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LIMITATIONS OF RETURN ON ASSETS IN MEASURING BANKS' PERFORMANCE IN NIGERIA

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Abstract
Return on assets (ROA) as the main measure of banks' performance is one model that scholars frequently revisit to ascertain whether or not it can affirmatively be accepted as such in the Nigerian banking industry. However, it is criticized for its inherent limitations and risk of misleading the users into taking wrong decisions. One major question that deserves attention and solution is: In spite the inherent limitations, can ROA still be valid as an acceptable measure of performance in the Nigerian banking industry as argued by some authors and researchers. The objective of this study is to review and analyze the relevant literatures mainly on models for measuring performance in the banking industry to determine whether or not the ROA can still be relevant as the sole measure of performance. It was concluded that no acceptable model can be adopted from the existing models however, multiple criteria model made up of i) return on turnover ii) interest on credit facilities iii) budget and iv) profit is recommended for a reflective and satisfactory measure of performance in the banking industry. However, the return on assets can also be used to supplement this multiple criteria.

Key Words: Banks, Measures Of Performance, Model, Profit, Return on Assets.

Introduction

The return on assets (ROA) as the main measure of banks' performance is one prominent topic that scholars frequently revisit to ascertain whether or not it can affirmatively stand as such in the banking industry. The other measures include: return on equity, return on capital employed, internal rate of return, profitability index and gross earning margin to mention a few. Probably, the most attractive and convincing assumption is that banks use any available legal asset in its possession to generate income. Therefore, its performance is expected to reflect the return or benefit accruing during the period of measurement. Another beauty of ROA is that it recognizes the banks' size as disclosed by the statement of assets and liabilities. However, the extent of the usage is one area that ROA cannot reveal. Besides, the measure will not have the capacity to disclose the components of return and assets other than the reported figures.

In this work, assets will be used interchangeably with capital unless otherwise stated because in a simple accounting equation, assets are equivalent of capital at any point in time (Glautier and Underdown, 2001). So also is return and profit. Capital in a corporate organization cannot clearly be separated from the return or profit it generates in any accounting year or period. Like any other corporate organization, the banking industry's performance will always be evaluated based on the contents of its financial statements presented annualy to the owners annually. The statements only show the residual value or figures remaining at the end of the financial year, ignoring the actual movements in respect of returns accruing in and assets used during the year under review.

The concerned two figures in this context are return or profit before tax (ignoring the question of why adopting profit before tax) and the total assets or statement of assets and liabilities. Unfortunately, the reported operational result is always made up of the accumulation of 12 months' figure without revealing any seasonal, monthly or at least quarterly figure with which the corresponding total assets will be measured. The annual accounts only disclose total assets at a point in time that is, financial year end and no more. It is therefore obvious that the absence of this figurative information on profit and assets might render any computed ROA incorrect and may mislead the users of the financial information in taking decisions.

Using the financial year figure of profit and residual total assets to measure the banks' performance would not produce the correct percentage. For instance, where total asset in the month of October is N60m with corresponding profit of N10m (N1,000,000 per month on average), the ROA would ordinarily be approximated to 16.67 percent. If within two months, that is November and December, shares value of N10m and deposits (as a result of crazy do-or-die end of the year deposit mobilization) of N50m came in for only one week (say, 29th December, and remain till 4th January in the following year, as it is always the case) respectively and profit of N12m is reported, the ROA as a measure of performance will questionably be distorted, since it will come down to 10 percent from 16.67 percent instead of upward or steady movement. This is because the ROA will have no regard for the sudden introduction of N60m between November and December. In addition, the emergency asset would not be able to generate any equivalent amount of profit within this short period to stabilize the normal return being reported.

At the end of the year, the total assets of N120m become the final figure that will be considered for the measurement of performance. Supposing there is another transaction - reduction in shares capital of N5m in December, the ROA will again move to 10.43 percent with the profit remaining same figure of N12 in the measured year. This is because only residual figures are used in the computation. Another serious case is a where the shares holders' fund is negative with the corresponding negative figure reported as asset on the assets' side. To make up the statement of assets and liabilities total, what should be the interpretation of ROA. Another risk area of ROA is ignoring 'what is used to earn the return' being measured. These are the obviously inherent limitations of ROA when considering it as a good measure of banks' performance.

One major question that deserves attention and solution is: Inspite the notable limitations, can ROA still be valid as an acceptable measure of performance in banking industry as favourably argued by some authors and researchers (Agu, 1985; Rhoades, 1987 and Evanoff and Fortier, (1988)? Another subordinating question is that, can other measures of performance be contemplated with a view to revealing alternative measures of performance? The objective of the study is a derivation from the major question; to review and analyze the relevant literatures to determine whether the ROA or not can still be relevant as the sole measure of performance in the banking industry. The researchers are of the strong view that reviewing the models of measurement of performance in banking would provide analytical answers to achieve the objective.

The Concept of Performance

The term performance is not as straightforward as it sounds; people may have different meanings to it, depending on the circumstances is used. However, majority of people and individual often refer to it as financial performance or simply performance. There are several aspects of performance, each of which contributes to the overall performance, financial or otherwise in an organization. Despite the available standards, the response to the question, what is performance is still debatable. For example, the accountants, bankers and management will all aim at sound performance, but others may worry about what constitutes such performance.

No performance review is beyond dispute as it holds that profit is an opinion. If income is to be measured in terms of the increase or decrease in wealth of an enterprise, obviously some definitions of that stock of wealth will be required. Three basic measures of wealth are evident from the literature (Pandy, 2003 and Akinsulire, 2008) as follows:

1. financial capital – the equity stake in an enterprise in money terms;
2. real financial capital – the equity stake in an enterprise in real terms (the proprietary concept);
3. operating capacity capital – the ability of the enterprise to maintain its ability to provide goods and services (the entity concept).

Hunger and Wheelan (1997) define performance as the end result of activity and the appropriate measure selected to assess the corporate performance is to depend on the type of organization to be evaluated and the objectives to be achieved through that evaluation. Walden (2007) and Ellis-Christensen (2010) believe that performance includes i) the use of statistical evidence to determine progress toward specifically defined organizational objectives ii) the process of developing measurable indicators that can be systematically tracked to assess progress made in achieving predetermined goals and using such indicators to assess progress in achieving these goals and iii) a process of assessing the achievement of pre-determined goals through the measurement of the following types of indicators: inputs, processes of delivery of activities and services outputs, and outcomes.

From the above, it could be affirmed that performance is a measure or evaluation of achievement with predetermined or expected target of an organization. It can also be looked at as the process whereby a company establishes the parameters within which achievements, programmes, investments, outputs and acquisitions are reaching the desired results. The critical and fundamental objective of banks is to enhance the shareholders' value through constant improvement in performance.

Model of Measurement of Performance in Banks

Researchers on banks' have offered a variety of models for measuring performance in banks. However, little or no consensus is reached as to what approach could be described as the most valid set of performance criteria (Cameron, 1986). Some of the models are reviewed as follows:

i)Multimedia Criteria

Cameron (1986) and Hitt (1988) suggest that studies on corporate performance should be based on multimedia criteria analysis. Weiner and Mahoney (1981) have indicated that there are numerous measures of corporate performance that could serve as dependent variables. However, more important than the specific measure chosen is the use made of multiple measures because different criteria of performance are likely to be differently affected by the various independent variables (Lieberson and O'Connor, 1992). Ostroff and Schmitt (1993) support the multimedia criteria analysis as they are of the view that the multidimensional view of performance implies that different models or patterns of relationships between corporate

performance and its determinants will emerge to demonstrate the various sets of relationships that exist between the dependent and the independent variables.

Despite the arguments, the studies failed to disclose the variable components of what are multiple measures as a guide in the measure of performance in an organization. Again, these methods did not identify the peculiarities of the banking sector in terms of using multiple inputs to produce multiple outputs. This is the position of Sherman and Gold (1985); Smith (1990); Fermandez-Castro and Smith (1994) and Tanko (2006). However, the central bank of Nigeria (CBN) in 2005 classified ten banks (First bank of Nigeria plc, United Bank for Africa Plc, Zenith International Bank Ltd, Union Bank of Nigeria Plc, Oceanic Bank International Plc, Intercontinental Bank Plc, Guaranty Trust Bank Plc, Diamond Bank Ltd, Afribank Nigeria Plc and Wema Bank Plc) as the largest and possibly the best. It used multiple (four) criteria for the performance measurement. The criteria are: asset base, equity capital, deposit base and credit facilities (CBN, 2005). These indicators however, may not be the adequate measure of banks' performance because no reference is made to the use of assets, equity and deposits. Besides, the measurement is not in agreement with the general view of profit as the ultimate performance indicator.

ii) Return on Assets (ROA)

Halex (2007) states that, profitability gives an idea of how well a bank is doing but it suffers from one major drawback. It does not adjust for the bank's size, thus making it hard to compare how well one bank is doing relative to another. He is of the opinion that the basic measure of bank performance that can address the drawback or correct the size of the bank is the ROA. Mudiarasan, Ali and Ananda (2010) are of the same view; the ROA model is a popular convention of measuring banks' performance because it provides deeper insights into the financial activities of banks. The two studies did not see anything wrong with the measurement using ROA.

Researchers such as Evanoff and Fortier (1988) have adopted this basic measure of banks' performance-ROA. Others measurements of banks' performance that are being used include return on equity (ROE) and bank stock price (Maiturare, 2004). However, the use of ROE is not an appropriate tool for the measurement of performance because banks can divide capital between debt and equity, making the comparison of equity values across banks difficult. Besides, ROE may not be practicable since equity alone is negligible when considering it in terms of percentage in shareholders' funds in banks. The limitation of ROE has therefore rendered ROA the most widely used measure of performance in banks as suggested by Evanoff and Fortier (1988).

Business Week (April 9, 1984), and (April 8, 1985) also suggested that ROA is the single best measure of performance for banks as cited in Rhoades (1987), but there was no little justification for the assertion. Agu (1985) also used ROA, ROE and the average consumer price index as a measure of performance in banks as he believes that they are the best measures of bank's performance. In spite the common recognition and use attached to the ROA, its inherent limitations may frighten its continuity and popularity.

iii)Profit

Another strong and common measure of performance not only in banks but in other sectors is profit. Profit can be described as the ultimate since all other performance indicators contribute to the overall performance of an organization which is eventually transformed and reported in terms of profit. It is the product of a successful utilization of available resources through its employment in any functional area of an organization. Profit is the conventional method of measuring performance or success of an organization or investment. For instance, a bank with constant record of negative operational results (loss) will have its going concern threatened and a loss of confidence by the depositing customers and public.

The term profit is however, a very difficult concept to define but can easily be explained because of the various accounting policies of individual entity. The difficulty may be due to i) point of recognizing earnings or income, ii) various methods or rates of depreciation, iii) extent of compliance with the regulatory authorities, iv) management emphasis or conservatism, and the rest. According to Jat (2006), the limitation to which importance of profit is a reliable indicator of good performance is when a huge profit is recorded due to windfall gain or a cause by good fortune which has no bearing whatsoever with the productivity of the enterprise.

In spite the complaints, profit is still the basic standard by which the performance of a business organization is measured with the resource in the form of financial capital at the appropriate time. As observed by the committee of London Clearing Bankers (1978), unless the banks can earn an adequate return on the resources they employed, their ability to play their role in the economy fully and effectively will be prejudiced. Banks whose profitability is below required figure, are less likely to

accept the risk of venturing into new markets, initiating new programmes or convenience oriented services for their customers or developing innovating credit packages for both businesses and consumers. High profit will provide a buffer against adverse shocks and also increase the charter or franchise value of a business organization (Gan, 2007). Mock and Chau (2003) used profit to measure corporate performance.

Despite the favourable arguments by the studies above, profit can only act as an auxiliary measure of performance in banking industry. For instance, it will be difficult to claim that Bank C with a reported profit of N20m is better than Bank D that reported a profit of N18m. This is because of the methods or procedures adopted by these banks to arrive at the reported profits even with common capital base.

iv)Return on Turnover (ROT)

The researchers are of the view that ROT would represent a true and fair measure of performance in banks. Turnover in this context is all withdrawals made from all accounts maintained by customers of a bank, total credit facilities liquidated and total of all placements recovered in a measured period. Withdrawals in all forms, including those on credit facilities that give rise to commissions' income. Banks' intermediation transactions would hardly be completed without passing through the debit side of customers' accounts. Return in this context will include interest income, commissions and other income accruable to banks.

The turnover in this study should be recognized as the true and representative utilization of deposits mobilized and any acceptable surplus to support the working capital in a particular period and with which the total income generated during the period should be measured. This measure therefore will duly capture the resources actually used instead of relying on residual information or balances at the end of financial years. However, the likely problem of this model is how to accumulate and manage this figurative information in a year or for a particular period.

v)Interest Income on Credit Facilities (IIOCF)

Interest income on credit facilities could be an acceptable measure of banks' performance. For this study, credit facilities include loans, advances, overdrafts, commercial papers, bankers' acceptance, bill discounting, lease guarantee, other loss contingencies with a bank's credit risks (CBN, 1990) and all placements of funds with other financial institutions for the purpose of interest generation with maturing date. This may not however, be contested or arguable at the first instance, but may be subjected to criticisms. For instance, obtaining the exact figures of facilities granted and placements made in a measured year can be difficult without going into relevant documents. What are always available are the residual balances of these items, like outstanding loans or facilities, not those that have been liquidated during the year. The same difficulty will also apply to placements as the financial statements will only disclose those balances with financial institutions as at that date.

Granting credit facilities and placements are the most important functions of banks and are always considered as the largest part of banks' total assets. The ability of the banks to carry out these functions is of economic significance because they result in the elastic credit system that is necessary for economic progress at a relatively steady rate of growth (Revel, 1980). When banks perform these functions, they actively created the influence to generate income. Therefore, the greater the percentage of the banks' resources placed in these functions, the better the banks' interest income (Bruker, 1970). In a typical annual financial report of banks, interest income would consist of the highest portion of the total income. For instance, First Bank of Nigeria Plc reported about 77 % (year 2010) and about 83% in year 2009 interest income of the total income of the bank in the two years. Zenith Bank Plc also recorded about 70% (year 2010) with 73% in year 2009. Another selected bank is Ecobank Nigeria Plc that recorded interest income of about 75% in year 2010 on the total income and 71% in 2009 financial year. On average, 75% has accounted for interest income on the total income of these banks.

In addition, the average of 75% interest income is an indication that the banks actually carried out their intermediation functions rather than embarking on non-banking activities since the major activity of banks is the granting of facilities and trading on funds for earnings.

vi) Gross Earnings Margin (GEM)

Revell (1980) believes that Gross Earnings Margin (GEM) is the most comprehensive method of performance indicators in banks after using it to investigate the trends in the interest margin and the cost of intermediation. He is of the opinion that the model represents what consumers have to pay for the services provided. The study of Revel (1980) is one sided because the study did not consider the variables that had given rise to the earnings. For instance, when considering the earnings of two

banks, A and B. A with earnings of N30m and B with N32m, it does not necessarily means that bank B's performance is better than A because the variables that generated the earnings were assumed not to have been taken into consideration.

vii)Budget Achievement

Any serious business organization is expected to put in place good and attainable budget immediately before the beginning of a year with which the actual results can be compared with to evaluate the performance of the company. A budget provides focus for the organization, aids the coordination of activities and facilitates control. In line with this, Horngren (2004) states that budgets are designed to carry out various functions such as planning, evaluating performance, coordinating activities, implementing plans, communicating, motivating and authorizing actions. Buyers and Holmes (1973) and Lucey (2003) explain that budget is a monetary statement, a financial statement or a quantitative course of action, prepared and approved prior to a defined period of time. It could be conformable to state that budget achievement is a very good measure of corporate performance since it a) assists as a target performance b) acts as a plan of action to achieve specific performance c) is a control measure established for a particular period and d) assists in performance evaluation.

viii) Return on Capital Employed (ROCE)

Capital is a strong factor of production and so, one cannot be talking about performance without capital, but what is in doubt is which type of capital can generate the desired return (Mainoma, 2005). Hannan and Wolken (1989) assert that capital does not affect performance but Madura and Wiant (1994) posit that the quantum of capital may not necessarily explain the performance of banks but other factors do. Return on capital employed (ROCE) is a measure of management efficiency in the use of organization's available resources in a given financial period (Egungwu, 2005). However, Enyi (2007) argues that the use of ROCE as a performance indicator is, though desirable but nonetheless spurious and capable of giving misleading information. He opines that the true measurement of efficiency in the use of capital resources cannot be done using capital employed as defined in a company's balance sheet. This is because the balance sheet capital employed is a static measure of capital employed at a date and not for the entire period. He concludes that the result would invariably be influenced by the static nature of the value of capital employed as at that date and posits that such a measure will produce a larger than life result as the capital employed at balance sheet date will always tend towards producing an average rather than the total resources employed.

One may disagree with Enyi (2007)'s view because in the normal financial computation, return is measured with the capital employed at the end of the year or period, not at the beginning. Therefore, any addition (of capital) or reserves created in any year under review will be inclusive in the capital with which the return is measured. However, the case would be different when a company has negative shareholders' funds. ROCE cannot be used or acted as a measure of performance in banking industry. First, the definition of capital employed is elusive. Even though it is clear in definition, there still be a problem of 'which profit'. Besides, earnings of banks come from the utilization of deposits and any surplus that can be conveniently used for operations. Again, capital is mainly used to finance the required fixed assets of the banks, not for intermediation's function therefore measuring profit on capital employed could be injurious to this model.

ix) CBN and NDIC Parameter

Specifically, the CBN and NDIC use (the acronyms) CAMEL to assess the performance of banks. However, the arrangement of CAMEL was criticized by Wirnkar and Tanko (2007) and they suggested another acronym CLEAM, though the CLEAM has not been tested. C is the test of capital adequacy; A is for the determination of the assets or loans and advances quality while M is for the assessment of management quality. E stands for earnings of the bank and the L is for the test of liquidity ratio. The result of this rating system will confirm the condition of a bank. CAMEL has been used but with doubtful or questionable outcome. For instance, some CAMEL's results revealed soundness of banks, yet these banks may still have some operational and financial defects that will trigger banks' crisis. Some banks with weak assessment (resulting from the use of CAMEL rating) appeared to be better in performance than those confirmed satisfactory.

These conflicts may arise from the subjectivity in the application of CAMEL or inability of the banks' examiners to appropriately apply the skill required of CAMEL. Reviewing the comments from the users of this model confirm that nothing is actually wrong with the CAMEL as a measure of banks' performance. However, its application can be improved upon by way of on-the-job training.

x) Deposit

The size of deposits in place usually determines the level and ability of the banks to carry out its intermediation functions towards income earnings. Deposit in a bank determines the efforts, efficiency or otherwise put in by the banks. The deposit should be treated as a measure of performance since it provides the raw materials with which the banks trade with. Deposit is

an output of a bank however it serves well as input when it is used to grant facilities and other functions. The derivative question is if the mobilized deposit alone is suffice to represent a measure of performance without making reference to what it had impacted on the bank. Without definitive response to this question, deposit cannot stand as a true test of measure of performance even though banks are allover desperately searching for deposit to boost their assets and liabilities at a particular date.

xi)Customers' Satisfaction

Satisfaction is the person's feelings of pleasure or disappointment resulting from comparing a service's perceived performance (or outcome) in relation to his expectations. If the performance falls short of expectations, the customer is dissatisfies. If the performance equates the expectation, he is satisfied. If the performance exceeds the expectation, the customer is highly satisfied or delighted (Fournier and Glenmick, 1999). This statement is in agreement with Kotler and Keller (2007) when they say that a company would be wise to measure customer satisfaction regularly because one key to customer retention is customer satisfaction. Customers' satisfaction can only be a subordinating factor but cannot serve as a measure of performance due to the obvious reason of valuation of its measurement.

xii)Assets Size

In a study on bank performance, Fanning (1981) notes that the two fundamental measures of a bank's performance are growth in total assets size and the growth in the operating profits before taxes, interest and extraordinary items. It is widely accepted that profit would be a satisfactory measure of a firm's performance since it provides a good indication of the efficiency with which the firm uses the resources available to it (Papps, 1982). On the aspect of banks' size, Himmelberg, Charles, Glenn and Hubbard (1999) believe that banks' size has an ambiguous effect a priori on the scope of moral hazard. On the one hand, it is to state that the associated costs such as monitoring and agency costs can be greater in larger banks and this therefore may adversely affect the accounting profit. An obvious and reasonable increase in the quality and quantity of asset base and size of a bank is a clear indication of good performance within the compared period (Jat, 2006).

An ideal Nigerian man or woman may not obviously lay more emphasis on the value of assets especially, on fixed assets. This is because of the nature of the pricing - *over pricing*, at the point of construction or purchase due to high contract price. The price being recorded for financial reporting purpose obviously will be far higher than the normal price that the asset will fetch in the open market. It will be difficult if not fraudulent to use assets size as a measure of performance in banks.

xiii) Project Appraisal Techniques

There are other measures of performance that they can provide good answers to the wrong questions and much less good answers to the questions that require answers. That is, suitably calculated internal rate of return (IRR) and the accounting rate of return (ARR) have a precise and intimate relationship with the cost of capital and net present value (NPV). To be précised, if IRR and or ARR is above the cost of capital, then the NPV is positive and the firm is earning an excess return, that is earning more than the absolute minimum needed to cover cost and compensate for risk (Penman, 2003; Gjesdal (2004) and Richardson, Sloan, Soliman and Tuna, 2006).

Accounting rate of return or return on capital employed for a period is typically defined as the earnings of an investment during the period divided by the capital employed in the investment at that time. A particular concern is how to update the asset values that are used as a base for capital employed used either historic prices, historic updated by capital value, replacement cost or values based on deprival value yet the return on a firm's future investment plays a key role in many valuation models (Miller and Modigliani, 1961; Gordon, 1962; Leibowitz and Kogelman, 1990 and Danielson and Dowdell, 2001). These project appraisal models cannot pretend to occupy the position of measure of performance variable in the banking industry.

ivx) Data Envelopment Analysis

The trend today in measuring the performance of banks has adopted mainly the non parametric approaches. A non-parametric approach called the data envelopment analysis (DEA) has been extensively used in measuring performance. For instance, Tanko (2006) and Magaji (2008) adopted the DEA to measure the performance of Nigerian deposit money banks (DMBs). This approach has been on a trial over the years without significant improvement however, it cannot appropriately be considered for a reflective and generally accepted method in measuring banks' performance.

Summary and Conclusion

The paper had introduced why return on assets as a measure of banks' performance has been gaining prominence over other measures, the inherent limitations attached to it and the reasons for seeking alternative models. The paper had examined the

concept of performance in banking and other corporate organizations. Various models of measuring performance in banks were highlighted and reviewed alongside the focused return on assets. However, two models: interest income on credit facilities and return on turnover were introduced into the existing models because of the inherent problems noted in these models that obviously denied them to serve as good measures of performance in the industry. The relevance and observations were made on each of the reviewed models from which recommendations are made. Multiple criteria made up of i) return on turnover ii) interest on credit facilities iii) budget and iv) profit should be adopted to give a reflective and satisfactory measure of performance in the banking industry. However, return on assets can also be used to supplement this multiple criteria.

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