

# UNIVERSITY OF JOS



## **RISK AND RETURN: INVESTMENT CHOICES AND IRRATIONAL EXUBERANCE**

### **INAUGURAL LECTURE**

By

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## INTRODUCTION

*“For where your treasure is, there will your heart be also” Luke 12:34*

For many centuries, business was held in low esteem. The institution of free enterprise was a target of attack by government and other social groups. Business was perceived at that time as a degrading profession and sinful. Aristotle captured the mood at the time when he wrote, “of the two sorts of money making, one is part of household management, the other is retail trade; the former, necessary and honorable; the latter, a kind of exchange which is justly censured, for it is unnatural, a mode by which men gain from one another” (Aristotle in Koontz, O’Donnell and Weirich, 1982 p. 31).

Adam Smith, in his *Wealth of Nations* (1776) made this remark about businessmen: “an order of men, where interest is never the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.” (Koontz et. al 1982 p. 31). Napoleon was also reported to have disparagingly referred to England as a “nation of shopkeepers”. Such was the mood that, even the educated, regarded business as an inglorious occupation.

The sixteenth and seventeenth centuries witnessed an upsurge in exploration and international trade. The formation of joint stock companies became common but unfortunately, this was accompanied by massive fraud like the South Sea Bubble.

Joint stock companies of questionable commercial intentions were floated. In one instance, an individual announced the formation of a company “for carrying on an undertaking of great advantage but nobody to know what it is.” Within five hours, he had raised £2,000; within six hours, he was on his way out of the country (Brealey, Myers and Marcus, 2007 p.20). Regulations were surely needed to safeguard the interest of investors as limited liability

companies were being established. As more of these limited liability companies were being established, the need to raise capital to pursue big business undertakings became necessary. This provided the immediate impetus for the formation of stock exchanges. The New York Stock Exchange (NYSE) was founded in 1792 by a group of brokers who agreed to trade shares with one another at specified rates of commission. In modern societies, stock exchange performs an important financial role for investments to flourish.

The word “investment” has a variety of meanings and usage. For the purpose of this lecture, we shall be using it to refer to the sacrifice of current consumption for future gain. This definition has two key features. The first requires that we part with something. The second key feature is that we have an expectation of a reward for parting with something.

The sacrifice may take place now which is certain, but usually the reward comes later with varying degrees of uncertainty. For sacrificing current consumption, the investor is rewarded because of the risk taken and the time of waiting.

Investments can broadly be classified into two: real and financial investments. Real investments refer to investments in tangible assets, for example, machinery, land, factories, offices and intangible assets such as patents, trademarks and technical knowledge. These assets are used to produce goods and services for future consumption. This is regarded as capital investment. The second type of investment is financial investment. Financial investments are contracts written on paper or in electronic form. To finance its real assets, a firm issues financial assets to investors. The purchase of shares (stock) and bonds (debentures) are financial investments. The holder expects a financial return. The investor has a claim on the firm’s (issuer) real assets and the income that those assets will produce (Brealey, et al. 2007). We shall also be using the term securities to refer to all financial assets that can be bought and sold.

A functioning and modern financial system is needed for investments to thrive. Over the years, a financial market has evolved to offer a platform where securities can be traded. The financial market provides investors a choice of what securities to buy and when. Transactions in securities can be consummated in either a primary market or a secondary market. Stock brokers are available on the stock exchange to facilitate trade in securities among themselves and on behalf of investors. Although financial markets are largely associated with stocks (equity), they also accommodate trade in debt securities—bonds (debentures). For existing firms, managers have a choice of either using equity or debt financing (Maimako and Moses, 2011). Financial markets are also classified according to the maturity period of the securities traded – capital markets being for long-term securities, money markets for short –term securities while the medium-term securities are traded on both markets depending on the time of maturity.

Financial investments, and all other investments, have a defined process, if resources are to be efficiently allocated. The process includes the initial decision to invest, the type(s) of investments, the amount to be committed to the investment and when. Gordon, Sharpe and Bailey (2007) suggest a five – step procedure in setting an investment process;

- (1) Set investment policy
- (2) Perform security analysis
- (3) Construct a portfolio
- (4) Revise the portfolio and
- (5) Evaluate the performance of the portfolio.

A modern financial system also relies on the existence of financial intermediaries. These intermediaries provide a critical linkage between savings and real investments.

## **Financial Intermediaries**

These are institutions that raise money from investors and provide short-term and long-term finance for corporations and individuals.

Financial Intermediaries include:

### **a. Unit Trust /Mutual Funds**

Unit Trust or Mutual Funds sell shares to investors to raise money. They invest in a portfolio of securities on behalf of their shareholders. They hold highly diversified portfolio on behalf of their clients. The funds are managed by professional managers who deploy their skill, knowledge and experience to pick stocks that will generate more than average returns. Investors are rewarded with dividends and capital appreciation in proportion to their holdings. As investment companies, mutual funds provide entry and exit opportunities for investors. Investors who desire to quit can do so by selling their holdings to the fund. The fund gets bigger with more investors. Fund managers are rewarded with management fees which is usually a defined percentage of the portfolio value they manage. There were twenty-five registered Unit Trusts/ Mutual Funds in Nigeria as at 31<sup>st</sup> December 2013 (Abubakar and Maimako, 2014).

### **b. Pension Fund**

The Pension Reform Act of 2014 requires an employer to provide for employees' retirement benefits. The current practice for providing for employees retirement is the defined contribution scheme. Section 4(1) of the Act provides that the contribution of any employee to which the Act applies shall be as follows:

- (a) A minimum of 10% by the employer; and
- (b) A minimum of 8% by the employee.

Subject to an agreement between the employer and the employee the rates may be increased.

Section 85 of the Act states that such contributions shall be invested by the PFA with the objectives of safety and maintenance of fair returns. The investments shall be in financial assets and real estate development.

The employee's balance in the plan continues to increase as monthly contributions are made. Upon retirement, the balance in the plan is what is due to the employee. As at 31<sup>st</sup> December, 2013, there were about twenty (20) Pension Fund Administrators in Nigeria. The National Pension Commission is the regulatory body.

### **c. Banks and Insurance Companies**

Unlike Unit Trust/Mutual Funds and Pension Funds, Banks and Insurance Companies have a wider mandate. They offer a variety of financial services to organizations and individuals. They provide a more complicated intermediation role.

While a modern financial system provides the platform for investments to thrive, these investments are exposed to varying degrees of risk.

## **RISK**

*“You cannot swing upon a rope that is attached only to your own belt”* Anonymous.

Risk refers to danger in the midst of opportunity. Investment risk is defined as the chance that actual investment outcome will be different from its expected outcome. It is the possibility of financial loss (whether in absolute terms or relative to expectations) that is inseparable from the opportunity for financial gain. Risk may be thought of as something bad and to be avoided. However, the sad fact is that the opportunity for a financial gain comes with

an equal opportunity for a financial loss. Investment risk comes in various categories: market risk, credit risk, liquidity risk and operational risk. Others include exchange rate risk, systematic and unsystematic risk, and risk premium among others. These categories of risk are speculative in nature unlike pure risk where there may be no opportunity for gain.

### **Attitude of Investors to Risk**

Investors may hold different attitudes towards risk. Risk preference describes an investor's attitude to risk and these are:

- **Risk Averse** - this describes an investor who is attracted to an investment with higher average returns and the attraction falls with higher risk. The investor with this frame of mind will always prefer less risky investments given identical expected return.
- **Risk Neutral** - This describes an investor who is attracted to an investment because of its average return. The investor is indifferent because the options present identical expected returns.
- **Risk Seeking** - This is used to describe an investor who is attracted to an investment with higher average returns and a higher risk.

It is difficult to provide convincing evidence of clear demarcation between investors with these attitudes. It is also difficult to say how long an investor can hold onto a particular attitude. However, it can be stated that investors' attitudes may be influenced by the changing circumstances in the investment environment.

While risk preference describes the attitude of an investor, it is difficult to calibrate attitude in individuals. We rely on statistical measures to determine the level of investment risk.

**Measurement of Investment Risk** – A common measure for investment risk is the standard deviation (Blazer, 1995; Sortino and Forsey, 1996; Olsen, 1997). The standard deviation of the returns from an investment is used as a measure of the risk associated with that investment. The standard deviation is a measure of dispersion of statistical data. Symbolically, it is given as:

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{N}}$$

Where:

$s$  = standard deviation

$x$  = each individual observation

$\bar{x}$  = the arithmetic mean

$N$  = the total number of observations

For investments, the higher the standard deviation, the riskier the investment.

Although the standard deviation is the generally accepted risk measure, it can be misleading if the alternatives have different means. To overcome this problem, the investment analyst will have to calculate the degree of dispersion relative to the mean of the distribution. This is called the coefficient of variation. Its symbolic representation is:

$$v = \frac{s}{\bar{x}}$$

Where:

$v$  = the coefficient of variation

$s$  = the standard deviation

$\bar{x}$  = the arithmetic mean



“The coefficient of variation is a measure of relative dispersion – a measure of risk per unit of expected return. The larger the coefficient of variation, the larger the relative risk of the investment” (Van Horne and Wachowicz, 2005 p. 97).

Serious investors rarely hold just a single security. They usually hold a combination of two or more securities (portfolio). The standard deviation for a two-asset portfolio is measured using the following formula:

$$\sigma_p = \sqrt{(w_a)^2 \sigma_a^2 + (w_b)^2 \sigma_b^2 + 2(w_a)(w_b)(r)(\sigma_a)(\sigma_b)}$$

Where:

$\sigma_p$  = Standard deviation of two investments, A and B;

$\sigma_a$  = Standard deviation of the returns from investment A;

$\sigma_b$  = Standard deviation of the returns from investment B;

$\sigma_a^2$  &  $\sigma_b^2$  = variances of returns from investment A and B (i.e. the square root of the standard deviation).

$w_a$  = Weighting or proportion of investment A in the portfolio;

$w_b$  = Weighting or proportion of investment B in the portfolio;

$r$  = correlation coefficient of returns from investment A and B.

This formula can be amended to accommodate different number of securities in the portfolio.

## **RISK PARTITIONING**

Investment risk is partitioned into two parts: systematic and unsystematic risk. Systematic risk is a risk that affects all investors in the financial market because it is market-based. Being an overall market risk, it is non-diversifiable. The second component of risk, unsystematic risk, is

unique to either a firm or an industry. An efficient diversification can reduce or eliminate this type of risk. But why partition risk? The answer is found in the domain of expected returns.

Systematic risk is related to the risk of the market portfolio and the beta of the security. (Beta is a relative measure of the sensitivity of an asset's return to changes in the return on the market portfolio).

Securities with high betas have high amounts of market risk. The Capital Asset Pricing Model (CAPM) provides that securities with high betas have high expected returns. For these two reasons, it means that securities with high market risks and high betas should have high expected returns. Unsystematic risk is not related to beta. Investors are compensated for bearing systematic risk and not for unsystematic risk.

### The Investment Risk Pyramid or the Investment Risk Silo

*"Nothing ventured, nothing gained"* ~ Anonymous.

We can view investment risk in the form of a pyramid. This pyramid contains different financial assets. It has three layers: Base, middle and summit. The investment risk pyramid is shown in figure 1.

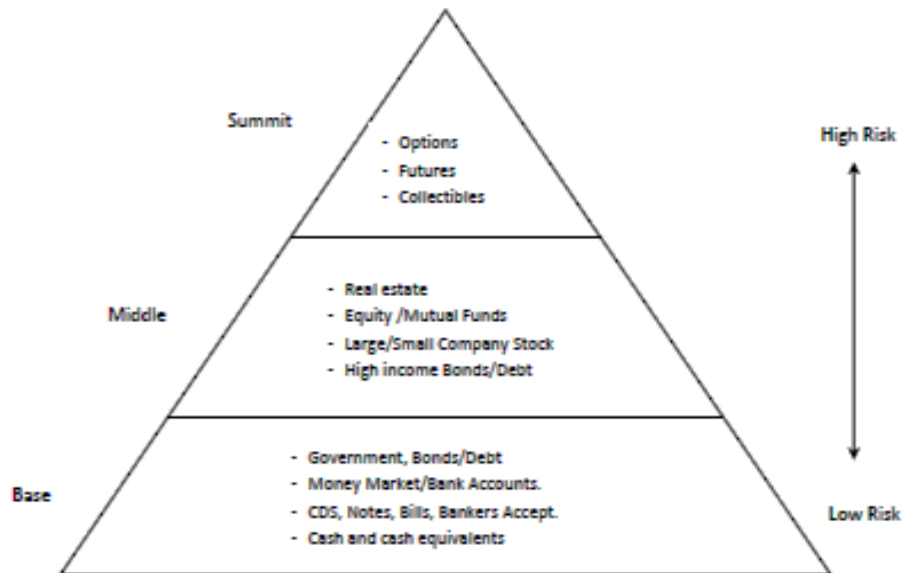


Figure 1. The Investment Risk Pyramid  
Source: Investopedia

- Base - This portion of the pyramid contains investments that are relatively low in risk, for example treasury Bills (TB). TB is regarded as a risk-free asset and the return it offers is called the risk-free rate.
- Middle - investments in this portion of the pyramid have medium risk. Investments in this portion of the pyramid have higher risk than those at the base of the pyramid typical examples here include common stocks (equity).
- Summit - the peak of the pyramid contains high risk investments, for example, options and futures.

The relevance of this pyramid lies in the attitude of investors towards risk. Depending on the risk preference of an investor, the investment portfolio can be constructed to accommodate the investor's risk profile. Investors with large appetite for risk can reshape the pyramid by increasing the summit and reducing the other two portions.

## **RISK AND DIVERSIFICATION**

The concept of diversification is well known and this lies behind the proverbial saying of: "Don't put all your eggs in one basket". Diversification tells us to spread our investment. The principal aim of diversification is to reduce risk (Evans and Archer, 1968; Wagner and Lau, 1971; Statman, 1987; Newbould and Poon, 1993; De Wit, 1998). But how we go about diversification is very important. The relationship between securities is a critical factor in diversification. The covariance (the degree to which two variables move together) should be examined. Covariance can take one of three forms: positive covariance, zero covariance and negative covariance.

Positive covariance suggests that the variables go together. Where investments have positive covariance, investment risk cannot be reduced. Zero covariance suggests that the variables exhibit no tendency to move in the same direction. Investment risk for securities that have zero covariance is lower than those that have positive covariance. Negative covariance suggests that the variables move in opposite direction. Investments with negative covariance result in substantial portfolio risk reduction.

While we try to achieve portfolio risk reduction through efficient diversification, it is necessary to state that diversification can only reduce the unsystematic risk component of total risk. As we stated before, unsystematic risk refers to risk unique to a particular security or industry. The second risk component, non-systematic risk, is diversifiable. This category of risk is referred to as market risk. Since efficient diversification can reduce or eliminate unsystematic risk, what is important in stock holding is systematic risk. For bearing this risk, investors expect to be compensated. This principle is the basis for the formulation of the capital asset pricing model (CAPM).

## **RETURN**

Risk has been defined as ‘danger in the midst of opportunity’. The opportunity here refers to return. Return refers to the income from an investment. It is generally accepted that risk and return co-exist. Risk preference relates risk to return. Investment return could be expected (required) or actual. Investment return on stock is measured as:

$$r = \frac{\textit{Capital Gain + Dividend}}{\textit{Initial Share Price}}$$

Or:

$$r = \frac{D_t + (P_t - P_{t-1})}{(P_t - 1)}$$

Where:

$r$  = the return

$D_t$  = the cash dividend at time  $t$ ;

$P_t$  = the stock price at time period  $t$ ;

$P_t - 1$  = the stock's price at time period  $t - 1$ .

For a portfolio, the return is a weighted average of the securities comprising that portfolio. There is a trade-off between risk and return. That is why rational investors cannot talk of return without associating it with the appropriate risk. Risk and return co-exist for all financial investments. For rational investors, the higher the risk of an investment, the higher its expected return. When investors take on more risk, they demand higher return as compensation. The additional compensation offered to investors constitutes the risk premium - a key variable in the capital asset Pricing Model (CAPM).

The relationship between risk and return is shown in figure 2.

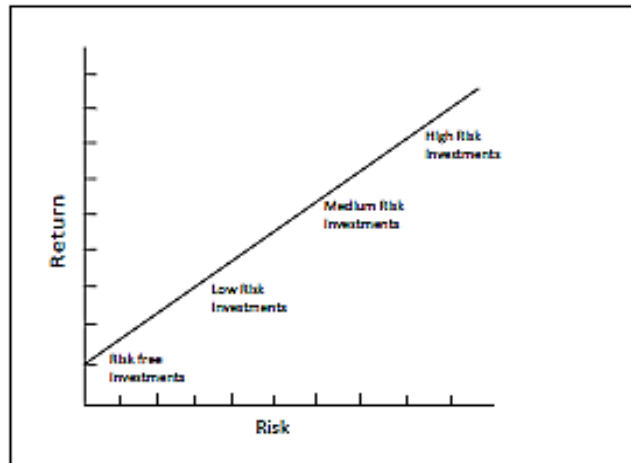


Fig. 2 Risk-Return Relationship

Figure 2 shows that there is a linear relationship between risk and return. The higher the risk, the higher the expected return. Figures 1 & 2 are similar. They show the trade-off between risk and return.

## MODERN INVESTMENT THEORY

The relationship between risk and return is the bedrock of modern investment theories. Particularly in traditional finance theories, the relationship between risk and return paves the path for developing theories that shaped investment behaviour for decades.

### Portfolio Theory

Before the formal arrival of portfolio theory in the finance literature, investor's perception about portfolio was different. The investment goal then was to identify a stock and buy it at the best price using one of the reigning security valuation techniques at that time - the Dividend Discount Model (DDM). The foundation for the dividend discount model was established by William (1938). Gordon (1959) and Molodovsky, May and Chottiner, (1965) subsequently developed the constant and multiple growth models. A security analyst who employs the fundamental approach relies on a firm's estimated future earnings and dividends. The principal objective of the analysis is to identify mispriced stocks. Fundamental analysts

frequently use dividend discount models to identify under-valued or over-value stocks to enable them take appropriate investment decision.

The focus of most successful managers at that time was to find good companies and buy their shares at cheap prices. However, little or no attention was paid to the risk aspect of those investments. This was the knowledge and practice gap filled by Harry Markowitz when he formulated portfolio theory.

An investment portfolio is a collection of income generating assets that have been purchased to meet a financial objective. Portfolio theory deals with how risk averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk. The theory states that rational investors are averse to taking increased risk unless they are compensated by an adequate increase in expected return. The theory further states that for any given expected return, rational investors will prefer a lower level of risk and where offered the same level of risk, they will prefer an investment with higher expected return. According to this theory, a set of “efficient portfolios” can be constructed from which an investor can choose the most appropriate for his/her risk profile.

The pioneering effort for developing this theory is credited to Harry Markowitz in his paper titled “portfolio selection” published in 1952 by the Journal of Finance. This paper is regarded as the origin of modern investment theory. He made further advances in developing this theory by publishing a book “Portfolio Selection: Efficient Diversification of Investment (New York: Wiley 1959). Markowitz was the co- winner of the 1990 Nobel Prize in Economics. How does an investor choose the optimal portfolio using the Markowitz approach?

### **Selection of the Optimal Portfolio**

Risk-averse investors usually choose the portfolio which promises the highest return for a given level of risk. Different Portfolios would have varying degrees of risk and return.

Figure 3 below illustrates the optimal portfolio.

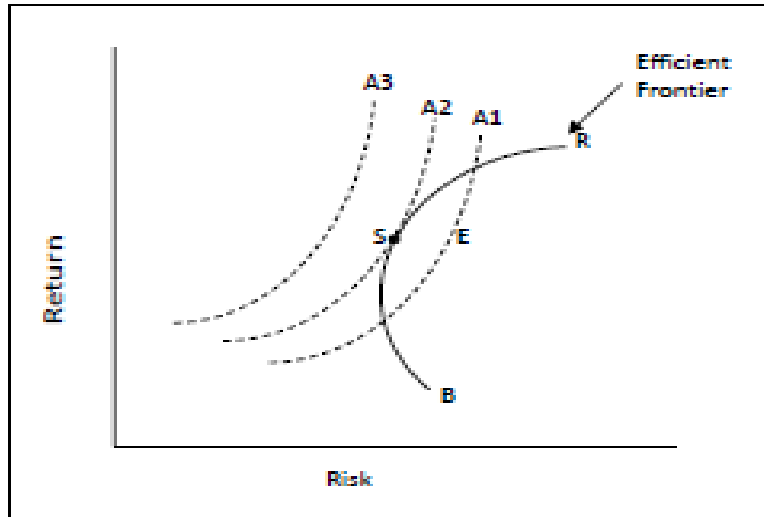


Fig. 3 Optimal Portfolio

In figure 3, there are three indifference curves, A1, A2 and A3. These curves represent sets of risk and expected return combinations that give an investor the same amount of satisfaction (utility). On each of these curves the investor is indifferent about the risk-expected return combination. Portfolios on A3 are superior to those on A2 and those on A2 are superior to those on A1. Although an investor would prefer a portfolio on A3, no such feasible portfolio exists. An investor can choose a portfolio on A1 for example E; however, portfolio S on indifference curve A2 dominates such portfolio. The portfolio which offers the highest expected returns for a given level of risk is regarded as efficient (optimal) portfolio. Efficient portfolios lie on the efficient frontier in this illustration - B, S; R. Portfolios that lie above the efficient frontier are not feasible while those that lie below are inefficient. An investor can choose any portfolio on the efficient frontier depending on his/her risk profile.



## **Random Walk Theory**

In efficient financial markets, security prices fluctuate randomly about their “intrinsic” values (Van Horne and Wachowicz, 2005). When prices fluctuate randomly, information on past prices cannot be used to predict future prices. Security prices, therefore, do not follow any predictable pattern. This theory was originally propounded by Maurice Kendall in 1953. The theory gained popularity in 1973 when Burton Malkiel authored a book titled “A Random Walk down Wall Street.” Random walk theory states that stock price fluctuations are independent of each other i.e. stock prices take a random and unpredictable path. Technical and fundamental analyses are futile exercises according to the random walk theory. This theory emerged to challenge both technical and fundamental analyses which were methods favoured by investment analysts in predicting share price movements.

## **CAPITAL ASSET PRICING MODEL (CAPM)**

The Capital Asset Pricing Model (CAPM) was developed by William Sharpe in 1964. For developing this model, he was a recipient of a Nobel (Laureate) prize. Other pioneering works in this area include those of Lintner (1965) and Mossin (1966). This model describes the relationship between risk and expected (required) return. In this model, a security’s expected (required) return is the risk-free rate plus a premium based on the systematic risk of the security (Sharpe, 1964). Formally, the CAPM is based on the equation:

$$E(R_i) = R_f + \beta_i [E(R_m) - (R_f)]$$

Where:

$E(R_i)$  = the expected average return on the assets in portfolio  $i$

$R_f$  = the risk-free rate of return

$E(R_m)$  = the expected/average return on all assets

$\beta_i$  = the beta coefficient of the asset or the portfolio  $i$ .

The beta is the percentage that the return in  $t$  will change with a 1% change in  $R_m$ . The CAPM is thus a measure of the risk in the asset or the portfolio. The CAPM is used to calculate the required return on an investment and is frequently used to calculate the discount rate for net present value calculation. CAPM is based on certain assumptions and these include:

1. Investors evaluate portfolios by looking at the expected returns and standard deviations of the portfolios during a one-period horizon.
2. Investors are never satiated, so when given a choice between two portfolios with identical standard deviations, they will choose the one with the higher expected return.
3. Investors are risk-averse, so when given a choice between two portfolios with identical expected returns, they will choose the one with the lower standard deviation.
4. Individual assets are infinitely divisible, meaning that an investor can buy a fraction of a share if he/she so wishes.
5. There is a risk-free rate at which an investor may either lend or borrow money.
6. Taxes and transaction costs are irrelevant.
7. All investors have the same one-period horizon.
8. The risk free rate is the same for all investors.
9. Information is freely and instantly available to investors.
10. Investors have homogenous expectations, meaning that they have the same perceptions regarding the expected returns, standard deviations, and co variances of security (Gordon, et al 2007, p. 191).

The capital asset pricing model is frequently used to determine the required level of return. It has helped to standardize the process of evaluating assets and their risk premium. The CAPM has also provided investors with the tools to use in evaluating risky assets.

As a model, CAPM attributes the change on securities to overall market movement. Some researchers have argued that the CAPM cannot be tested because the only testable hypothesis is that the “true” market portfolio lies on the efficient set (when this occurs, securities expected returns and betas have a positive linear relationship and the “true” market portfolio cannot be meaningfully measured (Ross, 1997).

Empirical tests conducted by Fama and French (1992, 1993 and 1996) and Davies (1994) have revealed that the relationship between beta and average stock return is flat. Fama and French therefore came to the conclusion that market-to-book value variables are a more powerful predictor of average stock returns than beta.

Other researchers rose in defense of the CAPM by challenging the test results (Chan and Lokonishak, 1993; Black, 1993; Kothari, et al, 1995; Jagannathan and McGrattan 1995; Grundy and Makiels, 1996; and Jagannathan and Wang, 1996). It has further been argued that the use of modern investment theory does not depend on the successful testing of the CAPM (Markowitz, 1993).

To overcome the inherent limitations of the CAPM, multi-factor models have been developed. Ross (1976) developed the Arbitrage Pricing Theory (APT). This theory states that the price of an asset depends on multiple factors and arbitrage efficiency - arbitrage in this context implies having two things that are exactly the same and buying the cheaper one and selling the more expensive one. For a two factor model, the equation is:

$$R_j = \alpha + b_{1j}f_1 + b_{2j}f_2 + e_j$$

Where:

$\alpha$  = the return when the two factors have zero values

$f_1$  and  $f_2$  = the (uncertain) values of 1 and 2,

$b_{1j}$  and  $b_{2j}$  = the reaction coefficients showing the change in the security's return to a one-unit change in a factor; and

$e_j$  = the error term (Van Horne and Wachowicz, 2005, p. 117)

The symbolic relationship of this model to the CAPM is that the factor represents systematic risk,  $\alpha$  represents the risk-free rate and  $e_j$  represents unsystematic risk. When there are more than two factors, we extend the equation by adding more factors and their reaction coefficients. In spite of the identified limitations of the basic CAPM model,

“our view is that the CAPM remains a practical way to look at risk and returns that might be required in capital markets. It also serves as a general frame work for understanding unavoidable (systematic) risk, diversification, and the risk premium above the risk-free rate that is necessary to attract capital. This framework is applicable to all valuation models in finance” (Van Horne and Wachowicz, 2005 p.112).

## **EFFICIENT MARKET HYPOTHESIS (EMH)**

If the economy is to function properly, the allocation of capital should be done in such a manner that it gets to those who can make good use of it. Firms with the most promising investment opportunities should have access to needed finance to accomplish the desired goals. When funds are channeled to the right users, the market is said to be allocationally efficient. But

for the market to be allocationally efficient, they have to be internally and externally efficient. The market is internally efficient if market participants (brokers and dealers) compete fairly, resulting in high transaction speed and low transaction cost. However, in an externally efficient market, security prices rapidly adjust to new information. The term 'market efficiency' is used to refer to external market efficiency. A market is, therefore, efficient with respect to a particular set of information if it is impossible to make abnormal profits (other than by chance) by using this set of information to formulate buying and selling decisions (Gordon et al, 2007)

One of the pillars on which modern finance is built is the efficient market hypothesis. An efficient financial market is said to exist when security prices incorporate all available public information about a company. The market prices of securities in an efficient market adjust very quickly to the availability of new information. This hypothesis is based on the rationality of investors. The investment decisions of these rational investors ensure that security prices retain their 'intrinsic' or 'fair' values. In an efficient market, no investor or group of investors can take advantage of new information for long to earn higher than normal returns. The hypothesis states that an investor cannot use past information on security prices and public disclosure or even use privileged information to earn abnormal profit.

Samuelson (1965) and Mandelbret (1966) established the theoretical basis of the efficient market hypothesis. Fama (1970), the recipient of a Nobel Prize, laid the EMH's empirical foundations, identifying its three forms - weak form, semi-strong form and strong form efficiency.

**Table 1. Three Forms of Market Efficiency and Information Reflected**

<b>Forms of Efficiency</b>	<b>Set of Information Reflected in Security Prices</b>
<b>Weak</b>	Previous prices of securities
<b>Semi-strong</b>	All publicly available information
<b>Strong</b>	All information, both public and private.

Source: Gordon et al, (2007 p.73)

An empirical analysis of the EMH has shown that no investor can use past information to earn returns higher than the returns defined for that investment by the ‘Capital Asset Pricing Model’ (CAPM).

In an efficient market, new information will be incorporated immediately and fully into security prices as a result of the rational action of investors. New information may be bad or good news. But it may have an element of surprise. New information arrives randomly, while price changes are simply the result of investors appraising a security’s prospects and adjusting their trading strategies accordingly. In an efficient market therefore, all investors should expect to earn normal profit and no more (Fama, 1970; 1991; Bolt, et al. 1984; Foster, 1986; Brown, et al. 1989; Fortune, 1991; Ball, 1995).

The EMH has been described as “dazzling” and as an “enormous theoretical and empirical success” (Shleifer, 2000). Among its followers, “the EMH and its implications remain widely embraced and the legal culture these ideas spawned remains endowed with its teachings” (Cunningham, 2002 p. 4).

## **Other Investment Theories**

Over the years, market participants, in the course of their business, developed other investment theories to explain the workings of the financial markets. Some of them are presented here.

### **1. Rational Expectation Theory**

This theory holds that market participants are rational and will act in such a way as to conform to future expectations. People will invest according to their rational expectations of the future.

### **2. Short Interest Theory**

This theory states that a high short interest is a precondition for a rise in a stock price. When numerous investors are short selling, it is a sign that the stock is due for correction. The stock price may eventually rise when it is hugely shorted. Short sellers may eventually cover their positions by buying the stock they've shorted. The buying pressure of the short sellers will push the share price up.

### **3. Odd Lot Theory**

The odd lot theory provides that the best time to buy into a stock is when individual investors (small stock holders) sell out. The theory is based on the belief that small stock holders are wrong. This theory may only work if small stock holders are wrong all the time.

### **4. Greater Fool Theory**

Investors are presumed to be fools for buying into stock where returns are very uncertain. The theory simply asserts that an investor can continue to benefit from his/her stock

holding as long as there is a greater fool willing to buy such investment at a higher price. Even over priced stocks can be bought by a greater fool.

## **5. Fifty-Percent Principle**

Some investors hold the belief that stocks undergo a price correction of one-half to two thirds of the change in price. If a stock has recorded a gain of 20% for example, it will record a fall of 10% before recording another increase. The price correction is expected to be around 50%, otherwise the trend has failed.

## **STOCK EXCHANGE**

A stock exchange exists to facilitate trading in securities. A stock exchange performs both primary and secondary functions. The primary function relates to raising of new capital by listed companies. The secondary function enables investors to sell securities to other investors. Stock exchanges have grown in importance since the 17<sup>th</sup> century in free market economies. Major international stock exchanges include those located in New York, Tokyo, London, Shanghai, Hong Kong and Johannesburg.

## **THE NIGERIAN STOCK EXCHANGE**

With headquarters in Lagos, the Nigerian Stock Exchange (NSE) came into existence in 1961. Classified as an emerging market, the NSE has grown over the years. It has over 260 listed firms cutting across many industries and a number of trading branches in some Nigerian cities.

In the past couple of years, Nigerian companies have been dominating the West African financial landscape. From 2012, 20 Nigerian companies made the Forbes Africa Top 25 companies in West Africa. These companies have been honoured by Forbes Africa and ABN productions. The honour represents a celebration of the success of risk takers and job creators,



according to organizers. All the top 20 listed Nigerian companies made the list. We would be taking a snapshot of the important statistics of the top 20 companies and the bottom 20 companies listed on the Nigerians stock exchange.

The statistical performance of the 20 most capitalized companies in Nigeria as at 2013 is presented in tables 2-8.

**Table 2. Earnings Per Share for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	1.59	1.62	1.02	0.44	-0.12	0.70	0.87	0.07	0.12	0.21
2	Cadbury Nigeria	1.92	1.10	1.17	0.38	-0.39	-2.44	-0.66	-4.28	2.70	2.81
3	Dangote Cement	11.85	8.92	7.13	6.80						
4	Ecobank	95.39	1.70	1.76	-12.00	0.64	0.38	0.34	0.27	0.15	0.08
5	FCMB	0.81	0.77	-5.70	0.49	0.05	1.35	0.63	0.36	0.25	0.21
6	First bank	2.16	2.37	0.57	0.89	0.12	1.84	1.56	2.94	3.35	2.96
7	Flour Mills Nigeria	2.91	3.08	4.52	9.87	2.23	4.08	4.81	3.99	1.30	1.89
8	GTB	3.17	3.06	1.69	1.63	1.27	1.85	1.62	1.42	2.95	1.36
9	Guinness Nigeria	7.93	9.64	12.16	9.31	9.18	8.04	7.84	6.31	4.12	6.35
10	Lafarge Nigeria	9.43	4.90	2.88	1.63	1.68	3.75	0.68	0.02	0.57	6.26
11	Nestlé Nigeria	30.50	26.67	21.21	19.08	14.81	12.61	8.71	10.71	10.04	7.26
12	Nigerian Breweries	5.70	5.03	5.08	2.50	1.44	3.26	3.96	2.55	2.70	1.30
13	PZ Cussons	14.75	8.03	16.40	14.89	11.64	10.61	9.80	8.80	1.89	2.21
14	StanbicIBTC	1.86	0.50	0.40	0.50	0.43	0.64	0.42	0.46	0.33	0.38
15	Total Nigeria	15.88	13.76	11.23	16.01	11.69	12.94	9.59	12.00	12.30	10.89
16	UACN	4.70	2.57	4.56	1.99	3.14	2.65	1.75	2.49	1.27	2.96
17	UBA	1.52	1.66	-0.29	0.03	0.10	3.14	1.22	1.87	1.61	1.77
18	Unilever Nigeria	1.48	1.46	1.45	1.11	1.08	0.69	0.28	0.98	1.00	0.72
19	Union Bank	0.36	0.23	-12.66	0.98	-20.81	2.14	1.26	1.60	2.10	1.80
20	Zenith Bank	3.01	3.19	1.40	1.19	0.82	3.83	2.03	1.91	1.36	1.68

**Source: Annual Reports and Accounts of the Companies**

*Table 2 presents the earnings per share (EPS) for the 20 most capitalized listed firms. The EPS is the share of profit attributable to each ordinary share in the company. This is an important measure of company performance. Companies are now required to disclose both Basic EPS and Fully Diluted EPS in the statement of comprehensive income (i.e. Profit & Loss Account).*

**Table 3. Dividend Per Share for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	0.60	0.85	0.50	0.22	0.70	0.65	0.40	0.90	0.35	0.10
2	Cadbury Nigeria	9.50	0.50	1.17	7.00	0.52	1.40	4.00	2.20	1.30	1.60
3	Dangote Cement	7.00	3.00	1.23	7.00						
4	Ecobank	1.75	1.60	2.24	0.30	0.24	2.25	1.53	1.01	0.10	0.76
5	FCMB	0.30	0.43	0.04	0.35	0.05	0.50	0.35	0.13	0.08	0.23
6	First Bank	1.10	0.80	0.60	0.10	1.35	1.20	1.00	1.00	1.60	1.55
7	Flour Mills Nigeria	0.16	0.16	0.23	2.00	0.50	1.00	1.20	0.85	0.70	0.70
8	GTB	1.70	1.55	1.10	1.00	0.75	1.95	0.75	0.95	0.70	0.70
9	Guinness Nigeria	7.00	8.00	10.00	8.25	7.50	6.00	4.50	4.00	3.00	5.25
10	Lafarge Nigeria	3.30	1.20	0.75	0.25	0.10	0.60	1.20	1.00	0.30	0.23
11	Nestle Nigeria	24.00	20.00	12.55	12.55	12.55	12.55	8.20	10.35	10.00	7.00
12	Nigerian Breweries	3.00	3.00	1.25	3.51	1.80	2.90	2.50	1.44	1.05	0.40
13	PZ Cussons	1.30	0.43	0.86	0.86	0.68	0.62	0.50	0.35	0.75	0.75
14	Stanbic IBTC	0.10	1.05	0.10	0.39	0.30	0.40	0.55	0.20	0.20	0.25
15	Total Nigeria	9.00	11.00	9.00	8.00	11.68	12.93	9.50	6.00	6.00	8.50
16	UACN	1.60	1.43	1.50	1.10	0.30	2.00	1.70	1.00	0.85	0.60
17	UBA	0.50	0.50	0.65	0.10	0.75	0.25	1.20	1.00	0.60	0.60
18	Unilever Nigeria	1.10	1.40	1.65	1.10	1.07	0.68	0.25	0.25	0.70	0.61
19	Union Bank	0.74	2.17	1.00	1.92	1.37	0.50	1.00	1.00	1.00	1.60
20	Zenith Bank	1.75	1.60	0.95	0.85	0.45	1.70	1.00	1.10	0.85	0.70

**Source: Annual Reports and Accounts of the Companies**

*Table 3 presents the dividend per share of the 20 most capitalized companies. This shows the final dividend payable by each of these companies. The amount indicates the dividend per share but subject to a deduction of 10% withholding tax.*

**Table 4. Closing Price Per Share for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	9.59	9.05	4.8	9.5	7.60	7.00	23.00	6.93	2.99	3.00
2	Cadbury Nigeria	59.01	29.00	11.40	25.62	10.49	23.89	36.85	32.46	65.52	59.00
3	Dangote cement	218.99	128.10	110.77	120.00						
4	Ecobank	16.20	11.29	1.98	3.60	10.63	27.96	7.95	5.01	5.03	7.24
5	FCMB	4.14	3.75	4.18	7.50	7.01	5.70	18.88	4.09	5.11	5.18
6	First bank	16.30	15.72	8.90	13.73	14.05	21.11	44.70	33.50	32.00	23.60
7	Flour Mills of Nigeria	87.00	65.00	65.45	69.00	36.00	31.99	82.59	64.85	25.00	16.61
8	GTB	27.02	23.00	14.25	17.76	15.50	15.50	34.63	18.15	12.40	11.69
9	Guinness Nigeria	236.00	275.00	250.00	190.56	127.50	99.50	130.00	107.99	96.00	116.99
10	Lafarge cement	115.00	58.53	43.25	40.70	30.00	25.50	79.80	53.99	17.30	11.30
11	Nestle Nigeria	1200.00	700.00	445.66	368.55	239.50	181.87	276.72	235.00	187.00	149.62
12	Nigeria Breweries	167.90	147.00	94.42	77.10	53.02	40.85	49.00	37.25	38.80	42.80
13	PZ Cussons	37.00	28.00	28.00	31.50	25.00	11.24	26.50	25.98	16.20	11.64
14	Stanbic IBTC	21.35	11.00	8.30	9.20	7.47	10.90	19.89	7.05	4.57	4.20
15	Total Nigeria	170.00	120.57	188.10	234.00	149.00	193.51	180.00	185.02	183.01	182.49
16	UACN	67.00	42.00	31.18	37.51	36.75	34.60	51.00	26.45	17.00	14.17
17	UBA	8.90	4.56	2.59	9.15	10.80	13.15	49.50	25.31	13.00	9.05
18	Unilever Nigeria	53.80	46.50	29.00	26.90	18.50	10.38	21.85	12.50	20.51	15.50
19	Union Bank	9.63	7.35	10.60	4.20	6.00	15.20	43.06	22.91	25.48	21.00
20	Zenith Bank	27.40	19.49	12.18	15.01	13.60	22.00	46.09	24.40	16.50	15.69

**Source: Nigerian Stock Exchange**

*Table 4 shows the closing price per share for each of these companies. The differences between opening and closing share prices for the year constitutes the capital gain/loss for the year.*

**Table 5. Earning Yield for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	0.17	0.18	0.21	0.05	-0.02	0.10	0.04	0.01	0.04	0.07
2	Cadbury Nigeria	0.03	0.04	0.10	0.01	-0.04	-0.10	-0.02	-0.13	0.04	0.05
3	Dangote Cement	0.05	0.07	0.06	0.06						
4	Ecobank	5.89	0.15	0.89	-3.33	0.06	0.01	0.04	0.05	0.03	0.01
5	FCMB	0.20	0.21	-1.36	0.07	0.01	0.24	0.03	0.09	0.05	0.04
6	First bank	0.13	0.15	0.06	0.06	0.01	0.09	0.03	0.09	0.10	0.13
7	Flour Mills Nigeria	0.03	0.05	0.07	0.14	0.06	0.13	0.06	0.06	0.05	0.11
8	GTB	0.12	0.13	0.12	0.09	0.08	0.12	0.05	0.08	0.24	0.12
9	Guinness Nigeria	0.03	0.04	0.05	0.05	0.07	0.08	0.06	0.06	0.04	0.05
10	Lafarge Nigeria	0.08	0.08	0.07	0.04	0.06	0.15	0.01	0.00	0.03	0.55
11	Nestlé Nigeria	0.03	0.04	0.05	0.05	0.06	0.07	0.03	0.05	0.05	0.05
12	Nigerian Breweries	0.03	0.03	0.05	0.03	0.03	0.08	0.08	0.07	0.07	0.03
13	PZ Cussons	0.40	0.29	0.59	0.47	0.47	0.94	0.37	0.34	0.12	2.21
14	StanbicIBTC	0.09	0.05	0.05	0.05	0.06	0.06	0.02	0.07	0.07	0.09
15	Total Nigeria	0.09	0.11	0.06	0.07	0.08	0.07	0.05	0.06	0.07	0.06
16	UACN	0.07	0.06	0.15	0.05	0.09	0.08	0.03	0.09	0.07	0.21
17	UBA	0.17	0.36	-0.11	0.00	0.01	0.24	0.02	0.07	0.12	0.20
18	Unilever Nigeria	0.03	0.03	0.05	0.04	0.06	0.07	0.01	0.08	0.05	0.05
19	Union Bank	0.04	0.03	-1.19	0.23	-3.47	0.14	0.03	0.07	0.08	0.09
20	Zenith Bank	0.11	0.16	0.11	0.08	0.06	0.17	0.04	0.08	0.08	0.11

Source: Author's computation

*Table 5 presents the earnings yield. This expresses the ratio of the company's earnings per share to its market price per share. This ratio evaluates the shareholder's return in relation to the share price.*

**Table 6. Dividend Yield for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	0.06	0.09	0.10	0.02	0.09	0.09	0.02	0.13	0.12	0.03
2	Cadbury Nigeria	0.16	0.02	0.10	0.27	0.05	0.06	0.11	0.07	0.02	0.03
3	Dangote Cement	0.03	0.02	0.01	0.06						
4	Ecobank	0.11	0.14	1.13	0.08	0.02	0.08	0.19	0.20	0.02	0.10
5	FCMB	0.07	0.11	0.01	0.05	0.01	0.09	0.02	0.03	0.02	0.04
6	First bank	0.07	0.05	0.07	0.01	0.10	0.06	0.02	0.03	0.05	0.07
7	Flour Mills Nigeria	0.00	0.00	0.00	0.03	0.01	0.03	0.01	0.01	0.03	0.04
8	GTB	0.06	0.07	0.08	0.06	0.05	0.13	0.02	0.05	0.06	0.06
9	Guinness Nigeria	0.03	0.03	0.04	0.04	0.06	0.06	0.03	0.04	0.03	0.04
10	Lafarge Nigeria	0.03	0.02	0.02	0.01	0.00	0.02	0.02	0.02	0.02	0.02
11	Nestlé Nigeria	0.02	0.03	0.03	0.03	0.05	0.07	0.03	0.04	0.05	0.05
12	Nigerian Breweries	0.02	0.02	0.01	0.05	0.03	0.07	0.05	0.04	0.03	0.01
13	PZ Cussons	0.04	0.02	0.03	0.03	0.03	0.06	0.02	0.01	0.05	0.06
14	Stanbic IBTC	0.00	0.10	0.01	0.04	0.04	0.04	0.03	0.03	0.04	0.06
15	Total Nigeria	0.05	0.09	0.05	0.03	0.08	0.07	0.05	0.03	0.03	0.05
16	UACN	0.02	0.03	0.05	0.03	0.01	0.06	0.03	0.04	0.05	0.04
17	UBA	0.06	0.11	0.25	0.01	0.07	0.02	0.02	0.04	0.05	0.07
18	Unilever Nigeria	0.02	0.03	0.06	0.04	0.06	0.07	0.01	0.02	0.03	0.04
19	Union Bank	0.08	0.30	0.09	0.46	0.23	0.03	0.02	0.04	0.04	0.08
20	Zenith Bank	0.06	0.08	0.08	0.06	0.03	0.08	0.02	0.05	0.05	0.04

Source: Author's computation

*Table 6 – the dividend yield is also an indication of the shareholders' return in relation to the market prices. This ratio evaluates the dividends payable in relation to the share price.*

**Table 7. Price-Earnings Ratio for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1	Access bank	6.03	5.59	4.71	21.59	-63.33	10.00	26.44	99.00	24.92	14.29
2	Cadbury Nigeria	30.73	26.36	9.74	67.42	-26.90	-9.79	-55.83	-7.58	24.27	21.00
3	Dangote Cement	18.48	14.36	15.54	17.65						
4	Ecobank	0.17	6.64	1.13	-0.30	16.61	73.58	23.38	18.56	33.53	90.50
5	FCMB	5.11	4.87	-0.73	15.31	140.20	4.22	29.97	11.36	20.44	24.67
6	First bank	7.55	6.63	15.61	15.43	117.08	11.47	28.65	11.39	9.55	7.97
7	Flour Mills Nigeria	29.90	21.10	14.48	6.99	16.14	7.84	17.17	16.25	19.23	8.79
8	GTB	8.52	7.52	8.43	10.90	12.20	8.38	21.38	12.78	4.20	8.60
9	Guinness Nigeria	29.76	28.53	20.56	20.47	13.89	12.38	16.58	17.11	23.30	18.42
10	Lafarge Nigeria	12.20	11.94	15.02	24.97	17.86	6.80	117.35	2699.50	30.35	1.81
11	Nestlé Nigeria	39.34	26.25	21.01	19.32	16.17	14.42	31.77	21.94	18.63	20.61
12	Nigerian Breweries	29.46	29.22	18.59	30.84	36.82	12.53	12.37	14.61	14.37	32.92
13	PZ Cussons	2.51	3.49	1.71	2.12	2.15	1.06	2.70	2.95	8.57	5.27
14	StanbicIBTC	11.48	22.00	20.75	18.40	17.37	17.03	47.36	15.33	13.85	11.05
15	Total Nigeria	10.71	8.76	16.75	14.62	12.75	14.95	18.77	15.42	14.88	16.76
16	UACN	14.26	16.34	6.84	18.85	11.70	13.06	29.14	10.62	13.39	4.79
17	UBA	5.86	2.75	-8.93	305.00	108.00	4.19	40.57	13.53	8.07	5.11
18	Unilever Nigeria	36.35	31.85	20.00	24.23	17.13	15.04	78.04	12.76	20.51	21.53
19	Union Bank	26.75	31.96	-0.84	4.29	-0.29	7.10	34.17	14.32	12.13	11.67
20	Zenith Bank	9.10	6.11	8.70	12.61	16.59	5.74	22.70	12.77	12.13	9.34

Source: Author's computation

*Table 7 – The Price-Earnings ratio is the reciprocal of the earnings yield. The ratio is used by analysts to evaluate the firm's growth earnings. A decline in this ratio suggests a decline in the firm's earnings*

**Table 8. Security Return for 20 Most Capitalized Companies in Nigeria as at December 2013**

S/N	Company		2013	2012	2011	2010	2009	2008	2007	2006	2005	MEAN	STD. DEV.	CoVAR
1	Access bank	R	0.0066	-0.7083	0.5474	-0.2211	0.0143	0.7239	-2.2612	-1.0167	0.12	-0.3106	0.91292958	-2.939566395
		R%	0.66	-70.83	54.74	-22.11	1.43	72.39	-226.12	-101.67	12	-31.06	91.29	-293.96
2	Cadbury Nigeria	R	-0.7072	-1.5	0.6007	-0.775	0.5827	0.3897	-0.012	0.5382	-0.0885	-0.1079	0.741262926	-6.866815024
		R%	-70.72	-150	60.07	-77.5	58.27	38.97	-1.2	53.82	-8.85	-10.79	74.13	-686.68
3	Dangote Cement	R	-0.6549	-0.1294	0.0872							-0.2324	0.38159345	-1.642252232
		R%	-65.49	-12.94	8.72							-23.24	38.16	-164.23
4	Ecobank	R	0.1851	-3.1869	0.7917	1.3198	0.6384	-2.3409	0.2116	0.4414	0.4848	-0.7367	2.143476451	-2.909587996
		R%	18.51	-318.69	79.17	131.98	63.84	-234.09	21.16	44.14	48.48	-73.67	214.35	-290.96
5	FCMB	R	-0.024	0.2057	0.448	-0.02	-0.2211	0.7246	-3.5306	0.225	0.029	0.2099	0.2360277	1.1244024
		R%	-2.4	20.57	44.8	-2	-22.11	72.46	-353.06	22.5	2.9	20.99	23.6	112.44
6	First bank	R	0.0331	-0.6764	0.3955	0.0299	0.3984	0.5546	-0.3045	-0.0156	-0.2881	-0.0826	0.5452293	-6.59974
		R%	3.31	-67.64	39.55	2.99	39.84	55.46	-30.45	-1.56	-28.81	-8.26	54.52	-659.97
7	Flour Mills Nigeria	R	-0.336	0.0093	0.0548	-0.8611	-0.1097	0.6248	-0.2551	-1.56	-0.463	-0.0906	0.2137069	-2.3579518
		R%	-33.6	0.93	5.48	-86.11	-10.97	62.48	-25.51	-156	-46.3	-9.06	21.37	-235.8
8	GTB	R	-0.1009	-0.5053	0.2596	-0.0813	0.0484	0.6087	-0.8667	-0.3871	-0.0009	-0.1155	0.382628	-3.3122171
		R%	-10.09	-50.53	25.96	-8.13	4.84	60.87	-86.67	-38.71	-0.09	-11.55	38.26	-331.22
9	Guinness Nigeria	R	0.1673	-0.068	-0.2594	-0.4299	-0.206	0.2808	-0.1621	-0.0832	0.2051	-0.0534	0.2137341	-4.0031824
		R%	16.73	-6.8	-25.94	-42.99	-20.6	28.08	-16.21	-8.32	20.51	-5.34	21.37	-400.32
10	Lafarge Nigeria	R	-0.9084	-0.3255	-0.0442	-0.3483	-0.1725	0.688	-0.4558	-2.063	-0.5044	-0.4261	0.4407798	-1.034534
		R%	-90.84	-32.55	-4.42	-34.83	-17.25	68.8	-45.58	-206.3	-50.44	-42.61	44.08	-103.45
11	Nestlé Nigeria	R	-0.68	-0.5258	-0.1752	-0.4864	-0.2479	0.3881	-0.1426	-0.2013	-0.183	-0.4603	0.2587076	-0.5620007
		R%	-68	-52.58	-17.52	-48.64	-24.79	38.81	-14.26	-20.13	-18.3	-46.03	25.87	-56.2
12	Nigerian Breweries	R	-0.1218	-0.5251	-0.2084	-0.388	-0.2539	0.2255	-0.2483	0.0771	0.118	-0.2851	0.2123153	-0.7447048
		R%	-12.18	-52.51	-20.84	-38.8	-25.39	22.55	-24.83	7.71	11.8	-28.51	21.23	-74.47
13	PZ Cussons	R	-0.275	0.0154	0.1384	-0.2256	-1.1637	0.5992	-0.0008	-0.5821	-0.3273	-0.0404	0.2122734	-5.2529852
		R%	-27.5	1.54	13.84	-22.56	-116.37	59.92	-0.08	-58.21	-32.73	-4.04	21.23	-525.3



S/N	Company		2013	2012	2011	2010	2009	2008	2007	2006	2005	MEAN	STD. DEV.	CoVAR
14	Stanbic IBTC	R	-0.9318	-0.1988	0.1087	-0.1794	0.3422	0.4721	-1.7433	-0.4989	-0.0405	-0.3406	0.5345625	-1.5692922
		R%	<b>-93.18</b>	<b>-19.88</b>	<b>10.87</b>	<b>-17.94</b>	<b>34.22</b>	<b>47.21</b>	<b>-174.33</b>	<b>-49.89</b>	<b>-4.05</b>	<b>-34.06</b>	<b>53.46</b>	<b>-156.93</b>
15	Total Nigeria	R	-0.3353	0.4175	0.2346	-0.5168	0.2904	-0.0032	0.0785	0.0218	0.03	0.1056	0.3926415	3.7184046
		R%	<b>-33.53</b>	<b>41.75</b>	<b>23.46</b>	<b>-51.68</b>	<b>29.04</b>	<b>-0.32</b>	<b>7.85</b>	<b>2.18</b>	<b>3</b>	<b>10.56</b>	<b>39.26</b>	<b>371.84</b>
16	UACN	R	-0.5571	-0.3012	0.2087	0.0093	-0.0535	0.3608	-0.8639	-0.4971	-0.1397	-0.2165	0.3898953	-1.8007549
		R%	<b>-55.71</b>	<b>-30.12</b>	<b>20.87</b>	<b>0.93</b>	<b>-5.35</b>	<b>36.08</b>	<b>-86.39</b>	<b>-49.71</b>	<b>-13.97</b>	<b>-21.65</b>	<b>38.99</b>	<b>-180.08</b>
17	UBA	R	-0.8421	-0.5676	0.788	0.162	0.2357	0.7394	-0.9083	-0.87	-0.3702	-0.2072	0.8727397	-4.2114224
		R%	<b>-84.21</b>	<b>-56.76</b>	<b>78.8</b>	<b>16.2</b>	<b>23.57</b>	<b>73.94</b>	<b>-90.83</b>	<b>-87</b>	<b>-37.02</b>	<b>-20.72</b>	<b>87.27</b>	<b>-421.14</b>
18	Unilever Nigeria	R	-0.1333	-0.5552	-0.0167	-0.3946	-0.6792	0.5561	-0.728	0.4027	-0.2781	-0.2351	0.2832745	-1.2050227
		R%	<b>-13.33</b>	<b>-55.52</b>	<b>-1.67</b>	<b>-39.46</b>	<b>-67.92</b>	<b>55.61</b>	<b>-72.8</b>	<b>40.27</b>	<b>-27.81</b>	<b>-23.51</b>	<b>28.33</b>	<b>-120.5</b>
19	Union Bank	R	-0.2095	0.5113	-1.2857	0.62	0.6954	0.6586	-0.8359	0.1401	-0.1657	-0.328	0.9043541	-2.7574087
		R%	<b>-20.95</b>	<b>51.13</b>	<b>-128.57</b>	<b>62</b>	<b>69.54</b>	<b>65.86</b>	<b>-83.59</b>	<b>14.01</b>	<b>-16.57</b>	<b>-32.8</b>	<b>90.44</b>	<b>-275.74</b>
20	Zenith Bank	R	-0.3161	-0.4688	0.2518	-0.0412	0.4023	0.5596	-0.848	-0.4121	0.0025	-0.1777	0.3797244	-2.1371701
		R%	<b>-31.61</b>	<b>-46.88</b>	<b>25.18</b>	<b>-4.12</b>	<b>40.23</b>	<b>55.96</b>	<b>-84.8</b>	<b>-41.21</b>	<b>0.25</b>	<b>-17.77</b>	<b>37.97</b>	<b>-213.72</b>

Source: Author's computation

*Table 8 Security Return- represents the return on each share incorporating the dividend paid and the capital appreciation or loss during the year. The Standard Deviation indicates the variability of the Stock's return. While the Co-Variance is the final measure of the Stock's variability since all the Stocks returns have different means.*

**Table 9. NINE-YEAR INTEREST RATE HISTORY OF NIGERIAN COMMERCIAL BANKS**

		<b>RATES (%) AS AT JANUARY</b>								
<b>S/N</b>	<b>Product</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>1</b>	Fixed Deposit: 30 days ( 1month)	7.88	10.31	10.86	12.89	11.82	3.86	6.46	8.43	8.21
	90 days (3 months)	9.95	10.38	11.14	12.71	12.41	5.02	7.62	8.87	9.29
	180 days (6 months)	8.55	9.90	10.52	13.09	12.98	3.98	6.62	8.56	9.40
	365 days (12 months)	8.64	9.15	10.61	12.38	11.85	4.39	6.58	6.09	9.04
<b>2</b>	Savings	4.50	3.36	2.88	2.59	3.34	1.51	1.39	1.69	3.27
<b>3</b>	Monetary Policy (MPR)	0.00	10.00	9.50	9.75	6.00	6.50	12.00	12.00	12.00
<b>4</b>	Treasury Bill	13.68	7.10	8.58	3.88	3.72	7.09	14.85	11.17	10.81
<b>5</b>	Lending: Prime	16.69	17.64	15.52	16.78	18.82	15.73	16.92	16.57	16.95
	Maximum	18.23	18.70	18.26	21.27	22.76	21.75	23.08	24.54	25.52
<b>6</b>	Interbank call	27.06	10.53	11.22	7.91	2.61	6.13	14.19	11.67	10.00
<b>7</b>	FGN Bonds: 3 -5 years tenor		9.02	10.03	10.25		11.13			13.10
	6-10 Years		6.19			8.00		16.39	11.34	
	11-20 years				13.40					13.60

**Source: CBN Bulletin for Various Years**

*Table 9 gives the average interest rates on various investment instruments in the Money Market. Some of these instruments are risk free, because the possibility of a default is zero. Investors can compare the rates offered by some of these riskless assets with those of the risky assets. If the rates offered by a riskless asset is either close or even higher than those of a risky asset, then it will make a lot sense for the investor to place his fund in the riskless assets. Investors will gain a lot by comparing the returns available from different investments outlets before making an investment choice.*

## **Stock Market Crashes**

Stock exchanges provide avenues for making and losing money. The world has experienced financial disasters with stock exchange crashes. The U.S. stock market suffered major crashes in 1930 – 1932, 1987 and 2001 – 2002. In the U.S. for example, technology stocks witnessed a big boom in the 1990s. Between 1995 to March 2000, the NASDAQ market index, which is skewed towards high-tech stocks, appreciated by 580%. But by October 2002, the NASDAQ market index had lost 78% of its value. At the center of this storm were the dot.com companies (Brealey, et al. 2007).

“For example, Yahoo shares, which began trading in April 1996 appreciated by 1,400 percent in just 4 years. At this point Yahoo stock was valued \$124 billion, more than that of GM, Heinz and Boeing combined. It was not however to last; just over a year later, Yahoo’s market capitalization was little more than \$6 billion” (Brealey, et al. 2007 p. 168).

This financial disaster is now being called the “*rise and fall of the dot.coms*” in financial literature.

## **The Nigerian Perspective**

The Nigerian market in 2007 reached its peak just as the US market did in 2000. The version of the “*rise and fall of the dot.coms*” was visible in the trading activities of the Nigerian market. Evidence of this is best described by a comparative All-Share Index of the Market between 2003 and 2009 as shown in Table 10 and figure 4:

**Table 10. Nigerian Stock Exchange All-Share Index Percentage Change**

Year	Index	% Change
2003	20128.9	65.8
2004	23844.5	18.5
2005	24085.8	1
2006	33189.3	37.8
2007	57990.2	74.7
2008	31450.8	-45.8
2009	20827.2	-33.8

Source: Nigerian Stock Exchange annual Report, 2012

Table 10 presents the All-share index percentage from 2003 to 2009. The All-share index is an indication of aggregate market performance. There was a remarkable shift between 2005 and 2008

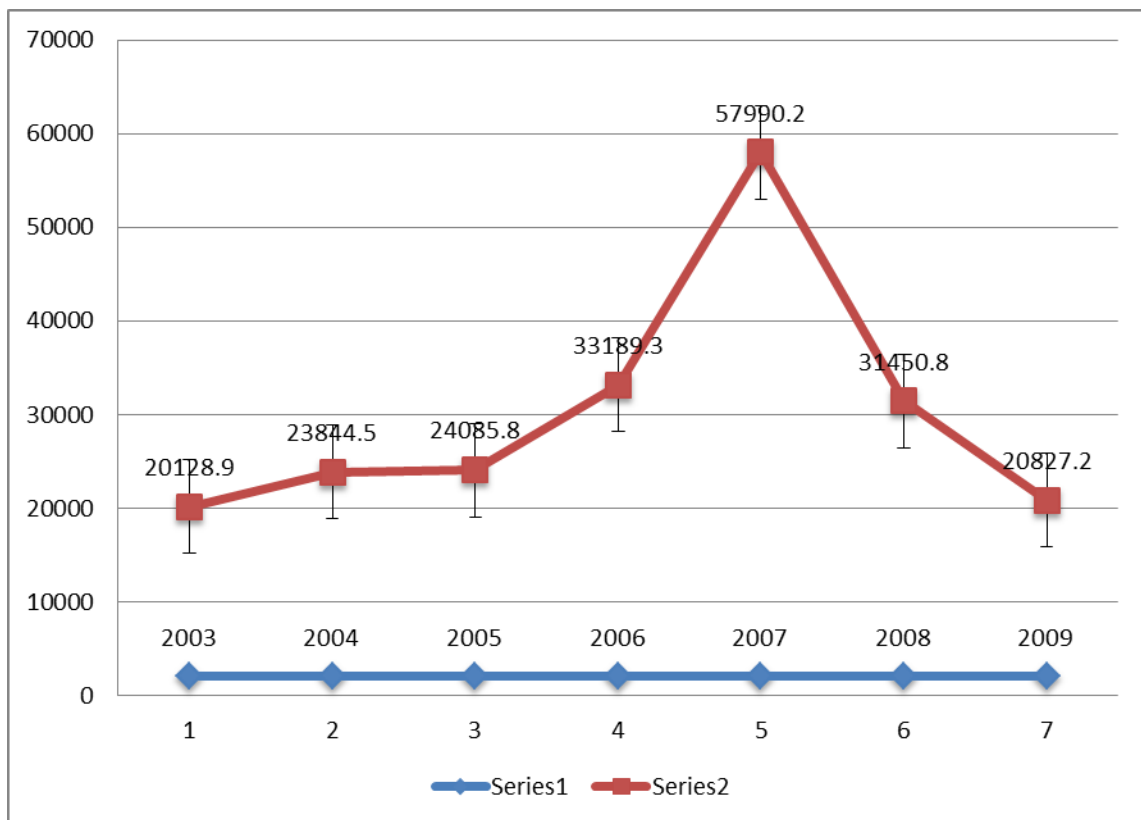


Figure 4. All Share Index (2003-2009)

The All-Share Index of the market had a steady growth from 2003 to 2005. However a sharp rise was recorded in 2006 with the greatest growth recorded in 2007. The market in 2007 recorded its highest All-share Index in the history of the Nigerian capital market hitting 57, 990.2 points which represents a 74.7 percentage change from 2006; only for the market to crash in 2008 to 31350.8 points representing a - 45.67 percentage change from the previous year.

What could have been responsible for the sharp rise and fall in the stock prices of these companies? There may be no consensus among academics and practitioners on the answer to this question, but Alan Greenspan calls it “irrational exuberance”.

### **IRRATIONAL EXUBERANCE**

The term “irrational exuberance” was coined by Alan Greenspan, Chairman of the US Federal Reserves Board, to describe the dot.com boom (Brealey, et al. 2007). Shiller (2001) who examined the dot.com boom also titled his text “irrational exuberance.” But perhaps at the center of the boom was the confidence of investors. The optimism of investors stimulated the demand for the shares of these companies thereby sustaining the boom. While the boom lasted, old investors increased their holdings and new investors were being attracted every day. Success bred overexcitement.

Investors who kept recording huge gains in the market believed that the trend would continue into the distant future. Shiller (2001) argues that investors’ irrationality was responsible. Stocks prices went far above their true or real values in a “self-fulfilling” prophecy, feedback loop. Campbell and Shiller (2001) using valuation ratios to support their argument, predicted that stock prices were doomed to crash. Whereas, this term has its origin in the dot.com crash, it is

now being widely used to describe investors' irrational behavior even outside the established financial market.

## **THE RISE AND FALL OF PYRAMID SCHEMES IN JOS, PLATEAU STATE**

*“Those who do not remember the past are condemned to invest unwisely”- Gordon et al.*

The literature on both micro-finance and cooperative societies suggests that both institutions have high potential in bringing participants out of poverty. A considerable number of researches conducted on these institutions have similar outcomes - the overwhelming importance of such institutions in pulling the poor out of poverty with empirical evidence mostly from emerging economies.

Co-operative societies (workers and consumer) exist to provide members with the use of facilities they may not afford individually or provide products and services at reasonable prices. In addition, members may also enjoy a share of profit proportional to their holdings. The activities of co-operative societies are regulated by the relevant government ministry of a state.

Similarly, the Central Bank of Nigeria regulates the activities of micro-finance banks in Nigeria. The financial services provided by these institutions to members are specified by the regulatory bodies.

In Jos, before 2012, a few organizations that described themselves as micro-finance/co-operative societies were in operation. These new “banks” or “cooperative societies” offered investors financial returns on deposits with varying maturity dates. One of such “wonder banks” as they later came to be known operated under the name FADAMA. It offered investors interest rates of about 30% initially. It later scaled down this rate to about 10%. It operated successfully for about four years or thereabout. By 2012, the financial landscape of Jos altered with the

establishment of more of these “banks,” or “cooperatives societies”. See table11 for a list of some of them:

**Table 11. List of Some Pyramid Schemes in Jos, Plateau State as At 2012**

S/N	Investment House	Estimate of Customers	Estimate of Investment Value (Naira)	Location Address
1.	Wiscom Business Ventures/My Wise Investment	4000	500,000,000:00	Wamba Road Tudun Wada, Jos.
2.	Guarantee Global Investment	2200	300,000,000:00	Federal Secretariat Junction, Jos.
3.	Reality Investment	100	150,000,000:00	Tudun Wada GRA Jos.
4.	Access Investment	4000	600,000,000:00	Beside NNPC Mega station, Jos.
5.	Cashflowabi Network Ltd.	600	800,000,000:00	Tudun Wada GRA Jos.
6.	Bluegold Investment (Jisal) Infotech Systems Ltd.	18000	480,000,000:00	Yakubu Gowon Way, Dadin Kowa, Jos.
7.	Fadama Investment	6300	1,200,000,000:00	Federal Mortgage Bank, secretariat Junction, Jos.
8.	Good Living Multi-Purpose Co-Operative	4,500	950,000,000:00	Besides NTA, Jos
9.	Nixblue			28-30 Bukuru Bye-Pass, Jos
10.	Hope Steady			
11	Intecs Ltd. – Integrity Thrift & Cooperative Society Ltd.			No. 31 Tafawa Balewa Street, Jos

Source: Field Survey, 2013

Most of the new pyramid schemes offered investors interest rates ranging from 30%, 50%, 100%, 500% to even 1000%, depending on the maturity period of the deposit. With the operational success of FADAMA and Jisal (later renamed Blue Gold), investors' excitement rose. Investors from all walks of life - civil/public servants, businessmen/women, traders, bankers, academia, students, farmers, Ministers of God etc. jumped into the investment bandwagon.

These investment funds came from a variety of sources including personal savings, retirement benefits, co-operative loans, proceeds of contributions, proceeds of sale of land and other properties. Unable to resist the temptation of the high returns promised by these "wonder banks," some investors liquidated their other investments and some others withdrew funds from commercial banks. Yet others "borrowed" organizational funds hoping to make a huge profit within a short period.

### **Investment in Pyramid Schemes: A Poverty Booster**

These new "banks" sought to provide solution to the financial problems of depositors as well as enhance their wealth. Their operational slogan was "helping investors". This is so because existing investment channels could not match the returns on the depositors' income at the "wonder banks."

As news of the existence of these "wonder banks" became available to more people far and near, the patronage kept increasing daily. Arguably, these banks became the envy of commercial banks at that time. Early depositors in these "banks" realized their investment income. This generated excitement among investors. Investors' confidence in these institutions rose. "Successful" depositors who had realized their investment income reinvested part or all of the sums realized. Other successful depositors who diversified their holdings by rushing to new



“banks” were convinced that before “anything” could happen, they would have recouped their capital and enjoyed some interest. One of the “wonder banks” even ran a “promotion” with maturity periods ranging from 7 days to 30 days. Huge deposits were attracted in the process. Depositors jostled for space to participate so as not to miss out.

However, this boom was not to last. On the day of reckoning, investors realized that their dreams had been prematurely terminated. As those banks were shutting their doors, new depositors apparently unaware of the dilemma of old depositors were bringing in fresh deposits, some felt disappointed because their “financial saviours” were not available to collect their deposits, denying them the opportunity to join the investment band wagon.

Within a month or thereabout, nearly all the “wonder banks” had ceased to provide financial services to their members. The investments immediately stimulated poverty, sending many investors into financial coma. High hopes of investors suddenly evaporated. Instead of bringing investors out of the poverty well, or increasing their wealth, the investments sank them deeper into the poverty well. Investors’ expectations of high regular income or lump sum receipts evaporated outrightly. This brought about sorrow, ill-health, untold hardships and other unintended consequences.

At the end of it, new phrases emerged to describe these investments - “one-chance investment,” “investment of lamentation”, “wonder banks”, etc. While these “wonder banks” were having a field day as the centers of investment attraction, online trading platforms also flourished. Some of the online trading platforms include:

1. Just-been-paid, which was later acquired by profit clicking
2. Royalty 7

3. Forex trading
4. Scottrade
5. Option House
6. E\*Trade
7. TD Ameritrade
8. Option Xpress
9. Trade MONSTER

Some investors decided to trade directly on these platforms. While it was relatively easy to make payments (deposits), harvesting, as it was called became extremely difficult. Requests for payments were always “pending”. But the question is, “why were people so foolish” or shouldn’t investors have realized that the interests were obviously not sustainable?

## **HISTORICAL EVIDENCE OF IRRATIONAL EXUBERANCE**

### **Ponzi Schemes**

*“Beware of Investment Landmines”*

The financial scenario in Jos in 2012 is described as a Ponzi scheme. “A Ponzi scheme (or pyramid scheme or money circulation scheme) involves a superficially plausible but unverifiable story about how money is made for investors, and the fraudulent creation of high returns for initial investors by giving them the money invested by subsequent investors” (Schiller, 2002). As initial investors are rewarded with very high returns, this generates excitement among investors as the “good news” spreads. Confidence in the scheme becomes high as well. These schemes, historically have recorded huge success in raising investors’ excitement. In Albania for example, the schemes were so large that between 1996 and 1997, total

liabilities reached half a year's GDP. Their collapse triggered anarchy and civil war which resulted in the death of over 2000 people (Jarvis, 1999).

## **Feedback Models**

A critical driver of irrational exuberance is price-to-price feedback theory (Shiller, 2002). Public attention is attracted whenever speculative prices rise resulting in successes for some investors. This also promotes word-of-mouth enthusiasm and trigger higher expectations for further price increases. The demand for increase by investors usually leads to further price increases. The basis for further round of price increases is because of the expectation of further price increases. This may not be sustainable for long. The feedback that prompted the bubble carried the seeds of its own destruction - the bubble burst and prices come falling down. (Shiller, 2002).

The feedback theory is said to be very old. Mackay (1841) cited in Shiller (2002) reported a speculative bubble in tulip flower bulbs in Holland in the 1630s in these words:

“Many individuals grew suddenly rich. A golden bait hung temptingly out before the people, and one after another, they rushed to the tulip marts, like flies around a honey-pot... At last, however, the more prudent began to see that this folly could not last forever. Rich people no longer bought the flowers to keep them in their gardens, but to sell them again at cent per cent profit. It was seen that somebody must lose fearfully in the end. As this conviction spread, prices fell, and never rose again”.

The power of the word-of-mouth communication in promoting the feedback theory was illustrated by an anonymous observer in 1637 (the peak of the tulip mania) between two people - identified here as “A” and “B”:

A: “You can hardly make a return of 10% with the money that you invest in your occupation [as a weaver], but with the tulip trade, you can make returns of 10%, 100%, yes, even 1000%.”

B: "...But tell me, should I believe you?"

A: "I will tell you again, what I just said".

B: "But I fear that, since I would only start now, it is too late, because now tulips are very expensive, and I fear that I'll be hit with the spit rod, before tasting the roast".

A: "It's never too late to make a profit, you make money while sleeping. I have been away from home for four or five days, and I came home just last night, but now I know that the tulips I have increased in value by three or four thousand guilder, where do you have profits like that from other goods?"

B: "I am perplexed when I hear you talking like that, I don't know what to do; has anybody become rich with this trade?"

A: "What kind of question is this? Look at all the gardeners that used to wear white-gray outfits, and now they're wearing new clothes. Many weavers, that used to wear patched up clothes, which they struggle to put on, now wear the glitteriest cloths. Yes, many who trade in tulips are now riding a horse, have a carriage or wagon, and during winter, an ice carriage..."

A discussion like this can weaken the resistance and doubts of individuals within a short time. When they reflect on the relative futility of one's day-to-day routine and realize that others have recorded financial breakthrough, they jump swiftly into the investment band wagon. This scenario was replicated in the Jos case in 2012 which we have just illustrated. The word-of-mouth communication brought many people into the investment band wagon of "wonder banks."

## **IRRATIONAL EXUBERANCE AND BEHAVIOURAL FINANCE**

The pillars on which modern investment theory is built are the Capital Asset Pricing Model (CAPM) and the Efficient Marketing Hypothesis (EMH). The EMH constituted a major

academic success in economics and finance. Its theoretical and empirical foundations were powerful and overwhelming. The pioneering efforts of the founding fathers were recognized and appropriately rewarded with Nobel prizes.

The EMH reached the height of its dominance in academic circles around the 1970s and 1980s (Shiller, 2002). Theoretical contributions to the EMH at the height of its dominance used rational expectations to relate security prices to economic fundamentals (Merton, 1973; Lucas 1978; Breeden, 1979). By the mid-80s, the EMH was so dominant that some legal rules on stock markets were specifically linked to it (Cunningham, 2002). In spite of the compelling appeal of the EMH, faith in this theory was eroded by a succession of discoveries of anomalies beginning in the 1980s (Shiller, 2002). Skeptics started voicing doubt about the validity of these ideas as researchers steadily revealed its gross short-comings. Certain abnormal events which the hypothesis failed to address properly stood out.

## **Rationality**

A basic assumption in both traditional finance and economics is that people are rational and are “wealth maximizers”. People always seek to increase their well-being when it comes to making economic choices.

But if people are really rational beings, why do some people buy lottery tickets when the chance of winning is estimated to be 1 in 146 million? Why do people smoke when there is a clear warning on tobacco packs which states, “The Federal Ministry of Health warns that tobacco smoking is dangerous to health”? We may also ask, why do people consume “guskolo” when the health hazard is obvious?

Some of the identified financial market anomalies which the EMH did not offer a convincing explanation for included the January Effect/Equity Premium Puzzle, the Volatility Puzzle and the Winner's Curse.

### **January Effect/Equity Premium Puzzle**

This refers to the situation where average monthly stock return is higher in January than other months of the year. A study found that from 1904-1974, the average amount of January returns for small firms was consistent at around 3.5%, whereas returns for all other months was about 0.5%. This consistent pattern of return is at variance with the efficient market hypothesis (EMH) which states that stock prices move randomly.

Researches show that the US stock market has earned an excess rate of return. For a 100-year period, the average log return on the S&P500 was 3.9% higher than the average log return on short-term commercial paper (Campbell and Cochrane, 1999). This is at variance with the tenets of traditional finance.

Other studies conducted in the developed capital markets indicate that over a 70-year period, stocks yield average returns that exceed government bond returns by 6% -7%. These equity premiums of 6% -7% are too large and suggest that stocks are riskier to hold by a similar margin. Finance and economic models in conventional finance indicate that this premium should be lower. In emerging stock markets, the returns on equity stocks, treasury bills, bonds and other assets do not tally with the theoretical models. These disparities have largely remained unexplained in traditional finance.

## **Volatility Puzzle**

Stock returns and price-dividend ratios are volatile variables. However, Campbell (1999) found that in the same dataset, the standard deviation of excess log returns on the S&P500 index was 19% while the standard deviation of the log price-dividend ratio was only 0.27.

## **The Winner's Curse**

According to conventional finance, investors are rational enough to know the true value of an asset and will bid or buy at that value. The participants in the bidding process will come to the same valuation because they have access to all relevant information on the value of an asset. They also have the requisite experience in the business. Any significant differences in the valuation might suggest that some other factor is responsible.

However, according to Roll (1986), Winners' Curse - a situation where the winning bid in an auction exceeds the true value of the item bought - can cause valuation error. Roll (1986) suggests that two major factors can undermine the rational bidding process: the aggressiveness of bidding and the number of bidders. Where there are many bidders involved in the process, the aggressiveness of bidding becomes more intense. As a result, there is the likelihood that the winning bid will exceed the value of an asset. Therefore, a valuation error has occurred which has pushed up the sale price more than the true value. Roll (1986) identified this scenario as "hubris" The curse aspect for the winning bid is two-fold: overpayment for the asset and difficulty in financing or reselling the asset.

These issues caused serious concerns to scholars because they remained unexplained in traditional finance. When the established theories in finance and economics could not explain the anomalies identified in investors' behavior and the working of the capital market, this paved way

for the entry of Behavioural Finance (BF), which offers a competitive explanation for financial markets behavior.

Behavioural finance is a relatively new field of finance that draws heavily from the fields of cognitive psychology and economics. The pioneering work in this new field of finance is attributed to Daniel Kahneman, Amos Tversky and Richard Thaler. Daniel Kahneman and Amos Tversky are accorded the status of founding fathers of behavioural finance. Both are cognitive psychologists. In recognition of his immense contribution to the field of behavioural finance, Kahneman was awarded the Nobel Memorial Prize in Economic Sciences in 2002. The field of behavioural finance evolved because of the collaboration between Economist Richard Thaler and the duo of Daniel Kahneman and Amos Tversky.

Behavioural finance as a new branch of finance is built on two pillars, which are: limits to arbitrage and investor psychology (Scheifer and Summers, 1990). This field of finance offers a competitive explanation on how financial markets work.

Arbitrage finance means finding two things with the same economic value and selling the one that is more expensive and buying the cheaper one. Arbitrage occurs when assets are “mispriced”. In the financial market, there are two types of traders – rational traders who are also referred to as “arbitrageurs” and irrational traders who are called “noise traders” (De Long et al. 1990a; Scheifer and Vishny, 1997).

The central message of the EMH is that agents are rational and will always update their beliefs correctly when they receive new information. It is on the basis of these beliefs, that they take economic decisions. In an efficient market where this happens, security prices are equal to their “fundamental value” or true value. In an efficient market, no investor can earn abnormal



profits, other than by chance, greater than that defined by its risk. This framework is simple and appealing but, unfortunately, after many years of effort, it has become clear that basic facts about aggregate stock market, the cross-section of average returns and individual trading behavior are not easily understood in this framework (Barberis and Thaler, 2002).

Traditional financial scholars have argued that in a financial market where rational and irrational traders inter-react, resulting in security prices departing from their “fundamental values”, the action of the rational traders will restore prices back to their true values within a short time. However, behavioural finance argues that the actions of the rational traders will not be enough to undo the actions of the irrational traders within a short time.

They further argue that any evidence of persistent mispricing is enough evidence of limit to arbitrage. Barberis and Thaler (2002 p. 4) particularly argue that “even when all assets are widely mispriced, strategies designed to correct the mispricing can be both risky and costly, rendering them unattractive. As a result, the mispricing can continue unchallenged”. In fact, noise traders can influence arbitrageurs to liquidate their positions prematurely, bringing them heavy losses. Undoubtedly, behavioural scientists conclude that there is a limit to arbitrage (Scheifer, 2000; Hirscheifer, 2001).

### **Investor Psychology**

The second pillar on which behavioural finance has been built on is investor psychology. The theory of limited arbitrage states that the actions of the rational traders are not enough to undo those of the irrational traders. Behavioural finance argues that psychological forces interfere with the three components of rationality, the CAPM, and efficient markets. These forces prevent decision-makers from acting in a rational manner. It is also argued that security risk

premiums are not fully determined by beta while security prices are regularly at odds with fundamental values (Shefrin, 1999).

Cognitive psychologists assume specific forms of irrationality relating to the systematic biases that occur when people form beliefs on the basis of which they make economic decisions.

We now turn our attention to the surveys and researches of cognitive psychologists on how people form beliefs and make preferences. (Kahneman, Slovic and Tversky, 1982; Camerer, 1995; Rabin, 1998; Kahneman and Tversky, 2000; and Gilovich, Griffin and Kahneman 2002). The concepts identified in this section shed more light on investors' behaviour which forms the basis for irrational exuberance

### **Key Concepts in Behavioural Finance**

The pioneers of behavioural finance identified some key concepts that explain irrationality and detrimental financial decisions by people. These key concepts include:

#### **1. Anchoring**

The concept of anchoring draws on the tendency to attach or “anchor” a decision on a reference point even though it may not be relevant to the decision at hand (Kahneman and Tversky, 1974). People create “standards” that may not be necessary at all. Incidence of anchoring can be found in social events like weddings, burial rites etc. In some communities, a prospective groom is made to believe that he must undergo the process of introduction, traditional wedding and white wedding. In some other communities, “standards” exist in burial rites. Family members try to meet the standards even if it means borrowing.

In the investment world, anchoring is prevalent. Consider the example of a stock that has just suffered a drastic fall in value. Some investors will rush to buy this stock because

they believe that the reduced price provides an opportunity to own the stock. This was the case in the aftermath stock crash of 2008 in Nigeria. Many stock brokers urged investors to invest immediately, because, according to them, the time to buy a stock is when it has suffered a price decline. Investors are encouraged to take advantage of the supposed “discount” occasioned by the drop in price. By anchoring an investment decision majorly on a previous high price and a current low price, an investor may be misled into thinking that the stock is truly undervalued. But stock prices can also drop significantly in value due to changes in their underlying fundamentals.

## **2. Mental Accounting**

Formulated by Thaler (1999), this occurs when people divide their money into various accounts based on the source of the money and intended usage which is as a result of narrow framing. Narrow framing refers to the tendency to treat individual funds separately from other portions of wealth. For example, some people designate their salary for a particular purpose while the other incomes are treated differently and to be used for other purposes. Some others will not “touch” money assigned for a particular purpose for any reason. Others will prefer to borrow and pay higher interest rates while the money is kept aside earns little or no interest. Mental Accounting leads to inefficient use of money. Some investors also use Mental Accounting to construct their portfolio. The source of money should not determine how it should be spent.

## **3. Confirmation and Hindsight Bias**

Confirmation bias (belief perseverance) refers to the selective thinking that occurs when we pay more attention to information that supports our opinion (Lord, Ross and Lepper, 1979). Confirmation bias is at work when an investor seeks information to support an

idea about an investment rather than information that contradicts it. Confirmation bias is often one-sided information which is incomplete and detrimental to investment decisions. Another bias similar to Confirmation Bias is the Hindsight Bias. This happens when people lay claim to the fact that the onset of a past event was predictable and obvious. Some people will tell us: “I saw it coming”. For example, the stock crash of 2008 was, according to some scholars and financial engineers, obvious. Hindsight bias can lead to overconfidence, which we will examine in a short while.

#### **4. Gamblers’ Fallacy**

The law of probability states that the occurrence of an event is independent. For example, the toss of a fair coin is always 50% of either head or tail. But this basic law can be violated by the Gamblers’ Fallacy. The Gamblers’ Fallacy refers to a situation where an individual mistakenly believes that the occurrence of a certain random event is less likely to happen following the occurrence of an event or series of events. The Gamblers’ Fallacy is at odds with the law of probability. The experience of some gamblers with slot machines provides evidence of this scenario. These gamblers believe that every loss brings them closer to winning.

In the investment world, investors can also be victims of The Gamblers’ Fallacy. Some investors hold on to losing stocks because they believe that further price declines are not likely to happen. On the other hand, some investors liquidate their holdings after the stock would have witnessed successive price appreciation thinking that subsequent transactions will not produce the same result. However, the price movements in an efficient market should occur randomly.

## 5. Herd Behavior

This refers to the preference of individuals to mimic the behaviors or actions (whether rational or irrational) of a larger group. Herd behavior is said to exist because of two major reasons: (1) the social pressure of conformity. People are social animals and would therefore like to be accepted by a group. To be accepted means, you must imbibe the values and norms of the group. (2) People fall prey of herd behavior because they don't think that a group can be wrong. If everybody else is doing it, why should I be different? Herd behavior mentality exists when we say, "if you can't beat them, join them". If everybody is doing it, does that mean, it must be correct? Not necessarily so! Strong herd mentality was exhibited during the Jos "Wonder bank" experience. People were jumping into the investment band wagon mainly because they saw others doing it. The major driving force was the social pressure of conformity. The wall of resistance was broken when some investors heard of the involvement of others.

Financial professionals are not immune to herd mentality. Investment professionals may be eager to follow an investment strategy that is new and appear to gain acceptance with other professionals. Herd mentality-prone investors usually buy and sell their stock in pursuit of the newest and hottest investments trends. Herd behavior may not be a good investment strategy because the investments favoured by herds may easily be overvalued.

## 6. Overconfidence

*"Pride precedes a disaster; an arrogant attitude precedes a fall (Proverbs 16:18 GWT)"  
David vs. Goliath.*

We mentioned above (under Confirmation and Hindsight Bias) just a while ago, that hindsight bias is a cause of overconfidence. Overconfidence refers to a situation where

we overestimate or exaggerate our abilities to perform a given task. Survey results indicate that professional fund managers usually overrate their performance. Overconfidence, when in motion, convinces its victims that they possess superior stock-picking activities (Bem, 1965 and Daniel, et al. 2001). Overconfident investors are more aggressive in trading but unfortunately do not have records of superior performance. Fischhoff, et al. (1977) argue that people are poorly calibrated when estimating probabilities; events they believe are certain to occur, only occur 80 percent of the time and those they consider impossible occur 20 percent of the time. But generally, people display unrealistically rosy view of their prospect and abilities (Weinstein, 1980).

Overconfidence may also be caused by self-attribution bias, which refers to people's tendency to ascribe any success to their own efforts and talents while blaming others or bad luck for their failure. Successive investing success can lead to overconfidence.

## **7. Over reaction and Availability Bias**

In traditional finance, the EMH states that when a market is operating in its efficient form, security prices rapidly adjust to new information. However, De Bont and Thaler (1985) found that reality contradicts this theory. For both "winning" and "losing" stocks, market participants over-reacted. For winning stocks created by good news, the market participants later realized their over-excitement. For losing stocks, occasioned by bad news, market participants later realized their over-pessimism. Both cases of over-reaction and under-reaction led to over- and under-valuation of security prices (Daniel, et al. 1998).

Similarly, availability bias refers to the tendency to rely heavily on recent information in market investment decisions. More recent events weigh more heavily (Kahneman and Tversky, 1974). We usually over react to the availability of new information.

### **Prospect Theory**

This theory states that when choosing between risky outcomes, people calculate the gains and losses for one and choose the one with the highest prospective utility. The theoretical foundation of prospect theory was laid by Kahneman and Tversky (1979) and Tversky and Kahneman (1992). They argue that people perceive gains and losses differently and therefore, their decisions are skewed in favour of perceived gains rather than perceived losses. When people are confronted with two equal choices, one expressed in terms of possible gains and the other in terms of possible losses, people will choose the former, even when the economic outcome will be the same.

Kahneman and Tversky (1979) conducted a study in which subjects were asked questions that required making judgments between two economic decisions involving prospective gains and losses. The experiment ran like this:

In addition to whatever you own, you have been given N1000. Now choose between A or B:

A: You have a 50% chance of gaining N1000, and a 50% chance of gaining N0

B: You have a 100% chance of gaining N500.

B: was the more popular choice.

The same respondents were then asked:

In addition to whatever you have, you have been given N2000. Now choose between C or D:

C: You have a 50% chance of losing N1000, and 50% of losing N0.

D: You have a 100% chance of losing N500.

Most of the respondents chose C.

It is instructive to note that majority of the respondents focused only on gains and losses. However, the net outcome is the same in both situations. The implication is that people are risk-averse over gains and risk-seeking over losses. In other words, people exhibit greater sensitivity to losses than to gains, a feature called loss aversion (Kahneman and Tversky, 1979). That is to say, the pains of a loss are weighted more heavily than an equivalent amount of gains.

In the investment world, prospect theory is used to explain the disposition effect. Investors are eager to sell winning stocks prematurely to cash in on the amount of gain already guaranteed whereas investors are reluctant to sell assets trading at a loss relative to the price at which they were purchased (Shefrin and Statman (1985). Investors hold onto losing stocks for too long. In many instances the losing stock continues to shed off more values leading to even higher losses.

## **TRADITIONAL FINANCE VERSUS BEHAVIORAL FINANCE**

Traditional finance has done a respectable job of solidifying investment theories in relation to risk and return in both emerging and developed capital markets. One of the most vocal critics of behavioural finance is Eugene Fama, the founder of EMH. While acknowledging anomalies that traditional finance cannot address properly, he argues that these are short-term



chance events that can be corrected over time (Fama, 1998). Efficient market scholars argue that it is not difficult for statisticians to spot anomalies and for psychologists to explain them with the benefit of hindsight. What is difficult, according to them, is for investors and investment managers to identify mispriced securities and act accordingly (Brealey, et al. 2008).

However, behavioural Scientists have responded by affirming that supporters of EMH are victims of *confirmation bias* (i.e. belief perseverance). Similarly, Schiller (2002) argues that if the models prescribed by traditional finance were a true reflection of the investment world, they would provide powerful working tools for studying the financial markets. Unfortunately, according to Schiller, the models prescribed by traditional finance represent wishful thinking that dominated the work of the profession for decades. He also argues that failure of the market efficiency theory to explain the working of the financial markets can lead to drastically incorrect interpretations of events such as major stock market bubbles (e.g the US Stock market crashes and the Nigerian Stock market crash). As a result, researchers, investors and market participants should distance themselves from the presumption that financial markets work well and security prices always reflect their true values. He therefore, came to the conclusion that behavioural finance has led to a profound deepening of our knowledge of financial markets.

## **CONCLUSION AND RECOMMENDATIONS**

It has been established that risk and return go together. However, we have also seen that it is relatively easy to lose sight of the risk aspect of an investment. This is clearly demonstrated by investors who exhibit irrational exuberance, when they assume much higher risk in pursuit of an elusive expected higher return. When irrational exuberance rules, investors take a one-sided view of an investment. The focus is on the return rather than a balanced view of both risk and return.

There is a strong conviction that the possibility of a gain is almost certain while the risk aspect which may be even higher is relegated to the background. Investors who record successes during the period of irrational exuberance will continue to re-invest even more hoping that the favourable investment climate will continue. For new entrants, the attraction is the perceived *gain* rather than the possible *loss*.

How do we stem the tide of irrational exuberance? The field of behavioral finance has widened our knowledge on how investors form beliefs and make preferences. We now have a sound knowledge of how financial markets work and how market participants behave. Irrational exuberance has its roots in the attributes discussed in this lecture. Investors should avoid falling prey to any of these attributes or triggers of irrational exuberance: *Anchoring; Mental Accounting; Confirmation and hindsight Bias; Gamblers fallacy; Herd behavior; Over confidence; Over reaction and availability bias; and Prospect theory*. By avoiding these triggers investors can accommodate both risk and return while making investment choices.

Investors should also:

- a. Avoid “investment landmines”;
- b. Study the investment environment thoroughly;
- c. Engage the services of professionals, and
- d. Take a long-term view of investments

We now know that *financial markets do not always work well and investors are far from being rational*; but the field of behavioural finance has solidified our understanding of risk, return and irrational exuberance.

To the teeming supporters of EMH, I say ***“By and large, a dead camel is always bigger than a horse.”***

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## **CITATION ON PROFESSOR MAIMAKO SABASTIAN SEDDI**

Professor Maimako Sabastian Seddi was born on 20<sup>th</sup> July, 1961 in Lu'ukwo (Bakinciyawa) village of Qua'an Pan Local Government Area of Plateau State. As it was the tradition in those days, one could only be enrolled for primary school education when either of your hands could touch the ear on the opposite side and so Professor Maimako had to wait until he was able to meet this minimum requirement. At the age of ten, he got enrolled into the RCM Transferred School, Kwande between 1971 and 1976. Upon successful graduation in 1976 with an impressive result, he gained admission to Government Teachers' College, Zawang in 1976 and completed his 'O' level education in 1981 and was awarded the Teachers' Grade Two Certificate. No sooner had Professor Maimako obtained his Grade Two Teachers certificate which qualified him for the teaching profession than he realized he had taken the longer route to his preferred intellectual destination. He got registered for 'O' level General Certificate of Education (external) in 1981. He sat for the examination and passed at a sitting. Armed with both the Grade Two Teachers' Certificate and the GCE result, Professor Maimako was offered admission to study for a B.Sc in Management Studies in 1983. While in the University of Jos, Professor Maimako studied very hard and graduated in 1987 with a competitive second class (Honours) upper division. He was indeed one of the best graduating students in his class.

He was mobilized for the mandatory one year National Youth Service Corps (NYSC) and deployed to the then Gongola State where he did his primary assignment with the Institute for Professional Studies (IPS) in Wukari between 1987 and 1988. Professor Maimako returned to the University of Jos after his national service to satisfy his growing appetite for knowledge. He registered for a Master of Business Administration (MBA) degree in 1990 and completed it within the prescribed duration in 1992. In 2000, he registered for a PhD programme and worked

strenuously to finish it in record time. In 2005, he successfully defended his thesis and was awarded PhD in Management in 2006.

Professor Maimako is a man who is driven by good sense of industry and high achievement. He started his working career as a Grade Two teacher shortly after his training at Government Teachers' College Zawang. He taught for a brief spell of time at the L.G.E.D Primary School, Kurgwi between 1981 and 1982. He was employed by the Plateau State Government Ministry of Education as Education Officer II between 1988 and 1989. Within this period of this employment he taught at Government Secondary Schools Nasarawa Eggon and Andaha. Professor Maimako felt inadequately engaged and grossly underutilized by the State Government and so decided to take up appointment with the University of Jos in 1989 as a Graduate Assistant where he steadily climbed the steeply constructed academic ladder to reach the Pinnacle of his career with his appointment as a Professor of Accounting and Finance on 1<sup>st</sup> October, 2010.

Professor Maimako had demonstrated robust strength by combining his numerous academic engagements with administrative responsibilities. He has at various times been class adviser, postgraduate studies coordinator, Head of Department, Deputy Dean of Social Sciences, member of several interview panels, and member, editorial board of several peer review journals. He was appointed pioneer Acting Head of Management Sciences Department from 2004-2006. He was also elected pioneer Deputy Dean in the new Faculty of Management Sciences. These two positions he holds to date. He has handled all these responsibilities with utmost sense of integrity, diligence and commitment to institutional growth and development. Professor Maimako has over the years, supervised over 100 students at the Diploma level, over 200 students at the B.Sc level and over 120 students at both the postgraduate Diploma and Master in

Business Administration levels. He has successfully supervised four completed PhDs; is currently the sole supervisor of five ongoing M.Phil/PhD students and is co-supervisor of two others.

Professor Maimako has demonstrated robust and sustained commitment to productive scholarship. He has to his credit, 22 published articles in peer reviewed journals, one single authored book, three chapters in books, one technical report and two seminar/conference proceedings. In all, Professor Maimako has over 29 publications and is still publishing. He has attended and presented well researched papers at over 27 local seminars, workshops and conferences. He has also attended and presented papers at four international conferences in China, India, Uganda and South Africa. Professor Maimako is beyond any shred of doubt, a productive and effective scholar who is immensely endowed with very fertile sense of imagination. In addition to his academic publications, Professor Maimako is happily married and together with his lovely wife, Mrs. Lucy Maimako, have five biological publications in circulation (five children).

Professor Maimako has also rendered valuable community services which have contributed in no small measure to the enterprise of national development. At various times, he has served as Honorary Senior Special Assistant to the Executive Governor of Plateau State from November, 2003 to November, 2006; National President, Gamai Youth Movement from 1995 to 1997 where he strengthened the responsive capacity and capability of this platform as a socio-cultural and political pressure; Member, Governing Council, College of Arts, Science and Technology, Kurgwi, from July, 2006 to May, 2007; Member, Governing Council, Institute of Chartered Accountants of Nigeria, between June, 2011 to May, 2012 and the first person of Plateau State origin to occupy that position; Member, Editorial Board of Journal of Management

Technology, ATBU Bauchi; and Member, Editorial Board of Journal of Human Resource, Plateau State Polytechnic, Barkin Ladi. He has served at various times as External Examiner to ATBU Bauchi; Benue State University, Makurdi; University of Professional Studies, Legon, Ghana; and Kwararafa University, Wukari. He has also served his professional body, ICAN in several capacities. All these outstanding efforts of Professor Maimako have earned him recognition from students. From 2004 to date he has received Certificates of Excellence by the National Association of Management Students, University of Jos Chapter. He has also been recognized and awarded by Accounting and Management students' bodies of the prestigious University of Jos. He is an Associate Member of Institute of Chartered Accountants of Nigeria (ICAN).

Mr. Vice-Chancellor, invited guests, ladies and gentlemen, our distinguished Inaugural Lecturer is undoubtedly, an accomplished scholar, an effective teacher, a quintessential and visionary leader, a community activist, a devout Christian, a productive researcher, the ideal theory-Y worker, a diligent and astute administrator, an effective mentor, an amiable personality, a team player and above all, a scholar with a good mix of the strength of a lion and the wisdom of a fox and a scholar with towering cerebral prowess. Professor Maimako Sabastian Seddi is as gentle as a dove and yet could be as aggressive as a lion if and when unjustly provoked. He is a passionate believer in the principles of mutual respect, tolerance and accommodation. I present to you the *Very First Professor of Accounting & Finance of Plateau state origin*, to deliver the University of Jos number 66 inaugural lecture.

## ACKNOWLEDGEMENTS

The strands of thought and ideas presented in this lecture had their roots in both formal and informal settings, many of which I would have forgotten. I have been fortunate to have had the assistance of many people in my life while developing this lecture. May I take this opportunity to thank God Almighty for bringing me this far.

I have received huge benefits from many individuals who have been sources of encouragement and support. I want to especially thank my supervisor and mentor, Professor Ambrose Abalike Okwoli, who has always taken special interest in my career progression. My colleagues in the Faculties of Management and Social Sciences deserve special commendation. My contemporaries in this profession, Professor Ekoja B. Ekoja and Dr. R.B. Jat have been supportive, I thank you immensely. I wish to express appreciation to all my colleagues, teaching as well as non-teaching in the Departments of Business, Accounting, Banking and Finance, Insurance, Marketing, Actuarial Science, and the Dean's office. I have learnt a lot from you over the years.

Special thanks go to Olayinka Moses, William Adiah and Adeyi James for making sure I got the data I needed. Dr. Oladele Olugbenga Kolawole and Olayinka Moses spent many sleepless nights working on the draft of this lecture. I thank you immensely. I appreciate the role of Professor Audu Gambo for doing a wonderful work on the citation. I wish to also thank specially Heriju Gadzama and Mrs. Adebisi Ayoka who also worked on the drafts of this lecture several times.

This huge feat in my life was made possible by the singular and all important decision taken by my parents, late **Miskoom Maimako Alladamu** and late **Nna Gwodi Maimako** to send me to school; after contemplating between setting me up as a farmer or spending their meagre

resources to train me into who I am today. Miskoom and Nna, I am most grateful you chose this option that has brought me this far. I owe all to God and you both.

Permit me to specially recognize the contributions of my dear wife Mrs. Lucy Sebastian Maimako, who, kept on encouraging me to work longer to deliver this lecture. To our dear children, I thank you for your support and understanding while this lecture was being developed. I hope this feat stirs in you a greater vision and ambition than mine in your journey through life.

I want to especially thank my siblings for supporting me anytime I am in need. I thank you immensely. I wish to express my gratitude to all my relations for supporting me at all times.

I am also grateful to my numerous friends and kinsmen whose moral, spiritual and financial support have helped in the accomplishment of this lecture.

Finally, I wish to appreciate the University of Jos community, headed by the Vice Chancellor, Professor Hayward Babale Mafuyai, all Principal Officers and the Inaugural Lecture Committee headed by Professor J. N. Nasir for this drive and motivation. I also thank former Vice Chancellors and former Deans with whom I have worked over the years. To my students within and outside this institution, both present and past at all levels, I am indeed truly grateful to you all. Last but not the least, I thank this great audience.

## CURRICULUM VITAE

### SECTION A: PERSONAL DATA

**NAME:** Maimako, Sebastian Seddi

**DATE AND PLACE OF BIRTH:** 20<sup>th</sup> July 1961, Bakinciyawa.

**LOCAL GOVERNMENT AREA:** Qa'an-Pan.

**STATE OF ORIGIN:** Plateau

**NATIONALITY:** Nigerian

**CONTACT ADDRESS:**

**(I) OFFICE:** Department of Business Administration,  
University of Jos, PMB 2084 Jos.

**(II) RESIDENTIAL:** Old Laminga Dam Road, Jos

**PERMANENT HOME:** C/o St. Mary Catholic Church Luukwo  
(Bakinciyawa), Q/P L. G. A. Plateau state.

**TELEPHONE NUMBER:** 0803-592-5516; 0708-904-8425

**EMAIL:** [ssmaimako@yahoo.co.uk](mailto:ssmaimako@yahoo.co.uk)  
[ssmamako@gmail.com](mailto:ssmamako@gmail.com)  
[maimakos@unijos.edu.ng](mailto:maimakos@unijos.edu.ng)

**MARITAL STATUS:** Married

**NUMBER AND AGES OF CHILDREN:** 5 children,

**PRESENT POSITION:** Professor

**AREA OF SPECIALIZATION:** Accounting & Finance

### SECTION B: INSTITUTIONS ATTENDED WITH QUALIFICATIONS OBTAINED WITH DATES

#### SCHOOLS ATTENDED

**PRIMARY EDUCATION** RCM Transferred School Kwande, 1971-1976

**SECONDARY EDUCATION** Government Teachers College Zawang, 1976-1981  
External Candidate, GCE 1981.



<b>UNIVERSITY EDUCATION:</b>	University of Jos	1983-1987
	University of Jos	1990-1992
	University of Jos	2000-2006

### **QUALIFICATIONS OBTAINED**

Primary School Leaving Certificate	1976
Grade Two Teachers' Certificate (GII)	1981
GCE	1981
B.Sc Management Studies (2 <sup>1</sup> )	1987
Master of Business Administration (MBA)	1992
Doctor of Philosophy in Management (PhD)	2006

**PROFESSIONAL COURSES:** Technology Competence Initiative of the Institute of Chartered Accountants of Nigeria, 22<sup>nd</sup> – 27 September, 2008, Kaduna.

### **SECTION C: SCHOLASTIC HONOURS**

**Certificates of Excellence** by National Association of Business and Management Students, University of Jos Chapter 2005, 2008 & 2010.

**Various Students Awards** by Accounting and Management Students' Bodies of the University of Jos.

### **SECTION D: WORK EXPERIENCE/CAREER PROGRESSION**

**GRADE TWO TEACHER-** L.G.E.D. Primary School Kurgwi 1981- 1982

**EDUCATION OFFICER II-** Ministry of Education Plateau state 1988- 1989

**UNIVERSITY OF JOS** 1989- date.

### **CAREER DEVELOPMENT AT UNIVERSITY OF JOS**

Graduate Assistant	1989- 1992
Assistant Lecturer	1992-1995
Lecturer II	1995-1999
Lecturer I	1999-2002
Senior Lecturer	2002-2007
Reader	2007 – 2010
Professor	2010 - date

## **SECTION E: ACADEMIC RESPONSIBILITIES**

Class adviser, B.Sc. Accounting, 1991- 1994

Coordinator, Master of Business Administration (MBA), 1994 – 1996.

Coordinator, Executive Master of Business Administration, University of Jos, 1996- 1999

Coordinator, Advanced Professional Diploma in Accounting, University of Jos Consultancy limited, 1998-2000

Coordinator, Diploma in Business Administration (DBA), University of Jos, 2000-2002.

Class Adviser, B. Sc Accounting Part-time, 2002-2004

PhD Coordinator, 2007 – 2009.

Acting Head, Department of Management Sciences, Unijos, August, 2004 - July, 2006.

Acting Head, Department of Management Sciences, Unijos, July 29, 2008 – May 24, 2011.

Acting Head, Department of Business Administration – May 25, 2010 to 30th September, 2011.

Head, Department of Business Administration, 1st October 2010 to date.

Deputy Dean, Faculty of Social Sciences, Dec. 2010 – 10th February 2011

Deputy Dean, Faculty of Management Sciences, 11th February, 2011 to date

Chairman – Committee on the Audit of the Relationship between the University and the Institute of Education, University of Jos, June 2013.

Chairman - Interview Panel for the Recruitment of Junior Staff, Bursary Department University of Jos, March, 2009.

Member – Senate Representative on the Selection Board for the Appointment of a substantive Bursar, University of Jos, 12th and 13th February, 2014.

Member – Membership of Council/Senate Disciplinary Committee, July 2, 2013 till date.

Member – Committee on the Review of Payment of Earned-Allowances in the University, Jan. 2014 to February 2014.

Member - Interview Panel for the Recruitment of Senior Staff, Bursary Department University of Jos, December, 2009.

Member - Interview Panel for Recruitment of Lecturers into the Department of Management Sciences, University of Jos (September, 2008)

Member - Interview Panel for the Recruitment of Lecturers into the Department of Accounting (February, 2005).

Member- Interview Panel for the Recruitment of Lecturers into the Department of Management Sciences University of Jos. (August, 2005).

Member- Editorial Board of the Nigeria Journal of Management Research,

Publication of Department of Business Administration, University of Jos.

## **SECTION F: MEMBERSHIP OF PROFESSIONAL BODIES**

**ASSOCIATE MEMBER:** Institute of Chartered Accountants of Nigeria (ICAN)

## **SECTION G: DETAILS OF TEACHING EXPERIENCE AT THE UNIVERSITY LEVEL**

### **DIPLOMA COURSES**

Course Code	Course Title
DBA 121	Introduction to Cost Accounting
DBA 213	History and Structure of the Nigerian Economy

### **UNDERGRADUATE COURSES**

Course Code	Course Title
ACC 111	Introduction to Accounting
ACC 222	Introduction to Cost and Management Accounting
ACC 221	Financial Accounting II
ACC 422	Advanced Financial Accounting
ACC 318	Principles of Auditing
ACC 325	Principles of Taxation
ACC 424	Auditing and Investigations
BUS 413	Total Quality Management
BUS 425	Management Accounting
BUS 417	Financial Management
ACC 421	Capital Markets and Portfolio Theory
ACC 428	Security and Investment Analysis
ACC 312	Corporate Accounting
ACC 416	International Accounting
ACC 424	Public Sector Accounting

## POSTGRADUATE COURSES

Course Code	Course Title
MBA 520	Advanced Auditing and Investigation
MBA 509	Corporate Finance
MBA 524	International Accounting
MBA 523	Advanced Cost and Management Accounting

## SABBATICAL LEAVE

1. Sabbatical Leave at ATBU Bauchi, January 2007 -December 2007.

## SECTION H: PROJECT/THESIS SUPERVISION

More than 100 students supervised at the Diploma level

More than 200 B. Sc Students Supervised.

More than 50 Students of Postgraduate Diploma in Management (PGDM) Supervised.

More than 50 Students of Master of Business Administration (MBA) Supervised.

### M.Phil/Ph. D SUPERVISION (Sole/Co-supervision)

#### Completed

**Oladele, Olugbenga Kolawole, PGSS/UJ/0368/06.** “The Impact of Corporate Restructuring on Value Creation in the Nigerian Banking Industry”. Successfully defended on 31<sup>st</sup> October, 2012.

**Patrick Bogoro, PGSS/2006-2007/50/504004 (co-supervision).** “An Assessment of the Impact of Customer Satisfaction with Tourism Destination in North-East Nigeria. Successfully defended on 11<sup>th</sup> May, 2013.

**Dalhat Bala Suleiman PGSS/2006/504008** “An Impact assessment of the Determinants of Market Price of Ordinary Shares of Manufacturing Companies in the Nigerian Stock Exchange”. Successfully defended on 7<sup>th</sup> June, 2014

**Ado Ahmed PGSS/2007/5411** “An assessment of Private Sector Financing of Electricity Infrastructure in Nigeria”. Successfully defended on 7<sup>th</sup> June, 2014.

#### ONGOING M.Phil/Ph.D. (Supervision)

**David Dada Adenike, PGSS/UJ/00027/07.** “The Impact of Funding on the Growth and Development of Small and Medium Enterprises (SME’s) in South-West Nigeria”. Ongoing Ph. D Research in the Department of Business Administration, University of Jos.

**Oki Emmanuel Omaru, PGSS/UJ/00547/07.** “The Impact of Corporate Governance on Bank Performance”. Ongoing Ph.D. Research in the Department of Business Administration, University of Jos.

**Abubakar Magaji Adamu, PGSS/UJ/0042/07** “An Appraisal of Portfolio Management Approach of Investment Houses in Nigeria (1999-2008)”. Ongoing Ph.D. Research in the Department of Business Administration, University of Jos.

**Ali Adeyi James, PGSS/UJ/0130/07,** “Capital Market Dynamics in Nigeria: A Performance Analysis of the Stock Market, 1980 – 2009”. Ongoing Ph.D. Research in the Department of Business Administration, University of Jos.

**Ayila Ray Ukpa, PGSS/UJ/0057/07.** “The Influence of Corporate Attributes on the Accounting Disclosure Compliance of Commercialized Federal Government Enterprises in Nigeria”. Ongoing Ph.D. Research in the Department of Business Administration, University of Jos.

#### **M.Phil/Ph.D. (Co-supervision)**

**Mallo Josiah Mangai (PGSS/2011-2012/504912)** “Micro Enterprises and Poverty Alleviation in North-East Nigeria”. Ongoing Ph.D. Research at ATBU Bauchi.

**Umar Adeiza Mu’azu (PGSS/2012-2013/504014)** “Application of Information Technology in value Chain Management”. Ongoing Ph.D. Research at ATBU Bauchi.

#### **Ph.D. INTERNAL EXAMINATION**

**Samuel Abraham Ocholi-PGSS/UJ/12715/00,** “The Impact of Culture on Organizational Leadership in Selected Companies in the North Central Zone of Nigeria”. October, 2007.

#### **RECENT MBA PROJECT SUPERVISION**

Patricia Onyemowo Agbo, “The Potentials of Mergers as a tool for Business Competition and Survival: Case study of Agip Nig. Plc and Unipetrol Nig. Plc”.

Nuhu Yusufu Bakwa, “The Role of Financing Agencies in Start-UP Financing of Small Scale Business: A Case Study of Jos, Plateau State of Nigeria”.

Dongjur Cyprian, “An Evaluation of Pension Fund Reform Scheme in Nigeria: A Case Study of Plateau State Pension Board Jos”.

Onwuzulumba Livinus Nduka, “The Role of Marketing Information System in New Product Development: A Case Study of Coca-Cola Bottling Company Plc and PZ. Cusson Plc”.

Nguamo Dorcas Boko, “An Appraisal of the New Financial Reporting System at the Local Government Level: A Case Study of Kwande Local Government Council of Benue State”.

- Salau Ademola Muideen, “An Appraisal of the Role of Quality Control in Manufacturing Industry: A Case Study of Beauty Base Ltd.”.
- Bala Vonlyan Nimyel Gonji, “An Evaluation of Cost Management in Selected Companies in Jos Metropolis”.
- Ofoha Nnedimma Chekwube, “The Impact of the Capital Market on the Industrial Sector of a Developing Economy: A Comparative Study of the Nigerian and South African capital Markets, 1999 – 2005”
- Bankole Olatunde Francis, “Working Capital Management as a tool for Measuring Performance in the Nigerian Manufacturing Industry: A Case Study of Nestle Nig. Plc.”
- Michael Ocho Adame, “The Impact of Budgeting and Budgetary Control on Resources Allocation: A Case study of Evangelical Church of West Africa”.
- Suleiman Tom Garba, “An Evaluation of Credit Management in Nigerian Banks: A Case Study of some Selected Bank Branches in Jos”.
- Jacobs Abiola Adedoyin- PGSS/UJ/0063/04, “Auditors Independence and Accountability in Nigerian Public Enterprises: A Case Study of Nigerian Ports Authority, Lagos”.
- Mercy Werr Irimiya- PGSS/UJ/0116/04, “Marketing Strategies of Unilever Nigeria Plc”.
- Etimiri Babatunde Olukoya- PGSS/UJ/0231/06, “Working Capital Management (A Case Study of CHAN Medi-Pharm Ltd/Gte)”.
- Garba Gowon Gonkol- PGSS/UJ/0234/06, “Irish Potato Production Technologies in Nigeria. A Comparative Study on Farm- Economic Analysis of Two Production Technologies in Jos North – South. Plateau State”.
- Nwabueze Evelyn Ijeoma- PGSS/UJ/0249/06, “Enhancing Efficiency in Colleges of Education Administration through, the Auditing Processes. (A Case Study of Federal Colleges of Education)”.
- Okocha Chinonso Uche- PGSS/UJ/0251/06, “Distress in the Nigeria Financial Services Industry”.
- Aishetu J. Garang- PGSS/UJ/0218/06, “Budget Implementation and Control (A case study of Plateau State Budget)”.
- Tiemlong Johnbull Shekarau- PGSS/UJ/1391/06, “Technological Change: Challenges and Prospects for Electronic Technicians Business in Jos”.

### **RECENT PGDM PROJECT SUPERVISION**

- Saka Ande Abdul-Azeez, “Integrated Information Systems and Impact on Education: Case Study of University of Jos”.
- Darum Caleb Jonah, “The Roles of Human Resources Training and Development on Student’s Performance: A Case Study of some Schools in Pankshin LGA Plateau State”.
- Ejim Maureen, “The Impact of Sales Promotion on the marketing of Consumer Goods: A Case Study of Unilever Nigeria Plc”.

Charles Nendelmwa Deshi, “Motivation as a Tool for Organizational Growth: A Case Study of Kamdak Nigeria Limited Jos”.

## **SECTION I: RESEARCH ACTIVITIES**

## **SECTION J: PUBLICATIONS**

### **Articles in Learned Journals:**

1. Abubakar, M.A. and Maimako, S.S. (2014). “Are Mutual Fund Managers in Nigeria Worth their Money?”. *Int. J. Management Practice*, 7(4), pp. 298-308.
2. Maimako, S.S. & Oladele, K.O. (2013) Value Creation in the Nigerian Banking Industry. *ICAN Journal of Accounting & Finance*. 2(1) pp. 45-64
3. Maimako, S.S. & Oladele, K.O. (2012), Impact of Corporate Restructuring on Value Creation in the Nigerian Banking Industry. *SDMIMD Journal of Management*. 3(2) pp.77-96.
4. Maimako S.S. & Olayinka, Moses (2011): Financing Choices; A test of the Pecking Order Theory. *The Nigerian Accounting Horizon*.4(1) 26-38
5. Maimako, S. S. (2009). Between the Legislative Auditor and Parliament: A Critical Link in the Accountability Process. *Legislative Practice Review* 1, 34 – 44.
6. Maimako, S. S. (2008). An Assessment of the Challenges of Trade Liberalization on Workers’ Rights in Nigeria. *Labour Law Review*, Vol. 2. No. 3.
7. Maimako, S.S. (2007). Evidence of Legislative Participation in the Public Budget Process. *Nigeria Journal of Legislative Affairs*. 1,31-58.
8. Maimako, S.S. (2007). The Gendering of Micro Finance: Evidence from Plateau State. *International Journal of violence and Related Studies*. 3, 86-90. @www.qdmrcnig.org.
9. Maimako, S.S. (2007). An Evaluation of the Progression of Women Accountants in the Banking Industry. *International Journal of Violence and Related Studies*. 3, 116-122. @www.gdmrcnig.org.
10. Maimako, S.S. (2007). Determining Optimal User Charges for Public Utilities in Nigeria; A Cost Framework. *Nigeria Journal of Management Technology* 1, 50-57.
11. Maimako, S.S. & Suleiman Tom Garba (2007). An Evaluation of Credit Management in Nigerian Banks: A Case Study of some Selected Bank Branches in Jos. *The Nigerian Journal of Management Research*, Vol. 4. No. 1 141-157.
12. Maimako, S. S. (2007). Fiscal Transparency in Nigeria: An Evaluation of the Checks and Balances in the Constitution of the Federal Republic of Nigeria 1999. *Nigerian Journal of Management Technology and Development*, School of Management Technology, ATBU Bauchi, Vol. 1 No. 2. 63 – 73.

13. Nmadu, T.M and Maimako S. S. (2006). Promoting Gender Equality in the Power Structure of Nigerian Universities: A Case study of Some North Central Universities. *International Journal of Development and Policy Studies* 1, 31-39.
14. Maimako, S.S. (2006). An Empirical Examination of the Accuracy of Profit Forecasts included in Prospectuses. *Adamawa Business Journal, Vol.1, No.2, 42-50.*
15. Maimako, S.S. (2005) Empirical Evidence on Patterns of Dividend Payments in an Emerging Stock Market: A Comparative Study of Some Selected Companies on the Nigerian Stock Exchange. *Nigerian Journal of Management Sciences. 1, 14-29.*
16. Okwoli A. A and Maimako, S. S. (2005). An Examination of Changes in Debt Ratios in Manufacturing Companies: A Survey of Some Quoted Companies on the Nigerian Stock Exchange. *Africa Journal of Management. 1, 1-8.*
17. Maimako, S.S. (2003). The Z-Score Approach to Measuring Solvency in the Banking Sector. *Humanity: Jos Journal of General Studies. 4, 28-36.*
18. Maimako, S. S. (2002). The Response of Share Prices to Changes in Earnings and Dividends: An Empirical Analysis. *Jos Journal of Economics.1, 14-29.*
19. Maimako, S. S. (2002) The Auditor's Liability: Views of Future Accountants. *Journal of Economics and Management Studies. 1. 31-44.*
20. Maimako, S.S. (2002). The Accounting Profession and Economic Theory: A Critical View of Profit Measurement. *The Nigerian Journal of Management Research.*
21. Maimako, S. S. (2000). Bridging the External Audit Expectation Gap. JOSUGA; *Jos Journal of Humanities, 2, 39-49.*
22. Maimako, S.S. (2000) Causes, Types and Strategies for Prevention of Fraud in Corporate Organizations; A study of Selected Organizations in Plateau State. *HUMANITY: Jos Journal of Economics. 2, 18 – 24.*

#### **Authored Book**

23. Maimako, S. S. (2010). *Principles of Corporate Governance*, Abuja: Eriba Publishers.

#### **Chapters in Books**

24. Maimako, S.S. (2003) Labor Cost Control and Remuneration Schemes. In J. O. M. Ande (Ed), *Studies in Cost Accounting. (85-97)*. Jos: Jos University Press Ltd.
25. Maimako, S.S. (1998) Specialized Audits: the Case of Charities. In J.O.M. Ande and A. A. Okwoli (Eds), *Studies in Auditing. (182-178)*. NAA.



26. Maimako, S. S. (1998). Financial Reporting and Accountability in the Public Sector. In B.C. Osioma and A. E. Okoye (Eds), *Problems and Prospectus of Accountancy Profession in the Next Millennium*. (166-178). NAA.

### **Technical Report**

27. Maimako, S.S. (1998). The Potential of Trade Credit in Accelerating the Growth of Small and Medium-sized Business: A study of Selected Businesses in Jos. *Research Report* supported by the Faculty of Social Science Research Grant, University of Jos.

### **Seminars/Conferences**

28. Maimako, S. S. & Oladele, O. K. (2008) Risk Dimensions in Business Process in Nigeria: A Comparative Study of the Nigerian Banking and Insurance Sub-Sectors (1999 -2006). *Conference Proceedings of the Maiden International Conference of the Department of Management Sciences, University of Jos, Jos, 16<sup>th</sup> – 18<sup>th</sup> April, 2008*, pp. 148 – 166.
29. Maimako, S.S. (1994) The Historical Development of Local Government Finance in Nigeria. In A. E. Okoye, A. Silva and O. T. Odiongenyi (Eds), *Accounting in the Industrialization of Nigeria*. Proceedings of the National Conference of Nigerian Accounting Teachers Association. 6<sup>th</sup> -9<sup>th</sup> July, pp 22-28.

### **PAPERS PRESENTED AT SEMINARS, WORKSHOPS & CONFERENCES**

1. The progression of Women Accountants in the Nigerian Banking Industry. Paper Presented at a Workshop on Violent Crimes and Children at an International Conference organized by QDRMC, Makurdi September, 20<sup>th</sup> – 24<sup>th</sup> 2006.
2. Fiscal transparency: An Evaluation of the Checks and Balances in the Constitution of the Federal Republic of Nigeria 1999. Paper presented at a Workshop on Accountability and Transparency in a Democratic Setting. Conducted by the Faculty of Management Sciences, University of Abuja, April 18<sup>th</sup> – 22<sup>nd</sup>, 2006.
3. Total Quality Management- The Sustainable Path to Excellence. Paper presented at a Workshop organized by World Wide Conference, April 14<sup>th</sup> –6<sup>th</sup> 2003.
4. Internal Auditing and Financial Control, A paper presented at a special workshop on *Conflicts/Crisis Management for Enhancement of Productivity in the Judiciary in the New Millennium for National Judicial Council Staff*, at New Keffi Hotels, Keffi, Nasarawa State, 19<sup>th</sup> -21<sup>th</sup> May 2003.
5. Evaluation of Budget Implementation, Control, Functions of Selected Government Institutions, A paper presented at a National Workshop on *Budget Implementation, Performance Monitoring and Reporting*, Organized by the institute of Chartered Accountants of Nigeria, Jos District Society at Hill Station Hotel Jos, 13<sup>th</sup> February, 2002.

6. Empirical Evidence on Patterns of Dividends Payments in an Emerging Stock Market. A Comparative study of some selected Companies on *the Nigerian Stock Exchange*. A paper presented at the National Conference of Nigerian Accounting Association (NNA) April 2002.
7. An Investigation into the Causes, Types and Strategies for Prevention of Fraud in Organizations. A case study of selected companies in Plateau State. A paper presented at the Maiden North-East Conference on *Management and Vocational Education*, at the Federal Polytechnic Damaturu. 6<sup>th</sup> – 9<sup>th</sup> June 2001.
8. The Role of Co-operative Societies in Poverty Alleviation, A paper presented to Members of the Hospital Management Board Multi-purpose co-operative Society, on 20<sup>th</sup> July, 2000 at Jos.
9. Guidelines for Operators of Public Sector Accounts and Audit in the New Millennium, A paper presented at a National Workshop on *Public Sector Accounting and Auditing*, organized by the Office of the Auditor-General of the Federation, at Hill Station Hotel, Jos on 9<sup>th</sup> March 2000.
10. Investment Opportunities Open to Local Governments. A paper presented at a National Workshop on *Strategies for Effective Identification, Mobilization and Utilization of Local Government and Materials for Development*, organized by Institute of Local Government and Public Administration at Hill Station Hotel Jos on 16<sup>th</sup> November 2000.
11. Public Sector Accounts/Auditing Standards and Value for Money Audit as Tools for Effective Financial Reporting. A paper presented at a National Workshop on *Public Sector Accounts/Audit Standards and the Concept, Content and Application of Value for Money Audit*, organized by the Office of the Auditor-General for the Federation, at Hill Station Hotel Jos, 3<sup>rd</sup> -5<sup>th</sup> November 1999.
12. The Historical Development of Local Government Finance in Nigeria. A paper presented at the National Conference of Nigeria Accounting Teachers Association 6<sup>th</sup> – 9<sup>th</sup> July, 1994, Jos.
13. Management of Risk. A paper presented at a Seminar on *management of Financial Service, Strategy and Implementation*, organized for Union Bank Plc. Jos.
14. Integrated Cash management. A paper presented at the Seminar organized by the Nigerian Training Institute if Bankers.
15. Budgeting and Budgetary Controls. A paper presented at a workshop organized by NICON Training School, Jos.
16. Handling Customer Complaints. A paper presented at a Workshop organized by Lion Bank Plc. Jos.

17. Financial Relationship between the Three Arms and Tiers of Government in Nigeria. Paper presented at Workshops organized by Worldwide Conference and Brain Mind International.
18. Resource person on yearly short courses organized by various consultancy firms in and outside Jos.

#### **LOCAL WORKSHOPS ATTENDED**

- 7<sup>th</sup> WARIMA Conference, March 2-7, 2014, Hill Station Hotel Jos
- Carnegie Proposal writing workshop, May 22<sup>nd</sup> – 24<sup>th</sup>, 2008. Hill Station Hotel Jos.
- Carnegie Proposal writing workshop, June 24<sup>th</sup> – 26<sup>th</sup> 2008. Council Guest House, University of Jos.
- Retreat for All Principal Officers, Deans, Directors and Heads of Department, University of Jos, 5<sup>th</sup> – 7<sup>th</sup> November, 2008 at Yankari Games Reserve, Bauchi.
- ETF Capacity Building Workshop for Lecturers of Universities in Nigeria, 2006.

#### **INTERNATIONAL CONFERENCES ATTENDED**

- Seminar on Economics and Business for Teachers from African Countries. Organized by Hebei University of Economics and Business, 7<sup>th</sup> to 29<sup>th</sup> Sept. 2009 Shijiazhuang, People's Republic of China.
- International Conference on Emerging Trends in Finance and Accounting held at SDDIMD, Mysore India on August 3-5 2012.
- 3<sup>rd</sup> Annual Conference of African Accounting and Finance Association, 4<sup>th</sup> to 6<sup>th</sup> September, 2013 at the Speke Resort & Conference Centre, Munyonyo, Kampala, Uganda.
- 4<sup>th</sup> Annual Conference of African Accounting and Finance Association, 2<sup>nd</sup> to 5<sup>th</sup> September, 2013

#### **SECTION K: COMMUNITY SERVICES**

- Member – Senate Representative on the Selection Board for the Appointment of a substantive Bursar, University of Jos, 12<sup>th</sup> and 13<sup>th</sup> February, 2014.
- Chairman – Committee on the Audit of the Relationship Between the University and the Institute of Education, University of Jos, June 2013.
- Member – Membership of Council/Senate Disciplinary Committee, July 2, 2013 till date.
- Honorary Senior Special Assistant to the Executive Governor Plateau State, 28<sup>th</sup> November 2003- November 2006.
- Member – Committee on the review of Payment of Earned-Allowances in the University, Jan. 2014 to February 2014.
- President- Gamai Youth Movement (1995 – 1997)

- Chairman - Interview Panel for the Recruitment of Junior Staff, Bursary Department University of Jos, March 2009.
- Member - Interview Panel for the Recruitment of Senior Staff, Bursary Department University of Jos, December, 2009.
- Member - Interview Panel for Recruitment of Lecturers into the Department of Management Sciences, University of Jos. (September, 2008)
- Member - Governing Council, College of Arts, Science and Technology Kurgwi (July 2006-May, 2007).
- Member - Interview Panel for the Recruitment of Lecturers into the Department of Accounting (February, 2005)
- Member - Interview Panel for the Recruitment of Lecturers into the Department of Management Sciences. University of Jos. (August, 2005).
- Member- Editorial Board of Nigeria Journal of Management Technology, ATBU, Bauchi.
- Member- Editorial Board of Journal of Human Resource, A Publication of the Human Resource Development Center, Plateau State Polytechnic.
- Member- Editorial Board of the Nigeria Journal of Management Research, Publication of Department of Business Administration, University of Jos.
- External Examiner - School of Management Technology ATBU, Bauchi, 2005-2006.
- External Examiner – Benue State University, Markurdi 2008 – to date.
- External Examiner University of Professional Studies, Legon, Ghana, 2008 – to Date.
- External Examiner- Kwararafa University, Wukari March 2010 – Date.
- Member – Research, Technical and Public Policy Committee, Institute of Chartered Accountants of Nigeria, July 2010 to May 2011.
- Member – Governing Council, Institute of Chartered Accountants of Nigeria, June 2011 – May 2012.
- Member – Students Education & Training Committee, Institute of Chartered Accountants of Nigeria July 2011 to May 2012.
- Member – Membership Affairs Committee, Institute of Chartered Accountants of Nigeria, July 2011 to May 2012.
- Member – Professional Examination Committee, Institute of Chartered Accountants of Nigeria, July 2011 to May 2012.
- Member – Research, technical & Public Policy Committee, ICAN June 2012 to May 2013.
- Member – Professional Examination Committee, Institute of Chartered Accounting of Nigeria, July 2013 – till date