Journal of Economic Theory 6 (4-6): 121-127, 2012
ISSN: 1994-8212

Test of Capital Asset Pricing Model: Evidence from Nigerian Stock Exchange

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Abstract: This study investigates the empirical validity of Capital Asset Pricing Model (CAPM) developed by Sharpe and Lintner in the Nigerian Stock Exchange (NSE) using monthly stock values of 16 firms from the 20 most capitalized firms in Nigeria between the period of January, 2000 and December, 2009. The empirical findings indicate that the CAPM is inadequate to explain the role of asset risk for the determination of expected return on investment in Nigeria's equity market. It established contrary to the hypothesis of the CAPM that higher risk is associated with higher asset return and asset price. This study, however, because of some deficiencies according to Jensen such as measurement and model specification error that may arise due to the use of proxies for variables does not authoritatively reject the CAPM. Basically, the study provides evidence against the CAPM but it does not provide evidence in support of any alternative model.

Key words: ARCH effects, expected return, beta, risk free rate, NSE, Nigeria

INTRODUCTION

Investors in the capital markets in the world are everyday searching for how their investments will be profitable or put differently, no one among them is willing to invest their resources on extremely risky assets without a promising huge return. In the same way, investment analysts and portfolio managers are working tirelessly to understand the differences in investors' personalities why one investor will invest his resources on an asset differently from what another investor will prefer. Studies in the past have highlighted some factors responsible for investors' peculiarity situational profiles based on investor's age and sources of wealth, psychological profiles formed by the behavioural and personality trait and experience of investors; traditional finance based on the assumption that individuals are wealth maximizers who act rationally; behavioural finance based on the assumption that investors do not always act rationally and personality types based on investors' risk and return decisions.

The capital market is the market in which longer-term debt (generally those with original maturity of 1 year or greater) and equity instruments are traded. This market comprises of primary and secondary markets. The primary market deals in new securities while the secondary market deals in existing securities. These securities in any modern society are raised in the stock exchange market where investors (buyers) stand as the lenders and institutions (sellers) stand as the borrowers. A stock exchange market is an integral part of any modern economy as it helps in distributing and redistributing economy's wealth.

In Nigeria, the stock market has been experiencing substantial development, especially before the recent world financial crises which make the market unexciting. The ratio of stock market capitalization to Gross Domestic Product (GDP) has increased by approximately 300% in the last 3 decades: It increased from <5% in the late 1970's to about 20% in early 2000s. During this period, there are influxes of participants (professionals and novice) in the Nigeria's Stock Exchange market because it looked to everyone that there cannot be a loser in the market; the market was so promising that it presented itself as a win-win condition. However, due to the latest financial meltdown, Nigeria lost ₦1.97 trillion in the stock market in 2008 and as from then, the market has been characterised with what can be called a downtrend season. Hardly have you found a stock today compared to say 2006 that has not lost 300% of its price not to talk of banking industries where majority lost more. To enhance the above claim, earlier 2009, Michael Bloomberg, a financial analyst declared the Nigerian Stock Exchange's all share index as the worst performing in the world having reviewed 91 largest indexes across the globe (Olakojo and Ajide, 2010).

In view of the above situation in Nigerian Stock Exchange (NSE) market; periods of boom, bust and dull moment, this study is motivated to investigate the determinants of assets' prices and what could be the required rate of return that compensates for taking on risk in the stock market. This quest is not new in the field of finance economics as researchers in the past have developed many models on portfolio selection and management.

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One of the earliest of modern capital theories is the Capital Aasset Pricing Model (CAPM). Building on the earlier work of Harry Markowitz on diversification and modern portfolio theory, Sharpe (1964) and Lintner (1965) developed the CAPM. The CAPM is still the most referenced and widely used to relative asset valuation. The model predicts the expected rate of return of an asset is proportional to its level of systematic (or non-diversifiable) risk. Put differently, the model suggests that the expected rate of return on any asset should commensurate the risk involved meaning high risky asset should pay high expected return and vice versa. The model uses a measure of systematic risk that can be compared with other assets in the market.

CAPM assumes that individual investment is characterized with two different forms of risk; the systematic risk and un-systematic risk. The former is defined as the market risk which cannot be diversified. Examples of systematic risk are interest rates, recessions and wars. The un-systematic risk also known as, specific risks, is specific to individual stock. This form of risk according to the model can be diversified by increasing the number of stock in the portfolio. Originally as an improvement to the modern portfolio theory which shows that specific risk can be avoided through diversification but accepted still that systematic risk that plagues investors most when calculating deserved return on investment cannot be diversified, therefore CAPM came into existence through the pursuit of how systematic risk can be measured. Although, the CAPM has been predominant in empirical work over the past 30 years and is the basis of modern portfolio theory, accumulating research has increasingly cast doubt on its ability to explain the actual movements of asset returns (Michailidis *et al*., 2006).

Despite the increasing interest in the search for the validity of CAPM accross the world's stock market and increase in the migration of capital (Foreign direct investment) from the developed countries to emerging markets and associated high return, emerging stock markets like the Nigerian Stock Exchange (NSE) has not been well studied especially in relation to CAPM's validity. This literature search reveals that comprehensive study has not been carried out to examine the validity of the model.

Therefore, given the past and present situation in Nigerian Stock Exchange market where there was experience of bullish period till year 2008 that marks the beginning of the global financial crisis and bearish period after the year, this study is therefore interested in putting the theory into thorough test by investigating its validity and applicability in the Nigerian Stock Exchange. Accordingly, this study is believed to facilitate the decision of many investors in Nigeria who are ignorant of the workings of the stock market as many just invest their money based on their individual peculiarities and intuition. Consequently, the result of this study is expected to create and increase the awareness of investors as to what is necessary or not to give priorities when making investment decisions.

Overview of the Nigerian Stock Exchange (NSE): The Nigerian Stock Exchange (NSE) evolved from the Lagos Stock Exchange which was incorporated on September 15, 1960. The Lagos Stock Exchange started operations on June 5, 1961 with only 19 securities worth ₦800 million listed on it (Ojo, 2001). Later in December, 1977, the Lagos Stock Exchange was transformed to Nigerian Stock Exchange. As the pivot of the Nigerian Capital Market, the NSE is a self regulatory authority. The exchange is governed by a council (Board of Directors) presided over by a president with members drawn from the general public. The Director General who is also a member of the council is the Chief Executive of the exchange.

At present, NSE has 13 branches in all with each branch having a trading floor of its own. The head of all the branches is the Lagos branch. The earliest of the branches is Lagos, opened in 1961 while the latest are Benin, Yola, Uyo, Ilorin, Owerri, Abeokuta and Bauchi opened in 2009. The other branches are: Kaduna in 1978; Port-Harcourt in 1980; Kano in 1989; Onitsha in 1990; Ibadan in 1990 and Abuja in 1999. As at 2007, there are 283 securities listed on the exchanges from a record of 19 securities listed in 1961. The type of securities traded includes industrial loan stocks, government bonds and equity or ordinary shares.

The NSE in order to assist in the growth and development of the capital market performs the following functions:

- Providing facilities to the public for the purchase and sale of funds, stock and shares of all the listed companies
- Controlling the grant of a quotation on the NSE in respect of funds, stocks and shares of company
- Regulating the dealings of members with their clients

The performance of the NSE can be assessed based on some indicators according to finance literature. Such like market capitalization, volume and value of traded shares, securities listed on the exchange and turnover among others. Table 1 shows that NSE experienced all round growth between year 2000 and 2007 before the financial crises that hit the world in the second half of

Table 1: Operational statistics and market performance of the Nigerian stock market (1995-2008)

Years	Volume traded (billion shares)	Value traded (₦ billion)	Market capitalization (₦ billion)	All share index	New issues (₦ million)	New issues /GDP (%)
2000	5.00	22.02	369.94	8111.01	27.77	0.004
2001	5.90	49.28	566.94	10963.43	37.79	0.054
2002	6.60	55.93	708.54	12137.72	62.44	0.078
2003	13.30	119.98	1341.92	20128.94	163.85	0.162
2004	19.21	230.84	2158.92	23844.45	240.76	0.206
2005	26.70	265.52	2928.43	24085.76	737.70	0.506
2006	36.70	465.37	4183.26	33189.30	682.84	0.368
2007	138.10	2032.28	9852.03	57990.22	629.04	6.968
2008	193.10	2148.61	6228.73	31450.78	-	-

Nigerian Stock Exchange (NSE); Annual Reports (various issues) and NSE Factbook (various issues)

year 2008. The volume of shares traded on the NSE experienced a consistent increased from 5 billion units in year 2000 to 193.1 billion unit in year 2008. This increase represents a massive growth rate of 3,760%. This was experienced in the NSE as there was influx of investors who believed the market is a place to increase their wealth. As seen from the Table 1, the value traded also experienced a consistent increase due to both increase in volume traded and increase in stock prices. It increased from ₦22.02 billion in year 2000 to ₦2148.61 billion in 2008. Although as observed from Table 1, the rate of increase reduced drastically from 337% (2006-2007) to approximately 6% (2007-2008). This decrease can be traced to the effect of the global financial crises that hit the world in the second half of year 2008. Market capitalization showed the same trend as both volume and value experienced a bullish trend till 2007 but exhibit a different trend in 2008 as it experienced a decline from a yearly total of ₦9.852.03 trillion in 2007 to a yearly total of ₦6.228.73 trillion in 2008. All other indicators like all share index, new issues and new issues/GDP also show the same attribute as market capitalization to portray a bullish trend in the NSE market before the global financial crisis. The importance of new issues as a proportion of Gross Domestic Product (GDP) in this analysis is to show the size of funds mobilized by the stock market in relation to the GDP. Thus, one can say the Nigerian Stock Exchange experienced massive improvement from the start of the millennium up to mid-2008 when global financial crisis strike the world economy.

Review of some empirical literature: Since, the introduction of CAPM by Sharpe (1964) and Lintner (1965) in the mid 1960s, empirical researchers have been on the quest to investigate the validity of its claims. Studies carried out made use of countries' stock exchange market as the scope some concentrated on individual stocks while some extends their analysis to include asset's portfolio. Among the studies done, some found reasons to support the empirical validity of CAPM while some found reasons to challenge the empirical validity of the model. Among those that support the empirical validity of the model are the early studies by Jensen *et al.* (1972), Fama and MacBeth (1973) and more recent studies by Zhang and Wihlborg (2004). While among those that challenge the empirical validity of the model are the early studies by Banz (1981), Fama and French (1992) and more recent studies by Michailidis *et al.* (2006) and Olakojo and Ajide (2010).

Jensen *et al.* (1972) in their study of the New York Stock Exchange (NYSE) between 1931 and 1965, using monthly return data formed 10 portfolios from all the stocks on NYSE rather than using individual stocks. They found out that the predictions of CAPM were workable in their study. Jensen tested the linearity in cross-section expected return and beta by regressing the average excess monthly return on beta. Although, some of the results of their test suggested slight differences from the theoretical values, still they concluded that their data are consistent with the predictions of the CAPM. Another similar study to Jensen *et al.* (1972) is the study by Fama and MacBeth (1973) on NYSE. They extended the period of investigation from 1926-1968. Their study centred on establishing the positive linear relationship between average return and beta and by extension, they investigate whether the squared value of beta and volatility of the return on an asset can explain the residual variation in average returns accross assets not explained by beta alone. According to the report of the study, they subscribe to the validity of CAPM. Zhang and Wihlborg (2004), using monthly time series of share prices, analyzes the pricing of equity in six European emerging capital markets; Cyprus, Czech Republic, Greece, Hungary, Russia and Turkey for the period 1995-2002. They adopted both an unconditional and a conditional CAPM. They also made distinction between the domestic and the international CAPM.

The empirical evidence from a sample of 753 firms across the six emerging markets indicates that there exists a significant conditional relationship between beta and returns when the domestic CAPM is tested. The international CAPM performs well only in two markets observed as more integrated with the world market, especially in more recent years.

However, many empirical studies although understood the theoretical importance of CAPM, challenge its empirical relevance. In their study, they argued that relationships between return and beta were inconsistent with the predictions made by CAPM; at times, portfolio with high beta end up receiving low return and vice versa. Banz (1981) in his study of NYSE for the period of 1936-1975 challenges the CAPM and concluded that the size of a firm explains better than beta the cross-sectional variation in average returns on a particular collection of assets. Banz found out that the average returns on stocks of small firms (those with low market values of equity) were higher than the average returns on stocks of large firms (those with high market values of equity) after adjusting for risk using the CAPM. The effect of size on returns today in literature is referred to as the size effect.

As Banz (1981) who uses similar procedure to the portfolio grouping procedure of Jensen *et al.* (1972) and Fama and French (1992) also use similar procedure as Fama and MacBeth (1973) but arrived at totally different result as the case of Banz and Jensen, where they subscribe to the validity of CAPM. Fama and French study NYSE, American Express Credit Card (AMEX) and the National Association of Securities Dealers Automated Quotations (NASDAQ) between July, 1963 and December, 1990 by grouping stocks to produce 100 portfolios. In their study, they examine the effect of size as seen in the research of Banz and arrive to the conclusion that beta do not have a significant slope in their regression but size effect is significant with or without beta. Thus, no relationship exist between returns and betas. Comparing the result of Fama and French to that of Fama and MacBeth, although they made use of the same procedure but arrived at different result which was attributed to difference in sample period by Fama and French. According to Jagannathan and McGratten (1995) in contest to the claims of Fama and French, researchers such as Kothari argue that Fama and French findings depend critically on how one interpretes their statistical tests; Amihud supported that noisy data can invalidate CAPM and also find that when a more efficient statistical method is used, the estimated relation between average return and beta is positive and significant and Jensen suggests that the size effect noted by Banz (1981) could simply be a sample period effect because the size effect is observed in some periods and not in others.

Among the recent empirical studies are Michailidis *et al.* (2006) and Olakojo and Ajide (2010). They study the stock market of Greece and Nigeria, respectively. The Greek security market is examined between January, 1998 and December, 2002 using weekly stock returns from 100 companies and the Nigerian Stock Exchange is examined between the period of January, 2008 and December, 2009 using monthly stock returns from 10 companies. The findings of the studies are similar. They concluded that the CAPM's basic statement that higher risk (Beta) is associated with higher levels of return and vice versa is not valid in the two countries.

From the above, it is clear that no concensus as been reached on the empirical validity of CAPM. Many researchers in their various effort have included various forms of variables beyond the risk element (Beta) in CAPM to relate there effects to returns. Among such variables not mentioned earlier are the earnings yield (Basu, 1977), leverage and the ratio of a firm's book value of equity to its market value (Statman, 1980; Rosenberg *et al.*, 1985; Chan *et al.*, 1991) and conditional co-skewness as a result of non-normality in stock prices (Javid and Ahmad, 2008).

MATERIALS AND METHODS

The basic model in this study is the CAPM which suggests that the expected return on any asset is linear in its covariance with the expected return on the market portfolio (Capital asset prices: A theory of market equilibrium under condition of risk (Sharpe, 1964). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets (Lintner, 1965)). Flowing from the works of Jagannathan and McGratten (1995), among the reasons CAPM was developed is to explain the differences in risk premium across assets. The model asserts that the correct measure of riskiness is its measure known as beta (that measures the non-diversifiable part of risk) and that the risk premium per unit of riskiness is the same across all assets. Given the risk-free rate and the beta of an asset, the CAPM predicts the expected risk premium for that asset. This relationship is shown as:

$$E\{R_i\} = R_f + \beta_i\left(E\{R_m\} - R_f\right) \quad (1)$$

Where:

$E\{R_i\}$ = The expected return on asset i
R_f = The rate of return on the risk free asset
$\beta_i = \sigma_{i,m}/\sigma^2_m$ = The systematic risk of asset i
$E\{R_m\}$ = The expected return on market portfolio

The empirical test in this study follows the Fama and MacBeth (1973) two-step estimation procedure. Firstly, beta is estimated as follows:

$$R_{it}-R_{ft} = \alpha_i+\beta_i\,(R_{mt}-R_{ft}) +\mu_{it} \quad (2)$$

Where:

R_{it} = The realized return on stock i (i = 1.....20) in period t

R_{mt} = The realized return on the market portfolio in period t

μ_{it} = The corresponding random error term

β_i = The estimated beta of asset i

Expressing Eq. 2 in excess return notation, researchers have:

$$r_{it} = \alpha_i + \beta_i r_{mt} + \mu_{it} \quad (3)$$

Where:

r_{it} = Average excess stock return = R_{it}-R_{ft}

r_{mt} = Average excess market return = R_{mt}-R_{ft}

Since, the variables under study are characterized with time varying variances (Heteroskedasticity) that depend on their lagged effects (Autocorrelation), the Lagrange Multiplier (LM) test is employed to test for the presence of Autocorrelation Conditional Heteroskedasticity (ARCH) effects. The reason for this is to help the judgement and give robustness to the analysis of Eq. 3. The first order ARCH effects is tested by the regression:

$$\mu_{it}^2 = \alpha_0 + \alpha_1 \mu_i^2 \text{ t-1} + \varepsilon_{it} \quad (4)$$

Where:

μ_{it}^2 = The square of the error term from Eq. 3

μ_i^2 t-1 = The square residuals lagged value

ε_{it} = The random term

The null hypothesis is: H_0: $\alpha_1 = 0$, H_1: $\alpha_1 \neq 0$. If there are no ARCH effects, then $\alpha_1 = 0$ and R^2 will be low. However, if there are ARCH effects, researchers expect the magnitude of μ_{it}^2 to depend on its lagged values and R^2 will be relatively high. The LM test statistic is $(T-q)R^2$ where T is the sample size, q is the number of μ_i^2t-1 terms on the right-hand side of Eq. 4 and R^2 is the coefficient of determination. If the null hypothesis is true then the test statistic $(T-q)R^2$ is distributed (in large samples) as $\chi^2(q)$ where q is the order of lag and T-q is number of complete observation, in this case q = 1. If $(T-q)R^2 \geq \chi^2(1-\alpha,q)$ then we reject the null hypothesis that $\alpha_1 = 0$ and conclude that ARCH effects are present (Hill *et al*., 2008). This means the variable under investigation is volatile and hence, risky.

The study continues by estimating the ex-post Security Market Line (SML) (This is referred to as the Capital Market Line in the research of Sharpe (1964)) by regressing the average excess stock return against the stock betas obtained in Eq. 3 as in the second step estimation of Fama and MacBeth (1973). This estimation helps to test the empirical validity of the CAPM. The relationship between beta and return is estimated as:

$$r_{it} = \gamma_0 + \gamma_1 \hat{\beta}_i + \mu_{it}$$

Where:

γ_0 = The zero-beta rate, the expected return on an asset which has a beta of zero

γ_1 = The market price of risk, the risk premium for bearing one unit of beta risk, if $\gamma_0 = 0$ and $\gamma_1 > 0$ this implies the CAPM holds

β_i = An estimate of beta of stock i in Eq. 3

μ_{it} = Random disturbance term in the regression equation

Data selection: The analysis in this study is based on the data of 16 firms listed on the Nigerian Stock Exchange. These 16 firms were consistently listed among the 20 most capitalized firms which contributed mostly to the total turnover of NSE during the period covered in this study. The monthly stock values of the firms were estimated for the period of January, 2000 to December, 2009 using Ordinary Least Squares (OLS) estimation technique. This sample size is selected because it marks the period of intense return volatility in Nigerian stock market. A market value weighted index of the 20 most capitalized firms is used as proxy for the return on market portfolio. The short-term treasury bill rate is used as proxy for the risk free rate. The data in this study are mainly secondary and are sourced from the Nigerian Stock Exchange (NSE), Annual Reports (Various issues) and NSE Factbook (Various issues) and Central Bank of Nigeria (CBN, 2009) Statistical Bulletin.

RESULTS AND DISCUSSION

The empirical tests of the models presented in this study are carried out in excess return form (return adjusted for the treasury-bill rate). Table 2 presents the

Table 2: Beta coefficient estimates (Eq. 3)

Stock names	R_{it}	r_{it}	Beta	t-statistics
[1]NB	0.0170	-0.9111	0.1028	4.2612
[2]GN	0.0230	-0.9051	0.0881	3.6997
[3]FBN	0.0092	-0.9189	0.1040	4.2184
[4]UBN	0.0060	-0.9221	0.1239	5.1567
[5]NN	0.0245	-0.9036	0.0927	3.8639
[6]NBC	0.0129	-0.9152	0.1052	4.5025
[7]GTB	0.0242	-0.9039	0.1065	4.3633
[8]OANDO	0.0213	-0.9068	0.1254	5.2439
[9]TOTAL	0.0152	-0.9129	0.0841	3.5940
[10]CN	0.0062	-0.9220	0.1146	4.9918
[11]CONOIL	0.0129	-0.9152	0.1350	5.8654
[12]UNP	0.0181	-0.9100	0.1193	4.7602
[13]MOBIL	0.0128	-0.9153	0.0857	3.6580
[14]TEXACO	0.0201	-0.9080	0.1163	4.7876
[15]AP	0.0198	-0.9083	0.1130	4.4285
[16]UBA	0.0138	-0.9143	0.1299	5.0234

[1]Nigerian Breweries; [2]Guinness Nig. Plc; [3]First Bank of Nig. plc; [4]United Bank Nig Plc; [5]Nestle Nig. Plc; [6]Nigerian Bottling Company plc; [7]Guarantee Trust Bank Plc; [8]Oando Plc; [9]Total Nig. Plc; [10]Cadbury Nig. Plc; [11]Conoil Plc; [12]Unilever Nig.Plc; [13]Mobil Oil Nig.Plc; [14]Texaco Nig. Plc; [15]African Petroleum Plc; [16] United Bank for Africa Plc

Table 3: ARCH(1) effects result (Eq. 4)

Stock names	μ^2 t-1	t-statistics	R^2	LM test statistis
NB	0.5091	6.3893	0.26	30.68
GN	0.4282	5.1210	0.18	21.14
FBN	0.5719	7.5428	0.33	38.94
UBN	0.5717	7.5313	0.33	38.94
NN	0.5123	6.4418	0.26	30.68
NBC	0.3781	4.3324	0.14	16.52
GTB	0.5148	6.4957	0.27	31.86
OANDO	0.5553	7.2134	0.31	36.58
TOTAL	0.4819	5.9421	0.23	27.14
CN	0.3611	4.1813	0.13	15.34
CONOIL	0.3331	3.8115	0.11	12.98
UNP	0.3967	4.6702	0.16	18.88
MOBIL	0.4999	6.2325	0.25	29.50
TEXACO	0.1596	1.7415	0.03	3.54
AP	0.4051	4.7838	0.16	18.88
UBA	0.3605	4.1799	0.13	15.34

$\chi^2_{(0.95,1)} = 3.841$

results of the first assignment of the methodology employed. That is estimation of beta values of the stocks under investigation. From the results, the beta values ranges from the minimum of 0.0841 to the maximum of 0.1350. All of the beta coefficients are statistically significant at 95% level. For a more robust analysis, the ARCH(1) effect was checked for each stock using the Lagrangian Multiplier (LM) test to show the volatility level of the stocks (Table 3). According to the results, all the stocks were very volatile (except for TEXACO) as the LM test statistics show values greater than the χ^2 value of 3.841. What this tells us is that all the assets except TEXACO are expected to be risky because of their volatility nature.

The CAPM says the expected return of any risky asset is a linear function of its tendency to co-vary with the market portfolio. Therefore, if CAPM is suppose to be an accurate description of the way assets are priced, the positive linear relation should be observed when average asset returns are compared to asset betas. This means that asset with higher return goes with higher risk (Beta). To test the above hypothesis, comparing the ARCH(1) results in Table 3 with the beta coefficient estimates in Table 2, it is observed that stocks with higher LM test statistics did not carry higher beta values and vice versa. This means the more risky (volatile) asset did not carry the higher beta value while the less risky (volatile) asset did not carry the lower beta value. Similarly when the average actual return (used as proxy for expected return) of the assets are compared to beta, the stock with the highest beta value was not the one with the highest average rate of return while the stock with the lowest beta was not the one with the lowest average rate of return. Therefore, the first claim of CAPM is not supported in this study but this is not to claim that the CAPM is of no relevance in financial analysis. This result is consistent with study of Olakojo and Ajide (2010), even after we have included more firms, increased the time frame and adjusted for the risk free rate that researchers observe lacking in their study.

The statistics used to test the relationship between beta and expected returns come from a cross-sectional regression of returns on beta (Eq. 5) as in the second estimation step of Fama and MacBeth (1973). This is refered to as the ex-post Security Market Line (SML) estimation. The result is presented below as folows:

$$r_{it} = -0.9019 - 0.0926\hat{\beta}_i + \mu_{it}$$

$$t = (-83.92)\ (-0.9497)\ R^2 = 0.0605\ DW = 2.1657$$

From the result, the constant has a negative sign and is statistically different from zero and the beta coefficient is statistically equals to zero with a negative sign as well. This result is contrary to the prediction of zero constant and significant positive (>0) beta coefficient in CAPM. The validity of CAPM depends on the value of the slope (Beta) in SML estimation. Therefore, based on the result, the constant and slope estimates of the SML find evidence against the empirical validity of CAPM in Nigerian Stock Exchange.

CONCLUSION

This study investigates the empirical validity of CAPM for the Nigerian stock market. The study used monthly stock values of 16 firms from the 20 most capitalized firms in Nigeria between the period of January, 2000 and December, 2009. The empirical findings indicate that the CAPM is inadequate to explain the role of asset risk for the determination of expected return on investment in Nigeria's equity market. By finding that no relationship exists between returns and beta, the study established contrary to the hypothesis of the CAPM that higher risk is associated with higher asset return and asset price. This result is consistent with the early findings of Banz (1981), Fama and French (1992) and recent findings of Michailidis *et al.* (2006) and Solomon and Ajide among others.

This study however, because of some deficiencies according to Jensen *et al.* (1972) such as measurement and model specification error that may arise due to the use of proxies for variables, does not authoritatively reject the CAPM. Basically, the study provides evidence against the CAPM but it does not provide evidence in support of any alternative model.

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