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Fama and French Three Factor Model

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ABSTRACT: *This study seeks to investigate the application of FF3FM in the Nigerian stock market. The study examined the behaviour of stock returns in relation to market beta, firm size (market equity), and book-to-market equity (BE/ME) factors. Sixty- eight (68) sample size was selected from all stocks quoted on the Nigerian Stock Exchange (NSE) from 2013 to 2022. Time series regression analysis was adopted. Monthly excess portfolio returns were regressed on firm size, excess market returns and book-to-market-equity ratio. The findings showed a strong correlation between book-to-market equity variables, firm size, and excess stock market returns and predicted portfolio returns. This suggests that the variation in stock returns in the Nigerian stock market can be explained by the FF3FM.*

KEYWORDS: asset pricing, stock return, CAPM, excess market returns and book to market equity ratio.

INTRODUCTION

Harry Markowitz introduced the world to the straightforward yet ground-breaking idea of mean variance efficient portfolio, which marked the beginning of asset pricing models(APM). This notion offered solution to anticipated utility maximization-based portfolio selection problem. The foundation for establishing the relationship between expected return and risk is the Modern Portfolio theory, which is based on the strong presumption that investors are risk averse and only care about the mean and variance of their one-period investment return. Investors want to reduce risk return or maximize return of risk (variance). The Capital Asset Pricing Model (CAPM), which was developed concurrently by three Nobel laureates (William F. Sharpe, 1964; Linter, 1965; and

Mossin, 1966), was the first general equilibrium model for asset pricing and postulated a strong linear cross-sectional relationship between expected return and market beta. It went on to say that the only thing that could account for the volatility in the excess returns was market beta.

The Capital Asset Pricing Model (CAPM) relies on several restrictive yet simplistic assumptions, such as the following: that investors are utility maximizers of terminal wealth for a specific period, that they choose their portfolios only based on mean and variance, that there are no taxes or transaction costs, that all investors behave uniformly with respect to the joint probability distribution of returns, and finally, that there is a possibility of unrestricted risk-free borrowing and lending. However, its implications are extensive in the field of corporate finance, particularly with regard to capital budgeting, portfolio selection and management, cost-benefit analysis, and financial economics.

Investors and portfolio managers are constantly searching for ways to outperform the market and generate profits in emerging markets like Nigeria, but the Efficient Market Hypothesis (EMH) dispelled all of these ideas by stating that market prices accurately reflect all available information and are only impacted by unforeseen news. When markets are efficient, the conventional CAPM hypothesis said that the only way to earn a greater return is to take on more risk. However, numerous studies have shown that anomalies exist and, when properly taken advantage of, can produce returns that are far higher than normal. A number of factors, including size, value, leverage, liquidity, investment, and price earning effects, demonstrated their ability to undermine the CAPM and EMH predictions. Two schools of thought emerged as a result of the CAPM's dissolution: the first claimed that the model was misspecified and that there was a factor missing above and beyond market beta, while the second suggested that investor irrationality played a part in undermining the CAPM's premise that investors are rational. The first argument gave rise to multifactor models such as the Fama-French Three Factor model, while the second one created new fields of study such as Behavioral Finance, which examined investor behavior and irrational exuberance.

Despite lacking a well-established theoretical foundation, these anomalies have significant implications for investment choices and the growth of stable and liquid stock markets. With the aforementioned objective in mind, this study attempts to investigate the suitability of the CAPM and Fama Model in the Indian equities market in order to investigate how firm fundamentals contribute to average returns. In order to assess the size and value effects for the current era and derive conclusions on the informational efficiency of the Nigerian markets, it was felt that these models needed to be revisited. Comparisons between these models have been attempted, as has the investigation of potential novel elements contributing to the cross-sectional variation in returns.

Statement of the problem

It is widely acknowledged in finance theory that the conditional volatility and the expected return of the market are positively and proportionally related. This means that when higher levels of risk are expected to be associated with a given investment, higher returns are needed to offset those higher expected risks. Nevertheless, contradictory results have been drawn from the empirical data currently available on risk and return, pointing to the possibility of other relevant criteria for asset pricing. Given the numerous documented persistent patterns in stock returns that defy these rational models, it seems that a large portion of the theory fails to explain the true behavior of asset prices. Several empirical research aimed at evaluating the validity of CAPM yield results that contradict the model. In assessing the validity of the CAPM, Fama-French (1992) discovered that the NYSE common stock beta-average return link was not as strong as the CAPM expected. Using a two-stage regression, Lintner (1965) conducted the first empirical test of the CAPM. His tests led him to reject the CAPM. Owing to the CAPM's inability to adequately explain realized returns, alternative models have been tested. The examinations were administered using portfolios in compliance with Bornholt's (2007) and Fama and French's (1993) guidelines. The results generally corroborate the French Three-Factor and Fama models of future returns, together with additional data from the Brazilian market. Bundoo (2006) used the Mauritius Stock Exchange to apply the Fama and French model (1993). The actual data supported the validity of the French and Fama models for the Mauritius Stock Exchange. Additionally, this investigation discovered that the FF3F model vigorously explains actual results. The NSE was established in 1954 and is considered a growing market. Numerous market changes have been implemented, including as the Central Depository System (CDS), which has a favorable effect on the market, and Automated Trading Systems, which enable live trading. Numerous research has examined the relationship between risk and return at the NSE; nevertheless, there isn't enough empirical data to determine whether the size and value premiums exist in this market.

Studies on the FF3F model are scarce in Africa, especially in Nigeria, where the Nigeria Stock Exchange (NSE) has not conducted any research on the concept. The sole pertinent study was conducted by Oliech (2002), and its goal was to determine how size and book to market value affected returns. This research follows the same general framework as Oliech's, but it also examines how market risk affects returns of companies that are listed on NSE. This answers the question, "Is the FFM valid at the Nigeria Securities Exchange?" and tests the FF3F model.

REVIEW OF RELATED LITERATURE

Conceptual reviews

Concept of Fama and French Three-Factor model.

Developed in 1992, the Fama and French Three-Factor Model, often known as the Fama French Model, is an asset pricing model that builds upon the capital asset pricing model (CAPM) by include size and value risk elements in addition to the market risk factor. This model takes into

account the fact that small-cap and value stocks frequently beat the market. The model accounts for this tendency to outperform by adding these two extra variables, which is supposed to improve the model's usefulness as a manager performance assessment tool.

Diversifiable risk, or the risk associated with owning more shares in a portfolio, can lower the risk of any one stock, but it also carries a risk that diversification cannot eliminate. Systematic risk is the term used to describe risks that are unavoidable. The CAPM model, which is based on the idea of a single index model, aids in calculating the risk that is undiversified. This idea explains how the individual stock prices and market indices reflected the state of the market. On the basis of this idea, it may be stated that stock prices rise in an improving market and fall in a declining one.

As a result, the return of a market index can be used to explain the returns on individual stocks. The level of expected return E (Ri) in a security is equal to the risk-free return (Rf) plus a risk premium E (Rm-Rf)-βi, according to the CAPM theory. According to the equation, the expected return and risk premium on shares increase with increasing share risk (as determined by beta). According to Black (1972), expected return is a linear function of beta. Rf + βi[E(Rm-Rf)] = E(Ri) lone element There has been much discussion on the accuracy of the CAPM model in projecting a security's return. Although research by Hasan et al. (2015), Isnurhadi (2014), and Estrada (2002) continues to support the CAPM proposed by Sharpe (1964), Lintner (1965), and Mossin (1966), it is still widely used today to estimate the firm's cost of capital and assess the managed portfolio's performance (Fama and French, 2004). Because (1) the aggregate portfolio return is not observed and (2) the CAPM is a static model and the real world is so dynamic that the CAPM conditioned can explain cross-section on better stock returns, testing that would provide empirical support for the CAPM were difficult (Jagannathan and Wang, 1996).

The Three Factors of the Model

Three components make up the Fama and French model: market factor, book-to-market values, and business size. Stated differently, the three variables that are considered are the return on the portfolio less the risk-free rate of return, HML (high minus low), and SMB (small minus large). HML accounts for value equities with high book-to-market ratios that outperform the market, whereas SMB accounts for publicly traded companies with smaller market caps that produce higher returns. Moreover, TFM, a model put forth by Fama and French (1993), is thought to be adequate for explaining stock returns (Fama and French, 1996).

Size

Dimensional considerations may explain the return (Fama and French, 1995). The average risk-adjusted return of smaller firms is higher than that of larger enterprises; however, the size effect is not proportional to market value (Nichol & Dowling 2018). Tests utilizing company size metrics that were both non-market and market-based revealed that the size effect had a significant impact on the Indian stock market (Kumar and Sehgal, 2004).

Value

The return can be explained by the worth of the company that BE/ME represents (Fama and French, 1995). Research on the Shanghai and Shenzen Stock Exchanges (SSE and SZSE) is conducted by Wu (2011), which demonstrates the firm's major research value at SSE. Chan and Lakonishok (2004) demonstrate that value is a significant factor in return. Based on industry-level data from the S&P, Kothari, Shanken, and Sloan (1995) produced contrasting conclusions, suggesting that there is no substantial association between return and book-to-market. Nonetheless, BE/ME should be associated with long-term stock profits, and the market's short-term fluctuations in return should have minimal effect on the stock price (Fama and French, 1995).

Theoretical Underpinning

Portfolio Theory

In his 1952 publication "Portfolio Selection," published in the 1952 Journal of Finance, Markowitz introduced portfolio theory. Thirty-eight years later, he and William Sharpe shared the Nobel Prize for developing what is now a comprehensive theory of portfolio selection. Before Markowitz's research, investors built their portfolios by weighing the benefits and dangers of individual stocks. The conventional wisdom in investing was to choose the assets that provided the most gain potential at the lowest risk and then build a portfolio out of them. By using this guidance, an investor may come to the conclusion that railroad stocks all have favorable risk-reward ratios and build a portfolio made up only of these equities. It seems senseless to do this. This idea was codified by Markowitz. He explained the mathematics of diversification and suggested that instead of only assembling portfolios from stocks that each have desirable risk-reward characteristics on their own, investors should concentrate on choosing portfolios based on their overall risk-reward characteristics. To put it briefly, investors ought to choose portfolios rather than individual stocks. Single-period returns for different securities can be given expected values, standard deviations, and correlations if we consider them like random variables. We may compute the expected return and volatility of any portfolio built using those securities based on them.

We can think of expected return and volatility as stand-ins for risk and reward. Some portfolios will have the best potential risk-reward ratio out of all the available combinations. These make up the efficient frontier of portfolios, as defined by Markowitz. A portfolio that is situated on the efficient frontier should be chosen by an investor.

Empirical Studies

Alaoui, Asmâa, and Benfeddoul (2023) evaluates and contrasts the results of three well-known financial asset valuation models—the Fama and French five-factor model, the Fama and French three-factor model, and the CAPM—empirically on the Moroccan stock exchange. We take into

account monthly data from July 2002 to June 2020 for our sample. The primary conclusions show that the size effect is not as strong as the value effect.

Omar, Samir and Abrache (2022) Examine the Carhart Four Factor (C4F) and Fama-French Three Factor (FF3F) models' validity in Morocco. Reuters DATASTREAM is used to extract monthly returns of companies listed on the Casablanca Stock Exchange during a five-year period (2013-2017). Over the course of eight multivariate linear regressions, exogenous variables that imitate the market, size, value, and momentum effects are created and regressed against the returns of size- and value-sorted portfolios. The momentum effect was determined to be negligible, despite the size and value effects being found to partially hold.

Nada, Rabab and Ahmed (2020) This research aims to investigate the suitability of the French and Fama three-factor and five-factor models in explaining the fluctuations in returns in the Egyptian stock market, one of the developing emerging markets, from July 2005 to June 2016. Three sets of test portfolios—ten double-sorted on size and the BE/ME ratio, ten double-sorted on size and operating profitability, and ten double-sorted on size and investment for the Egyptian stock market—as well as the French and Fama factors are created by the authors.When applied to portfolios double-sorted on size and the BE/ME ratio, time-series regressions and the GRS test reveal that both models cannot be ruled out as legitimate asset pricing models; however, because of their low adjusted R2 values, they still fail to account for significant variations in returns.

Al-Mwalla and Mahmoud (2018) The study looks at the existence of size and value effects in addition to testing the Fama-French three factor model's capacity to explain variance in stocks rate of return in the Amman stock market between June 1999 and June 2010. substantial size and substantial positive value impacts in ASE were discovered by the investigation. The study's findings showed that the three-factor model proposed by Fama and French explains variation in stock rates of return more effectively than the CAPM.

Arif Budi Satrio (2017) This study experimentally tests the relationship between expected return, business size, and firm value in emerging nations, specifically the capital market of Indonesia. The goal of this study is to evaluate the three-factor model of Fama and French (1993) as well as the CAPM model put out by Sharpe (1964), Lintner (1965), and Mossin (1966). The findings demonstrated the continued viability of the CAPM and the superiority of the three-factor model in explaining Indonesian stock returns.

Chen, Novy-Marx, and Zhang (2017) We out an analysis of the asset price three-factor model and found that the factors varied from those proposed by French and Fama (1993). These comprise the profitability and investment premiums in addition to the market premium, or a high minus low ROA factor and a low minus high investment factor. Their innovative three-factor model explains a wide range of anomalies in the cross-section of returns better than standard assets pricing models.

Additionally, the model seemed to differ from that of Fama and French (1993) in that it links the projected returns to business characteristics rather than assuming mispricing and does not view investment and ROA as risk factors.

Bahtnagar and Ramlogan (2017) compared CAPM, split CAPM, and the three-factor model using a multiple regression technique to explain the average return in the UK market from April 2000 to June 2007. The findings showed that when it came to explaining UK market returns, three component models outperformed CAPM and Split CAPM. Hassan and Javed (2017) found that value equities beat growth stocks in a study testing the FF3FM on the Pakistani equity market, while size premium shows mixed outcomes. This is due to the fact that small stock portfolios have high levels of risk and return; nonetheless, the average SMB factor yields inconsistent findings.

METHODOLOGY

Using a judgmental selection technique, a total of sixty-eight (68) stocks were chosen from among all the equities listed on the NSE. The stocks that were chosen had to meet certain requirements, including capitalization, market presence, and trading frequency. To compute monthly returns, the month-end prices of the sample firms were obtained from the NSE for the period 2013–2022. The monthly return on three-month Treasury bonds was used as a proxy for the risk-free rate. The capitalization of the 68 stocks was calculated by multiplying the total number of shares by the share price, and the resulting capitalization was used to order the data. Following that, businesses were divided into three stock categories: large, medium, and low market value.

Model specification and regression

The FF3FM

The Fama and French (1992, 1993) three factor model uses the standard multiple regression approach. It is expressed in the form of equation (I) below:

$$R_{it} - R_{ft} = a_i + b_i(R_{mt} - R_{ft}) + s_t(SMB)_t + h_t(HML)_t + e_{it} \ldots\ldots\ldots\ldots\ldots\ldots \text{(I)}$$

where

R_{it} = Rate of return on asset
R_{mt} = Rate of return on market portfolio
R_{ft} = Rate of return on risk free assets
SMB_t = Small minus Big
HML_t = High minus Low
a_i = unconditional mean return of asset
b_i = the coefficient loading of the asset for excess return of the market portfolio over the risk free rate

s = the coefficient loading of the asset for the excess average return of portfolios with small equity class over portfolios of big equity class

h_i = the coefficient loading of asset for excess average return of portfolios with high book-tomarket equity class over those with low book-to-market equity class
e_{it} = error term for asset i at time t

The Stationarity test of Data

The stationarity property of each of the time series variable is investigated through the Augmented-Dickey Fuller (ADF) test for the unit root following Dickey and Fuller (1981). The ADF test consists of estimating the following regression:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^{m} \propto_i \Delta Y_{t-1} + \varepsilon_t \quad \text{(VI)}$$

Where $\boldsymbol{Y_t}$ represents time series to be tested $\boldsymbol{\beta_1}$ is the intercept term, $\boldsymbol{\beta_2}$ is the coefficient of interest in the unit root test, $\boldsymbol{\delta}$ is the coefficient of the augmented lagged first difference of $\boldsymbol{Y_{t-1}}$ to represent the ***Pth*** order autoregressive process, and $\boldsymbol{\varepsilon_t}$ is the pure white noise error term.

Data Analysis

Descriptive Statistics

The descriptive statistics accounts for the mean, and standard deviation value. The result is presented below.

Table 4.1: Summary of Descriptive Statistics of portfolio return

	y(BH)	y(SH)	y(BM)	y(SM)	y(BL)	y(SL)	X_1(Rm-Rf)	X_2(SMB)	X_3(HML)
Mean	-0.74678	-0.46754	-0.85674	-0.74544	-0.87845	-0.57644	0.04584	0.68964	0.26663
Median	0.155	0.335	1.076	0.4435	-0.51	-1.335	-0.555	-1.654	-2.323
Maximum	47.28	36	36.65	25.88	43.65	44.56	33.45	32.31	41.33
Minimum	-32.46	-32.4	-44.55	-13.55	-13.54	-34.54	-34.65	-34.74	-32.12
Std. Dev.	0.5676	0.04552	0.68944	0.65695	0.79045	0.89075	0.70486	0.70844	0.93875
Observations	120	120	120	120	120	120	120	120	120

Source: Econometric Views Version 9.0 Output (2024)

Table 4.1 above discloses the summary of the descriptive result. From the result, the three (3) small sized portfolios mean return scaled between -4.67% to -7.45% meanwhile the big three portfolios average return ranges from -7.46% to -8.78%. This suggests that the negative correlation proposed by Banz (1981) between portfolio size and average monthly return has been verified. Furthermore, the highest portfolio return under the standard three factor model is -4.67% per month while the lowest return is -8.78%. Average excess portfolios returns are negatives. However, the three components' average risk premiums, which vary from 6.89% to 2.66%, are all positive. Excess portfolio returns and risk premiums are linked to high standard deviations, which fall within the ranges of 4.5% to 8.90% and 7.04% to 9.38%, respectively.

Table 4.2 Correlation matrix

	y	X_1(Rm-Rf)	X_2(SMB)	X_3(HML)
Y	1.000000			
X_1(Rm-Rf)	0.77191	1.000000		
X_2(SMB)	0.69557	-0.5534	1.000000	
X_3(HML)	0.68774	-0.45635	-0.28947	1.000000

Source: Econometric Views Version 9.0 Output (2024)

The correlation matrix in table 4.3 above revealed that the risk premiums have correlation coefficient values of 0.77191, 0.69557, and 0.68774 respectively. This signpost that risk premiums exerted positive strong correlation with excess portfolio return. Generally, the result from both table 4.3 shows that problem of multi-collinearity is not anticipated, since nom of the coefficients is above 0.8(Gajarati 2004).

Unit Root Test

Table 4.3: Stationarity Test of the Variables

Variables	**Unit Root Test**		**Conclusion**	**Remark**
	Level	First Diff		
y(BH)	-7.233567*	-8.235636*	I(1)	Stationary
y(BM)	-6.365255*	-12.66945*	I(1)	Stationary
y(BL)	-7.456735*	-7.855943*	I(1)	Stationary
y(SL)	-5.994856*	-10.669484*	I(1)	Stationary
y(SM)	-10.57832*	-11.23478*	I(1)	Stationary
y(SH)	-7.193784*	-8.56890*	I(1)	Stationary
X_1(Rm-Rf)	-8.154456*	-5.733353*	I(1)	Stationary
X_2(SMB)	-10.56094	-11.56879*	I(1)	Stationary
X_3(HML)	-8.690443*	-7.578272*	I(1)	Stationary

Source: Econometric Views Version 9.0 (2024)

Table 4.3 shows the stationarity test of the variables using the (ADF) test. All variables are found to be stationary at levels except SMB. Based on the non-stationarity of SMB, all the variables were differenced once to further check their stationarity status. At first differencing, the calculated ADF test statistics clearly reject the null hypothesis of unit root when compared with their corresponding critical values, hence the ADF test confirm the stationarity of each variable at first difference and depict the same order of integration I (1) even at the 1% level for all the variables so we conclude that the time series variables are stationary.

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Diagnostic Test

Table 4.4 Heteroskedasticity Test: Breusch-Pagan-Godfrey

S. No.	Portfolio		
1	**BH**	F-statistics	15.37541
		Prob.	0.3351
2	**SH**	F-statistics	18.35634
		Prob.	0.2165
3	**BM**	F-statistics	13.45633
		Prob.	0.3335
4	**SM**	F-statistics	16.46774
		Prob.	0.1332
5	**BL**	F-statistics	13.46725
		Prob.	0.1544
6	**SL**	F-statistics	14.25643
		Prob.	0.2675

Source: Researcher's Computation via E-views. Version 9.0 output (2024)

The test for Heteroscedasticity which is the absence of homoscedasticity or the constant variance assumption of the OLS estimator is also conducted. Heteroskedasticity (Breusch-Pagan-Godfrey) test, decision rule is to conclude that there is no heteroscedasticity if the F-statistic values are respectively greater than the critical values at 5% level. In the absence of this (i.e if the critical values at 5% is greater than the F-statistic and observed R-square value), we conclude that there is homoscedasticity. From table 4.4, the results show the absence of heteroscedasticity, meaning that the residuals of the six portfolios are homoskedastic (which is desirable) because the entire p-values are more than 5%.

FF3FM

Regression Results

Portfolio	Independent variable					R-squared	Adjusted R^2	F-statistic
y(HB)	Variable	Coefficient	Std. Error	t-Statistic	Prob.	.879	.710	90.679 (.000)
	C	-1.47826	0.622884	-2.373257	0.0121			
	X_1(Rm-Rf)	0.736743	0.183744	4.0096166	0.0012			
	X_2(SMB)	-0.67253	0.489443	-1.374078	0.6734			
	X_3(HML)	0.403443	0.849332	0.4750121	0.0022			
y(HS)	C	-1.57863	0.736364	-2.143822	0.0322	743	.722	50.753 (.000)
	X_1(Rm-Rf)	0.933844	0.736745	1.2675268	0.7422			
	X_2(SMB)	-0.27846	0.947322	-0.293948	0.6742			
	X_3(HML)	0.847683	0.387768	2.1860571	0.0355			
y(MB)	C	-1.72895	0.378558	-4.567187	0.0011	702	.687	53.236 (.000)
	X_1(Rm-Rf)	0.937854	0.30598	3.0650827	0.0004			

	X_2(SMB)	-0.34958	0.608944	-0.574071	0.5672			
	X_3(HML)	0.606069	0.489855	1.2372416	0.8956			
y(MS)	C	-1.89476	0.767353	-2.469209	0.0111	744	.531	22.394
	X_1(Rm-Rf)	0.705906	0.377995	1.8675009	0.2233			(.000)
	X_2(SMB)	-0.38946	0.690445	-0.564077	0.8932			
	X_3(HML)	0.609846	0.308955	1.9738991	0.0476			
y(LB)	C	-1.49029	0.837646	-1.779137	0.2267	553	.533	33.559
	X_1(Rm-Rf)	0.700096	0.289374	2.4193466	0.0367			(.000)
	X_2(SMB)	-0.90375	0.898764	-1.005543	0.3332			
	X_3(HML)	0.747333	0.308666	2.4211705	0.0389			
y(LS)	C	-1.6353	0.899587	-1.817833	0.1131	654	.512	27.317
	X_1(Rm-Rf)	0.778447	0.266443	2.9216268	0.0244			(.000)
	X_2(SMB)	-0.79059	0.409066	-1.932669	0.0432			
	X_3(HML)	0.707766	0.347874	2.034547	0.0274			

Source: Econometric Views Version 9.0 Output (2024)

DISCUSSION OF RESULT

The F-statistics value for the six test portfolios disclose that the FFM fitted well because all their P-value were significant. Hence this indicates that on the overall, all six portfolio returns jointly determines risk premiums. On the basis of average R2, it was established that the three Fama - French risk factor (market factor, SMB and HML) can explain 71.3% of the variability of portfolios return on NSE, while about 61.6%(averaged adjusted R2) could be accounted for by other unexplained factors, including the error term.

From the result above it was disclose that all portfolios return has positive and significant relationship with HML except return of portfolio (MB) that exert insignificant relationship with HML. Furthermore, the relationship between all return of portfolios and SMB were insignificant, however return of portfolio (LS) disclose a significant relationship with SMB. Also the results disclose negative relationship between all six returns of portfolios and SMB. Again it was disclosed that market factor was significant for four portfolio returns which are (LS, LB, MB and HB) respectively. This finding implies that among all, the value premium (HML) has the highest explanatory power followed by the market factor.

As a result, the results of our estimation demonstrate the significance of value and market premiums as proxies for risk in predicted NSE stock returns. The results validate the value premium's existence. The findings also demonstrate that, over the course of the study, market value performed better than the risk-free investment. This outcome is consistent with Eraslan's (2013) findings, which show a significant value influence on the Istanbul stock market. The study, however, runs counter to Chen, Novy-Marx, and Zhang's (2017) findings, which note that while

value premium (HML) needed more research, size premium (SMB), a proxy for risk, is a significant element in the Italian market.

CONCLUSION AND RECOMMENDATION

This study examined Fama and french Three factor model by utilizing monthly data covering the 2013-2022 sample periods. We consider this period to be long enough to assure the adequacy of data and reliability of results. The year 2013 was taken as the starting year because of monthly data availability of Treasury bill (proxy for risk free rate) while 2022 was taken as terminal year, also for reason of data availability. Specifically, we test the Three Factor Model of Fama and French (1993) on a sample of sixty-eight (68) stocks for a period of one hundred and twenty (120) months from January 2013 to December 2022. Findings from our empirical analysis shows that the Nigerian capital market is governed by the FF3FM, which accounts for the variance in the predicted returns of quoted equities on the Nigerian Stock Market, which average 71.3% for the six portfolios created during the study period. Also it was disclosed that, among all, the value premium (HML) has the highest explanatory power followed by the market factor. It is hereby recommended that fund managers, investors and researchers should be cautious in their use of CAPM as an asset pricing model due to its limitation as a single factor model which does not capture in totality the variations of factors affecting asset pricing and returns.

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