

Mergers & Acquisition and Firm Performance: Evidence from the Ghana Stock Exchange

Isaac Marfo Oduro^{1*} Samuel Kwaku Agyei²

1. College of Technology Education, University of Education, Winneba, P.O.Box 1277, Kumasi
2. School of Business, University of Cape Coast, University Post Office, Cape Coast – Ghana.

* E-mail of the corresponding author: oduro_marfo@yahoo.co.uk

Abstract

Firm growth, improved efficiency and profitability are among the key benefits sought from mergers and acquisitions (M&A). This study is a modest attempt to seek for the effects M&As on the performance of firms in the Ghanaian Stock Market from 1999 to 2010. The study was accounting based and used univariate analysis with T-testing as well as panel data methodology for the analysis. The univariate analysis revealed dwindling profitability after the merger for all the firms with the t-test showing significant difference in profitability before and after merger. The evidence from panel methodology indicates that M&A has significant negative effect on the profitability of firms. It is therefore imperative that M&As are properly planned, executed and evaluated. Specifically, efforts should be made to attract and retain key personnel of the merged firms through performance contracts or bonuses, proper conflict resolution measures should be put in place and conscious effort made to reap the expected benefits of the merger. This is because gains from mergers and acquisitions do not just occur. Additionally, our results indicate that risk and firm size have significantly negative relationship with firm profitability while debt capital and firm growth enhance firm profitability.

Keywords: Merger and Acquisition, Profitability, Ghana

1. Introduction

Achieving corporate growth can occur through internal or external means. Langford and Male (2001) identified three means of achieving corporate growth and development: internally, where the firm invests its own capital to set-up and operates a new venture. This option is often the primary vehicle of growth; externally through mergers and acquisition (M&A) which is often used where speed is the essence and a combination of internal and external development through contractual agreements. At the corporate level M&A has been identified by most companies as the most favoured non-organic strategy for achieving their growth objectives. Choi and Russel (2004) reinforced the principle that modern businesses seek to grow in order to survive in competitive markets using M&A and it has been identified as one of the most important events in corporate finance, for firms as well as the economy (Fuller, Netter and Stegemoller 2002).

To a large extent firms engage in M&A for gains that can accrue through expenses reduction, increase market power, reduced earnings volatility and scale and scope economies. However a number of studies in many countries have shown inconsistent results. Whilst some have concluded that M&A have synergistic effect, others paradoxically have reported negative effect with others showing mixed or insignificant results.

In Ghana studies on the M&A have been limited and the existing studies such as Gatsi and Agbenu (2006), Gatsi and Nyarkotey (2010), Seidu, (2011) either focused on one company merger deal or based on shorter time-frame or both. The use of a case study reflects only a particular event and the shorter time frame on the other hand undermines the process.

This study seeks to provide further evidence on the impact of M&A on firms' performance in a developing economy-Ghana. The study seeks to add to existing research on M&A and test the generalizability of existing empirical evidence to the Ghanaian market using merger deals in the Ghana Stock Exchange. Given the relatively smaller and emerging Ghanaian market, the results could be different from evidence in other countries. The rest of the paper is organized as follows: section two deals with the literature review; section three discuss the methodology of the study; section four discusses the empirical results and; section five concludes the study.

2. Theoretical and empirical literature

Merger is defined as an arrangement whereby the asset of two companies become vested in or under the control of one company (which may or may not be one of the original two companies), which has all or substantially all, the shareholders of the two companies (Weinberg and Blank 1979). Gaughan (2002) opined that merger is a combination of two companies in which only one company survives and the merged company ceases to exist, whereby the acquiring company assumes the assets and liabilities of the merged company.

Companies adopt M&A as growth strategy for different reasons. Hopkins (1999) classified the motives of M&A suggested in prior studies as four distinct but related motives: strategic, market, economic, and personal motives. Strategic motive is concerned with improving the strength of the firm's strategy, example, creating synergy,

utilizing a firm's core competence, increasing market power, providing the firm with complementary resources, products and strengths. Market motive aims at entering new markets in new areas or countries by acquiring already established firms as the fastest way, or as a way to gain entry without adding additional capacity. Establishing economics of scale is included in economic motive; the agency problem and management hubris are included in personal motives.

Two main theories underpin the various reasons for M&A: value creation theories and redistribution theories (Berkovitch and Narayanan 1993, Frederikslust et al. 2000, and Vijgen 2007). *Value Creation theory* postulates that managers look after the interest of the shareholders since they strive to create surplus value. From an economical point of view, M&A makes sense when there is synergy; the value of the merged part is greater than the sum of the target and bidder alone (Vijgen, 2007). *Redistribution theories of Merger* comprise the hubris and the agency theories. The *hubris* theory supposes that managers are overconfident in their own ability of running a firm. Although they pursue synergy in order to maximize the shareholder value of the firm, the synergy value is not as high as they expect because they suffer from an inflated ego (Frederikslust et al., 2005). Roll (1986), stated that M&A driven by hubris, in most of the cases, have a surplus value but that this value is lower than the takeover premium. *The agency theory* assumes that managers and shareholders have different interests because management and control of a company are separated. Therefore, managers will not always try to maximize shareholder value but act in their self-interest; pursue private benefits. According to Mueller (1989), empire building is a reason for conducting M&A. A big company gives a manager more status and his salary will also increase hence, managers do not strive to maximize the shareholder value of the company but pursue their own goal. Another reason for undertaking M&A is free cash flow. This money could be paid out as dividend to shareholders. However, in the agency theory this money will be used to acquire a company to satisfy the desire of managers.

Many studies have empirically examined the impact of M&A on corporate financial performance. Studies based on analysis of accounting data have attempted to assess the economic impact of M&A by testing for changes in the profitability of the merged firms (Altiok-Yilmaz 2011) and the results are inconsistent.

Some studies reported improved performance after merger event. For example, Ismail et al. (2010) found that some measures of corporate performance, such as profitability, suggest statistical significant gains in the years following M&A. Studies conducted by Lau et al. (2008) which compared pre-merger performance with the post-merger provided some evidence that mergers improve the post-merger operating performance. Ramaswamy and Waegelein (2003) tested the long-term post-merger financial performance of merged companies in Hong Kong and concluded that there is a positive significant improvement in the post-merger performance. Gugler et al. (2003) examined and analyzed the effects of mergers and found that profitability is positive in all five years after mergers and is significant in every year at 10% level. On country level, the results suggest that the U.S., the United Kingdom, Continental Europe, Australia, New Zealand and Canada have the same pattern regarding the increase in profits and decrease in sales. In Japan, the results were somewhat different as three of the five profit comparisons were negative, while sales were greater than projected in two of the five post-merger years.

In contrast to the above, some studies have reported losses after merger event which connote negative effect of merger on performance. Such studies include: Pazarskis et al (2006) reported a decreased profitability of firms due to M&A; Yeh and Hoshino (2002) found insignificant negative change in productivity, significant downward trend in profitability, significant negative effect on the sales growth rate, and downsize in the workforce after mergers and generally concluded that mergers have a negative impact on firm performance; Altiol-Yilmaz (2011) confirming negative impact of mergers on performance found that Return on Asset, Return on Equity and Return on Sales values are significantly lower than pre-acquisition value. Studies such as Hogarty (1978), Ravenscraft and Scherer (1987) and Tambi (2005) also report negative impact of M&A on performance. Other empirical studies have found mixed results. Kumar (2009) concluded that the post-merger profitability, assets turnover and solvency of the acquiring companies, on average, show no improvement when compared with premerger values. King et al. (2004) showed that M&A do not lead to superior financial performance. They argued that M&A has a modest negative effect on long-term financial performance of acquiring firms. Cabanda and Pajara-Pascual, (2007) reported that pre-and post-merger values obtained mixed results. Some measures of corporate performance such as total assets turnover, which measures firms' efficiency, suggest statistically significant gains in the long-run analysis, following M&A. Other performance variables such as net income return on asset (ROA), return on sales (ROS), capital expenditure, capital expenditure/sales (CESA) and capital expenditure/total asset (CETA) did not show significant gains after merger in the short run analysis and thus concluded that merger does not lead to all improved corporate performance both in short-run and long-run period.

This study therefore hopes to determine the effect of M&A on the performance of companies in the Ghana Stock exchange.

3. Methodology

The study was based on listed firms in Ghana. The use of listed firms is primarily due to data availability and reliability. There are five listed companies (Guinness Ghana Brewery limited, Total Petroleum Ghana Limited, AngloGold Ashanti Ghana Limited, SG-SSB Ghana Limited and UT Bank Limited) which underwent Merger or acquisition during the period from 1999 to 2010. Two of these companies (SG-SSB Ghana Limited and UT Bank Limited) are financial institutions. The details of the sample companies, (Acquirer and Target), along with the date of the merger and the name of the company after merger are provided in table 1.

To examine the effect of mergers on performance of listed firms in Ghana, the following hypothesis was tested using both the univariate approach and the panel data methodology.

H₀₁: There is no significant effect of mergers and acquisition on the performance of listed firms in Ghana.

3.1 Using Univariate Approach

Financial information for each firm was grouped into Pre-merger and Post-merger periods and coded as 0 and 1 respectively. To examine the difference in the pre and post-merger financial performance, the study derived descriptive statistics for the individual firms and the group before and after the merger from general model (univariate). Independent sample T-testing was used in comparing statistically the pre and post-merger performance.

3.2 Using Panel Data Approach

Panel data methodology allows for the study of cross section data over several time periods. The combination of time series with cross-sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2004)

The Model

The basic model is written as

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it} \quad (1)$$

Where Y_{it} is the dependent variable (Return on Equity), α is the intercept, β is the slope while X_{it} is the independent variable (Merger). The study also controlled for the effect of the following factors on the performance of companies; capital structure, size, growth and risk. Specifically, the actual effect of M&A on performance and the degree to which merger explains the changes in the financial companies included in the study were determined using regression model below:

$$ROE_{i,t} = \alpha_0 + \beta_1 MGR_{i,t} + \beta_2 TDA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 GRO_{i,t} + \beta_5 RISK_{i,t} + \varepsilon_{it} \quad (2)$$

The variables are defined in Table 2 together with expected signs for the independent and control variables. The study used Statistical Package for Social Sciences (SPSS) and STATA for the data analysis.

4. Discussion of Results

4.1 Univariate Analysis

Tables 3 and 4 show the averages of ROA and ROE of the individual firms before and after the merger event with their respective standard deviations. The results showed that all the companies that were involved in merger on the Ghana Stock Exchange from 1999 to 2010 experienced deterioration in profitability. The average returns on assets and return on equity of all the merged firms reduced with AngloGold obtaining a negative ROA and ROE after the merger event representing operational loss. These results suggest that merger and acquisition is harmful to firm performance.

4.2 Independent Sample Test Results

The results from the evaluation of the relative change in the performance indices of the companies are examined and the results are presented in table 5. The profitability position of firms measured by Return on Asset (ROA) and Return on Equity (ROE) show significant decrease and is significantly different from the pre-merger values. ROA and ROE revealed T-Value of 3.315 (P-Value of .002) and 3.880 (P-Value=.000) respectively. Based on the above, the null hypothesis of no significant difference was rejected at a 95% confidence interval. It is evidenced that pre-merger profitability was significantly higher than the post-merger. These results confirmed the findings from Pazarskis et al (2006), Altıol-Yılmaz (2011), Yeh and Hoshino (2002), Hogarty (1978), Ravenscraft and Scherer (1987) and Tambi (2005) which concluded decreased profitability after merger but however run contrary to findings in Ismail et al. (2010), Ramaswamy and Waegelien (2003), Gugler et al (2003) and Lau et al. (2008) which reported improved performance after merger and acquisition.

4.3 Evidence from Panel Data Methodology

Descriptive Statistics

Table 6 captures the descriptive statistics of the variables used to examine whether M&As have any effect on the profitability of listed firms. Over the 10-year study period the five companies under study recorded an average return on equity of about 22% even though it is apparent that some recorded very huge negative returns. Meanwhile the average risk associated with getting this return was 11.57%. Debt capital covered a greater proportion (about 71%) of the means of financing company assets confirming earlier empirical evidence that

most listed firms in Ghana use more debt as their main source of funding (Abor 2005, Agyei 2011). The average log of total sales was 8.27 while firm growth rate averaged at 32.32% (although, apparently, not all firms under study achieved this height as some recorded as low as -22.59% growth rate)

Correlation and Variance Inflation Analysis

The low levels of pair correlation among the variables explain that the problem of multicollinearity was not significant. This is corroborated by the results of the variance inflation test (1.23). These results have been shown in table 7A and 7B.

Regression Results

This study sought to evaluate the relationship between M&As and the performance of firms on the Ghana Stock Exchange. Our results does not deviate from previous empirical findings which have concluded that M&As have negative effect on the performance of firms but does not offer any support for the fact that M&A increase firm profitability. Our results suggest strongly that M&A's harm the return on equity of the merged firm. Among some of the likely reasons that could account for this include lost of experienced top (middle and lower) executives through voluntary redundancy schemes, lack of proper road map scheme to ensure the effective implementation of the merger or acquisition strategy, inability to cash in fully on the synergies that the M&As bring and improper handling of post merger board room conflicts. Consequently it is imperative for managers of merged or acquired firms to make conscious efforts to reap the benefits of M&As because these benefits do not just occur. Our results also show that M&A is not the only factor that harm merged firm profitability but also firm risk and surprisingly firm size (as measured by the log of total assets). This seems to suggest improper management of firm risk and inefficient use of firm resources. It is not clear as to whether these abysmal performances were influenced by the merger or acquisition as some other studies showed otherwise. These notwithstanding, debt capital and growth of firms are seen as major catalyst for the profitability of merged firms listed on the Ghana Stock Exchange. The heightened discipline of debt use and the additional benefits of sales expansion are beneficial to firms. The results therefore offer support for the capital structure relevance theory.

5. Conclusion

Several benefits are sought from mergers and acquisitions. Prominent of them is an improvement in firm performance. Even though some studies have been done in developed economies same cannot be said of developing countries like Ghana. In Ghana, for instance, M&As have been few just like its studies. No empirical evidence exists on the effect of M&As on the performance of listed merged firms, an objective this study sought to achieve. The univariate analysis revealed dwindling profitability after the merger for all the firms with the t-test showing significant difference in profitability before and after merger. The evidence from panel methodology indicates that M&A has significant negative effect on the profitability of firms. This study therefore does not support the value creation theories of mergers and acquisition. However, firms go into mergers and acquisition for numerous reasons some of which are qualitative. Again, a merger may be effective to deliver the immediate objective but may fail to deliver all the theoretically defined benefits. In effect it would be fallacious to assume, on the basis of this study, that, merger activities are completely detrimental to companies. It is imperative that M&As are properly planned, executed and evaluated. Specifically, efforts should be made to attract and retain key personnel of the merged firms through performance contracts or bonuses, proper conflict resolution measures should be put in place and conscious effort made to reap the expected benefits of the merger. This is because gains from mergers and acquisitions do not just occur. Additionally, our results indicate that risk and firm size have significantly negative relationship with firm profitability while debt capital and firm growth enhance firm profitability.

References

- Abor J., (2005). *The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana* Journal of Risk Finance, Vol. 6(5) pp: 438-445.
- Agyei, S. K., (2010). *Capital Structure and Bank Performance in Ghana*. Lambert Academic Publishing, Germany
- Amihud, Y. and Lev B., (1981). *Risk reduction as a Managerial motive for conglomerate mergers*, Bell Journal of Economics 12, 605-617.
- Ansoff, H. I. and Weston J. F., (1962). *Merger Objectives and Organization Structure*, Quarterly Review of Economics and Business, 2(3), pp. 49-55.
- Ansoff, I., (1965). *Corporate Strategy*. New York: McGraw-Hill, Architectural Management, Vol. 11, No. 1, pp. 65-73.
- Auerbach, A J., (1987). *Corporate Takeovers: Causes and consequences*, The University of Chicago Press, Chicago.
- Bayldon, R., Woods, A. and Zafirir N., (1984). *A note on the 'pyramid' technique of financial ratio analysis of*

- firms' performance*, Journal of Business Finance & Accounting, 11, pp. 99106.
- Berkovitch, E., and Naranayan, M.P., (1993). *Motives for Takeovers: an Empirical investigation*, Journal of Financial and Quantitative Economics 28, 347- 362.
- Bruner, R.F., (2004) *Applied Mergers and Acquisitions*, University of Virginia Publications.
- Cabanda, E. and Pajara-Pascual M., (2007). *Merger in the Philippines: Evidence in the Corporate Performance of William, Gothong, and Aboitiz (WG&A) Shipping Companies*, Journal of Business Case Studies 3(4), pp. 87-100.
- Choi, J. and Russell J., (2004). *Economic Gains around Mergers and Acquisitions in the Construction Industry of the United States of America*, Canadian Journal of Civil Engineering 31 (3), pp. 513- 525.
- Courtis, J. K., (1978). *Modeling Financial Ratios Categorical Framework*, Journal of Business Finance and Accounting, 5, pp. 371-387.
- Damodaran, A., (2001). *Corporate Finance: Theory and Practice*. Second edition. Wiley International. Pp. 834-875.
- Delaney F. T. and Wamuziri S.C. (2004). *The impact of mergers and acquisitions on shareholder wealth in the UK Construction industry*, Engineering, Construction and Architectural Management, 11(1), 65-73.
- Domowitz, I., Hubbert, J.R and Petersen, B., (1986). *Business Cycles and the Relationship between Concentration and Price-Cost Margin*, Rural Journal of Economics, 17, pp. 1-17.
- E Akben-Selcuk, A.A., (2011). *The Impact of Mergers and acquisitions on Acquirer performance: Evidence from Turkey*, Business and Economics Journal, Vol. 2011, BEJ 22
- Feroz, E. H., Kim S. and Raab R., (2005). *Performance Measurement in Corporate Governance: Do Mergers Improve Managerial Performance in the Post Merger Period?* Review of Accounting and Finance 4, pp. 86-101.
- Fuller, K., Netter, J. and Stegemoller, M., (2002). *What do returns to acquiring firms tell us? Evidences from firms that make many acquisitions*, The Journal of Finance, Vol LVII, No 4 August.
- Gatsi, J. G. and Agbenu, D., (2006). *A case of Cross- Boarder merger and acquisition in Ghana*, Center for Finance, School of Business, Economics and law, Goteborg University.
- Gatsi, J. G. and Nyakotey, A., (2010). *Downstream Oil and Gas Merger Performance of Total Ghana Limited*, Social Science Research Network.
- Gaughan, P.A., (2002). *Mergers, Acquisitions and Corporate Restructurings*, 3 Ed. New York: John Wiley & Son.
- Gaughan, P.A., (1996). *Mergers, Acquisitions and Corporate Restructurings*, 3 Ed. New York: John Wiley & Son.
- Gugler, K., Mueller D., Yurtoglu B. and Zulehner, C., (2003). *The Effects of Merger: an International Comparison*, International Journal of Industrial Organization 21, pp. 625-653.
- Gujarati, D. N., (2004). *Basic Econometrics* 4th Ed. McGraw-Hill
- Healy, P., Palepu K. and Ruback, R.S., (1992). *Does Corporate Performance Improve after Merger Success?* Journal of Financial Economics 31, pp. 135-175.
- Ismail, T. H., Abdou, A. A. and Annis, R. M., (2010). *Exploring Improvements of Post-Merger Corporate Performance- the Case of Egypt*, the Icfai University Journal of Business Strategy (forthcoming).
- Ismail, T.H., Abdou, A.A., and Annis, R.M., (2011). *Review of Literature linking Corporate performance to merger and Acquisition*, the Review of Financial and Accounting Studies, Euro Journals Publishing, Inc.
- Jensen, M.C., (1986). *Agency costs of free cash flow, Corporate finance and Takeovers*, American Economic Review 76, 323-329.
- Kaplan, R. S., (1983). *Measuring Manufacturing Performance: A Challenge for Managerial Accounting Research*, The Accounting Review, 58, pp. 686-705.
- Kreitl, G., Urschitz, G. and Oberndorfer, W., (2002). *Corporate growth of engineering consulting firms: a European review*, Construction Management and Economics, Vol. 20, pp. 437-48.
- Kumar, R., (2009). *Post-Merger Corporate Performance: an Indian Perspective*, Management Research News 32 (2), pp. 145-157.
- Langford, D. and Male, S., (2001). *Strategic Management in Construction*, 2nd ed., Blackwell Science, Oxford.
- Lau, B., Proimos, A. and Wright, S., (2008). *Accounting Measures of Operating Performance Outcomes for Australian Mergers*, Journal of Applied Accounting 9 (3), pp. 168-180.
- Lewellen, W., (1971). *A Pure Financial Rationale for the conglomerate merger* Journal of Finance 26, 521-545.
- Luo, T., (2006) *Re-examine the long term post-merger performance of acquirers: UK evidence, unpublished*
- Mantravadi, P. and Reddy, A., (2008). *Relative Size in Mergers and Operating Performance: Indian Experience*, Working Paper Series, available at: www.ssrn.com (accessed March 15, 2008).
- Marimuthu, M., (2008). *Merger and Acquisitions: Some empirical evidence on performance, financial characteristics and firm sustainability*, International Journal of Business and management, Vol.,3 No.,10, pp. 8-15.

- Mueller, Dennis C. (1989). *Mergers: Causes, Effects, and Policies*, International Journal of Industrial Organization 7, 1-10.
- Pawaskar, V., (2001). *Effect of mergers on corporate performance in India*, Vikalpa, Vol. 26 No. 1, pp. 19-32
- Pazarskis, M., Vogiatzoglou, M., Christodoulou, P., and Drogalas, G.,(2006). *Exploring the improvement of corporate performance after Mergers- the case of Greece*, International Research Journal of Finance and Economics, Issue 6, pp. 184-192.
- Prahalad, C.K., and Hamel, G., (1990). *the Core Competence of the Corporation*, Harvard Business Review, 68(3), 79-87.
- Ravenscraft, D. and Scherer, F.M., (1987). *Mergers, Sell Offs and Economic Efficiency*, the Brookings Institute
- Roll, R., (1986). *The Hubris Hypothesis of Corporate Takeovers*, Journal of Business, April.
- Ross, S. A., Westerfield, R and Jaffe, .J., (1999). *Corporate Finance*, 5th edition Chicago: Irwin/McGraw-Hill.
- Scharf, C.A (1971) *Acquisitions, Mergers, Sales and takeovers*, New Jersey: Prentice-Hill Inc.
- Selvam, M. Babu, M., Indhumathi, G., Ebenezer, B., (2009). *Impact of mergers on the corporate performance of acquirer and target companies in India*, Journal of Modern Accounting and Auditing, USA, Vol.5, No.11 Nov. 2009.
- Tambi, M.K., (2005). *Impact of Mergers and amalgamation on the performance of India Companies*, Econ WPA Finance, (0506007)
- Trautwein, F. (1990). *Mergers Motive and merger Prescription*, strategic Management Journal, Vol. 11, No. 4 pp. 283-295
- Van Frederikslust, R. A.I., Leermakers, Werner T.J., Soedito, S. N. and Van D. J., (2003). *Corporate Restructuring of Dutch Companies: An Empirical Analysis EFMA 2003 Helsinki Meetings*. Social Science Research Network:
- Van Frederikslust, R.A.I., Van D.W., and Westdijk, H., (2002). *Effecten van fusies en acquisities op aandelenrendementen: theorie en empirie*, MAB, 264-284.
- Vijgen, D., (2007). *Shareholders wealth effects on mergers and acquisition in the Western part of Continental Europe*, University of Maastricht
- Weignberg and Blank (1979). *Takeovers and mergers* 4 Ed. London: Sweet & Maxwell
- Weston, J. F., Siu, J. A., & Johnson, B. A. (2001). *Takeovers, restructuring and corporate governance* (3rd ed.). US: Prentice Hall.
- Weston, J., Kwang, S and Susan E., (1996). *Mergers, Restructuring and Corporate Control*, 1st Ed., prentice Hall, New Jersey, US.
- Weston, J.F., and Copeland, T. E., (1998). *Managerial Finance*, Cassel Publishers.
- Yeh, T. and Y. Hoshino, (2002). *Productivity and Operating Performance of Japanese Merging Firms: Keiretsu-Related and Independent Mergers*, Japan and the World Economy 14, pp. 347-366.

TABLE 1: LIST OF MERGED FIRM

NO	ACQUIRER COMPANY	TARGET COMPANY	YEAR MGR	OI	NAME AFTER MERGER
1.	Guinness Ghana Co.Limited	Ghana Breweries Limited	2004		Guinness Ghana Breweries Limited
2.	Total Petroleum Ghana	Total Ghana ltd	2006		Total Petroleum Ghana
3.	AngloGold	Ashanti Goldfield	2004		AngloGold Ashanti
4.	Societe Generale	Social Security Bank	2004		SG-SSB
5.	UT Holdings Ltd	BPI Bank	2008		UT Bank

Source: Ghana Stock Exchange

Table 2: Definition of variable and their Expected Signs

Variable	Definition	Expected sign
<i>ROE</i>	Return on Equity (Dependent Variable) = Ratio of Net Profit after tax and Preference Dividend to Equity Fund for firm <i>i</i> in time <i>t</i>	
<i>ROA</i>	Return on Asset= The ratio of Net Profit after tax to Total Assets of Firm <i>i</i> in time <i>t</i>	
<i>MGR</i>	Independent Variable: Merger = Dummy variable. 1 for Post-merger otherwise 0 for Firm <i>i</i> in time <i>t</i>	Negative/Positive
<i>TDA</i>	Control Variable: Leverage = the ratio of Total Debt to Total Net Assets for firm <i>i</i> in time <i>t</i>	Positive
<i>SIZE</i>	Control Variable: Firm Size = The log of Total Assets for firm <i>i</i> in time <i>t</i>	Positive
<i>GRO</i>	Control Variable: Growth= Year on Year change in turnover for firm <i>i</i> in time <i>t</i>	Positive
<i>RISK</i>	Control Variable: Firm Risk=the standard deviation of ROE for firm <i>I</i> in time <i>t</i>	Positive
<i>E</i>	The error term	

Table 3: Descriptive Statistics on ROA

COMPANY	MGR	Mean	Std. Deviation	N
GGBL	Pre-merger	.215682	.0852147	6
	Post-merger	.153152	.0333069	6
TPL	Pre-merger	.154486	.1042602	7
	Post-merger	.102215	.0400303	5
UTBL	Pre-merger	.057948	.0255944	6
	Post-merger	.042799	.0179530	3
SG-SSB	Pre-merger	.094149	.0182744	4
	Post-merger	.049836	.0102709	8
AGAL	Pre-merger	.120889	.0364041	5
	Post-merger	-.020165	.0676483	7

Source: SPSS General model (Univariate) Output

Table 4: Descriptive Statistics on ROE

CODE	MGR	Mean	Std. Deviation	N
GGBL	Pre-merger	.355166	.1233149	6
	Post-merger	.187722	.1469829	6
TPL	Pre-merger	.250562	.2334915	7
	Post-merger	.176259	.0965570	5
UTBL	Pre-merger	.399139	.1778140	6
	Post-merger	.281830	.0770652	3
SG-SSB	Pre-merger	.369075	.0828328	4
	Post-merger	.220869	.0407577	8
AGAL	Pre-merger	.197200	.0450690	5
	Post-merger	-.115915	.1819686	7

Source: SPSS General model (Univariate) Output

Table 5: T- Statistics (Two-Tail) of Financial Indices

VARIABLE	MGR	N	MEAN	STD. DEVIATION	T-VALUES	P-VALUES
ROA	Pre-merger	28	.132293	.0851817	3.315	.002
	Post-merger	29	.062618	.0727697		
ROE	Pre-merger	28	.312217	.1668916	3.880	.000
	Post-merger	29	.131333	.1848423		

Source: SPSS independent sample test output. (Level of significant at 5% level)

Table 6: Descriptive Statistics of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
roe	57	.2201882	.1970674	-.459976	.613941
mgr	57	.5087719	.5043669	0	1
tdass	57	.713994	.1393266	.3397393	.9252385
logasset	57	8.275486	.9266654	6.794697	10.16384
sagrow	52	.3231952	.2962622	-.225884	1.273987
riskroe	57	.1156796	.1091313	.000894	.474526

Table 7A: Correlation Matrix

	roe	mgr	tdass	logasset	sagrow	riskroe
roe	1.0000					
mgr	-0.4629 0.0003	1.0000				
tdass	0.1194 0.3761	0.0396 0.7697	1.0000			
logasset	-0.5960 0.0000	0.5152 0.0000	-0.0302 0.8233	1.0000		
sagrow	0.3335 0.0157	-0.1983 0.1588	-0.0153 0.9145	-0.2453 0.0796	1.0000	
riskroe	-0.2856 0.0313	-0.2464 0.0647	0.0564 0.6769	0.0233 0.8635	-0.0094 0.9474	1.0000

Table 7B: Variance Inflation Test

Variable	VIF	1/VIF
mgr	1.47	0.678260
logasset	1.45	0.688897
riskroe	1.12	0.896813
sagrow	1.07	0.931410
tdass	1.02	0.984762
Mean VIF	1.23	

Table 8: Regression Results

Source	SS	df	MS			
Model	1.23920756	5	.247841513	Number of obs =	52	
Residual	.808804347	46	.017582703	F(5, 46) =	14.10	
Total	2.04801191	51	.040157096	Prob > F =	0.0000	
				R-squared =	0.6051	
				Adj R-squared =	0.5622	
				Root MSE =	.1326	

roe	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
mgr	-.1276947	.0449556	-2.84	0.007	-.2181856	-.0372038
tdass	.3227501	.1389024	2.32	0.025	.0431542	.6023461
logasset	-.0819017	.0248139	-3.30	0.002	-.1318494	-.0319539
sagrow	.12133	.0649398	1.87	0.068	-.009387	.252047
riskroe	-.717075	.180731	-3.97	0.000	-1.080868	-.3532824
_cons	.7739504	.2283124	3.39	0.001	.3143814	1.233519

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

CALL FOR PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

