1975 was analyzed using the ordinary least square method. The findings showed a positive association between market share and profitability. They associated this relationship with the market power and the outcomes of economies of scale.

Also, Etale et al. (2016) studied the market share and profitability relationship using secondary data of 10 listed banks on the Nigerian Stock Exchange (NSE) for the period 2003 to 2011. The study used profit after tax as an indicator of profitability and two indicators of market share; deposit customers and loan customers. The findings from the multiple regression revealed that there is a positive relationship between market share and profitability of banks in Nigeria.

Using South Africa listed companies, the effect of market share on profitability was examined by Jacobson (1988). A panel data of 95 companies for the period 1983 to 1987 were analyzed using simple and multiple regressions. No statistically significant relationship was found between market share and profitability. He argued

that planned intentions, for instance, undertaking further investment to increase market share will not lead to higher profits since companies will proceed with investment there is a fall in return premium. Thus, he explains that the common notion behind the relationship between market share and profitability does not take company culture, management skills, luck, and scarce resources into consideration. Thus, it is worthy to note that market share and performance indicators originate from the internal or external environment which may also differ from a country to another (Syafrida & Abror, 2011). Since the literature reviewed shows mixed results the following non-directional hypothesis will be tested:

> *H5: There is a significant relationship between the market share of the bank and its profitability.*

3. RESEARCH METHODS

3.1. Sample Size and Data Source

This study employed data sourced from the audited annual reports of thirteen (13) commercial banks currently operating in the country. The use of annual reports by this study is as a result of them being the main source of information for shareholders, showing their value to user groups (Barakat & Hussainey, 2013; Elshandidy, Fraser, & Hussainey, 2013). This reason is given by Marston and Shrives (1991) who portrayed them as the "main disclosure vehicle" and further argued that annual reports are the most complete financial statements accessible to investors.

3.2. Methods

The Fixed and Random Effects (FE and RE) as well as the system General Methods of Moments (GMM) analysis were employed in examining the determinants of market share and its relationship with the profitability of banks in Ghana. Again, the dominance analysis is employed in determining the order of importance of the regressors. Based on the empirical review (Berger & Bouwman, 2013; Setiyono & Tarazi, 2014; Zopounidis & Kosmidou, 2008; Zouari & Taktak, 2014) and also theoretical literature found to be relevant to risk disclosure, variables such as Bank Ownership, Non-Performing Loans, Leverage, Liquidity, Bank Size, Board Size, and Audit Committee Independence were used in this study. The equation for this study on the determinants of market share of sampled banks in Ghana incorporating these variables is expressed in Equation 1 as:

$$MS_{it} = B_0 + B_1OWN_{it} + B_2NPL_{it} + B_3LEV_{it} + B_4LIQ_{it} + B_5BS_{it} + B_6BDS_{it} + B_7ACI_{it} + \varepsilon_{it} \tag{1}$$

In ensuring robustness, we estimate the fixed and random effect as well as the General Method of Moment (GMM) equations. Thus, from Equation 1 the Fixed Effect (FE) model is specified as Equation 2 below:

$$MS_{it} = B_0 + a_i + B_1OWN_{it} + B_2NPL_{it} + B_3LEV_{it} + B_4LIQ_{it} + B_5BS_{it} + B_6BDS_{it} + B_7ACI_{it} + \varepsilon_{it}$$

$$\tag{2}$$

From Equation 2, the fixed effect pairs which are common to all years and capturing bank heterogeneity is represented by a_i. Again, we model the random effect as Equation 3 below:

$$MS_{it} = B_0 + B_1OWN_{it} + B_2NPL_{it} + B_3LEV_{it} + B_4LIQ_{it} + B_5BS_{it} + B_6BDS_{it} + B_7ACI_{it} + \mu_i$$

$$\tag{3}$$

Where $\mu_i = a_i + \varepsilon_{ijt}$

In deciding between the fixed and random effect models, we specify the hypothesis for the Hausman test as bellow:

H_0: The preferred model is the random effect.

H_1: The preferred model is the fixed effect.

The GMM estimation which makes use of the lags of the dependent and the independent variables as an instrument is known to have the ability to correct potential endogeneity. Thus, this estimation is also done to ensure the robustness of the results. The GMM model is specified in Equation 4 as follows:

$$MS_{it} = B_0 + MS_{it-1} + B_1 OWN_{it} + B_2 NPL_{it} + B_3 LEV_{it} + B_4 LIQ_{it} + B_5 BS_{it} + B_6 BDS_{it} + B_7 ACI_{it} + \varepsilon_{it}$$

(4)

Where MS= Market Share measured as Bank's Total deposit/Total Banking Industry Deposit, OWN = Ownership structure of the Bank, NPL = Non-Performing Loans ratio measured as a percentage of Total Gross Loans, LEV = Leverage measured as non-current liabilities/shareholder's equity and LIQ = Liquidity of banks also measured as a ratio of current assets to current liabilities, BS = Bank size measured as the natural logarithm of total asset of the bank, BDS = Board Size and ACI = Audit Committee Independence measured as the number of independent directors on the audit committee. There are four independent variables (Ownership structure of the Bank, Non-Performing Loans, Bank size, and Liquidity). The control variables are; Leverage, Board size, and Audit committee independence. The subscript i represents the banks under consideration and t represents the time.

Also, to determine the effect of the market share on the profitability of banks, the study controlled for variables such as Bank Ownership, Leverage, Liquidity, and Bank Size (Berger & Bouwman, 2013; Setiyono & Tarazi, 2014). The equation for this relationship is expressed in Equation 5 as:

$$ROA_{it} = B_0 + B_1 MS_{it} + B_2 OWN_{it} + B_3 LEV_{it} + B_4 LIQ_{it} + B_5 BS_{it} + \varepsilon_{it}$$ (5)

Respectively, the RE, FE and the GMM equations are specified as Equation 6, Equation 7 and Equation 8 as below

$$ROA_{it} = B_0 + a_i + B_1 MS_{it} + B_2 OWN_{it} + B_3 LEV_{it} + B_4 LIQ_{it} + B_5 BS_{it} + \varepsilon_{it}$$ (6)

$$ROA_{it} = B_0 + B_1 MS_{it} + B_2 OWN_{it} + B_3 LEV_{it} + B_4 LIQ_{it} + B_5 BS_{it} + \mu_i$$ (7)

$$ROA_{it} = B_0 + ROA_{it-1} + B_1 MS_{it} + B_2 OWN_{it} + B_3 LEV_{it} + B_4 LIQ_{it} + B_5 BS_{it} + \varepsilon_{it}$$ (8)

Where ROA represents the return on assets proxied for bank profitability.

4. RESULTS AND DISCUSSION

The average market share of banks used for the study for the period 2011 to 2018 is presented in Figure 1 above. It is observed that Ecobank Ghana has the highest market share (0.120375) followed by GCB Bank, Standard Chartered Bank, Fidelity, and Zenith bank in that order. Bank of Africa records the lowest share of the market (0.0165) for the period.
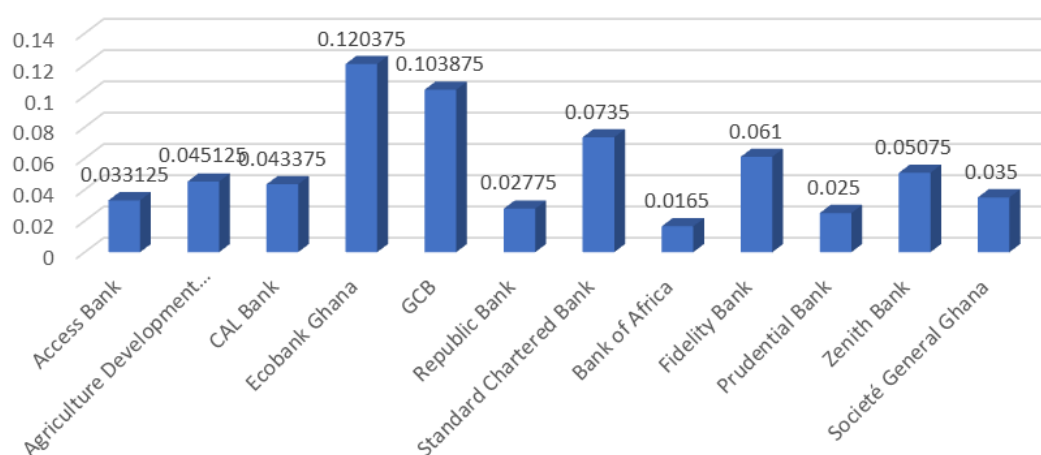
Figure-1. Average market share of Banks for the period 2011 to 2018.

4.1. Results of Descriptive Statistics

Before estimating the determinants of the market share of selected banks in Ghana, the study carried out descriptive statistics on the variables used in this study. Descriptive statistics provide simple summaries about the sample and the measures. It reports the mean, standard deviation, minimum and maximum values of the variables as presented in Table 1.

Table-1. Descriptive Statistics.

Variable	Mean	Standard Deviation	Minimum	Maximum	Observation
MS	0.0529	0.0323	0.013	0.142	96
NPL	0.1509	0.102	0.0007	0.4929	96
ROA	0.0274	0.0211	-0.037	0.0696	96
LIQ	1.1333	0.1771	0.559	1.5368	96
LEV	0.6986	0.5601	0.0426	2.6747	96
OWN	0.5	0.5026	0	1	96
BS	21.4888	0.7624	19.4506	23.0706	96
BDS	9.1979	1.7206	6	14	96
ACI	3.9375	0.9821	2	6	96

Market Share (MS) on average has a mean of 0.05 and a standard deviation of 0.03 which signifies that the market share by the sampled banks deviates only 3 percent from the average. It also recorded a minimum value of 0.01 and a maximum of 0.14. Non-performing loans (NPL) measured as a percentage of total gross loans had an average score of 0.15 and a standard deviation of 0.102. A minimum score of 0.0007 and a maximum score of 0.4929. Profitability (ROA) recorded an average score of 0.03 and it deviated 2 percent from the mean. Liquidity (LIQ) measured as a ratio of a bank's current assets to current liabilities indicating the ability of the bank to have cash on hand for short-term expenses, had an average score of 1.13 and a deviation from the mean of 18 percent. Leverage (LEV) also known as the capital structure of the bank, measured as the ratio of non-current liabilities to shareholders' equity recorded a mean score of 0.699. This implies that the banks over the sampled period were more equity-financed than debt. It further recorded a standard deviation of 56 percent, a maximum score of 2.67, and a minimum of 0.04. Bank ownership (OWN) representing the ownership structure of a bank either foreign-owned or domestically owned had a mean score of 0.5, a minimum score of 0, and 1 as the maximum score. Bank Size (BS) measured as the natural logarithm of total assets recorded a mean score of 21.4888 and a standard deviation of 0.7624 which signifies a 76 percent deviation from the mean. It further recorded a minimum score of 19.4506 and a maximum score of 23.0706. Board size (BDS) on the average documented a mean score of 9.1979, a standard deviation of 1.7206, a minimum score of 6, and a maximum score of 14. And finally, Audit Committee Independence (ACI) recorded a mean score of 3.9375 and a standard deviation that deviated 98 percent from the mean.

4.2. Correlation Analysis

Table 2 presents the correlation matrix for the variables used in the study. It is observed from the table that the correlation between the variables is low. This provides evidence that there is the absence of multicollinearity. Given this background, we can go ahead with the estimations.

Table-2. Correlation Matrix.

	MS	**NPL**	**ROA**	**LIQ**	**LEV**	**OWN**	**BS**	**BDS**	**ACI**
MS	1.0000								
NPL	-0.1424	1.0000							
ROA	0.4398	-0.2857	1.0000						
LIQ	-0.2884	-0.0260	0.0440	1.0000					
LEV	-0.0391	-0.0420	-0.2192	0.1724	1.0000				
OWN	0.0081	0.0727	0.0735	0.0671	-0.0366	1.0000			
BS	0.6062	0.1770	0.2931	-0.0709	0.0298	-0.0376	1.0000		
BDS	0.3817	-0.2762	0.1952	0.0786	-0.1069	-0.0548	0.0892	1.0000	
ACI	-0.1141	-0.0248	-0.0291	0.0734	0.1179	-0.1066	-0.1348	0.4123	1.0000

4.3. Determinants of Market Share

The econometric estimates for the, fixed effect, random effect, and the GMM (a technique to correct possible endogeneity among the dependent and the independent variables) are presented in Table 3.

Table-3. Regression results for determinants of MS.

Variables (1)	FE (2)	RE (3)	GMM (4)
MS (-1)			0.623***
			(0.068)
NPL	-0.049***	-0.055***	-0.069***
	(0.014)	(0.017)	(0.022)
OWN		0.003	-0.004
		(0.008)	(0.008)
LIQ	-0.019***	-0.029***	-0.023**
	(0.006)	(0.008)	(0.012)
LEV	0.006**	0.004	0.005
	(0.002)	(0.002)	(0.004)
BS	0.005***	0.010***	0.014***
	(0.002)	(0.002)	(0.001)
BDS	-0.001	-0.001	0.003**
	(0.001)	(0.001)	(0.001)
ACI	0.001	-0.001	0.001
	(0.002)	(0.002)	(0.002)
Constant	-0.030	-0.122**	-0.263***
	(0.040)	(0.048)	(0.019)
	No. of obs = 96		No. of obs = 84
	Hausman test (χ^2) = 31.41		Wald chi2(8) = 2969.49
	Prob>Chi2 = 0.000		No. of instruments = 42
			No. of groups = 12
Arellano-Bond test for AR(1) in first differences: z = -1.27 Pr > z = 0.206			
Arellano-Bond test for AR(2) in first differences: z = 0.23 Pr > z = 0.817			
Hansen test of overid. restrictions: chi2(33) = 5.27 Prob > chi2 = 1.000			

Note: Standard errors in parenthesis, ***p<0.01, **p<0.005,*p<0.1.

In checking for instrument validity in the GMM estimation, a p-value of 1.000 was derived in the Hansen J test of overidentifying restriction. Thus, we fail to reject the null hypothesis and conclude that we have valid and exogenous instruments. The Arellano-Bond test for autocorrelation for the first difference shows there is no autocorrelation in the first and second lag. Interestingly, the coefficients of all variables are the same in all the estimations techniques employed except for board size (BDS) which was positive and statistically significant in the

GMM but negative and statistically insignificant in the fixed and random effect estimations. The p-value of the Hausman test is 0.000, implying that we reject the null hypothesis and select the fixed effect as the preferred model.

From the regression analysis, Non-Performing Loans (NPL) is statistically significant and relates negatively (FE = 0.049 and GMM = 0.069) with the market share of banks in Ghana. The result obtained is consistent with studies by Al Arif and Rahmawati (2018); Purboastuti et al. (2015) and Saputra (2014) who all found NPL to affect the market share of banks. This conforms to the third hypothesis of this study. Also, liquidity (LIQ) which was measured as a ratio of current assets to current liabilities, is statistically significant and negatively relates to the market share of the sampled banks. From the coefficient of fixed effect and the system GMM, a unit increase in liquidity will lead to a 0.02unit reduction in market share. This is consistent with studies by Molyneux and Thornton (1992) and Tabari, Ahmadi, and Emami (2013) who argued that holding assets in a highly liquid form tends to reduce income as the liquid asset is associated with lower rates of return.

Leverage, on the other hand, had a positive and statistically significant relationship with market share. This positive relationship suggests that as the debt content in leverage increases, the market share of banks increases, with a coefficient of 0.006 implying that a unit increase in leverage will lead to a 0.006unit increase in market share.

Bank size was also found to be statistically significant and had a positive relationship with the market share of these banks for the sampled period. This finding is in line with works by Scholtens (2000) and Berger and Bouwman (2013). According to Boyd, Graham, and Hewitt (1993) economies of scale will reduce the cost of gathering and processing information so that a positive effect of bank size is associated with market share. This also conforms to the first hypothesis the study sought to test. In the system GMM estimations, the size of the board, as well as the market share of the previous year were found to be statistically significant and relate positively with the market share of the current period.

4.4. Dominance Analysis

The study adopts Budescu (1993) and Azen and Budescu (2003) dominance analysis approach to determine the importance of individual explanatory variables. The general dominance used makes it possible to decompose the R² to allow the various explanatory variables to be ranked concerning their contributions of the average variance across all possible subsets of the explanatory variables (Nathans, Oswald, & Nimon, 2012).

Table-4. General dominance weight.

Dependent Variable: MS			
Independent Variables	**Dominance Stat.**	**Standardized Dominance. Stat**	**Ranking**
OWN	0.0019	0.0030	7
NPL	0.0250	0.0409	5
LIQ	0.0799	0.1311	3
LEV	0.0022	0.0037	6
BS	0.3315	0.5437	1
BDS	0.1412	0.2316	2
ACI	0.0280	0.0460	4

In showing the order of relevance of the individual explanatory variables, column 4 of Table 4 presents the ranking of the regressors. Bank size is ranked the highest, followed by board size, liquidity, audit committee independence, non-performing loans, and so on. Bank ownership was ranked the least in relative importance concerning the drivers on the market share of banks in Ghana.

4.5. Effect of Market Share on Bank Profitability

In estimating the effect of market share on the profitability of the banks, we also employed the fixed effect, random and the system GMM estimation technique. Thus, the system GMM is employed to correct the possible endogeneity originating from the bi-causal relationship between market share and profitability of banks. The

Hansen J test of overidentifying restriction has a p-value of 1.000, indicating that the instruments used in the GMM are valid and exogenous. The Arellano-Bond test for autocorrelation for the first difference also shows there is no autocorrelation in the first and second lag. Again, in deciding between the random and fixed effect techniques, the Hausman test provides a p-value of 0.1322, implying a failure to reject the null hypothesis. Thus, the random effect model is the preferred model. It is worthy to note that all statistically significant variables among the employed techniques possess the same signs as observed in Table 5.

Table-5. Regression results for the effect of MS on ROA.

Variables (1)	FE (2)	RE (3)	GMM (4)
ROA (-1)			0.232***
			(0.052)
MS	0.093	0.314***	0.353***
	(0.183)	(0.106)	(0.134)
OWN		0.002	0.002
		(0.007)	(0.008)
LIQ	0.036***	0.034***	0.043***
	(0.011)	(0.012)	(0.015)
LEV	0.001	-0.004	-0.001
	(0.004)	(0.004)	(0.006)
BS	-0.004	-0.002	-0.007
	(0.003)	(0.003)	(0.010)
Constant	0.076	0.024	0.109*
	(0.062)	(0.060)	(0.063)
	No. of obs =96 Hausman test (X^2) = 7.07 Prob>Chi2 = 0.1322	No. of obs = 84 Wald chi2(8) = 2969.49 No. of instruments = 42 No. of groups = 12	
	Arellano-Bond test for AR(1) in first differences: z = -2.60 Pr > z = 0.109 Arellano-Bond test for AR(2) in first differences: z = -1.74 Pr > z = 0.281 Hansen test of overid. restrictions: chi2(27) = 9.04 Prob > chi2 = 1.000		

Note: Standard errors in parenthesis, *** p<0.01, ** p<0.05 and * p<0.1.

The system GMM results presented (in column 4 of Table 5) indicate that banks' profitability in the previous is statistically significant and directly influences the current years' profitability. The findings also show that market share is statistically significant and relates positively to bank profitability. The findings show that a unit increase in market share leads to an improvement in the profitability of banks by 0.314 units and 0.353units according to the random and GMM results respectively. This confirms that the larger the market share of the bank, the higher the profitability level by the bank. The result is consistent with studies by Etale et al. (2016); Genchev (2012) and O'Regan (2002) who found a positive and significant relationship between the two variables. This relationship answers the second question of this study.

Again, Liquidity recorded a statistically significant and positive relationship with profitability both in the random and system GMM estimations. This indicates that banks hold more liquid assets to maximize profit. This relationship is in line with the findings of Kosmidou and Zopounidis (2008) and Amo (2015).

5. CONCLUSIONS AND RECOMMENDATIONS

This study examined the determinants of the market share of thirteen (13) sampled commercial banks in Ghana for eight years, from 2011 to 2018. Specifically, this study sought to test factors that affect market share and also the effect of market share on bank profitability. Data used for this study were employed from the audited annual reports of these sampled banks. The study emanated from the research problem that a major challenge facing managers on how to increase profits in the current competitive world of business is their share in the market they find themselves. The results from this study show that non-performing loans and liquidity are significant determinants and relate negatively with the market share of banks while leverage and bank size are also significant

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determinants but relate positively with the market share of these banks. Also, in showing the order of relevance of the individual explanatory variables in determining the market share, the dominance analysis showed that the size of the bank matters most, followed by board size, liquidity, audit committee independence, non-performing loan, leverage, and lastly bank ownership. The results of this study further revealed that market share positively and significantly affects the profitability of banks. The findings of the study confirm that the pursuit of market share is indeed a correct strategy for the banks. The findings of the study support market power theory which explains that sizeable market share leads to advantages in market power.

The findings of this study have several implications for managers and prospective investors of these banks. Directors and managers of these banks should try as much as possible to reduce non-performing loans. When this is done liquidity will improve and help them increase their market share which in the long-run leads to improve profitability. Prospective investors can also use this study to help them invest in banks that have a large market share, high liquidity, and high profits.

The study, therefore, recommends banks adopt ways such as innovation, strengthening of customer relationships, and smart hiring practices that will help them increase their market share to improve the performance of the banks. This study is limited by data unavailability. Thus, accessing data of 13 out of 23 commercial banks in Ghana. Also, the study is based on data from a single country, Ghana, as a result, the finding may not be generalized for other countries. It is therefore suggested that future research in this field conduct a comparative study between different countries.

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