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Performance of West African Firms in Mergers and Acquisitions

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Abstract: Mergers and acquisitions (M&As) have become essential pathways firms use to access new markets and capabilities. As a result, firms located in West Africa are also taking advantage of M&As to reposition themselves to expand in size and become more profitable. However, the extent to which these firms have been improving their performances regarding increased profits and growth in their sizes following their M&A executions remains an issue that has not been investigated. Using a firm-level dataset of 23 quoted firms from West Africa gleaned from the Bloomberg Database from 2000 to 2017, the present study, therefore, employs the difference generalized method of moments (GMM) technique to investigate whether M&A deals by firms from West Africa are value-adding or destroying, particularly in the areas of profitability and growth in sizes. The study results indicate that West African firms that undertake M&As experience growth in profits in the immediate four years after acquisition deals compared to the two preceding these transactions. However, no evidence is obtained for growth in the sizes of these firms in the initial four years after M&A transactions. Following these findings, managers of West African firms desirous of growth in profits could rely on M&As as one possible route to realize this objective, even though they may not be able to use M&As to improve on their sizes in the short-term period after deals are completed.

Keywords: Mergers; Acquisitions; Differenced GMM; Profitability; Firm sizes

JEL classification: G3; G34; C3

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1. Introduction

Mergers and acquisitions (henceforth, M & As) have become essential in growth and improvement strategies for most businesses. Some companies from West Africa spend substantial amounts on M & As to improve the efficiency levels of their operations for growth in profits and expansion in sizes as either acquirers or targets. These West African firms from various industrial sectors, including the brewery, mining, telecommunication, and many others, have been undertaking M&A deals for several reasons. For instance, the banking industry in West Africa has experienced tremendous changes through M&A activities. These changes have mainly occurred due to technological advancements and other factors such as deregulation and globalization (De Young et al., 2009; Ismail and Davidson, 2007). Firms provide numerous reasons for their M&A activities, ranging from re-shaping businesses for growth and expansion to increasing shareholders' wealth from various sources. Another prominent argument managers of these firms put forward for their acquisition pursuits is to help them improve on their efficiency levels and create enhanced value for both target and acquiring firms. Surprisingly, however, there is practically no evidence on whether M&A deals that firms from West Africa undertake to create value for these firms or become value-destroying ventures for them, particularly concerning the impact these M&A deals have on the sizes of these firms as well as on their profitability levels. This paper, therefore, seeks to examine the influence of M & As on the sizes and profitability levels of West African firms and contribute to addressing the paucity of literature on M&A activities by firms from this important economic region.

Further, the study contributes to the extension of literature on firms' value growth for firms from West Africa since most of the previous studies, such as (El Zuhairy et al., 2015; Wilson et al., 2019), have focused mainly on M&A activities on firms in other African countries other than those from West Africa. Another area this study contributes to the literature is in the area of methodology. The study employs the Generalized Method of Moments (henceforth, GMM) technique, which departs from the event studies technique similar to previous studies (Gubbi et al., 2010; Kohli and Mann, 2012). To the best of the researchers' knowledge, this is the first study to examine the impact of M&As on the profitability levels and sizes of firms from West African countries. This study's outcome will help establish whether there is still the need for firms from West Africa to continue to rely on M&As as a vital business expansion vehicle in their quest to establish their presence in an internationally competitive business environment. Our results reveal that West African firms that undertake M&A transactions experience growth in profits in the first four years after the acquisition deals compared to two years prior. However, these firms do not experience growth in their respective sizes in the immediate short-run period of four years after M&A transactions.

The remainder of the study is structured as stated below: Section 2 presents the review of the theoretical and empirical literature affecting M&As' impact on the performance of firms from West Africa. Section 2 again looks at hypothesis development. Section 3 deals with the methodology, considering data sources and model specifications. In section 4, the study results are analyzed and discussed, while concluding comments and policy implications are also presented in the final section.

2. Literature Review

The theories below help investigate the impact M&As impact on the sizes and profit levels of firms from West Africa.

a. *The free cash flow theory*; The free cash flow theory promotes the idea that from the outset of M & A transactions, agency costs manifest themselves in the form of conflict between shareholders and managers regarding how free cash available to firms should be used. Jensen (1986) defined free cash flow as the excess of cash present in the firm after all projects with a positive net present value have been financed. Martynova and Renneboog (2008) also suggest that the availability of a substantial amount of cash sometimes emboldens managers in their actions, urging or encouraging these managers to undertake investment activities. Some of them end up being value-destroying rather than value addition to shareholders. The above narrative goes to highlight the point that, when firms have a large amount of cash, there is a greater possibility for managers of these firms to take advantage of the availability of these cash hoards and pursue irrational M&A investments, which become unrewarding to shareholders of their firms (Lin, Ma, Malatesta, and Xuan, 2013).

b. *Efficiency theory* postulates that firms merge for synergistic gains to benefit the acquiring firms (Trautwein, 1990). Under the efficiency theory, however, the following sub-theories theories are identified which relate to M&As deals;

i. the disciplinary mergers theory holds that M&As become a tool for discipline for managers of potential target firms who focus on pursuing other objectives instead of maximizing profits. Non-profit making managers indicate that they are possibly directing their attention to pursue other goals for the company instead of making profits. This difference in managers' focus affects their operating efficiency levels and adversely impacts their performances. This situation gives an advantage to opportunistic acquirers who may be observing the poor performance of managers of these firms with great potential and valuable assets. Consequently, the opportunistic acquirers then discipline these poorly performing firms by acquiring them.

Synergistic mergers theory also contends that managers could attain higher productivity levels for their firms if they combine with efficient targets and decide

to assist these targets to improve their performances. Potential acquirers usually consider targets with particular features that could complement them and believe that the management of a particular company in a potential M&A bid is performing below its potential. It is commonly the case that the re-constituted management team is more effective and efficient in managing the affairs of the newly formed businesses. This means that, although a target may be performing well already, its performance would improve if it is joined to its complementary partner, the acquirer firm. Therefore, the synergistic theory implies that targets can perform well prior to deal completion and post-M&A deals. It also means that two firms can merge and benefit economically through resource sharing, as Berkovitch and Narayanan (1993) suggested.

Differential efficiency theory suggests that the efficiency levels of acquirers will improve, particularly in areas it has superior capabilities. For instance, if firm X managers are less efficient than firm Y managers, and firm X decides to acquire firm Y, firm X is more likely to benefit from the superior managerial abilities of firm X management, all other things being equal. Therefore, this theory implies that some firms operate below their true potentials due to poor management and are likely to perform better if acquired by more efficient management. ***Inefficient management theory*** also contends that the management of a particular company in a potential M&A bid is performing below its potential. Therefore, it is generally the case that the re-constituted management team is more effective and efficient in managing the affairs of the newly formed organization. ***The information hypothesis*** suggests that M&A bidders tend to access private information relating to targets that allow undervalued targets to be identified easily by these bidders (Sinkey, 2002). ***Strategic re-alignment of changing environment hypothesis also*** views M&As as strategic ways firms reposition themselves to their rapidly changing external environment. This may be because the slow internal growth becomes inadequate for firms compared to the M&As pathway.

A typical example is the 2008 bank recapitalization policy in Ghana, which triggered a wave of M&A activities. ***Diversification hypothesis;*** this hypothesis's position is that merged firms relying on their sizes, stature, geographical positions, and broader industrial bases can sufficiently broaden and deepen their investment portfolios to adequately diversify their risks (Akhavein, Berger, and Humphrey, 1997). This implies that the market rewards merged firms for better diversification.

c. ***Agency theory****;* the central idea is that bidding firms' management mainly executes M&A transactions to benefit themselves instead of creating value for shareholders. Therefore, the agency theory suggests how important it is for shareholders who are considered the owners of firms to regularly monitor managers' activities to reduce and prevent possible opportunistic behaviour (Fama, 1980; NichKiel, 2007). Suppose shareholders do not monitor the activities of managers. In that case, they

should expect that managers would more likely pursue investment projects that may not serve their interest but instead would only serve the interest of these managers. Some of the self-serving projects managers pursue include aggressively growing the sizes of their firms (Hope and Thomas, 2008). Therefore, the agency theory points out managers' self-interest as their primary incentive for M&As when managers become interested in increasing the sizes of their firms instead of creating value for shareholders because their benefits are connected to the increase in the sizes of these firms. Fundamentally, the increase in the firms' sizes increases the resources under their control, and to a large extent, their compensations also improve with growth in sales.

d. ***The hubris hypothesis*** posits that sometimes acquiring firms overpay for their targets. Roll (1986), the proponent of this hypothesis, states that acquiring firms' managers could be misled by their zeal for dominance or empire-building and imprecisely estimate a target's value as an incentive for an acquisition deal. So, the hubris hypothesis explains the potential to pay too much for a target because of the management's extreme confidence in managing the acquisition and a potential synergistic benefit they intend to derive from acquiring the target firm (DePamphilis, 2008). Roll, therefore, hypothesizes that when managers become too optimistic and too much confident, they end up overpaying for a target. Malmendier and Tate (2008) also contend that these optimistic managers' decisions may result in bad M&A deals being executed. This explains why after successful M&A deals by some managers, subsequent deals begin to show a reduction in value creation or a decline in returns to the acquirers.

2.1

The influence of M&As on firms' growth and profitability levels has been investigated in prior studies. For instance, using the event study technique, Mueller (1985) and Cosh et al. (1989) contend that firms experience significant adverse effects on their growth through M&As. Empirically, Dickerson et al. (1997) also used accounting data from several industries to report firms' post-acquisition performances. Ikeda and Doi (1983) suggest a better improvement in profitability in five years after M&As compared to three years of post-M&A profitability for firms. Odagiri and Hase (1989) also contend that there is no improvement in firms' growth three years post-acquisition. However, Park and Jang (2011) put forth that companies from Japan who undertake M&As experience positive growth after acquiring them. From the above discussion, it can be identified that several previous studies suggest a negative post-M&A impact on firms' growth. Even though previous studies suggest a negative impact on firm growth after M&As, several of these previous studies have relied mainly on event studies which make estimations of the effects of M&As to have a time-dependent problem because performances before and after M&A

performance are evaluated under varying business situations (Neumann et al., 1983). So, to explain the impact of acquisitions on firms' growth, it is important to estimate the impact from different positions, one that deals with the time dependency problem.

Several studies from Africa, including (Ekundayo, 2008; Soludo, 2006; Soludo, 2008) also document post-M&A performances of firms. However, these studies focus largely on firms from South Africa, Egypt, Morocco, and Kenya. The few ones that have examined firms from West African countries have considered largely firms domiciled in Ghana and Nigeria. These M&A transactions in Ghana and Nigeria have mainly taken place in the banking and financial sectors. The banking sector consolidation in Nigeria through M&As has improved firms' performances in Nigeria (Ekundayo, 2008; Soludo, 2006). Gatsi and Agbenu (2006) elucidate that M&As have contributed to improving the performance of SG-SSB limited (Societe Generale- Social Security Bank limited) since the completion of this acquisition transaction in Ghana in 2003. From the above discussion, it is evident that fewer M&A studies have been conducted on firms from West Africa. Therefore, it is relevant to explore the impact that M&As have on the performances of firms from West Africa by examining whether M&As have positively added to the growth of these firms' profitability and their sizes (total assets base) or M&As have been non-beneficial to them.

3. Methodology

The present study investigates how M&A deals impact the performances of firms from West Africa, particularly on their profitability and sizes, which are proxied by the ROAs and total assets of the firms, respectively. The study examines the firms' performances four years after M&A deal completion and two years before deals were executed. We employ a GMM-based estimator, which provides robust estimates in the presence of arbitrary heteroscedasticity due to its reliance on the orthogonality conditions (Hansen, 2000; Hayashi, 2000).

Proxies for firms' profitability, the return on assets (ROAs) is measured as the ratio of net income to total assets and the proxy for the firms' sizes is the firms' total assets, measured as the total amount of assets owned by a company were employed in this study to measure the impact of M&A transactions on these firms' performances. The use of the above variables is similar to Vo and Doan (2014) and Zeitun and Tian (2014). This study also includes year dummies to highlight the impact of M&A transactions on the firms' performances at least two years before and four years after the M&As were executed. According to Roodman (2009), the inclusion of year dummies increases the dynamic panel GMM estimator validity and eliminates any time-related shocks from the error term. Additionally, we set up

instrument variables to examine M&A's effects on firm profitability and growth in their assets base.

Finally, the study adds other potential control variables to assist inaccurate estimation to the models for this study. In particular, the study controls for financial leverage, free cash flow to the firms, company size (natural logarithm of total assets), and the Tobin's Q of the firms denoting their growth opportunities. Table 1 below presents a description of the variables used in this study.

Table 1. Variable Description

VARIABLE	PREVIOUS STUDIES	FORMULA	NOTATION
ROAs	Nguyen and Tuan Nguyen (2018), Papadakis and Thanos (2010), Bertrand and Betschinger (2012)	$\frac{\text{Net income}}{\text{Total assets}}$	ROAs
Tobin's Q	Adams and Mehran (2008), Bris, Brisley, and Cabolis (2008) and Delcoure and Hunsader (2006)	$\frac{\text{the total Market value of firm}}{\text{total asset value of firm}}$	TOBQ
Free cash flow	Jensen (1986), Brush et al. (2000), Freund et al. (2003), Vo and Doan (2014)	(EBIT x Tax) + Depreciation – Change in working capital – Capital expenses) / (Net sales)	FCF
Debt ratio	Brush et al. (2000), Vo and Doan (2014) Nguyen and Tuan Nguyen, (2018)	Total debts/Total assets	DA
Firm size	Zeitun and Tian (2007), Nguyen and Tuan Nguyen, (2018),	Ln (total assets)	SIZE

Source: Author's construction (2020).

3.1. Model Specifications

To study the impact of M&As on the performance of selected quoted West African firms', the study regresses the dependent variables (profitability measured by returns on assets (ROAs) firms' size measured by total assets) on the year dummies of M&As. Thus, B_6Y_3MA and β_7Y_2MA represent the firms' performances in terms of profitability and growth in total assets two years before the M&A deals. At the same time, β_8Y_1MA, β_9Y_2MA, $\beta_{10}Y_3MA$ $\beta_{11}Y_4MA$ represent the impact of M&As on the firms' performances four years after M&A deals were completed. To control for other potential unobservable influences on the performance of the firms included in this study, the researchers add the following variables: The FCF (free cash flow), DA (debt over assets ratio), SIZE (natural logarithm of total assets), as well as the TOBQ (Tobin's Q). Similar to Park and Jang (2011) and Nguyen and Tuan Nguyen

(2018), therefore, the study employs the difference GMM estimation technique to estimate the dynamic panel regression models specified below:

$$GROA_{i,t} = \beta_0 + \beta_1 ROA_{i,t-1} + \beta_2 LTAs_{i,t-1} + \beta_3 TOBQ_{i,t} + \beta_4 FCF_{i,t} + \beta_5 Debt_{i,t} + \beta_6 Y_2 MA_{i,t} + \beta_7 Y_1 MA_{i,t} + \beta_8 Y_1 MA_{i,t} + \beta_9 Y_2 MA_{i,t} + \beta_{10} Y_3 MA_{i,t} + \beta_{11} Y_4 MA_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$GRTAs_{i,t} = \beta_0 + \beta_1 LTAs_{i,t-1} + \beta_2 ROA_{i,t} + \beta_3 TOBQ_{i,t} + \beta_4 FCF_{i,t} + \beta_5 Debt_{i,t} + \beta_6 Y_2 MA_{i,t} + \beta_7 Y_1 MA_{i,t} + \beta_8 Y_1 MA_{i,t} + \beta_9 Y_2 MA_{i,t} + \beta_{10} Y_3 MA_{i,t} + \beta_{11} Y_4 MA_{i,t} + \varepsilon_{i,t} \quad (2\_$$

3.2. Data

The firm-level dataset for the selected West African firms was obtained from the Bloomberg Terminal spanning 2000 to 2017. The motivation for this study period is that several West African countries have undertaken reforms to encourage firms in these countries to participate in both domestic and international markets for investment and expansion purposes. Another reason hinges on data availability for the selected firms for this study. Annual financial information such as Return on Assets, financial leverage, Tobin's Q, total assets, and total debt are included in the dataset for this study. This financial information for the selected firms was obtained from the following stock exchanges in West Africa: Ghana, Nigeria, BRVM stock exchange (this is a regional security exchange for Mali, Ivory Coast, Senegal, Burkina Faso, Togo, Niger, Guinea Bissau, Benin,). Another reason the selecting the firms was due to data availability. Other deal information such as the payment method (equity, cash, or both), date of the deal announcement, industry sector of the firms were also obtained. Only listed forms were included in the sample. Similar to Liu, Padgett, and Varotto (2017), the study included only nonoverlapping deals. This means that the study excluded all firms that had executed multiple acquisition transactions over the period for the study. A final consideration was given to firms with data spanning at least three years before the M&A transactions and four years after the study. Consequently, the total sample consists of 184 firm-year observations, while 23 M&A cases were analyzed.

4. Results and Discussions

Table 2. Summary Statistics

	LTAs	ROA	FCF	TOBQ	DEBT
Mean	10.364	7.215	10865.50	1.564	17.632
Maximum	15.025	35.857	356711.8	7.722	70.228
Minimum	1.554	-8.681	-412262.4	0.755	0.000
Standard deviation	3.728	8.536	81903.00	1.151	17.586
Observations	179	176	164	177	179

Source: Author's Estimation, 2020.

Table 2 shows the descriptive statistics of the two dependent variables of growth in returns on assets (ROAs) and an increase in total assets (LTAs) and the sampled firms' independent variables between 2000 to 2017 for quoted West African firms. The table shows a maximum of (15.025) and a minimum of (1.554) for the firms' LTAs (total assets), indicating that the firms are of various sizes in terms of their asset base. The table also indicates a low disparity in LTAs and ROA percentages as is indicated by their low standard deviations of (3.728) and (8.536), respectively, compared to their mean values of (10.364) and (7.215). The descriptive statistics further indicate low variation in TOB percentage, as shown by its low standard deviation (1.151) relative to its mean value (1.564). Variation in TOB (Tobin's q), however, is high as indicated by the standard deviation value of (17.586) compared to a mean of (17.632). The FCF shows wide variations, with the minimum being (-12.929) compared to a maximum of (12.785), suggesting that some firms virtually have no free cash reserves available to them.

In contrast, others have significant cash flows in their possessions, possibly for investment purposes. Several West African firms that executed M&As exhibit high differences in their abilities to grow, as shown by the TOB (Tobin’s q) maximum value of (7.722) and a minimum of (0.755). An inspection of the table also shows the firms' high debt levels with a maximum of (70.288) and a minimum of (0.000). This means that several of these firms would potentially finance their acquisition deals using debt and may, therefore, be burdened with the payment of high interests, which could affect the bottom-line earnings per share.

Table 3. Correlation Matrix for the Firms’ Profitability Performance

	ROA (-1)	DEBT	FCF	LTAS (-1)	TOBQ
ROA (-1)	1.000				
DEBT	-0.147	1.000			
FCF	0.147	-0.150	1.000		
LTAS (-1)	-0.169	0.205	0.103	1.000	
TOBQ	0.618	-0.081	0.102	-0.084	1.000

Source: Author's Estimation, 2022.

Table 3 presents the correlation matrix of the response variables and the degree of associations amongst them. From the table above, no significant correlation can be identified among the independent variables except with the lag dependent variable of ROA (-1) and ROA, which is expected. All the other values are low, proving the absence of multicollinearity among the independent variables in this multivariable analysis. The correlation table provides evidence of a negative association between the TOB (Tobin's q) on the one hand and DEBT and the LTAs (total assets) on another. The table also shows a negative relation between LTAs and ROAs. Further, we identify a positive correlation between the FCF, TOB, and ROAs. Lastly, a negative correlation is also identified to exist between the firms' DEBT levels and the returns on their assets (ROAs).

Table 4. Correlation Matrix for Growth in the Firms' Total Assets

	LTAS (-1)	DEBT	FCF	TOBQ	ROA (-1)
LTAS (-1)	1.000				
DEBT	0.205	1.000			
FCF	-0.005	-0.310	1.000		
TOBQ	-0.072	-0.082	0.135	1.000	
ROA (-1)	-0.280	-0.2198	0.217	0.533	1.000

Source: Author's Estimation, 2022, based on data collected.

Table 4 reports the correlation matrix of the independent variables and their degree of association with each other. The correlations are included to check for multicollinearity. From the table above, the highest correlation is 0.995, which is between the LTAS (-1) dependent variable and LTAS, which is very much expected. The rest of the correlation values are generally low, which indicates that multicollinearity is not a problem in this multivariable analysis. The correlation table also provides evidence of a negative association between ROA and the firms' debt levels. The table also shows a negative relationship between LTAS and TOBQ (Tobin's q), measuring the firms' growth abilities. The TOB is also negatively related to the DEBT levels of the firms. FCF to the firms also negatively correlates with LTAs and DEBT but positively correlates with the TOBQ.

4.1. Regression Results and Discussion

The study regressed the dependent variables firms' profitability proxied by return on assets and the firms' size proxied by their total assets respectively on the year dummies. Several other control variables related to profitability and asset growth as contained in the literature are also included. Our dynamic panel model uses the first difference GMM. This has been proven to resolve panel data bias and handles unbalanced panel data analysis. Therefore, our regression results are presented in Table 5.

Table 5. Regression Results

(A) VARIABLE	**(B)** Dynamic panel-data estimation, difference GMM	**(C)** VARIABLE	**(D)** Dynamic panel-data estimation, first difference GMM
	MODEL I GROAi,t (growth in profitability)		MODEL 2 GRLTAs (growth in firm sizes)
ROA (-1) β_1	0. 230*** (0.086)	LTAs (-1) β_1	0.580*** (0.168)
LTAs β_2	-10.913*** (4.676)	ROA β_2	0.012 (0.009)
TOBQ β_3	-2.619 *** (0.639)	TOBQ β_3	-0.146*** (0.067)
FCF β_4	3.55E-06 (3.61E-05)	FCF β_4	-0.006*** (0.002)
DEBT β_5	-0.150 (0.101)	DEBT β_5	0.002 (0.004)
$Yr_{2before}MA$ β_6	-4.633 (3.895)	$Yr_{2before}MA$ β_6	-0.445*** (0.086)
$Yr_{1before}MA$ β_7	-2.393 (2.339)	$Yr_{1before}MA$ β_7	-0.212*** (0.048)
$Yr_{1after}MA$ β_8	2.659*** (1.015)	$Yr_{1after}MA$ β_8	-0.074 (0.080)
$Yr_{2after}MA$ β_9	3.446 *** (0.929)	$Yr_{2after}MA$ β_{49}	-0.001 (0.088)
$Yr_{3after}MA$ β_{10}	3.739*** (1.173)	$Yr_{3after}MA$ β_{10}	0.053 (0.0316)
$Yr_{4after}MA$ β_{11}	2.855* (1.604)	$Yr_{4after}MA$ β_{11}	0.030 (0.126)
AR (2)	0.981	AR (2)	0.139
Hansen J-statistics P-value	0.687	Hansen J-statistics P-value	0.110
Observations	116	Observations	116
Number of Instruments	21	Number of Instruments	21

Notes:* *Significant at the 10% level*, ** *Significant at the 5% level*, and *** *Significant at the 1% level.*
Source: Author's Estimation, 2022.

Table 5 presents the regression results for equations (1) and (2). Column (**B**) shows the regression results for the impact of M&As on the performance of West African firms that executed M&As regarding their profitability. Simultaneously, column (**D**) also shows the impact of M&As on growth in the total assets (which represent their sizes) of the firms. The estimation technique the study employed was the first difference GMM technique. We provide the estimates for the coefficients on top of the standard errors in parenthesis.

AR (2) is used to test autocorrelation, and Hansen's test is used to test instrument over-identification. The empirical performance of the difference estimate GMM in this study is reasonably satisfactory and robust. The second-order serial correlation test AR (2) shows that all estimates have no second-order serial correlation problems since the test statistics AR (2) cannot reject the null value of any serial correlation second-order (p values 0.981 and 0.139 for Model I and Model 2 respectively. The Hansen J statistics test for over-identification shows the null of exogenous instruments is not rejected with p-values of 0.687 (for Model I) and 0.110 (for Model 2).

Model 1 shows that the coefficient β_1 for the lagged value of ROA, which is the measure for profitability, is positive and strongly significant (that is, 0.230, $p< 0.001$), indicating that profitability levels of the firms in the previous years before the M&A transactions have a considerable impact on improving the post-M&A profit levels of firms in the subsequent years. The positive sign means that an increase in the previous year's profitability levels can increase their current year's profit levels.

For Model 2, we find the coefficient β_1 for the lagged value of LTAs (total assets) a proxy for firms' sizes also to be positive and significant (that is, 0.580, $p< 0.001$), implying that previous sizes of these firms in terms of the assets they have substantially have effect in growing these firms further and expand.

The coefficient β_2 is negative and significant (that is, -10.913, $p<0.001$) for Model 1, indicating that the firms may be able to increase their profit levels if they reduce the amount of investment they undertake in growing their total assets, which they could do by redirecting some of the investments in total assets to other areas that have greater potential to grow their businesses quickly like in technology and research and development. For Model 2, which looks at the firms' total assets' growth, the coefficient β_2, representing the firms' ROAs, is positive but insignificant. This means that the amount of returns the firms appear to make on their assets in the form of profit is not substantial enough to grow their sizes significantly.

For coefficient β_3 representing Tobin's q, which is a measure for firms' ability to grow, it was found to be negative and significant for both Model 1 (-2.619, $p<0.001$) and Model 2 (-0146, $p<0.001$). The negative sign attached to Tobin's q coefficient means that West African firms' focus on making more profit at the expense of other

important areas of their businesses to position them well to compete favourably with their peers may affect their overall abilities to grow and expand.

Further, the coefficient β_4 for FCF is positive but insignificant for Model 1, indicating that the free cash flow available to West African firms does not influence the performances in terms of profits they make on their investment activities like M&As. However, the FCF coefficient was negative and significant for Model 2 (that is,

-0.006, $p<0.001$). This implies that, as these firms reduce the amount of FCF they intend to hold as reserves and invest them in projects with positive net present values, they may grow their assets base.

The coefficient β_4 representing the firms' debt levels that executed M &As is negative but significant (that is, -0.150, $p< 0.001$) for Model 1, indicating that increases in firms' debt levels reduce their abilities to perform well in of growing their profit levels. However, the debt levels coefficient was positive but insignificant, indicating that the firms' ability to grow their sizes through expansion in their various total assets does not necessarily depend on the debt levels they hold.

Regarding the influence of the M&A deals on the performances the firms performances in the two years prior and four years post the M&A transactions, which is the main objective of this study, the study finds that;

Firstly, the coefficients β_6 β_7 representing firms' profitability levels two years before the M & A transactions were negative and insignificant for Model 1, indicating low profitability levels for the firms two years before the execution of the deals. However, the coefficients β_8 β_9 β_{10} β_{11} representing profitability levels of the firms four years after the M&A transactions were found to be positive and significant, that is β_8 (2.659, $p<0.001$), β_9 (3.446, $p<0.001$), β_{10} (3.739, $p<0.001$) and β_{11} (2.855, $p<0.01$). This shows that the firms that engaged in M&A transactions over the period of this study experienced growth in their profitability levels four years after these deals compared to two years before these deals were executed.

Secondly, for Model 2 which represents the growth in the firms' total assets, coefficients β_6 (-0.445, $p<0.001$) and β_7 (-0.212, $p<0.001$ were found to be negative but significant for the two years prior to the M&A transactions, suggesting that, total assets levels of the firms were taken into consideration by these firms before they engaged in their various M&A deals even though they were considerably of low sizes. However, results of the coefficients $\beta_8\beta_9\beta_{10}\beta_{11}$ for Model 2 showing the firms' growth in total assets four years after M&A transactions are negative and insignificant, indicating a decline in real growth in the assets base of these firms after the M&A deals.

5. Conclusion

This study investigated the impact of M&A transactions on the profitability levels and sizes of firms from West Africa that engage in M&As. Using an unbalanced panel of 23 listed firms from West Africa over the period 2000- 2017 and the difference GMM methodology, the results of the study show that M&As impact significantly on the performance of West African firms that engage in M&As in terms of growth in their profits. This is evidenced by the four years of persistent improvement in these firms' profit levels that executed M&A transactions compared to the low levels of profits for these firms two years before their M&A deal executions. However, the study finds that M&A transactions by West African firms do not impact the sizes of these firms, as shown by the statistically insignificant coefficient of the firms' total assets for the four years after the M&A deals. This is not different from the growth in these firms' assets two years before executing the M&A transactions. The study recommends that firms desirous of increasing their profit levels may consider pursuing M&As since they could help firms realize appreciable returns on their investments immediately after deal execution.

On the other hand, companies may not realize growth in their total assets in the short run period after mergers and acquisition transactions. The major constraint was data limitation across West African countries. Another challenge was that many of the firms from West Africa appear not listed on their exchanges. As a result, the few listed firms with data available covering the study period were included in the study. Future studies could analyze the post-M&As short-run and long-run performance of West African firms.

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