Bank Mergers and Acquisition and Shareholders’ Wealth Maximization in Nigeria

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Abstract

Banks operating in a regulated environment need to operate within the fiscal, monetary, political and legal regulations; customer tastes, habits and demand; and input supply changes. Changes in these require adjustments in the bank’s operations. Coping with these require finance and instant expansion which are both expensive and difficult. Merger and acquisition has proven an appropriate business, growth and financial strategy with which banks in Nigeria can cope in their dynamic operating business environment improving firm returns, maximizing shareholders’ wealth. Research findings using the paired t-test of data for 2003 and 2009 of dividend/share and earnings/share from the same sample show from the merger and acquisition programme in 2005 made shareholders better-off. This implies the post merger and acquisition desire of bank managements to reward shareholders abundantly. Regression results show that there is a significant positive relationship between changes in naira dividend paid by merged sampled banks between 2009 and 2003 and changes in banks’ capital indicating that changes in dividend received by shareholders from merged banks is highly attributable to changes in banks’ capital bases made possible by the 2005 mergers and acquisitions in the sector, necessitating the maintenance of this dividend trend by banks to retain current shareholders and attract new investors during future increases in banks’ capital base.

JEL classification numbers: G01, G18, G21, G28.

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1 Introduction

Every business has complex involvement with people, groups and organizations in the society. Some are intended and desired; others are unintentional and not desired. The people and organizations with which a business is involved, according to Post et al. (28), have interest in the decisions, actions, and practices of the firm. Customers, suppliers, employees, owners, creditors and local communities are among those affected by the profitability and economic success of the business. These they added, are critical to a firm’s success or failure.

Organizations are set up by entrepreneurs to render services and deliver product output to satisfy societal needs. Satisfaction of societal needs is satisfaction of the operating, business and financial objectives of the organization. The needs of the society, habits, ethics, attitudes and tastes change over time, requiring changes to how the services should be rendered to the society by the organization, the quality of such services, the value for it; the design and quality of products from the organization to the society, transfer of such from the firm to the society; and exchange value for such products. Provisions of these services require the use of labour, raw material inputs, finance to acquire them and remunerate the firm labour force. The characteristics, quality, availability of national education, cost of living, levels of education and social pressures; material inputs whose qualities varies with adulteration, counterfeiting; inflation affecting input prices, import regulations and international trade policies. Organizations operating in a regulated environment need to operate within the fiscal, monetary, political and legal regulations. Policies guiding this change from time to time to which an organization must adjust, to be policy and a law abiding institution.

These changes pose challenges to organizations to which it must adjust to remain in business. They may be opportunities or threats. The organization must thus identify its strengths and weaknesses, harness the opportunities using its strength to cope with these challenges (Koontz et al,20). Sundry attempts to cope with these challenges have in some cases being futile leading to the demise of such organizations.

To cope, separate organizations fuse together as one entity, relying on their combined strengths. These combinations may be in form of mergers, where two firms fuse together to form one entity; or acquisition, where one firm takes over another. These create synergies in the new firm, taking advantage of tax shields, gains from operating synergies due to cost reduction and rationalization. Mergers and acquisition, a growth and financial strategy, according to Grimblatt and Titman (10) became popular in the mid-1960s, starting from USA. Managers then, weighing strategic options for financing, expansion and diversification, mostly settled for mergers and acquisition as the merging or acquired firms are going concerns with high probability of immediate operation, compared to the long gestation period of building a new plant or firm.

Evolving and dynamic business operating environment, unstable monetary and fiscal policies of the Nigeria government, international competition, dearth of quality management, and the increasing need to remain in business, led managers of Nigerian firms to device strategies to cope with these challenges; building competences which is time consuming and expensive to an entity. Optimization of operations of Nigerian firms suggests combination with established firms, to reduce cost and gestation period of investments.

Vertical merger, combination with supplies and customers, according to Chandler (6) increases profit by decreasing costs, and expands productivity through administrative co-
ordination of several operating units. Horizontal integration, combination with firm in the same line of business, according to him, maintains the profits of a firm by controlling the price and output of each of the operating units.

Shelton (31) noted that the need to create value for a firm and shareholders, Nigerian’s inclusive; require strategies that are cost effective, requiring shorter gestation period for reaping returns on investments. Healey et al (12) added that such strategy is bound to increase cash flow returns and asset productivity which can only be caused by mergers.

Dynamic monetary and fiscal policies of the Nigerian government, need for competitive strength against local and international competition, financing strength, high obsolescence and technological growth require the deployment of instant strategies to cope with these challenges. These strategies are only provided by adding the strengths of the organization with a going one i.e. combining with an existing firm through merger or acquisition, creating synergies: capital related, cost of production related and price related synergies Chatterjee (7).

The financing of a takeover is partially determined by its effects on firm overall capital structure. An unlevered firm according to Grimblatt and Titman (10) find it optimal financing takeovers with debt. This changes the firm capital structure in favour of debt. However, an overleveraged firm according to them will find it optimal to use equity to finance takeovers. This it may do either by raising new issues or exchanging stock. The financing strategy for takeovers thus, affects firm’s capital structure.

Tax savings arise under mergers and acquisitions where the acquisitions are funded primarily with debt. The tax gain associated with this leverage-increasing combination- is a financial strategy. Tax advantages also arise when one of the firms in the merger and acquisition had past losses. On the combination of the firms, the losses of the unprofitable firm become valuable tax shields that could be used to offset the tax liabilities of the profitable firm. Availability of these advantages, push firms to merge with or take advantage of the tax effects of the transaction. Fiscal policies create opportunities for organization to use tax advantages of acquired firms. The more such opportunities are available according to Brealey and Myers (5), the more organizations will merge or acquire others to take the opportunity of such advantage.

Monetary and fiscal policy thrusts of the Nigerian government pose threats and opportunities in the Nigeria’s operating business environment. Credit squeeze, capital base requirements and foreign exchange rules bring financial challenges to organizations. To cope, businesses opt for mergers for diversification, expansion and growth purposes, which carry less financial burden and obligation (Grimblatt and Titman, 10). Liberal monetary policies encourage the use of debt financing which favours acquisition by leverage buy-out. The reverse is the case for contrary monetary policies.

Returns to bidders are sometimes positive and sometimes negative, with the average returns varying considerably over time. Findings by Jarrel and Poulsen (15) attributed negative effects on share price of bidder firms to regulations that are disadvantageous to the bidder, and increase competition among bidders for specific target firms. Overbidding they added, is also responsible for negative effects of bidding on share prices of bidder firms. The combined market values of bidder and target firms go up on the average around the time of announcement of the bid (Bradley et al, 4).

Prior to the forced capital growth of banks in Nigeria in 2005, 36 banks in Nigeria collapsed between 1994 and 2003: 4 in 1995, 26 in 1998, 3 in 2000, 2 in 2002 and 1 in 2003 which Gunu (11) attributed to small size, low working capital and unethical practices in the sector. Increase in size to Wheelen and Hunger (35) is achievable through
internal growth (which was not feasible with the Nigerian banks prior to the 2005 Central of Nigeria, CBN, consolidation programme) and growth through external means of merger and acquisition. To prevent frequent bank failures, in 2004 announced the strategic recapitalization reform requiring banks to in size (capital base) which 98% of the banks could not meet individually necessitating mergers with and acquisition of other banks; a merger and acquisition seen by Aregbeyen (2) as government induced. The reform, Ajayi (38) added was to address governance, risk management and operational efficiencies of these banks with attendant growth in earnings to both the banks and providers of bank capital (shareholders).

2 Objective of the Study

The objective of this study is to determine if the wealth of banks’ shareholders were maximized by the mergers and acquisition programme in the banking sector in Nigeria in 2005.

2.1 Hypothesis

The following hypothesis will be tested on the assured relationship between the variables:

H₀: Bank mergers and acquisitions is not beneficial to shareholders of combining banks in Nigeria
H₁: Bank mergers and acquisitions is beneficial to shareholders of combining banks in Nigeria

3 Theoretical Framework and Review of Literature

3.1 Theoretical Framework

This study is hinged on the framework that increased firm capacity and ability (financial) increases firm investment, returns to both the firm and providers of firm capital. Thus increase in bank operational capacity improves cost efficiency, profit efficiency, market control and power, and returns to both the firm-bank and shareholders. The effectiveness of mergers and acquisitions in the banking sector is measured by improvements in these returns to both the banks and its shareholders.

3.2 Bank Mergers and Acquisitions in Nigeria

Mergers are new developments in the Nigerian banking sector though frequent in other sectors of the Nigerian economy. Acquisition in the Nigerian banking sector dates back to 1894 when the British Bank for West Africa (now First Bank Nig plc) acquired the African Banking Corporation. No acquisition was recorded in the sector until 1995 when Union Bank of Nigeria acquired Citi Trust merchant Bank and in 2004 when Standard Trust Bank plc acquired United Bank for Africa. The aim of the latter acquisition was to increase competitive edge, operational capacity and returns to the bank and shareholders. The high volume of mergers and acquisitions in the Nigerian banking sector from 2005 was brought about by the increased capital base requirements for banks in the country by
the Central Bank of Nigeria (CBN). Only Union Bank plc, Zenith Bank plc, UBA, and First Bank plc were able to meet the N25billion capital base requirement individually. Other banks merged their operations to meet this requirement. As much as five existing banks merged to form a new bank.

Though an imperative and a forced merger by policy, the attendant expectations from merged entities: gains to the combined entities, gains to shareholders of the new entity, reduction in operating costs, increased competitive edge, growth and diversification in operation are to be met. The recapitalization (merger and acquisition programme) of banks in Nigeria in 2005 produced 25 banks with improved capital bases, expected synergies, reduced operating costs/bank, improved corporate earnings and returns to shareholders, competitive ability and diversified operations with its gains.

New banks from the exercise were Access Bank plc (a combination of Access Bank, Capital bank and Marina International Bank), Afribank plc (a combination Afribank International Merchant Bankers, lead Bank, Afribank plc and Assurance Bank), Citi Bank plc (from Nigeria International Bank), Diamond Bank plc (a combination African International bank, Diamond Bank, and Lion Bank), Eko Bank plc (from Ecobank and later All States Trust Bank), ETB (a combination of Devcom Bank and Equitorial Trust Bank), FCMB plc (a combination of Co-operative Development Bank, Nigeria-American Bank, Midas Merchant Bank and First City Monument Bank), Fidelity Bank plc (a combination of FSB International Bank, Manny Bank and Fidelity Bank), First Bank Ng plc (a combination of First Bank Ng plc, FBN Merchant Bankers and MBC International), First-Inland Bank later called FIN Bank plc (a combination of First Atlantic Bank, Inland Bank, IMB Bank, NUB International Bank), GTB plc (from Guarantee Trust Bank), IBTC Chartered Bank plc (a combination of Regent Bank, Chartered Bank and IBTC), Intercontinental Bank plc (a combination of Intercontinental Bank, Gateway Bank, Equity Bank and Global Bank), Oceanic Bank plc (a combination of Oceanic Bank and International Trust Bank), Bank PHB (a combination of Habib Bank and Platinum Bank), Skye Bank plc (a combination of prudent Bank, Bond Bank, EIB International Bank, Co-operative Bank and Reliance Bank), Spring Bank plc (a combination of Omega Bank, Citizens Bank, African Continental Bank, Guardian Express Bank, Trans International Bank and Fountain Trust Bank), Stanbic Bank plc (from Stanbic Bank), Sterling Bank plc (a combination of Trust Bank, Indo-Nigerian Bank, NBM Bank, NAL Merchant Bank and Magnum Trust Bank), Standard Chartered Bank plc (from Standard Chartered Bank), UBA plc (a combination of UBA and Continental Trust Bank), Union Bank plc (a combination of Broad Bank, Union Bank of Nigeria, Union Merchant bank and Universal Trust Bank), Unity Bank plc (a combination of Intercity Bank, Bank of the North, Interstate Bank, New Africa Bank, Centre-Point Merchant Bank, Societe Bancaire, Pacific Bank, Tropical Commercial Bank and New Nigeria Bank), Wema Bank plc (a combination of Wema Bank and National Bank), and Zenith Bank plc (from Zenith Bank). Subsequently, Stanbic bank plc merged with IBTC Chartered Bank plc to form StanbicIBTC Bank plc with expected improvements in earnings to the bank and shareholders.

Comparatively, Akhavien et al (1) observed a 15% average increase in profit efficiency of the merged banks in the United States of America. Continuing, Pillof and Santomero (27) and Furlong (39) noted that this is enhanced by the elimination of redundant facilities and processes of the combining banks. Increase in capital bases of banks have been known to reduce insolvency risks through asset diversification (Shih, 40). Findings by Yuce and Ng (37) showed that both the target and acquiring firms’ shareholders earn significantly
positive abnormal return for combined operations in Canada; though Yeh and Hoshino (36) observed an insignificant negative change in productivity, profit and sales growth rate. From a macro view, Somoye (34) concluded that a sound bank merging with an unsound bank improves the long run effectiveness of the banking sector. In India, Indhumathi et al (13) observed that mergers and acquisitions were not successfully used to improve the activity and profitability of the concerned firms. In kolo’s (19) view, Nigeria’s capital base reforms in the banking sector should enthrone good corporate governance structures in these banks with expansion offshore bringing growth in returns to shareholders.

Empirical evidences are for and against the income growth argument from mergers and acquisition in the banking industry. To Berger et al (3), mergers and acquisitions do not improve bank performance and efficiency. Countering, Berger and Mester (41), Allen and Rai (42) and Molyneux et al (43) in Aregbeyen (2) and Berger and Humphrey (44) concluded that there are substantial potentials for improvements in bank efficiencies from mergers and acquisitions which Berger et al (3) attribute to technological progress and improved regulatory supervision.

3.3 Empirical Evidences of Gains from Mergers and Acquisitions

Operating synergies are generated from mergers and acquisitions when the uniting firms’ merger improve productivity, cut costs, so that the unlevered cash flows of the combined firms exceed the combined unlevered cash flows of the additional firms. This according to Grinblatt and Titman (10), suggest that a target firm providing such synergies is worth more to a potential acquirer than it is worth operating as an independent company.

Vertical merger, a merger between a supplier and a customer, brings synergy through the elimination of various co-ordination and bargaining problems between the supplier and the customer. The gains from a horizontal merger, a merger between competitors, are reduction in competition in the products market, as well as savings that occur when operations and facilities are combined and unused facilitates eliminated.

Additional operating synergies arise when the merger firm can benefit from the ability to transfer resources from one division to another. Though empirical evidences, according to Gimblatt and Titman (10) abound showing large operating synergies, they added that such in difficult to measure empirically.

Studies on leverage buyout (LBOs) have examined the premium offered in LBOs as well as the stock returns when the LBO transactions are first announced. These studies found that the average price paid in an LBO was 40% to 60% above the market price of the stocks one to two months before the offers. At the time of announcement of these offers, the studies revealed that stock prices of these firms increased by about 20% on average.

Lehn and Poulsen (22) found that higher premiums were offered for firms with high cash flows, relatively low growth opportunities and high tax liabilities relative to their equity values. The higher premiums for the high cash flow/low growth firms support the idea that there are larger gains associated with leveraging up firms with these characteristics. For example, leverage reduces their tendency to over invest. Theoretical relationship between tax liabilities and these premiums, suggests that part of the tax gain from the LBO transaction is passed along to the original shareholders.

Further studies reveal that presence of competing bids also affects the premium offered in LBOs. In his study of 28 LBO’s, Lowenstein (24) found out that those with less than three competing bids received average premium of 50%; while those with more than three
competing bids received an average premium of 69%. In Akhavien et al (1) observation merged banks recorded a 15% average increase in profit efficiency of the merged banks in the United States of America which Pillof and Santomero (27) and Furlong (39) attributed to the elimination of redundant facilities and processes of the combining banks. To Shih (40), increase in capital bases of banks has been known to reduce insolvency risks through asset diversification. Findings by Yuce and Ng (37) showed that both the target and acquiring firms’ shareholders earn significantly positive abnormal return for combined operations in Canada; though Yeh and Hoshino (36) observed an insignificant negative change in productivity, profit and sales growth rate in Japan. From a macro view, Somoye (34) concluded that a sound bank merging with an unsound bank improves the long run effectiveness of the banking sector. In India, Indhumathi et al (13) observed that mergers and acquisitions were not successfully used to improve the activity and profitability of the concerned firms.

Studies on operating changes following LBOs by Kaplan (17), found that from 1980 to 1986, cash flows increased on the average by 20.1% following an LBO. Opler (26), found an average improvement in cash flows of only 8.8% for LBOs initiated between 1986 and 1989. He attributed the decline to the rush in later years to the success of 1986 to 1989; leading firms to buying out firms with less potential for improvement. Further studies on this suggest that LBOs occurring in later years were priced higher and were more highly leveraged, leading to much higher default rates on LBO debt. Kaplan and Stein (18) found that none of the 24 LBOs studied between 1980 and 1983, defaulted on their debts. However, defaults claimed 46.7% of the LBOs initiated in 1986; 30% of those initiated in 1987; 16.1% of those initiated in 1988; and 20% of those initiated in 1989. Despite these high default rates, these firms according to them still showed improvements in productivity; though productivity gains were not sufficient to justify the high prices. The firms also did not generate sufficient cash flows to pay off the high levels of debt incurred in the LBO. In their study of post-LBO increase in productivity, Lichtenberg and Siegel (23) concluded that LBO improves productivity and reduced excess overhead. In addition, Smith (33) found strong evidence that working capital is reduced after LBO. These studies reveal that LBO comes with attendant benefits; and if the pre and post LBO periods are not properly managed, may lead to failure in debt payment and eventual bankruptcy. Healy et al (12) from their study of fifty large mergers found improvements in both sales and profits of the combined firms after the mergers.

Documented empirical studies reveal that gains from mergers and acquisitions, depend in part on whether the diversification helps or hurts a firm values. Lang and Stulz (21) and Berger and Ofek (3) found that the market places lower values on more diversified firms. Comment and Jarrel (8) found from their study of American firms, that the firms destroy value of their firms when they diversify, and create value when they sell off divisions and become more focused. Servaes (3) from his study, found that the market’s attitude towards diversification depend on the period covered by study. Denis et al (9), from their study, found that the tendency of firms to diversify is related to ownership structures: firms managed by individuals who own a high percentage of the shares are usually less diversified. These findings support the idea that diversification discounts, reflect the tendency to diversify for managerial benefits when there are insufficient incentives to maximize share value.

Morck et al (25) on their part provided evidence consistent with the change in attitudes about diversification. Their study related the stock returns of bidders around the
announcement dates of the acquisition bids to characteristics of both the bidder and the target, taking cognizance of the extent to which the firms are in related types of business. Their findings reveals that bidder stock returns for diversifying acquisitions were lower, when there exists a negative correlation between the stock prices of the two firms. For non-diversifying acquisitions, bidder stock returns were high.

3.4 Sample Size Determination

The study is based on a sample size of six commercial banks from 21 on the commercial banks in Nigeria, i.e. 27.3% of the study population. Kerjecie and Morgan (1970) in Amadi (45) posited that a sample size of 5% of a population is accepted for generalization. With a population of 21 commercial banks, 5% of it is 1.05. Therefore a sample of 6 quoted banks meets the required sample size criteria and thus the research results can be generalized.

3.5 Data Description

Dividend per share (DPS) data for the six sampled banks for 2003 (before merger and acquisition programme in 2005) and 2009 (after the merger and acquisition programme) each were used for this study. The DPS data for 2003 were the weighted average each of the combined bank groups during the merger and acquisition (recapitalization) programme (Grimblatt and Titman, 2002); obtained using the model:

$$\text{Pre-merger and acquisition DPS of combining banks in a combined bank group} = \frac{\sum \left( \frac{\text{share capital of bank } A (DPS_A)}{\text{Total share capital of combining banks in the group}} + \frac{\text{share capital of bank } B (DPS_B)}{\text{Total share capital of combining banks in the group}} + \ldots \frac{\text{share capital of bank } N (DPS_N)}{\text{Total share capital of combining banks in the group}} \right)}{\text{Total share capital of combining banks in the group}}$$

The total of the ratios of each combining bank’s share capital to the total of all the combining banks in the group into the pre-merger and acquisition EPS of that bank, and the total of the ratios of each combining bank’s share capital to the total of all the combining banks in the group into the pre-merger and acquisition DPS of that bank reflect the pre-merger and acquisition DPS of each bank in the merger data for comparison with the post merger and acquisition for 2009 for the matched paired sample t-test analysis (in figures 1). DPS measures the gains to shareholders before (2003) and after (2009) the merger and acquisition. Only mergers and acquisitions in which the combined firms were public limited liability companies are brought under study because of the public availability of their financial indices. The DPS of the sampled banks for 2003 and 2009 are shown in figures 1 below:
Figure 1: Dividend per share (DPS) in N of sampled banks in 2003 and 2009

Source: CITC Capital market annual, 2005 and sampled banks’ annual reports 2009.

Table 1 presents the total dividend paid by each bank, total ordinary share capital and share premium, earnings and cash available in each bank in 2003 and 2009 with corresponding changes in these values between 2003 and 2009.
<table>
<thead>
<tr>
<th>Bank</th>
<th>Capital N’000 2009</th>
<th>Capital N’000 2003</th>
<th>Change in capital N’000</th>
<th>Earnings N’000 2009</th>
<th>Earnings N’000 2003</th>
<th>Change in earnings N’000</th>
<th>Cash N’000 2009</th>
<th>Cash N’000 2003</th>
<th>Change in cash N’000</th>
<th>Dividend N’000 2009</th>
<th>Dividend N’000 2003</th>
<th>Change in dividend N’000</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBA Plc</td>
<td>124,432,000</td>
<td>1,275,000</td>
<td>123,157,000</td>
<td>15,931,200</td>
<td>3,280,000</td>
<td>12,631,200</td>
<td>31,177,500</td>
<td>92,999,000</td>
<td>(61,821,500)</td>
<td>12,934,000</td>
<td>7,060,000</td>
<td>5,874,000</td>
</tr>
<tr>
<td>Sterling Bank Plc</td>
<td>23,871,987</td>
<td>1,873,254</td>
<td>21,998,733</td>
<td>(6,660,410)</td>
<td>176,845</td>
<td>(6,837,255)</td>
<td>8,573,234</td>
<td>4,430,560</td>
<td>4,142,674</td>
<td>1,005,047</td>
<td>20,904</td>
<td>984,143</td>
</tr>
<tr>
<td>First Bank Plc</td>
<td>269,028,000</td>
<td>1,270,000</td>
<td>267,758,000</td>
<td>35,074,000</td>
<td>110,010,000</td>
<td>(74,935,000)</td>
<td>67,576,000</td>
<td>206,736,000</td>
<td>(139,160,000)</td>
<td>2,902,000</td>
<td>3,811,000</td>
<td>(909,000)</td>
</tr>
<tr>
<td>Ecobank Plc</td>
<td>129,289,386</td>
<td>10,345,307.3</td>
<td>118,944,079</td>
<td>26,978,834</td>
<td>3,908,483</td>
<td>23,070,357</td>
<td>134,389,805</td>
<td>49,747,009</td>
<td>84,642,796</td>
<td>2,607,500</td>
<td>3,139,000</td>
<td>(531,500)</td>
</tr>
<tr>
<td>Diamond Bank Plc</td>
<td>96,866,946</td>
<td>1,081,575</td>
<td>95,785,371</td>
<td>6,931,127</td>
<td>345,849</td>
<td>6,585,278</td>
<td>50,223,343</td>
<td>34,401,021</td>
<td>15,822,322</td>
<td>163,563</td>
<td>205,500</td>
<td>(41,937)</td>
</tr>
<tr>
<td>Access Bank Plc</td>
<td>154,553,963</td>
<td>1,829,536</td>
<td>152,724,427</td>
<td>22,885,794</td>
<td>556,573</td>
<td>22,329,221</td>
<td>135,323,258</td>
<td>7,682,782</td>
<td>127,640,476</td>
<td>10,492,625.7</td>
<td>135,000</td>
<td>10,357,625.7</td>
</tr>
</tbody>
</table>

Source: Annual Reports of sampled banks in 2009 and 2003
3.6 Data Analysis

The paired t-test is used in analyzing the pre and post merger and acquisition DPS of the sampled banks to determine whether the shareholders of the sampled merged and acquired banks were better off in 2009 (post merger and acquisition period) than in 2003 (pre-merger and acquisition period). If the values from the two matched samples are denoted Xᵢ for 2003 data and Yᵢ for 2009 data, and the differences by Dᵢ = (Dᵢ = Xᵢ - Yᵢ), then the mean of the differences

\[ \bar{D} = \frac{\sum D_i}{n} \]

and the variance of the differences

\[ \sigma^2_{\text{diff}} = \frac{\sum D^2_i - (\bar{D})^2}{n-1} \].

The t-test statistic is therefore

\[ t = \frac{(\bar{D} - 0)}{\sigma^2_{\text{diff}}/\sqrt{n}} \]

with (n-1) degrees of freedom for test for differences between paired EPS and DPS for sampled banks’ 2003 and 2009 obtained data.

3.7 Test of Hypothesis

Table 2: Dᵢ and Dᵢ²DPS of merged and acquired banks in 2003 and 2009 (prepared from figure 1)

<table>
<thead>
<tr>
<th>Banks</th>
<th>UBA</th>
<th>Access</th>
<th>Diamond</th>
<th>Ecobank</th>
<th>First Bank</th>
<th>Sterling</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dᵢ</td>
<td>-0.77</td>
<td>-0.55</td>
<td>-0.25</td>
<td>-0.18</td>
<td>0.2</td>
<td>-0.05</td>
<td>1.6</td>
</tr>
<tr>
<td>Dᵢ²</td>
<td>0.593</td>
<td>0.303</td>
<td>0.0625</td>
<td>0.0324</td>
<td>0.04</td>
<td>0.0025</td>
<td>1.0334</td>
</tr>
</tbody>
</table>

Using the data from table 2, \( D = \sum D_i/n = 0.266 \);

\[ \sigma^2_{\text{diff}} = \sum D^2_i - (\bar{D})^2/n-1 = 0.1218 \].

Cal \( t = (\bar{D} - 0)/ (\sigma^2_{\text{diff}}/\sqrt{6} = 0.266/0.2984 = 0.891 \)

Degrees of freedom n-1 = 6-1 = 5. As hypothesis 2 is one-sided, we apply a one-tail test for determining the rejection region at 5% level = 0.372. The observed value of Cal \( t = 0.891 \) fall in the rejection and thus we reject \( H_0 \) and accept \( H_1 \) i.e. banks’ 2005 mergers and acquisition programme was beneficial to providers of bank capital (shareholders).

To determine the rate of change in these benefits to shareholders from improved capital bases of banks, we regress changes in dividend paid by sampled banks between 2003 and 2009 on identified determinants: capital (share capital and share premium), earnings and cash availability between 2003 and 2009 (in table 1) using the model:

\[ \Delta DIV = a + \beta_1 \Delta CAP + \beta_2 \Delta ENGS + \beta_3 \Delta CSH + \epsilon \]

where: \( \Delta DIV = \) naira change in dividend between 2003 and 2009
\( \Delta CAP = \) naira change in capital between 2003 and 2009
\( \Delta ENGS = \) naira change in earnings between 2003 and 2009
\( \Delta CSH = \) naira change in cash between 2003 and 2009

The regression results (table 3) show that:

\[ \Delta DIV = -892.839 + 0.546 \Delta CAP + 0.805 \Delta ENGS - 0.064 \Delta CSH + \epsilon \]
Table 3: Unstandardized coefficients of independent variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant) -892.839</td>
<td>58.765</td>
<td>-.152</td>
</tr>
<tr>
<td></td>
<td>ΔCAP .546</td>
<td>.050</td>
<td>.610</td>
</tr>
<tr>
<td></td>
<td>ΔENGS .805</td>
<td>.090</td>
<td>1.096</td>
</tr>
<tr>
<td></td>
<td>ΔCSH -.064</td>
<td>.042</td>
<td>-.087</td>
</tr>
</tbody>
</table>

Dependent Variable: ΔDIV

4 Discussion of Findings, Conclusions and Recommendations

Durbin-Watson result: This was found to be within the normal region which falls within the determinate region of the study (i.e. 1.5 < DW<2.5, in table 5 in appendix) and imply that there is a negative order serial correlation among the explanatory variables. Regression result: The regression equation well explains the variations in changes in dividends paid by banks as $R^2 = 0.705$. Results in table 3 attribute the positive changes in naira dividend payments to significant positive changes in the capital bases of the sampled banks.

Research findings show that banks shareholders were better-off from the merger and acquisition programme in 2005 to meet banks’ capital base requirements of the Central Bank of Nigeria as dividends received by shareholders in 2009 were higher than dividends received in 2003. This implies the post merger and acquisition desire of bank managements to reward shareholders abundantly. The high reward to providers of capital to the banks (shareholders) also implies a pre-merger and acquisition agreement by the management with the shareholders to increase returns to shareholders in return for their support for management’s then proposed merger and acquisition programme. This findings support results of Indhumahi et al (2011) of mergers and acquisitions in India.

The positive effect on changes in dividend by changes in banks’ capital base necessitates the maintenance of this dividend trend by banks to retain shareholders and attract new investors during future increases in banks’ capital base, requiring the strict use of combined capital for improving returns, exploiting available synergies in merged/consolidated banks; and diversification of combined banks’ operations in Nigeria and overseas to improve bank earnings and returns to shareholders. Bank combinations should preferably be through mergers and non-leverage acquisitions to reduce debt interest impacts on post merger earnings, boosting returns to both the banks and shareholders. Stable banks should acquire loss making banks to reduce post merger and acquisition tax liabilities of the combined entities, reducing cash flows, increasing investment abilities of the banks, increasing earnings to both the banks and shareholders. Acquisition premiums for banks should be low to reduce acquisition burden on acquiring banks, increasing profitability and returns to both the firm-banks and the shareholders.

The regulatory agency in the monetary sector: the Central Bank of Nigeria, should demonstrate courage to instill transparency in future recapitalization code of conduct, supervise and control the banks to ensure the effectiveness of recapitalization policy.
initiatives, and institute policy framework to improve banks’ management quality and security to reduce fraudulent and sharp practices in the banking sector, improving post merger and acquisition returns to shareholders.

References


### Appendix

#### Table 4: ANOVA table

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>78519959.867</td>
<td>3</td>
<td>32839986.622</td>
<td>.021</td>
<td>.005</td>
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<tr>
<td>Residual</td>
<td>24085868.435</td>
<td>2</td>
<td>12042934.218</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>102605828.303</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a  Predictors: (Constant), $\Delta$CSH, $\Delta$ENGS, $\Delta$CAP
b  Dependent Variable: $\Delta$DIV

#### Table 5: R2 and Durbin Watson values

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.813(a)</td>
<td>.705</td>
<td>.811</td>
<td>6.647</td>
<td>.705</td>
<td>.012</td>
</tr>
</tbody>
</table>

a  Predictors: (Constant), $\Delta$CSH, $\Delta$ENGS, $\Delta$CAP
b  Dependent Variable: $\Delta$DIV