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## Theoretical Perspectives of Earnings, Profitability and Asset Quality in Banking: Descriptive Evidence from Nigeria Economy

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### **Abstract**

*This paper focused on theoretical perspectives of earnings, profitability and asset quality in banking system using descriptive evidence from Nigeria Economy. Bank earnings, profitability and asset quality analysis are depicted in statements of financial position and financial information about an enterprise value. It is the final product of accounting work done during the accounting period usually quarterly, half-yearly and annually. The objective is to make an overview and critically analysis of bank earnings, profitability and assets quality of deposit money banks exploring the various theories and descriptive analysis of their various components using line graphs to snap shot their behavioral and inter-related relationships. The results proved that bank earnings, profitability and asset quality is an important instrument in reporting the financial performance of banking institutions to internal and external end users of accounting and financial data. It therefore recommends for proper reporting strategies of banks earnings, profitability and asset quality to educate the users of financial information in view of the observed nexus between the variables and its roles in operational efficiency of financial institution and other related perspectives.*

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**Key word:** Earnings, Profitability, Asset quality and Behavioral relationships

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### **Introduction**

Banking business involves the management of assets and liabilities with the objective of generating earnings for enhance profitability that will maximize shareholders wealth maximization. Researches has shown that just blood is important to human bodies so also profit and earnings to banking financial institutions while “finance is like the blood, banks is the arteries” and as a financial intermediaries, banks generally derive earnings not from commerce in manufactured goods but largely from their financial assets: their loans, securities holding and the use of their capital to render financial services.

From bank regulators stand point, the essential purpose of banking earnings and profitability are both current and accumulated is to absorb loan losses, help in financing of the internal growth of capital in order to attract investors to supply new capital from outside and produce a reasonable return on the investment of shareholders. Earnings and profitability are the linear function of asset quality or credit quality of a bank’ interest-earning portfolio, which is one of

the most important criteria in establishing the creditworthiness of a bank and asset quality is one of the most difficult for an analyst to measure, especially during the period of prosperity or boom. A well structure assets and maturity structure enhance the liquidity management process and enhance prudential factors that determine earnings and profitability of the commercial banks. Assets quality is an aspect of bank management which entails the evaluation of firms in order to facilitate the level and the measurement of credit risk associated with the seven out of the twenty-five core principles of effective banking supervisor in 1997. Sustaining sound assets quality involves careful quantity of loans that must be examined and compliance to the banking rules.

As a macro prudential determinants of profitability and earnings, poor assets to gross advances, net non-performing assets to net advances, total investment to total assets and net non-performing loans to total assets (Khalid, 2013) earnings and profits are the initial safeguard against the risks of engaging in the banking business and represents the first line defense against capital depletion resulting from shrinkage in the assets value. Earnings and profitability performance should also allow bank to remain competitive by providing the resources required to implement management's strategic initiative (Tsai, 2007). The assessment of bank earnings is one of the integral parts of most models of supervision and supervisory earnings and profitability help to bring changes in bank asset quality which is also an important part of risk management. It enables the management and regulatory authorities to achieve its sustainable goals. However, not only is assets quality important in its own right, but the quality of a bank's loan portfolio will have an impact on all the other quantitative measures of bank creditworthiness, including profitability, capital and liquidity so as to strike an optimal balance. Also, poor assets quality will affect profitability, capital and liquidity and which will in turn affect its earning capacity. Weak asset quality threatens core capital, which is the last line of defense against loans that are written off.

Again, despite the numerous literature on the relationship between Earnings, Profitability and Asset Quality in Banking activities, the extent to which various instruments and their measures impact on each other remains a knowledge gap that needs to be filled, for instance the rise in Earnings instrument (money supply/Liquidity) may lead to a rise in profitability activities and which will automatically affect the asset quality in banking. Therefore, this paper tends to;

- X-ray the relationships between Earnings, Profitability and Asset quality in Banking.
- This study will establish the analysis of the various theories and components of Earnings, Profitability and Asset quality in Banking.

The study will further establish the behavioural relationship between Earnings, Profitability and Asset Quality in banking using analytical descriptive statistics to virtualized its relationship

## **Analysis of Earnings in Perspective**

### **Concepts of Earnings**

The amount of money a company has earned during a given period, usually a quarter or year, as reported based on proper accounting standards. Earnings help to measure a company's profitability, but investors should consider not just earnings quantity, but also earnings quality, in evaluating a company's accounting earnings. Earnings quality considers whether earnings are repeatable, controllable and bankable.

Earnings can also be seen as revenues minus cost of sales, operating expenses, and taxes, over a given period of time. Earnings are the reason corporations exist, and are often the single most important determinant of a stock's price. Earnings are important to investors because they give an indication of the company's expected future dividends and its potential for growth and capital appreciation. That does not necessarily mean that low or negative earnings always indicate a bad stock; for example, many young companies report negative earnings as they attempt to grow quickly enough to capture a new market, at which point they will be even more profitable than they otherwise might have been.

### **Analysis of Types of Earnings**

#### **Net Income to Average Assets Ratio**

This ratio is known as the Return on Assets (ROA) ratio and consists of bottom line after-tax net income, including securities gains/losses and extraordinary items, as a percentage of average assets. The ROA is a common starting point for analyzing earnings because it gives an indication of the return on the bank's overall activities. A typical ROA level is different, depending on the size, location, activities, and risk profile of the bank. For example, a "community" bank with a few branches may regularly achieve an ROA ratio that exceeds those realized by large wholesale banks. Although the ROA provides an overall performance measure, the individual components comprising the ROA need to be reviewed.

#### **Net Income Adjusted Subchapter to Average Assets Ratio**

In general, institutions that elect to operate as Subchapter corporations are treated as pass-through entities and are not subject to Federal income taxes at the corporate level. Therefore, an adjustment to net income is needed to improve the comparability between banks that are taxed at the corporate level and those that are not.

Various other issues specific to Sub corporations may also exist. For instance, several states do not recognize Federal Sub elections. Therefore, Sub institutions may remain subject to State corporate income taxes.

#### **Net Interest Income (TE) to Average Assets Ratio**

The ratio of Net Interest Income (NII) to Average Assets is also known as the NII ratio and measures annualized total interest income, plus the tax benefit on tax-exempt income, less total interest expense, divided by average assets.

TE adjustments are made to enable meaningful comparisons for banks that have tax-exempt income and Consideration should be given to the impact of tax-free investments and the related adjustment(s) made to the ratio(s) when material is involved.

This ratio typically represents the bank's largest revenue component while a higher NII ratio is generally favorable, it can also be reflective of a greater degree of risk within the asset base. For example, a high NII ratio could indicate management is making a large number of "high-interest, high-risk" loans (for example, subprime loans). Although an increase in the NII ratio would be evident, this would not necessarily be an improvement (Tsia, 2010).

The NII ratio can be broken down into two sub-component ratios: Interest Income (TE) to Average Assets and Interest Expense to Average Assets. These ratios and their related components can be analyzed to determine the root cause(s) of any changes in the ratio and their subsequent effect on the ROA.

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### **Net Interest Income (TE) to Average Earnings Assets Ratio**

This ratio is also known as the Net Interest Margin (NIM). The ratio is comprised of annualized total interest income on a TE basis, less total interest expense, divided by average earnings assets. This ratio indicates how well management employed the earning asset base. The NIM is more useful than the NII for measuring the profitability of the bank's primary activities (buying and selling money) because the denominator focuses strictly on assets that generate income rather than the entire asset base.

The sub-components of the NIM - the ratios of Interest Income to Average Earnings Assets and Interest Expense to Average Earning Assets - can be analyzed to determine the root causes of NIM changes. These ratios may change for a variety of reasons, for example, management may have restructured the balance sheet, the interest rate environment may have changed, or bank loan and deposit pricing became more or less competitive.

### **Non-interest Income to Average Assets Ratio**

This ratio is comprised of annualized income from bank services and sources other than interest-bearing assets, divided by average assets. Level, trend, and overall contribution of non-interest income to earnings performance should be analyzed. If the contribution represents a major portion of the bank's total revenue, specific sources of noninterest income need to be identified. An assessment as to whether or not these sources are core versus nonrecurring should be made.

Noninterest income is largely of a fee nature; service charges on deposits, trust department income, mortgage servicing fees, and certain types of loan and commitment fees. The results of trading operations and a variety of miscellaneous transactions are also included. In some institutions, noninterest income is being relied upon more heavily as banks are attempting to diversify their earnings streams.

### **Non-interest Expense to Average Assets Ratio**

This ratio is also referred to as the Overhead (OH) ratio and is calculated by annualizing expenses related to salaries and employees benefits, expenses of premises and fixed assets, and other noninterest expenses, divided by average assets. Levels and trends of each component should be assessed and the types of expenses representing the largest overhead components should be determined. Examples of the type of costs that may lead to an inordinately high level of overhead expenses include: excessive salaries and bonuses, sizable management fees paid to the bank holding company, and high net occupancy expenses caused by the purchase or construction of a new bank building.

Other related ratios such as average personnel expense per employee, average assets per employee, and the efficiency ratio may provide useful information. The level of these ratios and the overall effect on earnings performance should be analyzed. If significant, specific sources of noninterest expense need to be identified. An assessment as to whether these sources are core versus nonrecurring should be considered during the earnings analysis.

The existence of unwarranted and unjust compensation of bank insiders is of particular concern, especially when those expenses are likely to result in harm to the bank and ultimately the deposit insurance fund. In this regard, the FDIC's safety and soundness standards state that both excessive compensation and compensation that could lead to material financial loss to an institution are prohibited as unsafe and unsound practices.

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### **Provision for Loan and Lease Losses (PLLL) to Average Assets Ratio**

This ratio shows the annualized percentage of PLLL in relation to average assets. Material changes in the volume of PLLL (either positively or negatively) should be investigated. Higher provisions should result if the loan mix changes significantly from loans with lower to higher historical loss experience (for instance, from one-to-four family mortgage loans to commercial loans) or if economic conditions have declined and produced a deterioration of loan quality. In situations where the economy is improving and loan quality is stabilizing or improving, lower PLLLs may be appropriate.

When assessing the PLLL, examiners need to determine whether the level of the PLLL is appropriate to absorb estimated credit losses inherent in the loan and lease portfolio. PLLL that is not at an appropriate level may be due to any one or a combination of reasons. For example, an PLLL that is below an appropriate level may be caused by a decline in loan quality identified during the examination, an inaccurate PLLL methodology, or an attempt by management to manipulate earnings. If the PLLL is deemed to be materially insufficient during the examination, management will be required to take an additional PLLL to bring the PLLL to an appropriate level, thereby increasing the bank's expenses and adversely affecting earnings. Earnings ratios affected by this charge to the PLLL should be adjusted and reflected in the earnings analysis.

### **Realized Gains/Losses on Securities to Average Assets Ratio(s)**

The ratio of securities gains/losses to average assets shows the annualized percentage of net realized gains or losses on available-for-sale and held-to-maturity securities in relation to average assets. The level, trend, and overall contribution that securities transactions have on earnings performance should be analyzed.

Bank management may purchase and sell securities for many reasons, but most banks limit investment activity to ensure adequate liquidity is available to meet unanticipated funding needs and to invest excess funds (i.e., when loan demand is low). Examiners should determine whether management actively engages in the sale of securities. When management actively manages their portfolio, this securities activity should be considered part of the bank's core operations. Examiners should assess management's strategies and their implementation. For example, examiners should be alert for instances where investments with unrealized gains are sold while those with unrealized losses are held and should ascertain the reasons for these transactions. Examiners should consider these types of instances when assessing earnings prospects.

While actively selling securities may not be part of a bank's core operations, there are many reasons why management may sell securities. Among the reasons for which management may sell securities that would not be part of a bank's normal operations would be when management needs to restructure the portfolio to maintain or change portfolio duration, change portfolio diversification, or to take advantage of some tax implications or some other combination of these reasons. When not part of a bank's core operations, examiners should eliminate the gains or losses adjusted for taxes so as to not distort core operating results. The elimination of these gains or losses allows for level and trend analysis of core operations.

### **Analysis of the Theories of Earnings**

This theory assumes that an enterprise is expected to make profit. According to it, its true value depends upon the company's earnings and/or earning capacity. Thus, the capitalization

of the company or its value is equal to the capitalized value of its estimated earnings. To find out this value, a company, while estimating its initial capital needs, has to prepare a projected profit and loss account to complete the picture of earnings or to make a sales forecast. Having arrived at the estimated earnings figures, the financial manager will compare with the actual earnings of other companies of similar size and business with necessary adjustments. After this the rate at which other companies in the same industry, similarly situated are making earnings on their capital will be studied. This rate is then applied to the company's estimated earnings for determining its capitalization.

Under the earnings theory of capitalization, two factors are generally taken into account to determine capitalization (i) how much the business is capable of earning and (ii) What is the fair rate of return for capital invested in the enterprise. This rate of return is also known as 'multiplier' which is 100 per cent divided by the appropriate rate of return.

Though earning theory is more appropriate for going concerns, it is difficult to calculate the amount of capitalization under this theory. It is based upon a 'rate' by which earnings are capitalized. This rate is difficult to estimate because; it is determined by a number of factors not capable of being calculated quantitatively.

These factors include nature of industry/ financial risks, competition prevailing in the industry and so on. New companies cannot depend upon this theory as it is difficult to estimate the expected returns in their case. As regards capitalization, it is often said that "a concern should neither be overcapitalized, nor under-capitalized, the aim should be to achieve fair capitalization".

## **Analysis of Asset Quality in Perspective**

### **Concept of Asset Quality**

Asset quality is an aspect of bank management which entails the evaluation of firm assets in order to facilitate the measurement of the level and size of credit risk associated with its operation. Asset quality is micro prudential determinants commercial banks soundness and profitability. It relates to the left-hand side of a bank balance sheet and focused on the quality of loans which provides earnings for a bank (Abata, 2014). It is seven out of twenty-five core principles of effective banking supervision by BASEL Committee on banking supervision in 1997. Sustaining sound assets quality involves careful granting of loans that must be examined and compliance to banking rules. As a micro determinant of profitability, poor assets quality affects the financial performance and the soundness of the banking system.

### **Components of Asset Quality**

#### **Gross Non-Performing Assets to Gross Advances**

The Gross NPAs to Gross Advances ratio is a measure of the quality of assets in a situation, where the management has not provided for loss on NPAs (Non-Performing Assets). Here Gross NPAs are measured as a percentage of Gross Advances. Lower ratio indicates better quality of advances.  $\text{Gross NPAs to Gross Advances} = \text{Gross NPAs} / \text{Gross Advances}$

#### **Net NPAs to Net Advances**

This ratio is the most standard measure of Assets Quality. This ratio measures Net Non-Performing Assets as a percentage of Net Advances. Net NPAs are Gross NPAs net of provisions on NPAs and interest in suspense account.

$\text{Net NPAs to Net Advances} = \text{Net NPAs} / \text{Net Advances}$

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### **Total Investments to Total Assets**

This ratio indicates the aggressiveness of banks in investing rather than lending. It is the ratio of Total Investments to Total Assets. It highlights alternative avenues for parking funds. Higher ratio means lack of credit take-off in economy and much proportion of total assets is utilized in investments that should not be the case with banks because the primary business of the banks is to lend. This ratio indicates how much proportion or percentage of total assets is in the form of investments.

### **Total Investment to Total Assets Ratio = Total Investments/Total Assets**

#### **Net NPAs to Total Assets:**

This ratio indicates the efficiency of the bank in assessing credit risk and to an extent recovering the debts. This ratio is arrived at by dividing the Net NPAs by Total Assets. Net NPAs are calculated by adjusting provisions against Gross NPAs. Lower ratio indicates the better performance of banks.

#### **Earning Quality & Profitability:**

The quality of earnings is very important criterion which determines the ability of a bank to earn consistently. It basically determines the profitability of the banks. It also explains the sustainability and growth in earnings in the future. This parameter has gained importance in the light of the argument that much of a bank's income is earned through activities like investments, treasury operations, and corporate advisory services and so on.

#### **Spread to Total Assets:**

The difference between the total income and the total expenses of a bank gives taxable income. However, considering the intermediation function, it is the Net Interest Income (**NII = Interest earned – Interest expended**) that is more crucial for banks. For the long term sustenance of the bank, this should be positive. The deregulated interest rate environment, the pressure built by competition for attracting deposits, liberalization and other banking norms & regulations affect the interest rates and thereby Net Interest Income (NII). This ratio shows the ability of a bank to keep the interest on deposits low and interest on advances high. It is an important measure of a bank's core income (income from lending operations). A higher spread indicates the better earnings, given the total assets. This ratio is calculated as: **Spread to Total Assets = Spread / Total Assets**

#### **(Where Spread = Interest earned – Interest expended)**

**Earnings per Share:** This ratio measures the profitability of the firm on per Equity Share basis. This ratio measures the earnings available to an equity shareholder on a per share basis.

**Return on Assets:** The Return on Assets of a company determines its ability to utilize the Assets employed in the company efficiently and effectively to earn a good return. This ratio measures the percentage of profits earned per rupee of Assets and thus is a measure of efficiency of the company in generating profits on its Assets. Higher ratio indicates efficiency of management in employing its funds efficiently and economically.

#### **ROA = Net Profit / Total Assets**

**Interest Income to Total Income:** Interest Income is a basic source of revenue for banks. The Interest Income to Total Income Ratio indicates the ability of the bank in generating income from its lending activities. In other words, this ratio measures the income from lending operations as a percentage of the total income generated by bank in a year. Interest

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Income includes Interest on Advances, Discount on Bills, Income from Investments, Interest on Deposits with RBI and Other Inter-Bank Funds. **Interest**

**Income to Total Income = Interest Income/Total Income**

**Non-Interest Income to Total Income:** This ratio measures the income from operations other than lending as a percentage of Total Income. Non- Interest Income is the Income earned by the banks excluding income on advances and deposits with RBI. Non-Interest Income includes Commission, Exchange, Brokerage, Profit on Redemption & Sale of Investment (Less loss on Investments), Profit on Sale of Land, Buildings & Other Assets, Profit on Exchange Transactions (Less Loss on Exchange Transactions), Income earned by way of Dividends etc. from Subsidiaries, Companies and/or Joint Ventures abroad/in India and Miscellaneous Income.

**Profit Margin Ratio:** The profit margin of a company determines its ability to withstand competition and adverse conditions like rising costs, falling prices or declining sales in future. This ratio measures the percentage of net profit to total income and thus is a measure of efficiency of the company.

**PMR = Net Profit / Total Income**

### **Analysis of Theories of Asset Quality**

#### **Theories of Portfolio Management:**

There are apparent conflicts between the objectives of liquidity, safety and profitability relating to a commercial bank. Economists have tried to resolve these conflicts by laying down certain theories from time to time. These principles or theories, in fact, govern the distribution of assets keeping in views these objectives. These theories are also known as theories of liquidity management which are discussed as follows;

#### **The Real Bills Doctrine:**

The real bills doctrine or the commercial loan theory states that a commercial bank should advance only short-term self-liquidating productive loans to business firms. Self-liquidating loans are those which are meant to finance the production, and movement of goods through the successive stages of production, storage, transportation, and distribution.

When such goods are ultimately sold, the loans are considered to liquidate themselves automatically. For instance, a loan given by the bank to a businessman to finance inventories would be repaid out of the receipts from the sale of those very inventories, and the loan would be automatically self-liquidated.

The theory states that when commercial banks make only short term self-liquidating productive loans, the central bank, in turn, should only lend to the banks on the security of such short-term loans. This principle would ensure the proper degree of liquidity for each bank and the proper money, supply for the whole economy.

The central bank was expected to increase or diminish bank reserves by rediscounting approved loans. When business expanded and the needs of trade increased, banks were able to acquire additional reserves by rediscounting bills with the central banks. When business fell and the needs of trade declined, the volume of rediscounting of bills would fall, the supply of bank reserves and the amount of bank credit and money would also contract.



### **It's Merits:**

Such short-term self-liquidating productive loans possess three advantages. **First**, they possess liquidity that is why they liquidate themselves automatically. **Second**, since they mature in the short run and are for productive purposes, there is no risk of their running to bad debts. **Third**, being productive such loans earn income for the banks.

### **It's Demerits:**

Despite these merits, the real bills doctrine suffers from certain defects.

**First**, if a bank refuses to grant a fresh loan till the old loan is repaid, the disappointed borrower will have to reduce production which will adversely affect business activity. If all the banks follow the same rule, this may lead to reduction in the money supply and price in the commodity. This may, in turn, make it impossible for existing debtors to repay their loans on time.

**Secondly**, the doctrine assumes that loans are self-liquidating under normal economic conditions. If there is depression, production and trade suffer and the debtor will not be able to repay the debt at maturity.

**Thirdly**, this doctrine neglects the fact that the liquidity of a bank depends on the sale ability of its liquid assets and not on real trade bills. If a bank possesses a variety of assets like bills and securities which can be readily sold in the money and capital markets, it can ensure safety, liquidity and profitability. Then the bank need not rely on maturity in time of trouble.

**Fourthly**, the basic defect of the theory is that no loan is in itself automatically self-liquidating. A loan to a retailer to purchase inventory is not self-liquidating if the inventories are not sold to consumers and remain with the retailer. Thus a loan to be successful involves a third party, the consumers in this case, besides the lender and the borrower.

**Fifthly**, this theory is based on the "needs of trade" which is no longer accepted as an adequate criterion for regulating this type of bank credit. If bank credit and money supply fluctuate on the basis of the needs of trade, the central bank cannot prevent either spiraling recession or inflation.

### **The Shiftability Theory:**

The shiftability theory of bank liquidity was propounded by H.G. Moulton who asserted that if the commercial banks maintain a substantial amount of assets that can be shifted on to the other banks for cash without material loss in case of necessity, then there is no need to rely on maturities.

According to this view, an asset to be perfectly shiftable must be immediately transferable without capital loss when the need for liquidity arises. This is particularly applicable to short term market investments, such as treasury bills and bills of exchange which can be immediately sold whenever it is necessary to raise funds by banks. But in a general crisis when all banks are in need of liquidity, the shiftability theory requires that all banks should possess such assets which can be shifted on to the central bank which is the lender of the last resort.

This theory has certain elements of truth. Banks now accept sound assets which can be shifted on to other banks. Shares and debentures of large companies are accepted as liquid assets along with treasury bills and bills of exchange. This has encouraged term lending by banks.

**It's Demerits:**

But it has its weaknesses. **First**, mere shiftability of assets does not provide liquidity to the banking system. It entirely depends upon the economic circumstances. **Second**, the shiftability theory ignores the fact that in times of acute depression, the shares and debentures cannot be shifted on to others by the banks. In such a situation, there are no buyers and all who possess them want to sell them. **Third**, a single bank may have shiftable assets in sufficient quantities but if it tries to sell them when there is a run on the bank, it may adversely affect the entire banking system, **fourth**, If all the banks simultaneously start shifting their assets, it would have disastrous effects on both the lenders and borrowers.

**The Anticipated Income Theory:**

The anticipated income theory was developed by H.V. Prochanow in 1944 on the basis of the practice of extending term loans by the US commercial banks. According to this theory, regardless of the nature and character of a borrower's business, the bank plans the liquidation of the term-loan from the anticipated income of the borrower. A term-loan is for a period exceeding one year and extending to less than five years.

It is granted against the hypothecation of machinery, stock and even immovable property. The bank puts restrictions on the financial activities of the borrower while granting this loan. At the time of granting a loan, the bank takes into consideration not only the security but the anticipated earnings of the borrower. Thus a loan by the bank gets repaid out of the future income of the borrower in installments, instead of in a lump sum at the maturity of the loan.

**It's Merits:**

This theory is superior to the real bills doctrine and the shiftability theory because it fulfills the three objectives of liquidity, safety and profitability. Liquidity is assured to the bank when the borrower saves and repays the loan regularly in installments. It satisfies the safety principle because the bank grants a loan not only on the basis of a good security but also on the ability of the borrower to repay the loan. The bank can utilize its excess reserves in granting term-loan and is assured of a regular income. Lastly, the term-loan is highly beneficial for the business community which gets funds for medium-terms.

**It's Demerits:**

The theory of anticipated income is not free from a few defects.

**Analyses Credit worthiness:**

It is not a theory but simply a method to analyses a borrower's creditworthiness. It gives the bank criteria for evaluating the potential of a borrower to successfully repay a loan on- time.

**Fails to Meet Emergency Cash Needs:**

Repayment of loans in installments to the bank no doubt provides a regular stream of liquidity, but they fail to meet emergency cash needs of the lender bank.

**The Liabilities Management Theory:**

This theory was developed in the 1960s. According to this theory, there is no need for banks to grant self-liquidating loans and keep liquid assets because they can borrow reserve money in the money market in case of need. A bank can acquire reserves by creating additional liabilities against it from different sources. These sources include the issuing of time certificates of deposit, borrowing from other commercial banks, borrowing from the central

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banks, rising of capital funds by issuing shares, and by ploughing back of profits. We discuss these sources of bank funds briefly.

### **Time Certificates of Deposits:**

These are the principle source of reserve money for a commercial bank in the USA. Time certificates of deposits are of different maturities ranging from 90 days to less than 12 months. They are negotiable in the money market. So a bank can have access to liquidity by selling them in the money market. But there are two limitations.

First, if during a boom, the interest rate structure in the money market is higher than the ceiling rate set by the central bank, time deposit certificates cannot be sold in the market. Second, they are not a dependable source of funds for the commercial banks. Bigger commercial banks are at an advantage in selling these certificates because they have large certificates which they can afford to sell at even low interest rates. So the smaller banks are at a disadvantage in this respect.

### **Borrowing from other Commercial Banks:**

A bank may create additional liabilities by borrowing from other banks having excess reserves. But such borrowings are only for a very short duration, for a day or week at the most. The interest rate of such borrowings depends upon the prevailing rate in the money market. But borrowings from other banks are only possible during normal economic conditions. In abnormal times, no bank can afford to lend to others.

### **Borrowing from the Central Bank:**

Banks also create liabilities on themselves by borrowing from the central bank of the country. They borrow to meet their liquidity needs for short term and by discounting bills from the central bank. But such borrowings are relatively costlier than borrowings from other sources.

### **Raising Capital Funds:**

Commercial banks acquire funds by issuing fresh shares or debentures. But the availability of funds through these sources depends on the amount of dividend or interest rate which the bank is prepared to pay. Usually the banks are not in a position to pay rates higher than paid by manufacturing and trading companies. So they are not able to get sufficient funds from this source.

### **Ploughing Back Profits:**

Another source of liquid funds for a commercial bank is the ploughing back of its profits. But how much it can get from this source will depend upon its rate of profit and its dividend policy. It is the larger banks that can depend on this source rather than the smaller banks.

## **Analysis of Profitability in Perspective**

### **Concepts of Profitability**

Profitability is the ability of a business to earn a profit. A profit is what is left of the revenue a business generates after it pays all expenses directly related to the generation of the revenue, such as producing a product, and other expenses related to the conduct of the business activities.

There are many different ways for you to analyze profitability. This lesson will focus on profitability ratios, which are a measure of the business' ability to generate revenue compared to the amount of expenses it incurs. Let's look at a few of the primary analytical approaches.

### **Components of Profitability**

#### **Gross Profit Margin (GPM)**

This is also known as gross margin ratio or the gross profit percentage. This is a financial metric used to assess a firm's financial health by revealing the proportion of money left over from revenues after accounting for the cost of goods sold. Gross profit margin serves as the source of paying additional expenses and future savings.

It is calculated as; **Revenue – Cost of goods sold Revenue X 100**. The gross margin is not an exact estimate of the company's pricing strategy but it does give a good indication of financial health. Without an adequate gross margin, a company will be unable to pay its operating and other expenses and build for the future. In general, a company's gross profit margin should be stable. It should not fluctuate much from one period to another unless the industry it is in has been undergoing drastic changes which will affect the cost of goods sold or pricing policies. This metric can be used to compare a company with its competitors. More efficient companies will usually see higher profits margins (Tsai, 2010).

#### **Net Profit Margin (NPM)**

This is the percentage of revenue remaining after all operating expenses, interest, taxes and preferred stock dividends (but not common stock dividends) have been deducted from a company's total revenue. The formula for net profit margin is;

#### **Net Profit Margin Total Revenue X 100**

By using this formula, we can see what percentage of revenue made it all the way to the bottom line, which is good for investors. Net profit margin is one of the most closely followed numbers in finance. Shareholders look at net profit margin closely because it shows how good a company is at converting revenue into profits available for shareholders. Changes in net profit margin are endlessly scrutinized. In general, when a company's net profit margin is declining over time; a myriad of problems could be to blame, ranging from decreasing sales to poor customer experience to inadequate expense management. Net profit margin is often used to compare companies within the same industry in a process known as 'margin analysis'. Net profit margins is a percentage of sales, not an absolute number, so it can be extremely useful to compare net profit margins among a group of companies to see which are most effective at converting sales into profits.

#### **Earnings per Share (EPS)**

Earnings per share also called net income per share, is a market prospect ratio that measures the amount of net income earned per share of stock outstanding. In other words, this is the amount of money each share of stock would receive if all of the profits were distributed to the outstanding shares at the end of the year. Earnings per share are also a calculation that shows how profitable a company is on a shareholder basis. So a larger company's profits per share can be compared to a smaller company's profits per share. Obviously, this calculation is heavily influenced on how many shares are outstanding. Thus, a larger company will have to split its earnings amongst many more shares of stock compared to a smaller company. The formula for calculating earnings per share is given as; Profit after Tax Number of Common Stock Outstanding

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### **Net Income – Preferred Dividends Weighted Average Common Shares Outstanding**

You will notice that the preferred dividends are removed from net income in the earnings per share calculation. This is because earnings per share only measure the income available to common stockholders. Preferred dividends are set aside for the preferred shareholders and cannot belong to the common shareholders. Earnings per share are the same as any profitability or market prospect ratio. Higher earnings per share are always better than a lower ratio because this means the company is more profitable and the company has more profits to distribute to its shareholders. Although many investors don't pay much attention to the earnings per share, higher earnings per share ratio often makes the stock price of a company rise. Since so many things can manipulate this ratio, investors tend to look at it but don't let it influence their decisions drastically.

### **Return on Capital Employed (ROCE)**

This is a profitability ratio that measures how efficiently a company can generate profits from its capital employed by comparing net operating profit to capital employed. In other words, return on capital shows investors how many naira's in profit each naira of capital employed generates. Return in capital employed is an important ratio in that it measures the relationship between the net profit and the capital employed or the total net assets. The return on capital employed shows the effect of sales, different assets, and various costs on the total company results or position. It shows the overall profitability of the business. It can also be called ratio return on investment or primary ratios. The Return on Capital Employed can be defined in different ways depending on the objectives to be achieved and the comparism to be made. The following can be adopted for the purpose of defining 'capital employed Total capital which is a function of share capital, retained profits, reserves, long term liabilities and current liabilities. Long term capital which is made up of total capital less current liabilities. Therefore, ROCE can be expressed as:

### **Net Profit before Interest and Tax Total Asset X 100**

Capital employed is a fairly convoluted term because it can be used to refer to many different financial ratios. Investors are interested in the ratio to see how efficiently a company uses its capital employed as well as its long term financing strategies. Companies' returns should always be higher than the rate at which they are borrowing to fund the assets.

ROCE considers debt and other liabilities as well. This provides a better indication of financial performance for companies with significant debt. A higher ROCE indicates more efficient use of capital. ROCE should be higher than the company's capital cost, otherwise it indicates that the company is not employing its capital efficiently and is not generating shareholder value.

### **Return on Equity (ROE)**

Return of equity is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. ROE is expressed as a percentage and calculated as;

### **Net Income Shareholders Equity**

Where; **Net income = Profit after Interest and Tax.**

This ratio shows the earning power on shareholder's book value investment and is frequently used in comparing two or more firms in an industry. Shareholders equity does not include preferred share. It is also known as 'Return on net worth'. The ROE is useful for comparing

the profitability of a company to that of the other firms in the same industry. There are several variations on the formula that the investors may use Investors willing to see the return on common equity may modify the formula above by subtracting preferred dividends from net income and subtracting preferred equity from shareholders equity, giving the following;  
Return on common equity =  $\frac{\text{Net Income} - \text{Preferred Dividend}}{\text{Common Equity}}$

ROE may also be calculated by dividing net income by average shareholders' equity. Average shareholders' equity is calculated by adding the shareholders equity at the beginning of a period to the shareholders equity at periods and dividing the result by two.

Investors may also calculate the change in ROE for a period by first using the shareholders equity figure from the beginning of the period as a denominator to determine the beginning ROE. ROE measures the rate of return for ownership interest (shareholders equity) of common stock.

### **Return on Assets (ROA)**

ROA is a financial ratio that shows the percentage of profit that a company earns in relation to its overall resources (total assets). Return on Asset is a key profitability ratio which measures the amount of profit made by a company per naira of its assets. It shows the company's ability to generate profits before leverage, rather than using leverage. The ROA ratio often called the return on total asset is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. In other words, the return on assets ratio or ROA measures how efficiently a company can manage its assets to produce profits during a period. It can be calculated as; **Net Income**  
**Total Assets**

Where; **Net income = Profit after Interest and Tax.**

This ratio shows the relative profitability of the business. A positive ROA ratio is usually indicated as upward profit trend as well. It only makes sense that a higher ratio is more favorable to investors because it shows that the company is more effectively managing its assets to produce greater amounts of net income. The Return on Assets ratio measures how effectively a company can earn a return on its investment in assets. In other words, ROA shows how efficiently a company can convert the money used to purchase assets into net income or profits.

Since all assets are either funded by equity or debt, some investors try to disregard the costs of acquiring the assets in the return calculation by adding back interest expense in the formula. It only makes sense that a higher ratio is more favorable to investors because it shows that the company is more efficiently managing its asset to produce greater amounts of net income.

Return on Assets is most useful for comparing companies in the same industry as different industries use assets differently.

### **Analysis of Theories of Profit Compensation Theory of Profit**

This theory was formulated by Alfred Marshall; it holds that the profit is the supply price of entrepreneurship or business power where business is the supply of capitals plus supply of the ability to maintain business plus supply of organizational ability for production. This theory treats profit as a cost element and that profit is the price for the function of capital hence it is

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a functional theory of profit. This can serve as compensation to investors and motivate investment; it is in line with the classical theory of investment such as the accelerator theory or the marginal efficiency of capital and marginal efficiency of investment.

### **Dynamic Theory of Profit**

This theory of profit by J.B Clerk, profit is a residue, the difference between price and costs, due to the reductions in the cost effected by changes in the economy population increase , increased capital supply (this reduces the interest rate charge and hence the cost of capital comes down), innovations (reduces costs) higher inventory (windfall profits occurs when the cost of production remains the same but the price shoots up perhaps due to inflation or higher demand), forms of organization (reduces cost), technological improvements (reduces the costs). This theory is also known as windfall theory of profits. This theory treats profits as a residue in price after deducting costs; hence it is a residual theory of profits. This theory fails to capture the real concept of profit.

### **Monopoly theory of profits**

This theory was propounded out of the monopoly means of operation as a sole supplier or producer of a commodity. It treats the profits as residue caused by the monopoly power or monopoly conditions of the market especially the barriers to entry. It is important to note that monopoly is gradually phasing out that means this theory may be obsolesce.

### **Innovation theory of profits**

This theory was propounded by Joseph Schumpeter, holds that profits are a residue and it is the cost of entrepreneurial ability used. The residual difference between price and costs is increased due to the reductions in costs due to innovations such as introduction of new goods, differentiated goods, discovery of new source of raw materials, development of new markets, and use of new organizational forms. According to this theory innovations result in a reduction in the prices of the factors of production, thus the costs of production decreases resulting in an increase in the difference between the price and the costs of production, the residual profits. This theory stress the need for innovative ideas in business, it captures today's business environment.

### **Uncertainty theory of profits**

This theory was propounded by Frank Knight, holds that profits as a non-contractual residual accruing to the entrepreneur for his non-transferable function of bearing uninsurable future uncertainty, profit is the price paid for bearing uninsurable uncertainty. The uncertainty is caused by the following factors: competitors' behavior, innovations, consumers' behavior government policy interventions, wage and labor policies, income of people, movement of prices, technological changes, natural disturbances, etc. This is also a residual and windfall theory of profits.

### **Risk bearing theory of profits**

This theory was propounded by Shackle, holds that profit is the reward to the entrepreneur for successfully accomplishing the activity bearing the related risks. Thus profit is the price paid for the risk bearing 'function' of the entrepreneur, hence it is a functional theory of profits. This is also a windfall theory of profits since windfall profits result as a result of increase in the price while the costs of production remain unchanged. The price increases are caused, as per this theory, by expected movements in price and income of consumers, inventory management, and reimbursement for risks, differences in efficiency, and differences in the

nature of production, monopoly profits, windfall profits in a branch of industry, and general windfall profits, this fall under innovative theory of profit.

### **Surplus value theory of profits**

This theory was propounded by Karl Marx, holds that the surplus value is the difference between the price and the wages. It holds that all productive value and therefore sales value in any good comes only from the amount of labor used to produce it. It follows that only labor is the product and that the capital and entrepreneurship are not. This is also a residual theory of profits.

### **Romantic theory of profits**

This theory was propounded by St Thomas Aquinas, holds that (a) profit is a payment to a class of people whose value systems are wrong; (b) the just society is one in which people devoted their highest efforts to society in general and the needy everywhere; (c) the danger of profit is that its pursuit to the exclusion of good endeavour can only prevent men and women and lead to their ultimate destruction.

### **The Rent-for-ability theory of profits**

This theory was propounded by Senior, JS Mill and FA Walker, holds that profit is the ‘rent’ paid to the entrepreneur for his ability. Profit is treated as a cost element in the production function.

### **The wage theory of profits**

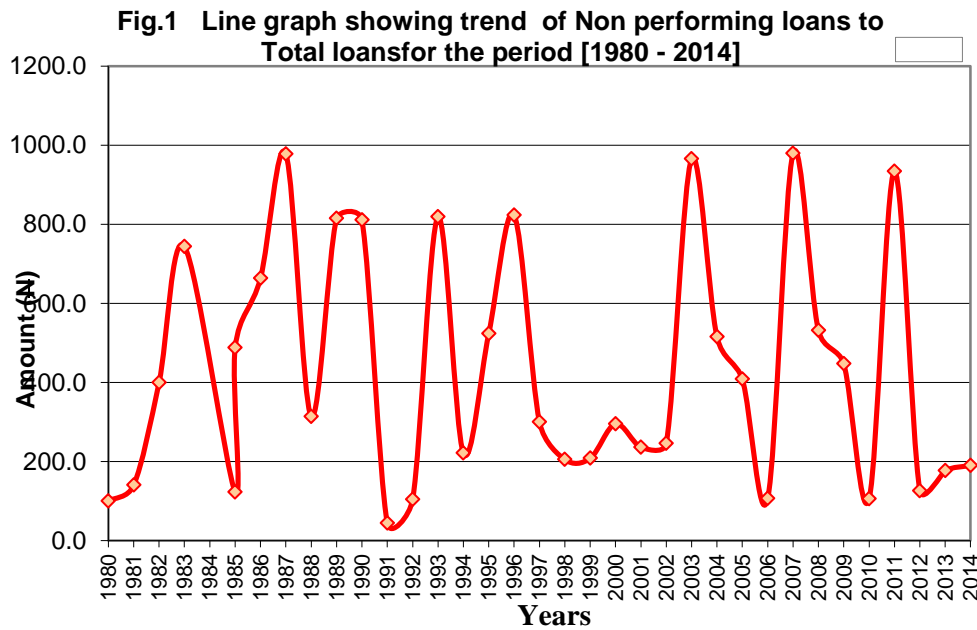
This theory was propounded by Taussig and Davenport, holds that profit is the wage paid to the entrepreneur for his service. According to this theory, profit is a cost element like wages since labour and entrepreneurship are alike.

### **Marginal Productivity theory of profits**

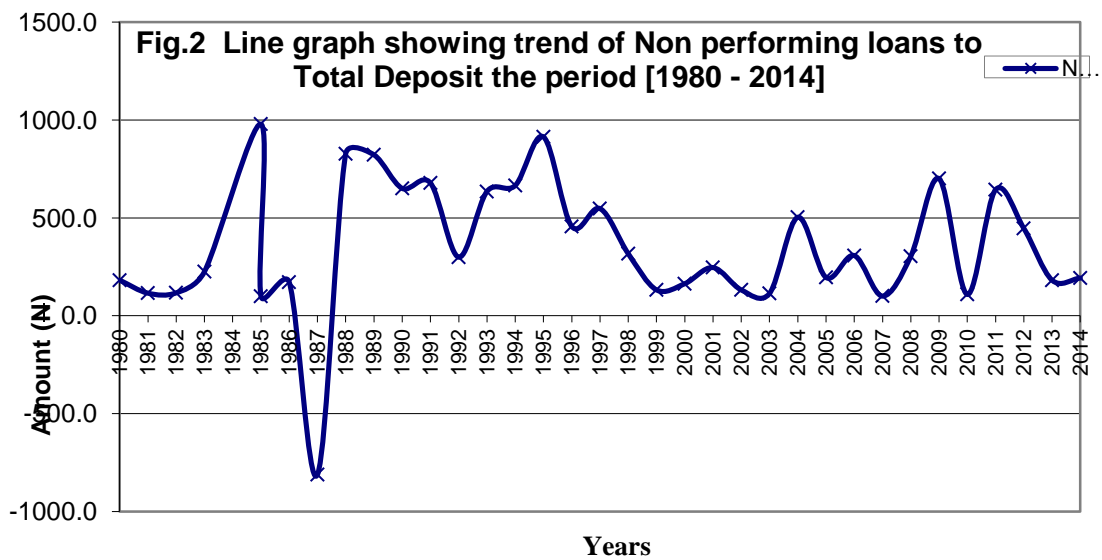
This theory was propounded by Chapman, Stigler, Stonier and Hague, the profit is a wage payment to the entrepreneur based on their marginal revenue product. This theory also treats profits as a cost element.



**Descriptive Analysis of Various Components of Earning, Profitability and Asset Quality in Nigeria Banks from 1980 – 2014**

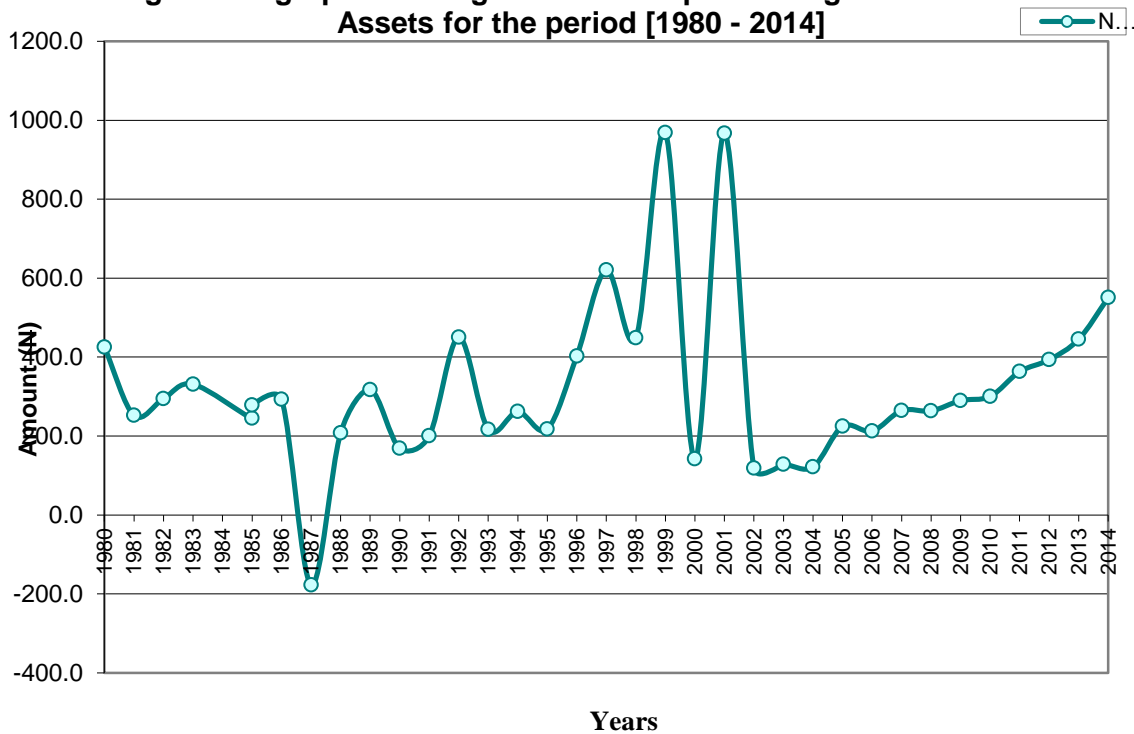


The trend shows the fluctuations in Nigeria Banks Non-performing loans to total loans from 1980 to 2014. The graph depicts an irregular shape, rising and falling within the period under review.



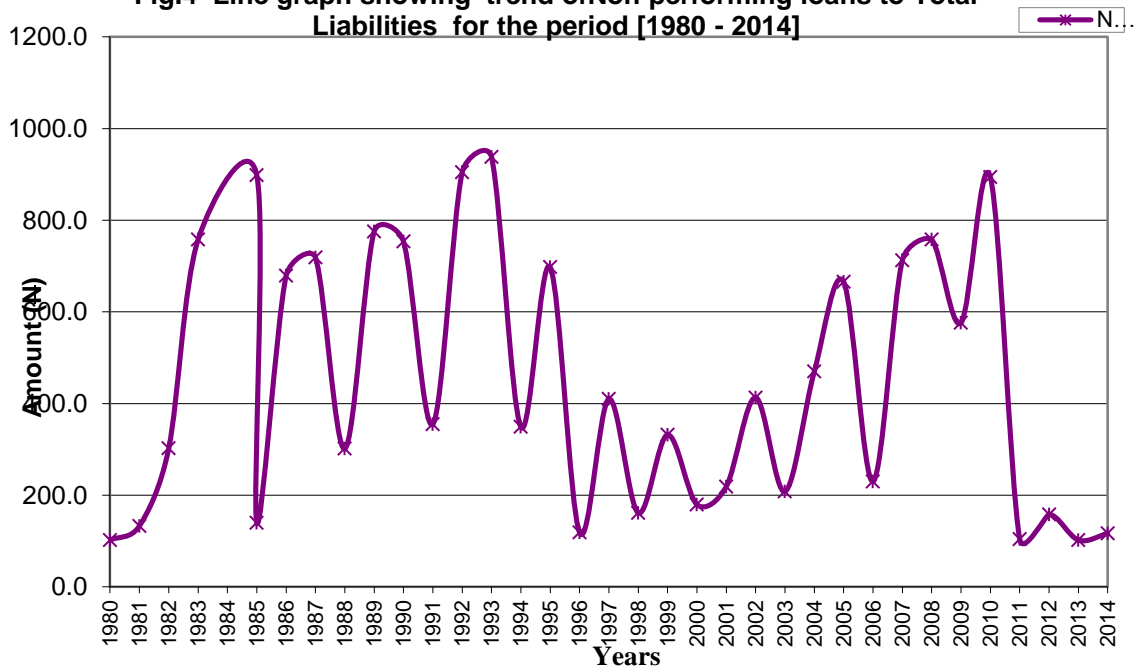
The trend shows the fluctuations/changes in Nigeria Banks Non-performing loans to total deposit from 1980 to 2014. The graph depicts an irregular shape, rising and falling within the period under review.

**Fig.3 Line graph showing trend of Non performing loans to Total Assets for the period [1980 - 2014]**

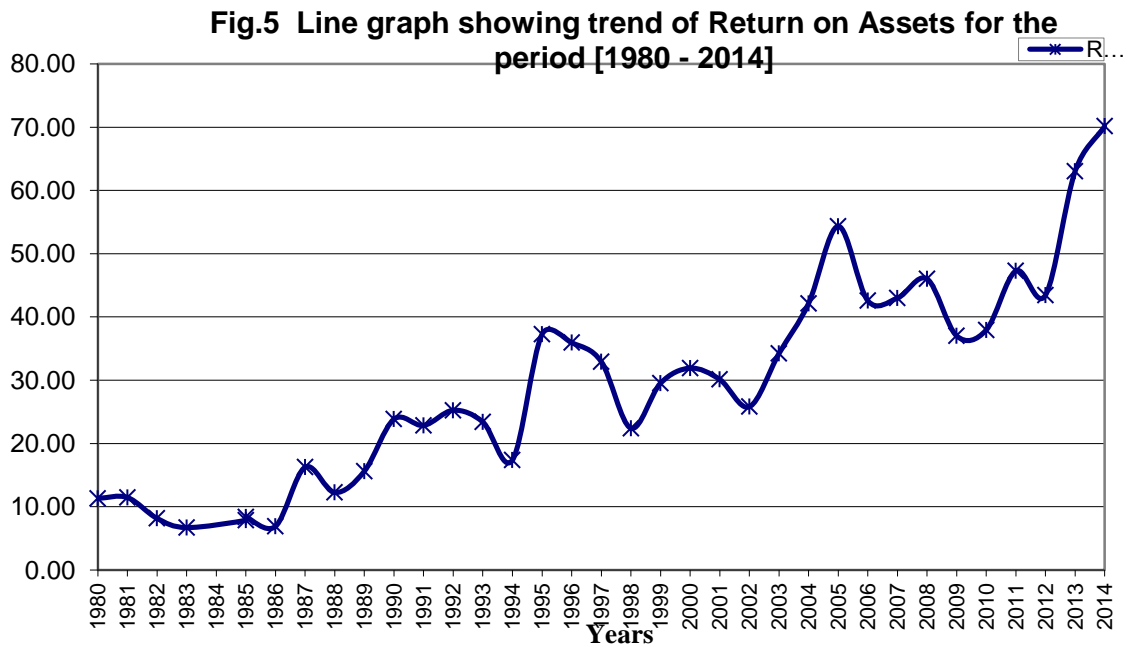


The trend shows the fluctuations/changes in Nigeria Banks Non-performing loans to total asset from 1980 to 2014. The graph depicts an irregular shape, rising and falling within the period under review.

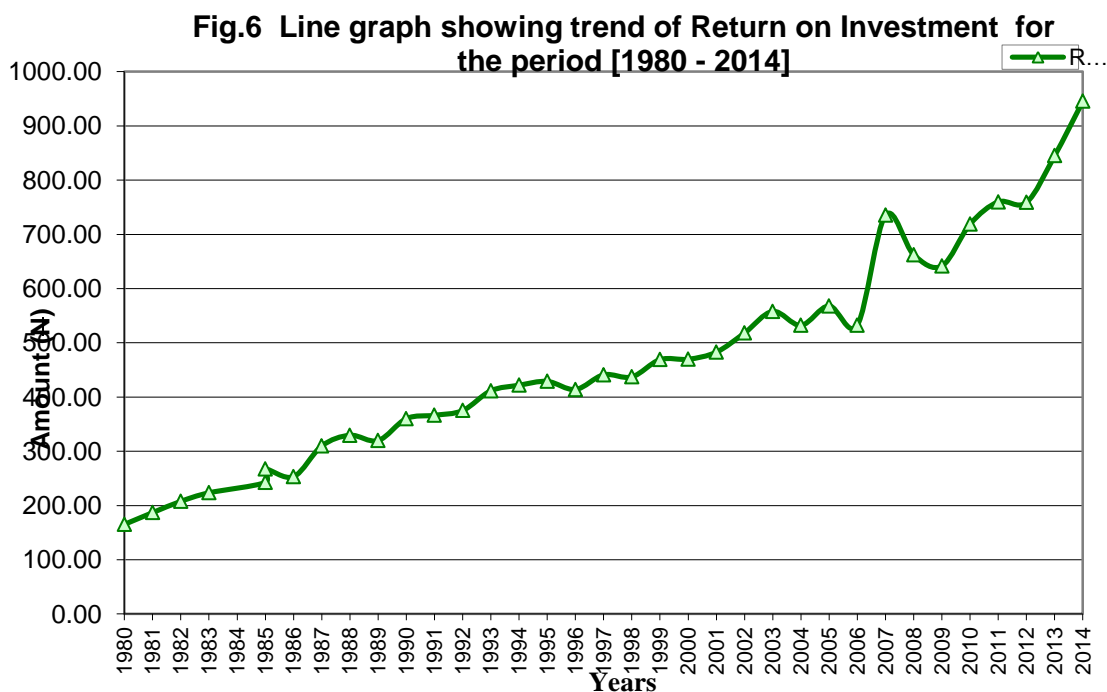
**Fig.4 Line graph showing trend of Non performing loans to Total Liabilities for the period [1980 - 2014]**



The trend shows the fluctuations/changes in Nigeria Banks Non-performing loans to total Liabilities from 1980 to 2014. The graph it depict an irregular shape, rising and falling within the period under review

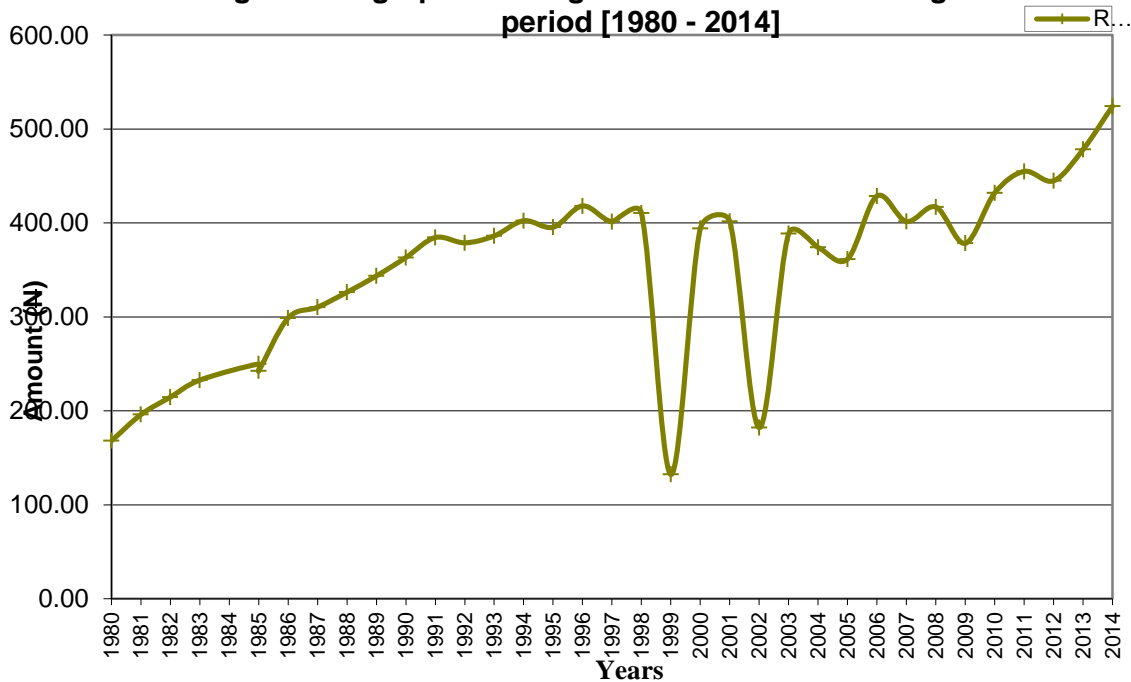


The graph shows the fluctuations/changes Return on Assets from 1980 to 2014. The trend depict an irregular rising and falling shape within the period under review



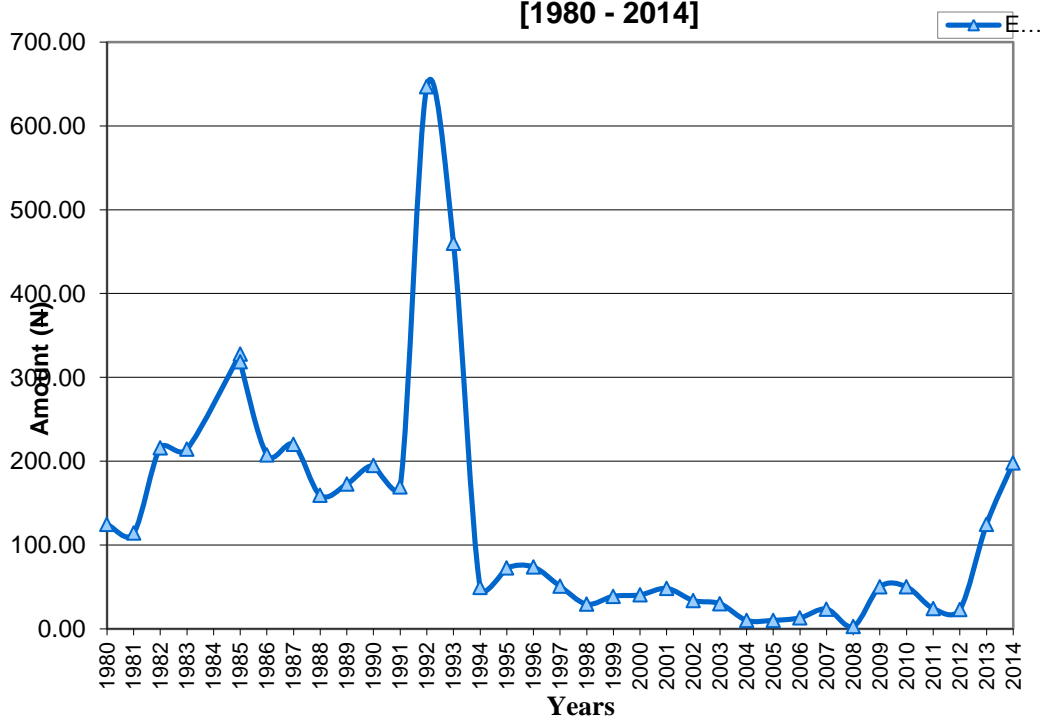
The graph shows the fluctuations/changes Return on investment from 1980 to 2014. The trend depict a Sharpe shape within the period under review

**Fig.7 Line graph showing trend of Rate of Exchange for the period [1980 - 2014]**



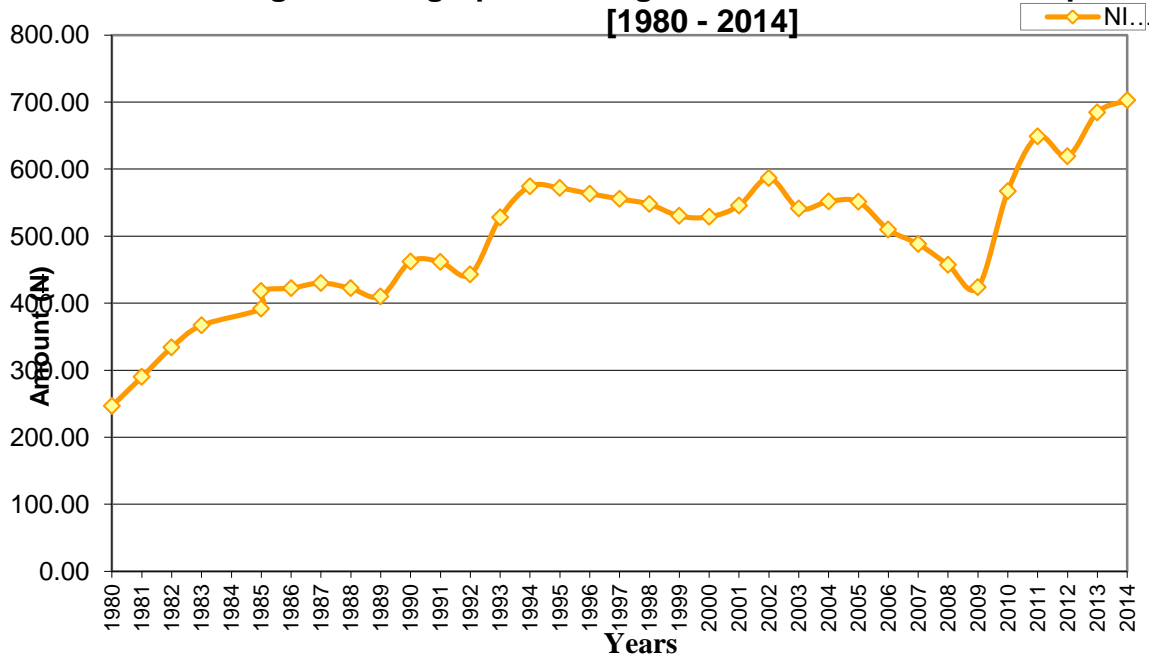
The line graph shows the fluctuations/changes in Nigeria Exchange Rates from 1980 to 2014. The trend depicts an irregular shape, falling to the lowest in 1999 and 2003 and later began to fall and rise and rising sharply sequentially within the period under review.

**Fig.8 Line graph showing trend of EPS for the period [1980 - 2014]**



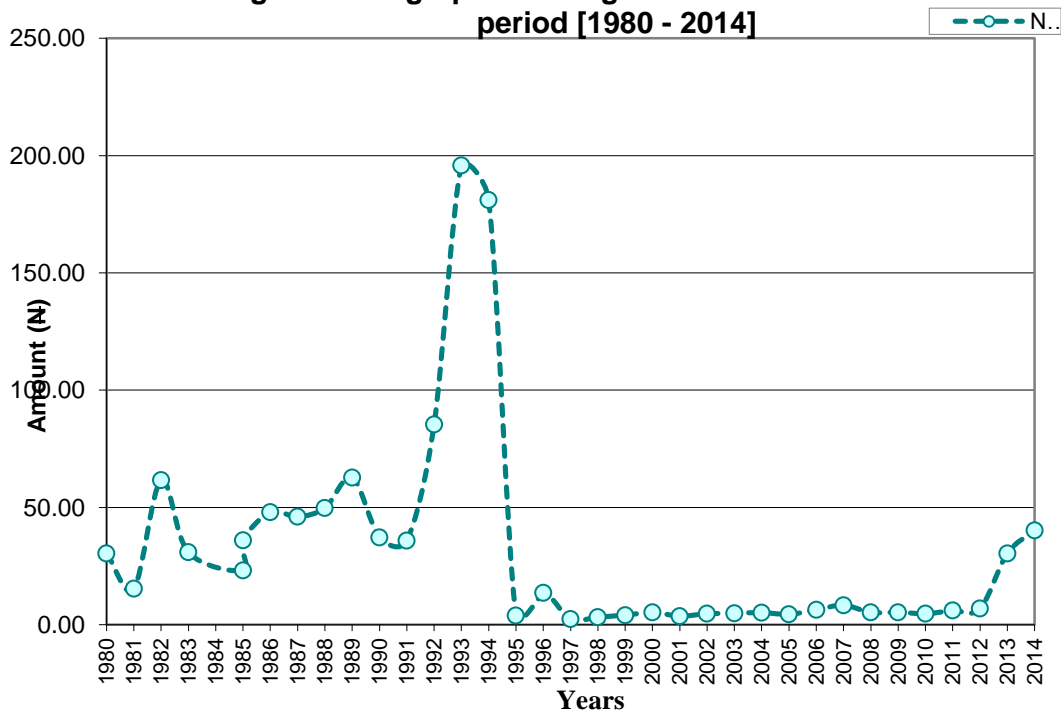
The graphs shows the fluctuations/changes in EPS from 1980 to 2014. The graph depict an irregular shape, rising to the highest in 1990 to 1994 and later began to fall with rise and falling shape and start rising from 2012 within the period under review

**Fig.9 Line graph showing trend of NIC/AVAR for the period [1980 - 2014]**



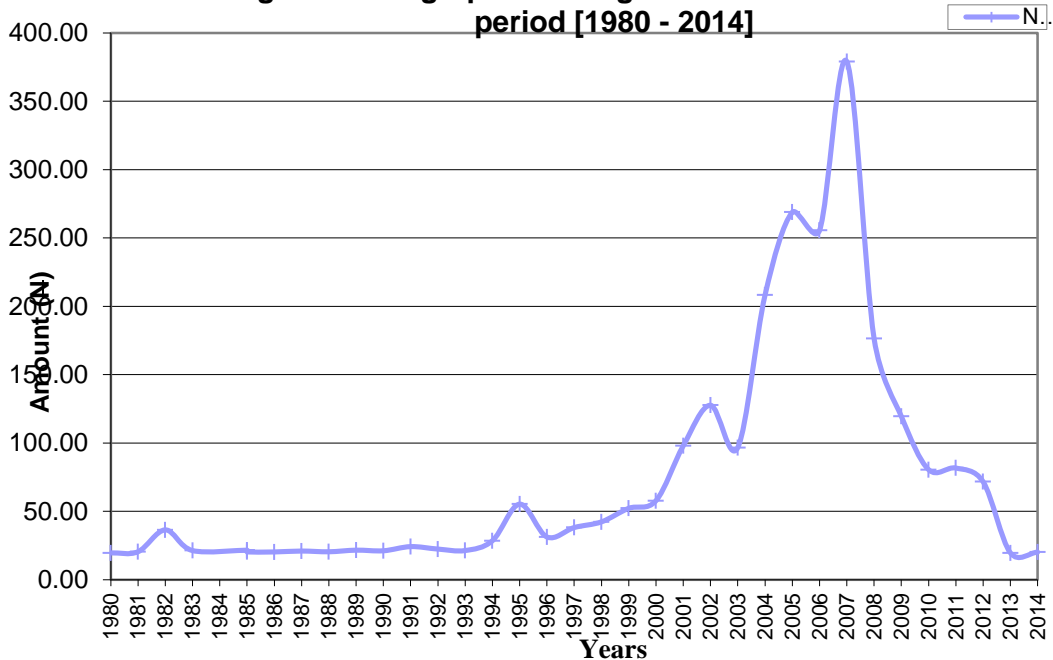
The graphs above shows the fluctuations/changes in NII/AVAR from 1980 to 2014. The graph depict an irregular shape, rising and falling within the period under review

**Fig.10 Line graph showing trend of NIC/AEAR for the period [1980 - 2014]**

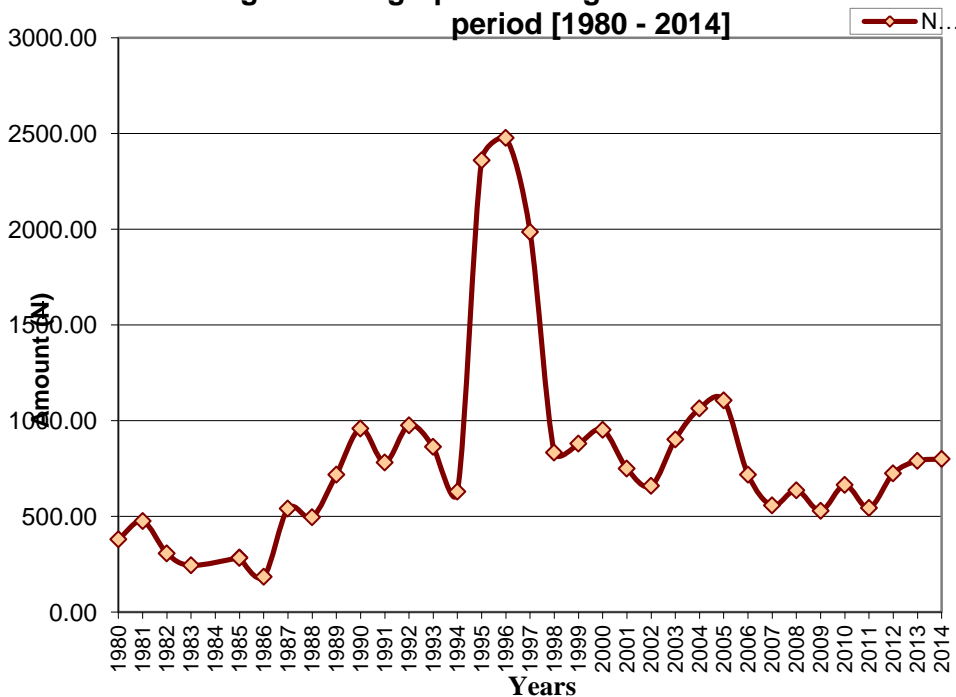


The trend shows the fluctuations/changes in NIC/AEAR from 1980 to 2014. The graph depicts an irregular shape, rising to the highest in 1992 to 1994 and later began to fall with rise and falling shape within the period under review

**Fig.11 Line graph showing trend of NII/AEE for the period [1980 - 2014]**



**Fig.12 Line graph showing trend of NIE/AVA for the period [1980 - 2014]**



The trend shows the fluctuations/changes in naira from 1980 to 2014. The graph depicts an irregular shape, rising to the highest in 1997 and 1998 and later began to fall with rise and falling shape within the period under review

## Conclusion and Recommendations

There are apparent conflicts between the objectives of liquidity, safety and profitability relating to a commercial bank. Economists have tried to resolve these conflicts by laying down certain theories from time to time. These principles or theories, in fact, govern the distribution of assets keeping in views their objectives. They have also come to be known as the theories of liquidity management. This is why, this study analysis of earning, profitability and asset quality in banking become imperative and paramount concerning its role in the development and growth of a growing concern. The assessment of bank earnings is one of the integral parts of most models of supervision and supervisory earnings and profitability help to bring changes in bank asset quality which is also an important part of risk management. It enables the management and regulatory authorities to achieve its sustainable goals. However, not only is assets quality important in its own right, but the quality of a bank's loan portfolio will have an impact on all the other quantitative measures of bank creditworthiness, including profitability which reasonable level of profitability is always a positive factor in assessing its credit standing, capital and liquidity so as to strike an optimal balance. Also, poor assets quality will affect profitability, capital and liquidity and which will in turn affect its earning capacity. Weak asset quality threatens core capital, which is the last line of defense against loans that are written off.

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