Consolidation and Business Valuation of Nigeria Banks: What Consequence on Liquidity Level?

Kenneth Enoch Okpala
Department of Financial Studies (Accounting),
Redeemer's University, Nigeria

Abstract

Inadequate capital and low liquidity level in recent times within the banking sector has created room for financial crises negatively affecting investments and limiting banks' ability to finance transactions that requires huge investment outlay especially in multinational arena. This study investigated the association between consolidation and business valuation and their effect on capital and liquidity level of banks in Nigeria. The population of the study consists of twenty-two (22) banks with randomly selected staff strength of 220 who are independent of age and sex. Data were collected through structured questionnaire and analyzed. Person product moment correlation "r" was employed to validate the research questions and hypotheses of the study. Results revealed that consolidation exercise increased bank capital without liquidity due business valuation methods used. The result obtained confirmed that there is significant positive association between consolidation and business valuation but could not influenced liquidity. This is contrary to the already established banks risk absorption hypothesis and risk-transformation role that stated which that higher capital enhances banks' ability to create liquidity. The study concluded that consolidation did not positively influenced liquidity level in Nigeria banks.

Keywords: Bank consolidation, Business valuation, Business combination, Fair value measurement, Capital adequacy, Bank liquidity level

1.0 Introduction

Apart from financial distress and corporate failures in recent times within the banking sector, globalization has also led to the financial crises across the world which is made manifest by inability of many banks to finance multinational transactions that requires huge amount of money due to insufficient capital and low level of liquidity (Inoukhude, 2003). According to Inoukhude (2003), financial globalization which gave birth to integration of a country's local financial system and international financial markets and institutions, has led to various forms of consolidation as a reaction to the phenomenon. The complexity and distinctiveness of these transactions have forced so many countries to restructure their financial system to mitigate the problems of shortage of funds. Therefore, the process of bank consolidations in Nigeria is in response to the wave of consolidations spreading across the globe (Nuraddeen, 2011). Bank consolidation is one of the policies introduced by several countries monetary authorities to resolve mainly the problem of capital shortage and other issues such as inefficiency, technological deficiency, poor management and profitability problem. In Nigerian, consolidation policy of Banks was introduced in 2004 which made it mandatory for banks to raise their equity capital base from minimum of =N=2billion to =N= 25billion. The exercise was achieved through recapitalization strategy and the vehicles used include: private placement, public offer or mergers and acquisitions.

At the end of the consolidated exercise, eighty nine (89) banks were compressed into twenty five (25) out of which twenty one (21) banks emerged from merger and acquisition (Akpan, 2007). The exercise has become an ongoing and currently three more banks were absorbed by the process bringing the total number of banks within the country to twenty two (22) as at June, 2013 (Okpala & Olagunju, 2013). Financial experts supported the strategy on the ground that it would primarily strengthen banks financial capacity, enhance liquidity level and also lead to increase financial `activities (Garba, 2004). This may by multiplier effect results in more financially vibrant economy that boosts and sustains the productive sector, increases GDP and improves standard of living (Okpala, 2013 forthcoming). The consolidation of Nigeria banks as the name suggest is a strategy that encourages concentration of individual small banks with inadequate capital and diverse managerial culture for efficiency, strengthen financially weak banks for effectiveness, check against bank distress and organizational failure (Okpala, 2013 forthcoming).

1.1 Statement of Problem and Research Hypotheses

The issue in this research paper is based on the multiple business valuation methods adopted during the consolidation exercise which include: adjusted book value, capitalized adjusted earnings, discounted future earnings, cash flow method and gross revenue multiplier. The result of each method will definitely produce a different outcome even when the same data were used (Akinsulire, 2010). The choice of method is a matter of organizational policy and since no method was recommended by the regulatory authorities, most banks capitalized on this weakness and choose the method that gave higher business values. This action resulted in many unethical practices which led to overvaluation of various banks. The strategy implementation which aimed at increasing the minimum equity capital base and the level of banks' liquidity to boost local and international intermediation, created an imbalance between capital and liquidity level through business valuation. Business valuation conducted achieved only capital improvement which seems to exist only on paper with a corresponding increase in general reverse but without enough liquid assets thereby defeating goal that gave rise to the programme. This action may be responsible for the reason why many Nigeria banks rushed to the capital market to raise fund immediately after the consolidation program instead of planning how to use the envisaged huge sum from the exercise. These perceptions are yet to be tested and documented as there is little or no study conducted in this direction, hence this research paper.

1.2 Research objective and hypotheses

The principal objective of this study is to probe the association between bank consolidation and business valuation in Nigeria and the subsidiary goal is to examine the influence of business valuation on the liquidity level of banks. The questions raised to enable the researcher address these issues are: (i) what level of relationship exists between consolidation and business valuation in Nigeria banks? (ii) to what extent did business valuation influenced liquidity level of banks in Nigeria? The research hypotheses formulated are $\mathbf{H_{01:}}$ Bank consolidation has no significant relationship with business valuation in Nigeria banks $\mathbf{H_{02:}}$ Business valuation conducted during consolidation had no significant effect on liquidity level in Nigeria.

1.3 Foundation and significance of the study

The basis of this study is to investigate the association between the implemented consolidation exercise and business valuation methods with its attendant implication on the level of liquidity of banks in Nigeria. Various empirical studies examined issues relating to liquidity level and creation but in most cases did not center on the role of capital. Some of the studies captured includes: (i) Peek and Rosengren (1995) opined that credit crunch literature tests hypotheses about bank capital and one type of liquidity creation, usually business lending or real estate lending, during the early 1990s when bank lending declined significantly. Several studies revealed that the decline in bank capital ratios emanates from loan losses in the late 1980s and early 1990s contributed significantly to the reduction in lending. (ii) Kashyap, Rajan, and Stein (2002) provided empirical evidence of synergies between commitment lending and deposits. Consistent with their model is that of Gatev, Schuermann, and Strahan (2005). (iii) Pennacchi (2006) confirms the existence of synergies between loan commitments and deposit taking, but states that such synergies do not hold prior to the creation of FDIC deposit insurance - NDIC in Nigeria. (iv) Gatev and Strahan (2006) stated that banks have a comparative advantage in hedging liquidity risk in the economy because banks experience deposit inflows following a market crisis or liquidity shock that allow them to have more funds to provide additional loans drawn down under commitments at such times. The above studies did not focus on the role of bank capital, except in some cases where capital ratios in regressions of some liquidity creation components, yielding ambiguous predictions relating to the effect of capital on liquidity creation. It therefore means that this study is utmost important to harmonize and document the relationship between capital and banks liquidity level in Nigeria.

2.0 Literature Review

2.1 Theoretical underpinning

Bank capital holding argument states that the primary reason why banks hold capital is to absorb risk which includes the risk of liquidity crunches, protection against bank runs and credit risk which is motivated by their risk transformation role. Extant theories advocates that bank capital may also affect banks' ability to create liquidity. The following two theories were considered in this study: (i) **Financial fragility-crowding out hypothesis -** This theory produced opposing predictions on the link between capital and liquidity creation (Berger & Bouwman,

2007). It predicted that higher capital reduces liquidity creation. Diamond and Rajan (2000, 2001) focused on this theory and model a relationship bank that raises funds from investors to provide financing to entrepreneurs. The entrepreneur may withhold effort, which reduces the amount of bank liquidity level and financing attainable and the bank may also withhold effort, which limits the bank's ability to raise financing. An exception to this theory is the bank deposit contract which mitigates the bank's holdup problem because depositors can run on the bank if the bank threatens to withhold effort and therefore maximizes liquidity creation. Providers of capital cannot run on the bank, which limits their willingness to provide funds and hence reduces liquidity level and creation. The negative effect of capital on liquidity creation as suggested by Diamond and Rajan (2001) depends significantly on deposit insurance coverage being incomplete. The completion of deposit insurance will provide no incentive for depositors to run on the bank and a deposit contract will not alleviate the bank's holdup problem. Gorton and Winton (2000) show how a higher capital ratio may reduce liquidity creation through the crowding out of deposits. They argue that deposits are more effective liquidity hedges for investors than investments in equity capital. Thus, higher capital ratios shift investors' funds from relatively liquid deposits to relatively illiquid bank capital, reducing overall liquidity for investments. (ii) **Risk absorption hypothesis -** This is directly connected to the risk-transformation role of banks which states that higher capital enhances banks ability to create liquidity. This theory is based on two filaments of the literature. One strand consists of papers which argued that liquidity creation exposes banks to risk (Diamond and Dybvig 1983, Allen and Santomero 1998, Allen and Gale 2004). It means that the more liquidity that is created the greater the probability and severity of losses associated with having to dispose of illiquid assets to meet the liquidity demands of customers. The second strand consists of papers which assumed that bank capital absorbs risk and expands banks' risk-bearing capacity (Bhattacharya and Thakor 1993, Repullo 2004, Von Thadden 2004). Therefore, a combination of the two strand yields under risk absorption hypotheses, predicts that higher capital ratios may positively influence the banks liquidity level and creation. The risk absorption thesis is the theoretical foundation for this study.

2.2. Bank consolidation

Nigeria government through her monetary policies has at various times modified the minimum equity capital base (MECB) of banks in country in line with current financial trend. The idea behind the increment apart from minimizing bank failure is also to ensure capital adequacy. From 1972 to 2002, banks were classified into commercial and merchant bank with minimum equity capital base of =N=500m each. Between 2003 and 2004 during the universal banking era, it was harmonized and increased to =N=2b and thereafter in July 2004, the government came up the consolidation strategy that upgraded the minimum capital based to =N=25b. Consolidation which is used interchangeably with combination or concentration is a term employed by the Central Bank of Nigeria to describe the coming together of some banks within the country to become one bank and be able to meet CBN's requirement for capitalization (Oke, 2006). Most banks that found it difficult to raise the =N=25b new equity capital base adopted merger and acquisition. The importance of merger and acquisition to consolidation is evident by the fact that twenty one (21) out of twenty five (25) banks that survived the exercised resulted from M&As (Ibru, 2006). Merger is a form of business combination in which all companies involved legally goes out of existence and a new corporation emerged. In merger, the new company assumes ownership of the assets and liabilities of the merged companies. Acquisition is a situation whereby one company absorbs another in totality - a bigger firm takes over the smaller ones and those acquired may go out of existence or stand as subsidiaries (Oke, 2006). To a large extent, consolidation strengthened the banking system and brought about diversified, strong and reliable banking sector in Nigeria which guarantees safety of deposits and shareholders' funds. Also it enabled banks play active developmental roles in the economy and the global financial market (Soludo, 2004). In order to achieve the level of required minimum equity capital base, new fund were sourced to augment the existing capital employed and one of approaches adopted to determine the value of the banks was through business valuation. The benefit of bank consolidation policy implementation as outlined by the CBN include (i) to mitigate the financial crises which propel its momentum from the experience of other countries that have implemented with success such as USA, Japan, Argentina, India and some countries in Europe, (ii) reduce the number of banks and other deposit taking institutions with a simultaneous increase in size and concentration in the sector (Basu et al, 2004) and (iii) other gains that flowed from the exercise includes: technological innovations, international competition, improvement of existing corporate behaviour and increase financial intermediation (Berger, Demsetz and Strahan, 1999). It also placed emphasis on shareholders' value (Frank, 2011).

2.3 Business Valuation

Business valuation is a processed set of procedures used for estimation of the economic value of an owner's interest in a business. It is used by financial market participants to determine the price they are willing to pay or receive to perfect a sale of business (Pratt, Reilly, & Schweihs, 2000). In addition to estimating the selling price of a business, same valuation tools may be used by business appraisers to estimate the value of partners' ownership interest for buy-sell agreements, and many other business and legal purposes such as merger and acquisition. To effectively value of a business, the valuation assignment must specify the reason for and circumstances surrounding the business valuation. These are formally known as the business value standard and premise of value (Pratt, et al, 2000). The standard of value is the hypothetical conditions under which the business will be valued. The premise of value relates to the assumptions such as going concern or liquidation i.e. continuation for an indefinite period of time or termination at the point of valuation. Banks in Nigeria valued their business as a going concern and the method adopted includes: (i) adjusted book value (ii) capitalized adjusted earning*:* (iii) discounted future earnings (iv) cash flow method and gross revenue multiplier.

- Part of the assets valued was goodwill from value created and other intangible assets acquired by the existing owners. Each of these valuation methods will produced different results when conducted for the same company using same data. This leaves the business appraisers with huge level of choice in most cases and the method that gives the lower or higher figures is favoured depending on the circumstance.

2.4 Business combination and Fair value measure

The accounting standard, International Financial Reporting Standards (IFRS 3) sets out the definitions and requirements for information to be given by entities for business combinations and their effects. Implementation of new accounting rules for business combinations under the IFRS 3 and US GAAP (SFAS 141) have changed the way organizations now look at goodwill and intangible assets in the balance sheets. Goodwill is no longer subject to amortization but to impairment tests. It is important to note that the purchase accounting process in business combinations results in the recognition of intangible assets being recognized in the balance sheets and amortized over their remaining useful life. In a certain way, the amortization of goodwill has been traded against the amortization of intangible assets. Business valuation results can vary considerably depending upon the choice of both the standard and premise of value. In an actual business sale, it would be expected that the buyer and seller, each with an incentive to achieve an optimal outcome, would determine the fair market value of a business asset that would compete in the market for such an acquisition (Collan & Kinnunen, 2011). The business valuation enabled current balances in the opening statements of financial position to reflect the "fair values" of the bank's business which is in accordance with the provision of IFRS 13. It was necessary to revalue the banks to ascertain the value of a bank in the process of recapitalization in the case of a standalone bank such as Zenith International Plc, First Bank Nigeria Plc etc or individual bank value in the process of merger and acquisition such as Unity bank Plc, Skye Bank Plc etc.

2.5 Capital adequacy and Bank Liquidity

Liquidity is the amount of capital that is available for investments and spending. Most of the capital is credit rather than cash and that is because the large financial institutions that do most investments, prefer using borrowed money and deposits. High liquidity all things being equal, mean that there is a lot of capital. This occurs when interest rate is low and capital is easily available to borrowers. Low interest rates mean credit is cheap which reduces the risk of borrowing and increases returns. When return is higher than the interest rate, it encourages more investments and stimulates economic growth. The CBN manages liquidity by guiding the interest rate with monetary policy to set the target for the prime rate and capital base. Liquidity risk occurs when there are timing differences between cash inflows from the businesses and cash outflows for business needs and maturing debt obligations. Policy to maintain the optimum level of liquidity means alternative funding sources such that all unsecured debt obligations maturing within one year can be repaid when due without issuing new unsecured debt or liquidating business assets. Primary alternative funding sources to unsecured borrowings are repurchase agreements, securities loaned, and secured bank loans, which require pledging unhypothecated marketable securities held for trading or liquidity purposes. Other funding sources include liquidating cash equivalents; securitizing loan assets and drawing on a committed and unsecured bank credit facility. The mix of assets and liabilities provides flexibility in managing liquidity since a significant portion of assets turn over frequently and are typically match-funded with liabilities having similar maturities and cash flow characteristics. This means that the level of capital moderates liquidity level.

3.0 Methodology

The research design adopted for the study is survey method to capture research questions raised in the study (Saunders, Lewis & Thornhill, 2010) and also to obtain a non manipulated result of complex relationship between the variables (Baridam 2001). The population of the study consists of existing twenty two (22) banks in Nigeria as at June 2013. The sample size is made up of ten (10) staff of each bank given 220 respondents. The members of the sample selected at random are: (i) chief executives officer (ii) director, corporate finance (iii) director, investment banking (iv) director, credit & marketing (v) director, account & finance (vi) director, treasury (vii) director, internal audit and controls (viii) director, operations (ix) director, information systems and (x) head, marketing and advances. The sample was randomly selected based on the researcher's experience and they are independent of age and sex. Primary source was utilized and data collected through structured questionnaire. The instrument was a 7-term survey questionnaire with a 5 Likert scale response as follows: no influence, low, undecided, medium and high. In order to convert the ordinal scale to interval Scale, a weight was assigned to each point in the 5-point Scale which range from 0 - 4. Table 2 shows that 198 valid responses returned out of 220 questionnaires administered representing 90% and this is considered excellent. Data was processed and person product moment correlation (r) statistical instrument tested and validated the hypotheses at 0.5 level of significance. Probability (p) value was employed for testing the significance of the association between two variables. Probability is significant if $p<0.05$ leading to null hypothesis rejection and otherwise accept (Awoniyi, Aderanti & Tayo, 2011). The formula for Pearson Product Moment Correlation Coefficient (r) is;

$$r = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{n\,[\Sigma x^2 - (\Sigma x)^2]\,[n\Sigma y^2 - (\Sigma y^2)]}}$$

4.0 Test of Statistical The Hypothesis and Discussion of Results

Table 1: Summary hypotheses test results

H/No	Statement of Hypotheses	RQ	Test Results			Correlation	Remarks
			Cal "r"	LS(x)	Infre.		
1	**H_0:** Bank consolidation has no significant relationship with business valuation in Nigeria banks.	2 and 4	0.89	0.5	r > x	Highly positive	Reject H_o
	H_1: Bank consolidation has significant relationship with business valuation in Nigeria banks						Do not Reject H_1
2	**H_0:** Business valuation conducted during consolidation had no significant effect on liquidity level of banks in Nigeria.	7	-0.77	0.5	r < x	Highly negative	Accept H_o
	H_1: Business valuation conducted during consolidation had significant effect on liquidity level of banks in Nigeria.						Do not accept H_1

Source: Field work 2013

Key: H/No= hypotheses no., RQ = research questions, LS = level of significant, Infr. = inference

Discussion of Results: Hypothesis 1 was captured using question 2 and 4 of the questionnaire administered as shown in Table 3. The responses received revealed that all banks valued their business during the consolidation exercise in Nigeria and Bank valuation conducted moderated the value of business significantly during consolidation policy implementation in Nigeria. Table 4 stated that consolidation has a correlation coefficient of 0.89 at 5% level of significance which reveals a strong relationship between consolidation and business valuation of banks in Nigeria. This means that Bank consolidation significantly correlates with business valuation of banks in Nigeria resulting in the acceptance of alternate hypothesis and rejection of null hypothesis. It means that 89% of the increase in minimum equity capital based (MECB) during consolidation exercise was associated with employment of business valuation methods leaving only 11% to the entrance of new cash and other liquid assets.

This result confirmed the previously perceived overvaluation of the banks by using the method that gave a higher value. The choice of which was based on the inability of regulatory financial authority to specify the method of business valuation for control and uniformity. **Hypothesis 2** was captured using question 7 of questionnaire distributed as shown in Table 5:

Business valuation increased bank capital on paper without enough cash and other liquid assets of the banks in Nigeria. Table 6 shows that business valuation has a coefficient of - 0.77 at 5% level of significance which reveals a strong negative correlation between business valuation and liquidity level of banks in Nigeria. The correlation coefficient (r) predicted how much the dependent variable (liquidity level) is expected to decrease since it is negative when that independent inference increases by one. This means that business valuation conducted during consolidation had no significant effect on liquidity level in Nigeria and can also be interpreted that the increase in capital during consolidation has inverse relationship with the level of liquidity. Increase in capital based on the methods of valuation brought heavy decrease in liquidity level on the ground the increase experienced in minimum equity capital base existed only on paper. At the end of it, most banks have a corresponding high increase in reverse which limited the liquidity available for investments and ability to create credit. Both hypotheses 1 and 2 put together shows that consolidation exercise in Nigeria was implementation a good level success but business valuation methods employed to achieved the policy did not allow capital to moderate the level of liquidity and credit creation as expected. Based on these results, the argument is then in line with the risk absorption hypothesis and the opinion of Diamond and Dybvig (1983), Allen and Santomero (1998), Allen and Gale (2004).

5.0 Findings and Conclusions

5.1 Findings

The study was carried out to investigate the effect of business valuation during the consolidation exercise on the liquidity level of banks in Nigeria. The formulated hypotheses were tested and validated and base on test results and literature reviewed, the following findings were obtained: (i) management valued their respective banks to have a market price of the business in opening statements of financial position (ii) the regulatory a financial authority did not properly definition the valuation methods to be used and banks management capitalized on this weakness and selected method that yields a highest value (iii) this action resulted in over valuation of banks business in most cases (iv) the valuation increased capital base on paper with a corresponding increase in general reverse which to some extent introduced some element fictitiousness (v) after the exercise, the liquidity level of banks in still very low as a result investments and credit creation were below expectation (vi) the demand for credit is higher than the supply leading to high interest rate and low economic activities (vii) Soludo's view in 2004 that consolidation will strengthened the banking system, brings diversification, strong and reliable banking sector in Nigeria, guarantees safety of deposits and shareholders' funds and enabled banks to play active developmental roles in the economy and global financial market was defeated. The result of this study authenticated the argument that most Nigeria banks went to capital market to raise fund due to shortage of liquidity after consolidation.

5.2 Concluding Remarks and Recommendations

Based on the above findings of this study, it is concluded that the consolidation exercise in Nigeria which should have been an advantageous reform due to it promised positive impact on various areas of the economy, to some extent was successful as seen in the level concentration - eighty nine banks to twenty five (25) banks after the exercise. Consolidation exercise has become an ongoing and between 2005 and 2013 three more banks were absolved bring the total banks as at June 2013 to twenty two (22) banks. The exercise which aimed at bringing about many financial improvements including enhancing the liquidity level for investment to activate economic growth failed this area. The level liquidity is still low, borrowers demand are high with shortage of credit supply and the envisage low interest rate and higher return which experts originally claimed would be one of the intrinsic worth of consolidation could not hold. The result of the study is contrary to the acceptance of theory of bank capital absorbs risk and expands banks risk-bearing capacity which is line with the Bhattacharya and Thakor (1993), Repullo (2004), Von Thadden (2004). Therefore, the combination of the two strand yields under risk absorption hypotheses, predicts that higher capital ratios may positively influence the banks liquidity level and creation did not hold. The study recommended that consolidation and recapitalization should be made a regular feature in the banking industry and the financial authorities should have a proper definition of every process and method to be used to avoid loop holes.

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Appendix 1

Table 2: Distribution of questionnaire administered and response rate of each bank

S/n	Consolidated Banks	No of copies of questionnaire. Administered	Valid Returned	Percentage %
1	Access Bank	10	10	5.05%
2	Citibank	10	8	4.04%
3	Diamond Bank	10	9	4.55%
4	Ecobank Nigeria	10	10	5.05%
5	Enterprise Bank Limited	10	8	4.04%
6	Fidelity Bank Nigeria	10	9	4.55%
7	First Bank of Nigeria	10	7	3.54%
8	First City Monument Bank	10	10	5.05%
9	Guaranty Trust Bank	10	8	4.04%
10	Heritage Bank Plc.[6]	10	10	5.05%
11	Keystone Bank Limited	10	9	4.55%
12	Mainstreet Bank Limited	10	8	4.04%
13	Savannah Bank	10	9	4.55%
14	Skye Bank	10	10	5.05%
15	Stanbic IBTC Bank Nigeria	10	9	4.55%
16	Standard Chartered Bank	10	8	4.04%
17	Sterling Bank	10	10	5.05%
18	Union Bank of Nigeria	10	10	5.05%
19	United Bank for Africa	10	9	4.55%
20	Unity Bank	10	8	4.04%
21	Wema Bank	10	9	4.55%
22	Zenith Bank	10	10	5.05%
	TOTAL	**220**	**198**	**100%**

Source: Field work 2013

Hypothesis 1

$\mathbf{H_0}$: Bank consolidation has no significant relationship with business valuation in Nigeria banks
$\mathbf{H_1}$: Bank consolidation has significant relationship with business valuation in Nigeria banks

Table 3: Summary of response on the relationship between consolidation and business valuation in Nigeria Banks:

Options	Point (x)	Question 2 Resp. (y)	Question 4 Resp. (y)	Average (y)
H	4	124	130	127
M	3	56	43	49.5
U	2	8	16	12
L	1	9	7	8
NI	0	1	2	1.5
Total	**Σ (x)10**	**$\Sigma(y_1)$ 198**	**$\Sigma(y_2)$ 198**	**$\Sigma(y_1+y_2/2)$ 198**

Source: Field work 2013

Question 2 and 4 of questionnaire administered: All banks valued their business during the consolidation exercise in Nigeria and Bank valuation conducted moderated the value of business significantly during the policy implementation in Nigeria.

Table 4: Calculation of Correlation (Using High option only)

Options	Point (X)	Response (Y)	XY	X^2	Y^2
H	4	127	508	16	15,748
M	3	49.5	148.5	9	2,772
U	2	12	24	4	96
L	1	8	8	1	72
NI	0	1.5	0	0	2
Σ	**Σ (x) 10**	**Σ(f) 198**	**$\Sigma(f_1)$ 688.5**	**30**	**18,690**

Source: Field work 2013

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{N\Sigma x^2 x)^2}\ \sqrt{N\Sigma y^2 - (y)^2}} = \frac{5(688.5) - (10 \times 198)}{\sqrt{[(5\times30) - (10)^2][(5\times18{,}690 - (198)^2}}$$

$$\frac{3{,}442.5 - 1{,}980}{\sqrt{(150-100)(93{,}450 - 39{,}204)}} = \frac{1{,}462.5}{\sqrt{(50)(54{,}246)}} = \frac{,462.5}{\sqrt{2{,}712{,}300}} = \frac{1{,}462.5}{1{,}647} \quad r = \mathbf{0.8879\ (89\%)}$$

Decision: r calculated of 0.89 > 0.5 level of significance. The null hypothesis is rejected that says Bank consolidation has no significant relationship with business valuation in Nigeria banks. Therefore the alternative hypothesis is upheld.

Hypothesis 2

H_0: Business valuation conducted during consolidation had no significant effect on liquidity level in Nigeria.

H_1: Business valuation conducted during consolidation had significant effect on liquidity level in Nigeria

Table 5: Significant of response on the relationship between business valuation and level liquidity of banks in Nigeria.

Options	Frequency	Percent (%)	Cumulative Percent (%)	Ranking
H	132	67	67	1st
M	42	21	88	2nd
U	19	10	97	3rd
L	4	2	99	4th
NI	1	1	100	5th
Total	**198**	**100**		

Source: Field work 2013

Table 6: Calculation of Correlation

Options	Point (x)	Question 7 Resp. (y)	XY	X^2	Y^2
H	4	9	528	16	17,424
M	3	12	126	9	1,764
U	2	18	38	4	361
L	1	23	4	1	16
NI	0	136	0	0	1
Total	**Σ (x)10**	**Σ(y) 198**	**Σ(xy) 131**	**$\Sigma(X^2)$ 30**	**$\Sigma(y^2)$ 19,574**

Source: Field work 2013

Question 7 of questionnaire administered: Business valuation increased bank capital and liquidity level of banks in Nigeria.

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{N\Sigma x^2 x)^2}\ \sqrt{N\Sigma y^2 - (y)^2}} = \frac{5(131) - (10 \times 198)}{\sqrt{[(5\times30) - (10)^2][(5\times19{,}574 - (198)^2}}$$

$$\frac{655 - 1{,}980}{\sqrt{(150-100)(97{,}870 - 39{,}204)}} = \frac{-1{,}325}{\sqrt{(50)(58{,}666)}} = \frac{-1{,}325}{\sqrt{2{,}933{,}300}} = \frac{-1{,}325}{1{,}713} \quad r = \mathbf{-0.7734\ (-77\%)}$$

Decision: r calculated of 0.85 > 0.5 level of significance. Rejected the null hypothesis and accept the alternative hypothesis which says that business valuation conducted during consolidation has significant influence on liquidity level in Nigeria.