SELECTIVE AND MARKET TIMING SKILLS: AN EMPIRICAL EVALUATION OF EQUITY MUTUAL FUNDS IN AN EMERGING MARKET

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ABSTRACT: *This study evaluates the selective and market timing skills of mutual funds managers using monthly net asset values of all 30 actively managed equity-based funds that operated from January 2012 to December 2021 obtained from the Securities and Exchange Commission. Selectivity is the ability to search for and choose undervalued securities to exploit the sub-optimal market weights of securities, while market timing is the ability to forecast the direction of the market and adjust portfolio betas to generate alpha. Two regression models, namely the Treynor-Mazuy (1966) and Henriksson-Merton (1981) were deployed for the study. The findings indicate that mutual funds did not exhibit significant selective skills or market timing abilities. This outcome is consistent with the Efficient Market Hypothesis (EMH). Consequently, it becomes challenging for investors or fund managers to consistently outperform the market through stock selection or market timing. Based on the study's results, the recommendation for investors is to consider low-cost passive investment strategies, such as index funds or exchange-traded funds (ETFs), over actively managed funds.*

KEYWORDS: Mutual funds, Selectivity, Timing ability, Nigeria exchange limited, Efficient market hypothesis, Portfolio management.

INTRODUCTION

Investors and participants in the capital market are naturally interested in understanding the capabilities of fund managers (Pankaj & Pradhan, 2019). Generally, the abilities of fund managers are categorized into selective skill and market timing ability. Selectivity refers to the capacity to identify undervalued stocks, sectors, or industries to exploit imbalances in the market allocation of these assets. Conversely, market timing pertains to a fund manager's ability to proactively adjust their portfolio's overall risk profile based on their predictions regarding the direction of the market (Reilly & Brown, 2015).

While a large body of research indicated that mutual funds exhibited selective skills (Oliviera et al., 2018; Hacini & Dahou, 2019; Vidal-García & Vidal, 2021; Ariswati et al., 2021; Atta & Marzuki, 2021; Azis et al., 2022; Ahmad et al., 2023), an equally substantial school of thought concluded that fund managers lacked superior selective ability to consistently outperform the capital market (Nikolaos et al., 2020; Vidal-García & Vidal, 2022; Żebrowska-Suchodolska & Karpio, 2022; Veeravel & Balakrishnan, 2023). Yet other researchers found evidence that although mutual funds generated excess gross returns, this disappeared after accounting for fees and costs (Wermers, 2000; Fama & French, 2010; Barras et al., 2010; Fahling et al., 2019). In light of this evolving landscape and the dynamic nature of the mutual fund industry, understanding the skills and performance of fund managers remains a topic of utmost interest and importance for investors and market participants in Nigeria.

Evidence regarding the timing ability of fund managers is equally quite diverse. While early studies in the developed markets did not find convincing evidence of timing, later researchers found positive timing when they assessed sensitivity based on a single index model (Bollen & Busse, 2001; Kaplan & Sensoy, 2005; Jiang et al., 2007). Other researchers used more robust models that better captured the dynamics of the market and did not find timing (Elton, Gruber & Blake, 2011b; Ferson & Qian, 2006). Findings from more recent studies largely do not support timing ability (Bani Atta & Marzuki, 2021; Vidal-García & Vidal, 2022; Azis et al., 2022; Żebrowska-Suchodolska & Karpio, 2022; Veeravel & Balakrishnan, 2023; Ahmad et al., 2023).

Research on mutual funds in Nigeria is limited, with past studies overlooking the breakdown of mutual fund performance into selective and market timing components. Some studies have assessed risk-adjusted performance (Oduwole, 2015; Ilo et al., 2018; Omokehinde, 2021) and performance persistence (Abubakar & Maimako, 2014) of Nigerian mutual funds. However, other African countries like South Africa (Mibiola, 2013; Tan, 2015), Kenya (Mohamed et al., 2014), and Ghana (Musah, Senyo & Eliasu, 2014) have seen more research on this topic. Across these studies, a common finding is the lack of market timing skills among fund managers. This trend extends to developing markets like Indonesia (Murhadi, 2010), Bangladesh (Biplob, 2017), Nepal (Upadhyaya & Chhetri, 2019), Jordan (Hacini & Dahou, 2019), and even across emerging markets (Cagnazzo, 2019), as well as countries like Saudi Arabia, Malaysia, Indonesia, and Pakistan (Atta & Marzuki, 2021), where similar conclusions regarding the absence of consistent market timing ability among mutual fund managers have been reached.

The problem, therefore, is that studies have not been done in Nigeria to gain insight into the selective and market timing ability of fund managers to aid investment decision-making by retail investors, and the provision of financial advice by investment professionals to their clients. This study therefore will contribute to the literature regarding this subject.

To this end, this study has two research questions. The first is, ''do actively managed equity-based fund managers possess selective skills to generate excess risk-adjusted returns in Nigeria''? The second is, ''do actively managed equity-based fund managers possess market timing skills to generate excess risk-adjusted returns in Nigeria''? To address these questions, our first research objective is to evaluate whether mutual fund managers possess a selective ability to generate alpha in Nigeria. The second objective is to assess whether mutual fund managers in Nigeria exhibit market timing skills to generate alpha. Addressing these objectives will help fund managers and investors alike ascertain the presence and source of alpha in mutual fund portfolios.

Apart from the fact that this study seeks to bridge the knowledge gap regarding the ability of Nigerian find managers, it also seeks to improve upon earlier work from the methodological perspective. The study employs regression models developed by Treynor and Mazuy (1966) and Henriksson and Merton (1981) to evaluate these abilities. The models are well-known approaches in mutual fund studies for analyzing investment performance and market timing. These multi-factor models are more sophisticated and capable of capturing complex relationships among securities. This is contrasted with the simpler single-index model used in prior research, which has limitations in accurately modeling the factors driving securities returns. The multi-factor models are expected to enhance the explanatory power of the analysis. Additionally, the study uses the most comprehensive and extensive datasets, so far, which contributes to the robustness of the research findings.

In our research methodology, we gathered monthly net asset values (NAVs) of all 30 equity mutual funds operating between January 2012 and December 2021 from the Securities and Exchange Commission. We ensured our sample was devoid of survivorship bias. To serve as the market benchmark, we chose the All-Share Index of the Nigeria Exchange Limited (NGX), while the return of the 5-year Federal Government Bond stood in as a proxy for the risk-free rate.

The findings of our study hold significance for various stakeholders, including regulators, retail investors, fund managers, and investment advisers. This importance stems from Nigeria's considerable and growing investment in managed funds, overseen by professional managers. The empirical evidence derived from our research will empower investors and advisers to make more informed decisions. Moreover, retail investors will gain insights into the factors influencing their funds' reported performance, helping them discern whether mutual fund performance is attributable to successful market timing or the superior stock selection skills of fund managers. Furthermore, a comprehensive grasp of mutual fund performance is essential for guiding policymakers in formulating strategies to encourage capital market investment through this strategic vehicle. This, in turn, will stimulate the growth of the Nigerian capital market and contribute to the overall economic advance.The remaining part of the paper is arranged as follows. Section 2 reviews the theory and literature and situates the study within the context of the existing work in the field. This is followed by Section 3 which elaborates on

the methodology adopted for the study, and thereafter Section 4 presents our findings and discusses the results of our empirical analysis. The final section, Section 5 highlights the key takeaways of the study and makes policy recommendations.

The Nigerian Mutual Fund Industry

The performance of mutual funds has gained increasing significance in Nigeria in recent years due to the remarkable growth of the industry over the past two decades. This industry has swiftly transformed from a 17.5 million naira ($37,838 USD) sector in 1991 to an impressive 1.4 trillion Naira ($3.027 billion USD) in Assets Under Management (AUM) by 2021, representing an exponential growth of around 80,000 times. This remarkable expansion underscores the substantial potential of mutual funds as an investment avenue that can drive the advancement of the Nigerian economy and help address the nation's significant infrastructure deficit.

In the aftermath of the global economic meltdown and the attendant stock market downturn in 2009, the Securities and Exchange Commission (SEC) started a massive awareness campaign to encourage retail investors to explore the opportunities in the stock market while mitigating their investment risks by investing through mutual funds, thereby benefiting from the efficient diversification, professional management, asset liquidity, and transparency, among others, that mutual funds are reputed to provide. These endeavors have indeed yielded the intended outcomes, resulting in substantial growth of the Nigerian mutual fund industry

In light of this evolving landscape and the dynamic nature of the mutual fund industry, understanding the skills and performance of fund managers remains a topic of utmost interest and importance for investors and market participants in Nigeria.

LITERATURE REVIEW

Theoretical Framework

The foundation of this research is rooted in the Efficient Market Hypothesis (EMH), which asserts that securities' prices in an efficient market fully incorporate all available information (Fama, 1970). This concept implies that market participants cannot utilize superior information to outperform the market. Malkiel (2003) conveys a similar idea, suggesting that EMH implies a portfolio constructed randomly by a novice would perform similarly to one constructed by a stock market expert.

Malkiel (2003) investigated EMH, addressed its criticisms, and suggested that while pricing irregularities and predictable patterns might occasionally emerge due to collective misjudgment, these instances are exceptions rather than the norm. Despite anomalies like the 1999 internet bubble or the 1987 U.S. stock market crash, he concluded that markets aren't perfectly efficient. This means that there's still an incentive for professionals to seek information to exploit market mispricing (Grossman and Stiglitz, 1980). Malkiel (2003) asserts that although irregularities are present, most researchers and practitioners agree that consistently extracting higher stock market returns without assuming more risk is improbable, affirming the market's efficiency.

Empirical Evidence of Selective and Market Timing Ability

Following the development of selective and timing models by Treynor and Mazuy (1966) and Henriksson and Merton (1981), multiple researchers have applied these models in different jurisdictions. Numerous studies indicated that mutual funds exhibited selective skills (Oliviera et al., 2018; Hacini & Dahou, 2019; Vidal-García & Vidal, 2021; Ariswati et al., 2021; Atta & Marzuki, 2021; Azis et al., 2022; Bani Ahmad et al., 2023). Other researchers suggested that mutual funds lacked selective ability (Nikolaos et al., 2020; Vidal-García & Vidal, 2022; Żebrowska-Suchodolska & Karpio, 2022; Veeravel & Balakrishnan, 2023). A number of researchers evaluated the performance of active management's value versus passive management, which has implications for mutual fund managers' ability. Fahling et al. (2019) discovered that although actively managed funds generated excess risk-adjusted returns before expenses, these returns vanished after accounting for costs. Similarly, Armour et al. (2023) concluded that active funds underperformed passive funds and benchmarks, indicating a lack of superior skills. Daştan et al. (2022) found similar results in Turkey, where equity umbrella funds generally underperformed benchmarks and had negative Morningstar performance ratings, implying a lack of selective ability. These studies collectively suggest that active management fails to generate excess returns after fees and expenses, and thus, active managers lack superior skills.

Overall, the subject of the presence or absence of superior skills in mutual fund managers has been debated in the literature extensively. Although there is ample evidence that some fund managers demonstrate enough skill to beat the market at the gross return level, very few are able to outperform the market net of fees. Several studies support this position. Wermers (2000) found that after costs and fees, the average fund underperforms by about 1% per year, although before costs and fees actively managed mutual funds outperform by 1.3% per year. Similarly, Fama and French (2010) validated the position that most funds do not generate enough superior returns to offset the cost of active management. In addition, Barras, Scaillet, & Wermers (2010) argued that just a fraction of funds (0.6%) exhibited skills in excess of fees and that an overwhelming majority of funds (75.4%) siphoned the excess returns through fees. They also observed a drastic reduction in the proportion of funds that exhibited superior skills from 14.4% in 1990 to almost nil in late 2006. Therefore, based on empirical evidence from past studies, we propose the following hypothesis:

H1: Nigerian mutual fund managers do not possess selective ability.

It does appear that evidence regarding timing ability is more divergent than that of selective ability. While early studies in the developed markets did not find convincing evidence of timing, later researchers including Bollen and Busse (2001), Kaplan and Sensoy (2005), and Jiang et al. (2007) found positive timing when they assessed sensitivity based on a single index. Other researchers used other models and did not find timing (Elton, Gruberg & Blake, 2011b; Ferson & Qian, 2006). Pilbeam and Preston (2019) studied the Japanese market and reported that mutual funds underperformed a four-factor model benchmark and lacked timing ability. Similarly, Cagnazzo (2019) empirically studied mutual fund performance in emerging markets and found a lack of timing ability using a new model called the 'performance gap'. However, Khelifa and Arsi (2022) reported mixed outcomes from different regions. They investigated the impact of the COVID-19 pandemic on the market timing skills of Islamic equity funds in

various regions and found that while European Islamic funds exhibited market timing, Asian and North American funds did not. Generally, recent studies largely do not find evidence of timing ability (Oliviera et al., 2018; Hacini & Dahou, 2019; Nikolaos et al., 2020; Vidal-García & Vidal, 2021; Ariswati et al., 2021; Atta & Marzuki, 2021; Vidal-García & Vidal, 2022; Azis et al., 2022; Żebrowska-Suchodolska & Karpio, 2022; Veeravel & Balakrishnan, 2023; Ahmad et al., 2023). Therefore, we propose the second hypothesis that:

H2: Nigerian mutual fund managers do not possess market timing ability.

In the context of Nigeria, mutual fund studies are limited, possibly due to the industry's early stages in the country. Notably, earlier studies did not deeply explore fund managers' selection and timing ability but rather focused on other aspects of mutual fund performance. Abubakar and Maimako (2014) investigated the persistence of performance of mutual funds in Nigeria and found a lack of performance persistence. Oduwole (2015), Ilo et al. (2018), and Omokehinde (2021) studied the risk-adjusted performance of mutual funds and concluded that, on average, mutual fund portfolios generated negative excess returns. A common theme in these Nigerian studies was their use of traditional appraisal methods like the Sharpe ratio, Treynor ratio, and Jensen's Alpha, which have limitations in dissecting portfolio performance into specific segments. It also seeks to improve upon earlier work from the methodological perspective. The study extends earlier efforts by employing the multiple regression models developed by Treynor and Mazuy (1966) and Henriksson and Merton (1981) to evaluate selective and timing skills. These multi-factor models are more sophisticated and capable of capturing complex relationships among securities.

METHODOLOGY

In this study, we have chosen to deploy the Treynor-Mazuy (1966) and Henriksson- Merton (1981) regression models. These models have a proven track record of effectively evaluating the selective and market timing abilities of mutual funds and continue to be widely favored by researchers, as evidenced by their use in various studies (Ünal & Tan, 2015; Oliveira et al., 2018; Neto et al., 2017; Hasnaoui & Fatnassi, 2021; Żebrowska-Suchodolska & Karpio, 2022; Ahmad et al., 2023).

More recently proposed frameworks, including the conditional approach (Ferson & Schadt, 1996) and the portfolio holdings model (Daniel et al., 1997; Jiang et al., 2007), could provide a viable alternative. However, several limitations hinder the implementation of these alternatives in the Nigerian context. Firstly, the conditional model relies on the assumption of semi-strong efficiency in the stock market. Evidence does not support semi-strong efficiency in the Nigerian stock market (Adelegan, 2004; Nwosa & Oseni, 2011; Dias & Santos, 2021) In addition adopting either of these models would impose significant challenges, as crucial data, such as the monthly dividend yield on the Nigerian Exchange Limited and information regarding the composition of mutual fund portfolios is inaccessible.

Mutual Fund Data

All available historical data on monthly net asset values (NAVs) of actively managed, equity-based mutual funds in Nigeria, useful for the study, were collected from the website of the Securities and Exchange Commission. This covers a period of ten years, from 2012 to 2021. The All-Share Index (ASI) of the Nigeria Exchange Limited was used as the benchmark portfolio while the 5-year government bond return was used as the risk-free rate.

The purposive sampling method (selective or subjective sampling) was used in sample selection, and all actively managed equity mutual funds during the study period were selected. This ensured that funds with similar characteristics were selected for the sample, thereby enhancing comparability which is fundamental to the study. In addition, to address the potential risk of survivorship bias the return data of all funds that operated during the study period were used.

Only actively managed equity funds were included, to avoid the risk of selecting funds into a sample with vastly different characteristics, as active portfolios are constructed and designed to outperform the market by leveraging on the superior information available to fund managers and their stock selection and market timing ability.

Selectivity and Market Timing Models

To evaluate the stock selection and market timing ability of mutual funds managers, multiple regression analysis was employed. Specifically, the widely used Treynor-Mazuy (1966) and Henriksson-Merton (1981) models were adopted. Both models are derived from the Jensen (1966) model in equation (1) below.

$$R_{pt} - R_{Ft} = \alpha_p + \beta_p (R_{Mt} - R_{Ft}) + e_{pt} \dots\dots\dots\dots\dots\dots\dots(\text{equation 1})$$

The Treynor and Mazuy (1966) model introduces an additional independent variable by squaring the standard term for the market risk premium $(R_{Mt} - R_{Ft})^2$. In the equation, Alpha (αp) describes the fund manager's stock selection skill. A positive Alpha (αp) indicates the manager's ability to generate returns exceeding the market's. A positive β_{pt} indicates the fund manager possesses market timing skills.

$$R_{pt} - R_{Ft} = \alpha_p + \beta_p (R_{Mt} - R_{Ft}) + \beta_{pt} (R_{Mt} - R_{Ft})^2 + e_{pt} \dots\dots\dots\dots\dots(\text{equation 2})$$

Henriksson and Merton's (1981) model, however, characterizes market conditions as either 'good' or 'bad.' A 'good' market is when market returns surpass the risk-free rate, while a 'bad' market has lower returns compared to the risk-free rate. The model incorporates two independent variables: the standard term for market risk premium $(R_{Mt} - R_{Ft})$ and a similar term multiplied by a dummy variable (C). The dummy variable equals 1 in a good market and 0 in a bad market. The coefficient on this term (βPT) represents the net beta difference between good and bad markets. If this coefficient is statistically significantly positive, it suggests the manager possesses timing ability.

$$R_{pt} - R_{Ft} = \alpha_p + \beta_p (R_{Mt} - R_{Ft}) + \beta_p C (R_{Mt} - R_{Ft}) + e_{pt} \dots\dots\dots(\text{equation 3})$$

The key distinction between the timing models is that while Treynor and Mazuy's (1966) model assumes a continuous change in response to changing expectations about a factor's return, Henriksson and Merton's (1981) model assumes discrete change. This is why two distinct values of 1 or 0 are assigned to a given market condition.

RESULT AND DISCUSSION

Table 1

Alpha (α_p) and βp_T {coefficient of the squared term $(R_{Mt} - R_{Ft})^2$ } of Treynor-Mazuy Model for Evaluating Selective and Market Timing Ability of 30 Nigerian Equity-based Mutual Funds

Fund	Alpha (α_p)	P-value	βp_T	P-value
Fund 1	-0.00678	0.18677	-0.39677	0.59607
Fund 2	0.00557	0.67027	-0.48214	0.70955
Fund 3	-0.00113	0.86191	-0.32567	0.68311
Fund 4	-0.01006**	0.00404	-0.38900	0.38170
Fund 5	0.00139	0.80022	0.08400	0.90070
Fund 6	-0.00375	0.24793	-0.05401	0.89751
Fund 7	-0.00829	0.24054	-0.08717	0.92383
Fund 8	0.00297	0.49130	-0.85281	0.12769
Fund 9	0.01074	0.18708	-0.26635	0.72438
Fund 10	-0.00661	0.41881	1.37795	0.29710
Fund 11	-0.01133	0.24831	5.27803**	0.04406
Fund 12	-0.00215	0.71282	-0.47108	0.52006
Fund 13	0.00310	0.63414	-1.20696	0.26023
Fund 14	-0.00357	0.46079	0.53012	0.35614
Fund 15	-0.02738	0.00530	-3.21991	0.24457
Fund 16	-0.00336	0.25768	-0.28345	0.46018
Fund 17	-0.00510	0.19642	-0.02128	0.96912
Fund 18	0.00418	0.78126	-0.43658	0.81817
Fund 19	0.00524	0.39165	-0.97779	0.60827
Fund 20	-0.00153	0.93642	2.80441	0.62921
Fund 21	-0.00592	0.07208	0.78647	0.10264
Fund 22	-0.00305	0.71632	-0.99055	0.49869
Fund 23	-0.00711**	0.03025	0.31044	0.46047
Fund 24	-0.00337	0.59601	0.15103	0.84502
Fund 25	-0.00308	0.42932	-0.19039	0.73829
Fund 26	0.00010	0.97975	-0.25812	0.59988
Fund 27	-0.00020	0.98609	-0.28164	0.76330
Fund 28	0.00519	0.58430	1.59681	0.31178
Fund 29	-0.00780**	0.02785	-0.13841	0.76047

| Fund 30 | -0.00755 | 0.31033 | 1.05940 | 0.33237 |
| **All Funds** | **-0.00342** | **0.16315** | **0.10188** | **0.74648** |

** indicates statistical significance at the 95% level

Table 2

Alpha (α_p) and $\beta p_T C$ of the Henriksson-Merton Model for Evaluating the Selective and Market Timing Ability of 30 Nigerian Equity-based Mutual Funds

Fund	Alpha (α_p)	P-value	$\beta p_T C$	P-value
Fund 1	-0.002811	0.674952	-0.236024	0.297315
Fund 2	0.006367	0.708041	-0.12211	0.791219
Fund 3	0.000319	0.970674	-0.11340	0.666514
Fund 4	-0.00883	0.055179	-0.11480	0.423127
Fund 5	0.001832	0.802935	-0.00286	0.989725
Fund 6	-0.00334	0.436608	-0.02575	0.848474
Fund 7	0.004761	0.904156	-0.49042	0.808216
Fund 8	0.005462	0.340227	-0.24374	0.176152
Fund 9	0.008773	0.388848	0.016292	0.951695
Fund 10	-0.00921	0.38972	0.329403	0.384567
Fund 11	-0.02009	0.205455	1.006181	0.088636
Fund 12	0.002938	0.70451	-0.28139	0.239482
Fund 13	0.009073	0.276014	-0.46813	0.120414
Fund 14	-0.00479	0.461445	0.138038	0.473716
Fund 15	-0.02228**	0.042124	-0.86314	0.511765
Fund 16	0.008973	0.41261	-0.15518	0.692098
Fund 17	-0.00537	0.34139	-0.0093	0.958040
Fund 18	0.002627	0.89592	-0.01208	0.984494
Fund 19	0.01183	0.16198	-0.55231	0.225231
Fund 20	-0.01188	0.656217	0.943596	0.486023
Fund 21	-0.00705	0.110494	0.171607	0.244593
Fund 22	0.000796	0.941887	-0.31576	0.410343
Fund 23	-0.00778	0.07295	0.078892	0.55980
Fund 24	-0.00639	0.446673	0.145608	0.56811
Fund 25	-0.0014	0.785896	-0.10335	0.550079
Fund 26	0.001536	0.760305	-0.10178	0.519842
Fund 27	-0.00100	0.944183	-0.0375	0.91306
Fund 28	0.002192	0.860542	0.375492	0.395824
Fund 29	-0.00462	0.535117	-0.10666	0.653687
Fund 30	-0.01165	0.239083	0.344058	0.299869
All Funds	-0.003546	0.275023	0.022178	0.827118

** indicates statistical significance at the 95% level

Table 1 and Table 2 show the results of both Treynor-Mazuy and Henrikson-Merton models, used to assess their selective and market-timing abilities. Positive Alpha (α_p) values indicate fund managers outperforming the benchmark, suggesting selective ability, while positive β_{pT} values suggest market-timing skill. From the Tables it is observed that an overwhelming majority of the funds show statistically insignificant alphas, indicating a lack of selective ability (Figure 1). In addition, an equally weighted portfolio of all the funds yielded a small, statistically insignificant negative alpha of -0.00342 and -0.00355 for the Treynor-Mazuy and Henrikson-Merton models respectively (Table 3).
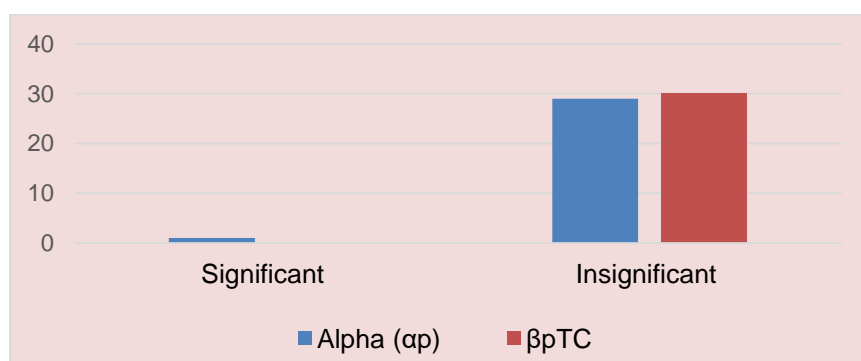
Figure 1: *Frequency of significant and insignificant Alphas (α_p) and timing coefficients (β_{pT}) from the Treynor-Mazuy Model*
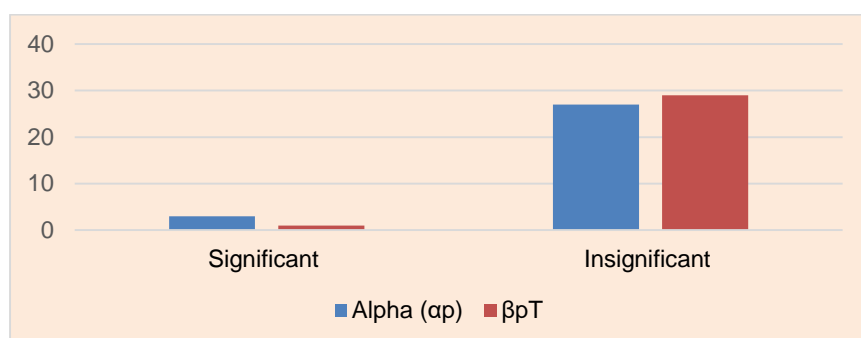
Note: Figure 1 indicates the statistical significance of coefficients at a 95% level
Source: Author

Figure 2: *Frequency of significant and insignificant alpha (α_p) and timing coefficient ($\beta_{pT}C$) from the Henriksson-Merton model*

Note: Figure 2 indicates the statistical significance of coefficients at a 95% level
Source: Author's Computation, 2024.

The study delves into the market timing ability of the mutual funds in our sample using both the Treynor-Mazuy and Henriksson-Merton models. Market timing is assessed through the multiple regression β_{pT} (market-timing coefficient), a positive and statistically significant value that signifies a fund manager's capability to generate returns surpassing the benchmark return. As depicted in Table 1 and Table 2, the majority of the mutual funds recorded statistically insignificant coefficients of market timing for both the Treynor-Mazuy and

Henriksson-Merton models (Figure 2). Further, an equally weighted portfolio of the funds recorded positive but statistically insignificant βpTc values of 0.10188 and 0.022178 respectively for the Treynor-Mazuy and Henriksson-Merton models. (Table 3). These point to a lack of market timing ability.

Table 3

Regression output Using Treynor-Mazuy and Henriksson-Merton Model for Evaluating Selective and Market Timing Ability of 30 Nigerian Equity-based Mutual Funds

	Treynor-Mazuy Model	**Henriksson-Merton Model**
Constant /Intercept	-0.00342	-0.00355
(Rm-Rf)	0.543198**	0.55378**
$(Rm-Rf)^2$	0.101881	
C(Rm-Rf)		0.022178
R^2	0.71131	0.71117
F- Value	3.26E-31	3.36E-31
N	115	115

** indicates statistical significance at the 95% level

Source: Author's Computation, 2024.

Following the findings of the study, we can test our hypothesis. The first null hypothesis states that Nigerian mutual fund managers do not possess selective ability. From the evidence in this study, we do not reject the null hypothesis. Using the Treynor-Mazuy and Henriksson-Merton models, our result shows that the mutual funds in our sample have statistically insignificant alphas, implying a lack of selective ability. We can infer, therefore, that active management adds no significant value from the perspective of risk-adjusted returns.

Although evidence in the literature points to the presence of superior selective skills to generate alpha in some fund managers (Vidal-García & Vidal, 2021; Bani Atta & Marzuki, 2021; Azis et al., 2022; and Bani Ahmad et al., 2023), it is well documented that most active managers do not generate enough alpha to cover their costs (Fama and French, 2010; Barras et al., 2010; Fahling et al., 2019; Daştan et al., 2022; Armour et al., 2023).

The second hypothesis of the study is that Nigerian mutual fund managers do not possess market timing ability. Again, we do not reject this hypothesis based on the evidence which is robust in demonstrating that mutual fund managers do not have timing ability. This validates the belief that it is a challenging undertaking to attempt to beat the market through market timing. The Treynor-Mazuy and Henriksson-Merton models employed to test for market

timing ability show that an overwhelming majority of the funds in our sample recorded statistically insignificant market timing coefficients. This is strong evidence of a lack of market timing skills among mutual funds managers in Nigeria.

Earlier studies on mutual funds in Nigeria did not investigate the market timing ability of mutual funds. However, our result is consistent with evidence from other parts of Africa that mutual funds do not exhibit market timing ability (Tan, 2015; Mohamed et al., 2014; Musah et al., 2014). Similarly, early studies in developed markets did not find convincing evidence of timing. However, later researchers including Bollen and Busse (2001), Kaplan and Sensoy (2005), and Jiang et al (2007) found positive timing when they assessed sensitivity based on a single index. More recent studies do not find evidence to support timing ability (Atta & Marzuki, 2021; Vidal-García & Vidal, 2022; Azis et al., 2022; Żebrowska-Suchodolska & Karpio, 2022; Veeravel & Balakrishnan, 2023; Ahmad et al., 2023).

This study validates the Efficient Market Hypothesis on the Nigerian stock market. In an efficient market, stock prices are random and it is impossible to find price patterns that would make it possible to exploit price movements and generate alpha. A particular version of the Efficient Market Hypothesis proposed by Grossman (1976) and Grossman and Stiglitz (1980) concerning mutual funds is instructive. This theory proposes a variant of market efficiency where informed investors are capable of trading at prices that adequately compensate them for the expenses incurred in acquiring information. Consequently, this scenario leads to a situation where actively managed mutual funds, operated by fund managers, underperform passive portfolios.

CONCLUSION AND RECOMMENDATION

This study's primary focus was to assess the selective and market timing abilities of mutual funds. The study's evidence does not support the existence of selective ability among the mutual funds under examination. Both the traditional Treynor-Mazuy and Henriksson-Merton regression models were employed, indicating a lack of selective ability.

Furthermore, the study also found no evidence to support the presence of market timing ability among mutual fund managers in Nigeria. By employing the Treynor-Mazuy and Henriksson-Merton regression models to evaluate market timing ability, the results indicated robustly that fund managers lack market timing ability.

Based on the findings, the recommendation for retail customers (and their advisors) is to consider investing in low-cost, passively managed mutual funds or exchange-traded funds (ETFs) that track broad market indexes. Consequently, the study suggests that investors should opt for holding low-cost mutual funds rather than pursuing active management to generate alpha. In light of these findings, the study also advises mutual fund managers to create more passive funds to cater to various risk-return preferences. This could involve introducing tracker funds that replicate market segments such as the All-Share Index, as well as specialized indexes like NGX Banking, NGX Insurance, NGX Industrial, NGX Consumer Goods, and NGX Oil & Gas indexes.

We recommend that future research endeavors aimed at assessing mutual fund performance should explore the incorporation of more recent models proposed by researchers. Notably, the portfolio holding model, as put forth by Daniel et al. (1997), Jiang et al. (2007), and Elton, Gruber, and Blake (2012), could be considered for such evaluations. By integrating these newer models, researchers can enhance the comprehensiveness of their analysis and contribute to a deeper understanding of mutual fund performance within the Nigerian context.

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