

Performance of mutual funds in Nigeria

Ilo, Bamidele M.

Yinusa, Olumuyiwa G.

Elumah, Lucas O.

► RECEIVED: 1 MARS 2017

► ACCEPTED: 18 MAY 2017

Abstract

The study examines the performance of 37 mutual funds distributed over six broad portfolio classes traded on the Nigerian Stock Exchange using monthly data from January 2012 to December 2015, with a view to evaluating the stock selection skills of the fund managers. Their performance was evaluated using the Sharpe and Treynor ratios and Jensen's Alpha measure. The results showed that the market generally generated negative risk premium and the mutual fund portfolios similarly generated negative mean excess return, failing to compensate investors for investing in risky assets. The Sharpe, Treynor and Jensen's Alpha measures showed that the funds consistently failed to provide superior risk-adjusted returns and so fund managers cannot claim to have demonstrated any form of stock selection or portfolio diversification skill.

Keywords:

Mutual funds, Performance, Nigeria Stock Exchange, Portfolio.

JEL classification:

G11, G12, G23.

◆ Please cite this article as:

Ilo, B.M., Yinusa, O.G. and Elumah, L.O. (2017). Performance of mutual funds in Nigeria, *AESTIMATIO, The IEB International Journal of Finance*, 17, pp. 8-25.

doi: 10.5605/IEB.17.1

Ilo, B.M. PhD, ✉ Department of Accounting, Banking & Finance, Olabisi Onabanjo University, Ago-Iwoye Ogun State, Nigeria.
Email: bammyinspiration@gmail.com

Yinusa, O.G. PhD, Department of Accounting, Banking & Finance, Olabisi Onabanjo University, Ago-Iwoye Ogun State, Nigeria.
Email: yinusa2016@gmail.com

Elumah, L.O. Department of Accounting, Banking & Finance, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria.
Email: luvility@yahoo.com

El rendimiento de los fondos de inversión en Nigeria

Ilo, Bamidele M.

Yinusa, Olumuyiwa G.

Elumah, Lucas O.

Resumen

Este artículo examina el rendimiento de 37 fondos de inversión, pertenecientes a seis categorías diferentes (en función del tipo de activos en el que invierten) y cotizados en la Bolsa de Valores de Nigeria, en el periodo enero 2012 – diciembre 2015, con el objetivo de evaluar la capacidad de gestión de los gestores de este tipo de fondos. Para ello se utilizan los ratios de Sharpe y Treynor y la Alfa de Jensen. Los resultados muestran que, en general, el mercado no es capaz de compensar a los inversores por el riesgo asumido en la inversión. Las ratios de Sharpe y Treynor, así como la Alpha de Jensen, muestran que, en el periodo objeto de análisis, la inversión en fondos de inversión no implica un mayor rendimiento ajustado al riesgo, es decir, los gestores de dichos fondos no han demostrado capacidad alguna de selección de activos y diversificación de carteras.

Palabras clave:

Fondos de inversión, Rendimiento, Bolsa de Valores de Nigeria, Portfolio.

1. Introduction

Mutual funds or unit trusts, otherwise referred to as collective investment schemes, are perhaps among the key strategies that can be employed by small investors with limited investment knowledge and skills in order to profit from investing in the financial market under uncertainties.

The Investment and Securities Act (ISA) (2007) is the regulation governing the operations of collective investment schemes in Nigeria. The Act defines these schemes – of which there are many forms, including open-ended investment companies – as investment schemes wherein various members of the public are invited or permitted to invest money or other assets in a portfolio. A mutual fund's portfolio is owned collectively by individuals and firms who have invested in the fund, and no individual investor can identify a particular asset in the portfolio as belonging to him or her.

A well-developed mutual fund market has the potential to offer enormous benefits to the Nigerian economy and the public (Security and Exchange Commission (SEC), 2014). The unit trust scheme can help deepen the Nigerian capital market, extend capital market activities to the grassroots, facilitate pooling of funds for investment purposes, encourage small private enterprises approach capital markets for long-term funds, generate profit/income capital appreciation for investors, and provide retail investors with access to professional management of the funds (SEC, 2014). In particular, the unit trust scheme and Real Estate Investment Trust Scheme (REIS) are the most widely-used schemes in Nigeria, with several financial institutions operating unit trust schemes (Deloitte, 2016). The scheme is considered to be beneficial for the development of the Nigerian capital market and gives assurance to investors as regards the management of their funds. Lasher (2000) observes that mutual funds and other institutional investors play a major role in financial markets today, owning about 25% of the stocks listed on the major exchanges but accounting for about 75% of the trades.

Despite these benefits, the Nigerian mutual funds market remains underdeveloped. For instance, according to the SEC (2013) there were only 202,059 unit holders in 2012, while the funds had a Net Asset Value (NAV) of ₦104.85 billion. The SEC (2014) also indicates that, as of June 2014, there were 38 fund managers in the country with just six of those accounting for 75% of the funds under management. As of December 2015, the Nigerian Stock Exchange (NSE) report put the NAV of the funds trading on the NSE at ₦259.72 billion (\$1.039 billion) with a market capitalization of ₦263.82 billion (\$1.055 billion)

Meanwhile, the SEC (2013) reports that the World Bank and the International Organization of Securities Commission (IOSCO) identified the mutual fund industry

as a driving force in most of the developed economies and has thus commissioned a survey on the constraints on the development of mutual funds in Nigeria. Oduwole (2015), however, notes that some of the problems that plague the industry include (i) insufficient data points to help investors adequately evaluate the performance and value of the available mutual funds, as retail investors have little knowledge about mutual funds in Nigeria and (ii) an inadequate review of the performance of the few existing funds.

Investors are mean-variance optimizers in the Markowitz (1959) sense. They are thus motivated to invest in mutual funds because, theoretically, the funds are assumed to be managed by professionals with the resources and skills for portfolio selection that enable them to maximize portfolio returns and minimize risk through diversification—something which may be difficult for individual investors. However, the outcomes of past studies tend to suggest otherwise, as most studies indicate a high level of underperformance by portfolio managers in terms of risk-adjusted returns. Bushra *et al.* (2011) reported that mutual funds performed poorly under different market conditions on the Karachi Stock Exchange. Bilawal *et al.* (2015) concluded that closed-ended funds in Pakistan underperformed. In their study of mutual funds in India, Sukhwinder *et al.* (2012) found that those funds underperformed the market benchmark portfolio. Conversely, Amporn and Yosawee (2009) found that mutual funds consistently outperformed the market benchmark portfolio in Thailand.

While the mutual fund market is the focus of extensive research in Pakistan, Iran, India and other emerging markets, research efforts in this area are scant in Nigeria. Oduwole (2015) evaluated the performance of 31 equity and mixed mutual funds in Nigeria from December 2011 to November 2014 (three years), Sambo (2016) examined the performance of aggregate pension fund portfolios from January 2013 to December 2015 (three years). The current study extends the earlier studies by covering 37 mutual funds with a broader spread including umbrella funds, Islamic/ethical funds, balanced funds, fixed income funds, equity based funds, real estate funds and money market funds. This study covers the entire portfolio of closed-ended funds trading on the NSE between January 2012 and December 2015, and uses the Sharpe ratio, Treynor ratio and Jensen's Alpha measure to evaluate their performance, in order to assess the portfolio selection abilities of the fund managers. This is with a view to providing existing and potential investors a basis for whether or not to include mutual funds in their portfolios, which is very important for a developing country like Nigeria.

The remainder of the paper is organized as follows: section 2 deals with some related literature regarding mutual funds; section 3 highlights the study variables, their measurement, statistical techniques used and data sources; the results and discussion follow in section 4; and the conclusions are presented in section 5.

■ 2. Literature review

Reilly (1989) suggests that mutual funds can be broadly classified based on two criteria: (i) the structure of the fund; and (ii) the category of investments included in the fund. The first classification describes the fund in terms of whether it is open-ended or closed-ended. The closed-ended funds are those that are first sold to the public, with investors subsequently allowed to trade on the funds in the secondary market. In the case of open-ended funds, investors attempt to redeem their investments by selling them back to the fund managers. The second classification of mutual funds in Nigeria covers the types of assets that make up the fund. These include: equity based funds, money market funds, fixed income funds, mixed funds and Islamic/ethical funds.

The available collective investment schemes in Nigeria include unit trusts, venture capital funds, open-ended investment companies, real estate investment schemes, and specialized funds. The unit trust scheme, which is the focus of this paper, is available in two types in Nigeria, viz. open-ended and closed-ended. Regardless of the particular type, the unit trust scheme allows the professional fund manager to collect small sums of money, which is converted into a pool for investing in shares and money market instruments on behalf of the subscribers/investors.

The open-ended form continually issues and redeems units, which are priced at the NAV after the initial public offering. In the case of closed-ended funds, no additional units are issued nor is there any redemption of units after the initial public offer. The fund is traded on the exchange with its price determined by market forces; hence, a unit holder can redeem his investment by selling it through his stockbroker.

In developed economies like Portugal and New Zealand, where the performance of mutual funds has been studied, findings reveal that mutual funds have not been able to outperform the market and the fund managers do not exhibit any market timing ability (Bauera *et al.*, 2015; and Leitea *et al.*, 2009). Leitea *et al.* (2009) suggest that the under-performance of the mutual funds is not as a result of the management fee, while Bueara *et al.* (2015) posit that fund size and the expense ratio are positively related to the performance of mutual funds in New Zealand.

Milonas and Rompotis (2014) examine 38 German bond Exchange Traded Funds (ETFs) from the moment of their inception to the end of 2010. The results show that ETFs fail to deliver returns above the market return, a performance which persists at the quarterly horizon, and they have negative Alphas. Also, the funds studied have a small size and a momentum effect on bond ETF returns. The study suggests that fixed income investors should apply allocation strategies to benefit from the size and momentum effects found.

In Spain, García *et al.* (2013) study 179 domestic equity funds from 1999-2009 to investigate the time-varying properties of mutual fund betas, using the Kalman filter technique to demonstrate that the fund beta is not constant; . The results also suggest that fund managers do not have a static portfolio with which to implement their investment strategy and the size of the fund is constantly changing due to the purchases and redemptions of investors. It was also revealed that a negative significant relationship exists between money flows and the variation of fund betas and that the reaction of fund managers is stronger when money goes out of the fund than when money comes into the fund.

Conversely, in the US, Denis *et al.* (2007) use the Sharpe's Index to examine the annual risk-adjusted returns for 10 portfolios of international mutual funds for the period 2000 to 2006, using the US mutual fund (USMF) performance as a benchmark for comparison. Findings show that nine out of ten of the international mutual fund portfolios outperformed the US market. Additionally, five international portfolios all had average annual returns (not adjusted for risk) that exceeded the USMF returns by more than 10%. The portfolio containing all International Mutual Funds (IMF) significantly outperformed on a risk-adjusted basis the fund that was made up of all of the USMF. The foreign mutual funds outperformed the US mutual funds in nominal terms but appeared more volatile with high level of risk.

Recently, Foo and Witkowska (2016) also compare the performance of pension funds in the US with those in selected European countries for the period of 2002-2013 using the Sharpe ratio, return information ratio, the Sortino ratio, and Jensen's Alpha. The results show that Poland and the US achieved the highest average market returns, while Poland and Germany achieved the highest average returns on the pension funds. Poland, however, was also shown to have the highest risk. The highest stock market returns were observed in Poland, Germany and the US for the period 2002-2013, and for the US and German stock indexes for the shorter investment period, 2008-2013, while the European stock index experienced negative returns. It was also revealed that the market benchmarks of each country performed better than the pension fund, indicating that the pension fund managers did not construct effective investment portfolios in all the countries and in both periods. However, in Germany, the UK and a "Europe" aggregate, pension fund risk is significantly lower, while in Poland and the US, pension funds are characterized by relatively high risk, which is due to the portfolio compositions, since those countries register the greatest share of equity instruments.

In Brazil, Laes and Silva (2014) analyse the performance of the 1,111 equity funds from 2002-2012, using the Carhart's four-factor model and bootstrap simulation techniques. The results show that the returns of the best performers are more due to luck than the skill of their managers. On the contrary, for the bottom-ranked funds, statistical evi-

dence indicates that their poor performance can be attributed to bad management, rather than to bad luck. Findings also show that the largest funds outperformed the small and middle-sized funds.

In Pakistan, the mutual funds market has continued to attract considerable research attention. Evidence from those studies shows that mutual funds in Pakistan are underperforming when compared to the benchmark (Mahreen and Nawazish, 2011; Bushra *et al.*, 2011; Rida and Rana 2012; Waqas *et al.*, 2015; Shakeela *et al.*, 2015; Shazia *et al.*, 2010; Bilal *et al.*, 2011; and Bilal *et al.*, 2012). Mahreen *et al.* (2011) report that mutual funds generated negative excess return as a result of the high treasury bill rate, while Waqas *et al.* (2015) and Bilal *et al.* (2011) argue that the poor performance of mutual funds in Pakistan is probably due to the setback in the industry occasioned by the financial crisis. By implication, fund managers in Pakistan show poor stock selection skill and lack the ability to diversify their portfolios. Shazia *et al.* (2015) suggest that fund managers need to be more proactive in order to select superior stocks so as to avoid volatility in returns.

Also in Pakistan, Talat and Ali (2009) and Mian and Mohammed (2010) examine the factors affecting the performance of mutual funds using regression analysis. Both studies report that asset turnover, the expense ratio and asset age positively influence the growth of mutual funds while managerial fee and liquidity has a negative impact on fund performance. In contrast, Nyanamba *et al.* (2015) establish that assets, liquidity and liabilities positively affect the performance of mutual funds in Kenya, whereas a negative relationship exists between expenses and the profitability of mutual funds. In China, Xiohong and Qiqiang (2013) posit that the expense ratio significantly influences fund performance while the trading cost has a positive relationship with fund performance. This implies that the expense ratio is an important factor when considering the performance of mutual funds.

Similarly, Bilawal *et al.* (2016) corroborate the study carried out in Pakistan by Amir and Syed (2005) by investigating the performance of mutual funds using the Sharpe ratio, the Treynor ratio and Jensen's Alpha. The results show inconsistent ranking of the mutual funds' performance and mixed results based on the performance indicators. The authors claim that if the diversifiable company-specific risk is fully diversified away by the fund manager, the results of the Sharpe and Treynor ratios will be the same. However, the inconsistency in the ranking of funds based on both the Sharpe and Treynor ratios suggests poor diversification of company-specific risk.

In Malaysia, Mansor and Bhatti (2011) compare the performance of Islamic mutual funds with that of conventional funds and the market portfolio. To do so, they examine 128 Islamic mutual funds (IMFs) for the period of January 1990 to April 2009 using

Sharpe, Treynor and Jensen's Alpha measures. The evidence based on aggregate returns performance reveals that, on average, the IMFs outperform their conventional peers and the market portfolio proxied by the Kuala Lumpur Stock Index (KLCI) return. The IMFs show significantly positive stock selection skill but a weak market timing ability relative to the conventional mutual funds. Thus, the IMF fund managers show superior performance in stock selection skill, but inferior performance in market timing ability relative to their conventional counterparts.

Rahman *et al.* (2012) evaluate the performance of 16 growth-oriented mutual funds on the Dhaka Stock Exchange, Bangladesh, on the basis of monthly returns compared to benchmark returns. Treynor and Sharpe ratios and Jensen's Alphas were used to measure the performance of the mutual funds. The results indicate that only 4 out of the 16 mutual funds have negative Sharpe and Treynor ratios, indicating that they performed below the market return, while the other mutual funds performed better, suggesting superior risk-adjusted performance. Thus, most of the mutual funds performed better according to the Sharpe and Treynor measures. The Jensen's Alpha value for all but three of the mutual funds is positive, indicating better performance than the market benchmark. However, very few mutual funds are well diversified with low unique risk. The study also reveals that mutual funds have not performed better in terms of total risk and the funds do not offer advantages of diversification and professionalism to the investors.

In Thailand, similar studies covering the same period (2002-2007) were carried out by Teerapan *et al.* (2014) and Amporn and Yosawe (2009). Both studies examine the performance of mutual funds using different performance indicators. Both studies reveal inconsistent results, which may be due to different techniques adopted. Teerapan *et al.* (2014) conclude that the mutual funds underperformed the market, and that there were more negative performing funds than those reporting positive returns. Amporn and Yosawe (2009) on the other hand, reveal that the funds under study outperformed the market as measured by the Treynor and Sharpe ratios and Jensen's Alpha. They thus suggest that equity mutual funds can be a good choice for individual investors.

In a panel study, Oleksandra and Oldrish (2015) examine the absolute and relative risk-adjusted performance of 4,796 mutual funds from 2000-2015 in Central and Eastern Europe, South East Asia, the Middle East and North Africa (MENA) and Brazil, Russia, India, China and South Africa (BRICS). Jensen's Alpha, the Sharpe and Treynor ratios and the Carhart measure were used to assess the performance of the funds. The results reveal that mutual funds underperform relative to their benchmark during the financial crisis, recession and in times of recovery and economic growth. However, in every group of countries examined except for MENA, there is a small number of performing funds which manage to outperform the market return regardless of the overall macroeconomic situation and local capital market conditions.

Of the few studies focusing on Africa, Tan (2015), studies the performance of mutual funds in South Africa, while Mohamed *et al.* (2014) does same in Kenya. Both studies found that fund managers did not display selective skills and lacked market timing ability, as revealed by Jensen's Alpha. Similarly, in both studies, funds were seen to perform poorly as measured against the market index in each country. In Kenya, there was no evidence of portfolio diversification, however, the individual fund risk was generally lower than that of the market.

Also, Oduwole (2015) carried out a similar study in Nigeria. The results support the findings of earlier studies in Africa carried out by Tan (2015) and Mohammed *et al.* (2014). The Jensen's Alpha and the Treynor and Sharpe ratios were also used to measure the performance of mutual funds from 2011-2014. Only 10 funds out of a sample of 31 funds registered a positive Sharpe ratio, the Treynor ratio was negative for all funds, and only one fund had a positive Jensen's Alpha, which was not statistically significant. This implies that mutual funds managers in Nigeria lacked the capacity to predict stock prices well enough to outperform a buy-the-market and buy-and-hold policy. It also suggests that the fund managers lack both the necessary selective and market timing ability to outperform the market.

Sambo (2016) evaluates the efficiency of aggregate pension funds investment portfolio management in Nigeria using monthly data from January 2013 to December 2015. The performance evaluation is based on the Sharpe ratio to determine the extent to which the pension fund portfolio produces returns above the benchmarks of risk-free and stock market returns. The results show that mean monthly return of the pension fund portfolio is 1.38%, market return is 0.06% and risk-free rate is 10.25%. The study shows a negative and significant monthly average Sharpe ratio and the NSE return benchmarks, indicating the underperformance of the pension fund portfolio. The study thus concludes that managers of aggregate pension funds lack the requisite skill to outperform the benchmark risk-free investment and stock market return in Nigeria. However, it is doubtful whether the study actually adjusted the mean risk-free rate of 10.25% to its monthly rate, since the 90-day Nigerian Treasury bill rate ranged between 10 and 13.5% per annum over the period studied. The pension fund monthly return would otherwise have surpassed the reported negative return over the Treasury bill rate.

■ 3. Methodology

The data

The mutual funds data were obtained from the website of the Nigerian Securities and Exchange Commission while the risk-free rate and market return data were computed from the NSE market index obtained from the Central Bank of Nigeria (CBN) Statis-

tical Bulletin. The study covers a period of 48 months from January 2012 to December 2015. The period under study captures the period of recovery of most markets – including Nigeria – from the 2008 global financial crisis.

The study evaluates the performances of 37 Nigerian mutual funds traded on the NSE between January 2012 and December 2015. The monthly returns of the funds are analysed to evaluate the portfolio managers’ selection ability using the Treynor (1965) and Sharpe (1966) ratios and the Jensen’s Alpha (1968). The study covers six broad asset classes which include equity based funds, bond funds, money market funds, fixed income funds, mixed funds and Islamic/ethical funds. The selection of funds is based on the availability of data on the funds for the entire period. The performance analysis of the funds is conducted on the basis of individual funds rather than the class of funds.

● **Table 1. Distribution of mutual fund classes by net asset value, December 31, 2015**

Fund class	NAV(₦billion)	Percentage (%)
Islamic/ ethical fund	4.736	1.82
Umbrella fund	5.583	2.15
Balanced fund	10.058	3.87
Fixed income	17.155	6.61
Equity based fund	27.357	10.53
Real estate funds	45.443	17.50
Money market	149.385	57.52
Total	259.718	100

SOURCE: AUTHORS’ COMPILATION (2016)

The distribution of the funds by NAV in 2015 as shown in Table 1 reveals that the mutual fund market is dominated by money market funds (57.52%) followed by real estate funds (17.50%), while equity based funds account for only 10.53% of the funds’ net assets. This can be attributed to the fixed interest paid to money market investors investing in Treasury bills and Treasury certificates and the certainty of the return to investors.

Mutual fund performance measures

The study adopts the most popular mutual fund performance measures which include the Sharpe ratio, the Treynor ratio and the Jensen’s Alpha. These measures have been used by Amporn and Yosawee (2009), Ömer (2015) and Tan (2016). The measures generally compare excess returns on a portfolio with total risk, where excess return is total portfolio returns less what could be earned on a risk-free asset. The measures are explained as follows.

Treynor ratio (TR): This is a risk-adjusted ratio developed by Treynor (1965) to measure the performance of mutual funds. It is measured as the ratio of the fund's excess return relative to its systematic risk (beta). It is also known as the reward-to-volatility ratio.

$$TR = \frac{r_p - r_f}{\beta_p}$$

Where:

TR = Treynor's performance index.

r_p = Actual return of the portfolio for the period.

r_f = Risk-free rate for the period.

β_p = Beta of the closed-ended portfolio return.

Sharpe ratio (SR): This is a performance index developed by Sharpe (1966). It is similar to the Treynor ratio except that it uses the portfolio total risk (standard deviation) rather than systematic risk. Tan (2016) notes that the Sharpe ratio computes the risk premium earned per unit of total risk.

$$SR = \frac{r_p - r_f}{\sigma_p}$$

σ_p = Standard deviation of the funds' returns measuring the portfolio's total risk. Higher SR indicates higher performance relative to total risk. The SR assesses mutual fund performance in terms of reward to variability while the TR evaluates reward relative to volatility.

Jensen's Alpha: Jensen's Alpha was developed by Jensen (1966) to measure the efficiency of fund managers' fund selection ability. The excess return on the portfolio of the fund is regressed on the excess return on the market using the Capital Asset Pricing Model (CAPM) and the emphasis is on the estimate of Alpha. The sign associated with Alpha is the measure of efficiency of the portfolio manager's performance relative to the market. It compares portfolio actual excess returns with what the market requires based on their portfolio beta. A positive Alpha suggests that the portfolio manager performs better than the market and vice versa. More specifically, Jensen's Alpha is derived from the CAPM as follows:

$$r_p - r_f = \alpha_p + \beta_p (r_m - r_f)$$

α_p = Jensen's Alpha, is the excess return on portfolio after adjusting for the market risk

r_m = Return on market portfolio.

β_p = Sensitivity of the excess return on portfolio at time t , to the excess return on the market.

A positive and statistically significant Alpha means that the fund has experienced abnormally good risk-adjusted returns during the period and the superior performance can be due to the manager's ability to consistently select undervalued stocks or predict market turns (Reilly, 1989). Bilal *et al.* (2011) note that Jensen's Alpha shows whether a fund's return is above the price realized through the CAPM. If the return is in excess, then the expected return is a good return; if it is not, the return is poor.

■ 4. Results

Descriptive statistics of the performance of Nigerian mutual funds: 2012-2015

The monthly return values are derived as monthly changes in market values of the funds. The dividend income is thus excluded and adjustments were not made for the management fees and fund expenses. Our results should therefore be interpreted with caution. Notwithstanding, the study has provided some information that could guide mutual fund investing in Nigeria.

The mean market monthly return is 0.7157% while the T-bill rate is 0.92%, resulting in a negative average excess return on the market of -0.20%. This is a result of the consistently high T-bill rate, similar to the findings of Mahreen and Nawazish (2011) on the Karachi Stock Exchange, Pakistan. This implies that the market could not compensate investors for investing in risky portfolios rather than the risk-free investment. This may make capital market investment unattractive compared to the money market Treasury bill investment.

Analysis of the performance of the mutual fund portfolio shows that only 7 (18.93%) out of the 37 funds have positive excess return, while the remaining 30 funds (81.07%) have negative excess returns. By implication, 81% of the funds earned less than the returns obtainable on a risk-free investment for the period. This further confirms the findings by Ugwoke and Onyeonu (2013), who reported that the five-year annual yield computed by the research department of the SEC between 1993 and 1997 shows a disappointing performance of mutual funds relative to the all-share index. None of the nine mutual funds then in operation was able to match the 48.51% five-year average stock market return. Besides, there was no consistency in the year-by-year rates of return achieved by the mutual funds during the period. It is thus obvious that the funds have not shown any improvement in terms of mean return performance, as the fund managers still exhibit poor stock selection skill and lack the capacity for efficient portfolio diversification.

Sharpe ratio

Table 2 presents the results of the Sharpe ratio, which measures the degree of reward to variability (total risk) of the funds. The higher the Sharpe ratio, the higher the return

the investor receives per unit of risk; the lower the ratio, the greater the amount of risk an investor faces for every unit of additional return. A higher Sharpe ratio signifies better performance. Table 2 shows that 7 (18.92%) out of the 37 funds have a positive Sharpe ratio, which implies higher returns relative to total risk, while 30 (81.08%) have a lower return relative to total risk. This implies that less than 20% of the funds generated risk-adjusted excess return. The risk-adjusted positive excess returns were, however, markedly low, ranging between 0.0034 and 0.20% per month. About 81% of the funds typically generated negative risk-adjusted return ranging between -0.0130 and -240.8310%. This confirms the findings of Oduwole (2015) on mutual funds in Nigeria, who found that only 10 out of 31 funds generated a positive Sharpe ratio between 2011-2014.

Treynor ratio

The Treynor ratio presented in Table 2 focuses on the risk-adjusted return. The higher the Treynor ratio of a fund, the better the performance. Out of the 37 funds, 16 (43.24%) had a Treynor ratio greater than one. This suggests that only 43% of the funds generated enough excess return to cover their systematic risk (beta), implying that a majority of the funds could not generate adequate excess return to cover the volatility of the market portfolio. This result, however, represents an improvement over the performance of the 31 mutual funds analysed by Oduwole (2015), who found all the funds generated negative excess Treynor ratios, though the ratios were not significant.

Jensen's Alpha

Only 10 (27.03%) out of the 37 funds have a positive Alpha but none of them is significant. However, 6 (16.21%) of the funds have negative and significant Alphas, while 21 (56.76%) also have a negative and insignificant Alpha. The funds have not experienced any form of abnormally good risk-adjusted return during the period. This suggests that fund managers did not in any way demonstrate superior fund management and selection ability.

● **Table 2. Summary of Nigerian mutual funds performance**

S/N	FUND	SR	Rank	TR	Rank	JA	Rank
1	A	-0.1598	22 nd	-27.7762	29 th	-2.309	30 th
2	B	0.1324	4th	69.1861	1st	20.817	4th
3	C	0.1371	3rd	-576.351	37 th	29.559	3rd
4	D	-0.0849	15 th	-0.4166	20 th	0.01	10 th
5	E	-0.2733	31 st	18.7201	5 th	-0.783	24 th
6	F	-0.2452	30 th	7.3054	10 th	-0.687	22 nd
7	G	0.0034	7th	0.2463	18th	0.087	9th
8	H	-0.4938	36 th	-1.5207	26 th	-0.1	12 th

9	I	-0.3806	34 th	7.2980	11th	-0.43	20 th
10	J	-0.1390	18 th	-0.8294	22 nd	-0.236	16 th
11	K	-0.1631	23 rd	-1.4443	25 th	-0.725	23 rd
12	L	0.0132	6th	0.2480	17th	0.306	7 th
13	M	-0.1502	19 th	-7.9776	27 th	-2.583	31 st
14	N	-0.3688	33 rd	-110.7090	34 th	21.232	37 th
15	O	-0.2331	29 th	57.5331	2 nd	-0.521	21 st
16	P	-240.8310	37 th	14.3746	7th	-0.921	25 th
17	Q	-0.0651	11 th	-0.9332	24 th	-0.355	19 th
18	R	0.2002	1st	-44.7735	32 nd	76.611	1st
19	S	-0.0130	8 th	-0.1537	19 th	0.094	8th
20	T	-0.1526	21 st	1.2228	15th	-0.189	15 th
21	U	-0.0709	13 th	-33.8405	30 th	0.59	6 th
22	V	-0.0690	12 th	-0.7261	21 st	-0.291	18 th
23	W	-0.1518	20 th	36.2733	4th	-3.938	34 th
24	X	-0.0414	9 th	7.5892	9th	-2.88	33 rd
25	Y	-0.1730	24 th	-10.7130	28 th	-1.347	27 th
26	Z	-0.0612	10 th	1.0852	16th	-0.176	14 th
27	AA	-0.3931	35 th	16.8772	6th	-2.05	29 th
28	BB	-0.1006	16 th	55.4408	3rd	-1.937	28 th
29	CC	-0.1927	26 th	11.5103	8th	-0.176	13 th
30	DD	0.0330	5th	6.2895	12th	1.738	5th
31	EE	-0.1869	25 th	-151.146	35 th	-2.797	32 nd
32	FF	-0.2305	28 th	-61.4209	33 rd	-4.116	35 th
33	GG	-0.2084	27 th	-38.8848	31 st	-4.267	36 th
34	HH	0.1419	2nd	-157.445	36 th	42.218	2nd
35	II	-0.0806	14 th	-0.9212	23 rd	-0.008	11 th
36	JJ	-0.2758	32	4.3435	13th	-1.14	26 th
37	KK	-0.1102	17 th	3.7901	14th	-0.24	17 th

SOURCE: AUTHORS' COMPILATION (2016)

5. Conclusion

Mutual fund investment has been widely embraced as a good investment platform in the developed economies, and serves as a vehicle for the mobilization of capital for economic development. This is particularly critical for small and institutional investors in developing and emerging markets like Nigeria. The funds are generally managed by professional managers who are assumed to have an ability to outperform the market benchmark portfolio. This is premised on the notion that they have a capacity for better stock selection and a corresponding ability to generate higher return relative to that of individual investors.

The mutual funds market is still, however, relatively new and small in the Nigerian financial market and has not been the focus of enough research attention. The performance of its mutual funds industry has not been widely analysed, apart from a few studies such as Oduwole (2015) and Sambo (2016), who confirmed the underperformance of the mutual funds market in Nigeria.

This study extends the previous studies on the Nigerian funds market, with specific focus on seven broad classes of closed-ended funds covering 37 portfolios. The performances of the funds were evaluated using the Sharpe ratio, the Treynor ratio and Jensen's Alpha based on the monthly market returns of the portfolios from January 2012 to December 2015.

The study provides strong evidence that the funds largely underperform both the Treasury bill return and market benchmark portfolio. Only 7 (18.92%) of the funds had a positive Sharpe ratio, while only 27% of the funds generated positive Alphas, with none of them being significant. Given the high level of funds with low positive Sharpe and Treynor ratios and consistently negative Sharpe and Treynor ratios and insignificant Jensen's Alphas, fund managers cannot claim to have any appreciable portfolio selection ability in Nigeria.

Thus, this study points to a need for public education, which will improve support for mutual funds, hence, increasing the size of mutual funds in Nigeria. This is premised on the findings of Buerea *et al.* (2015) who posit that fund size is positively related to the performance of mutual funds. Also, as suggested by Shazia *et al.* (2015), fund managers in Nigeria need to be more proactive in order to select superior stocks which can generate positive returns.

■ References

- Aamir, S.M. and Syed, T.H. (2005). Performance Evaluation of Mutual Funds in Pakistan, *The Pakistan Development Review*, **44**(4), pp. 863-887.
- Amporn, S. and Yosawee, S. (2009). Open-Ended Equity Mutual Funds, *International Journal of Business and Social Science*, **2**(17), pp. 127-136.
- Bilal, N., Salman A. and Zeeshan, A.K. (2012). Risk Analysis of open and closed end mutual funds: A Case Study of Pakistan, *Proceedings of 3rd International Conference on Business Management*, pp. 1-18.
- Bilal, N., Syed, M., Amir S. and Safiullah K. (2011). Performance evaluation of open end and close end mutual funds in Pakistan, *African Journal of Business Management*, **5**(28), pp. 11425-11434. DOI: 10.5897/AJBM11.305

- Bilawal, M., Khan, M.D., Hussain, R.Y. and Akmal, U. (2016). Performance Evaluation of Closed Ended Mutual Funds in Pakistan, *International Journal of Business and Management Research*, **6**(1), pp. 65-71.
- Boudreaux O.D., Rao, S.P.U., Ward, D. and Ward, S. (2007). Empirical Analysis of International Mutual Fund Performance. *International Business & Economics Research Journal*, **6**(5), pp. 19-22.
- Bushra, Z., Abdul, R., Sohail, M.K. and Mohamed, N. (2011). Examining the Performance of Closed-End Mutual Funds under Different States of Pakistani Stock Market, *International Review of Business Research Papers*, **7**(3), pp. 233-249.
- Deloitte (2016). Unit trust schemes in Nigeria: What are the peculiar tax issues? Available at <http://www2.deloitte.com/ng/en/pages/tax/articles/inside-tax-articles/unit-trust-schemes-in-nigeria-what-are-the-peculiar-tax-issues.html>
- Foo, J. and Witkowska, D. (2016). Investment performance of US and European pension funds. A comparative analysis, *AESTIMATIO, The IEB International Journal of Finance*, **13**, pp. 90-109. DOI: 10.5605/IEB.13.5
- García, A., Ortiz, C., Población, J. and Sarto, J.L. (2013). The dynamics of mutual fund management, *AESTIMATIO, The IEB International Journal of Finance*, **7**, pp. 154-175.
- ISA (2007). Investment and Securities Act, Law of the Federation of Nigeria.
- Laes, M.A. and Silva, M.E.D. (2014). Performance of mutual equity funds in Brazil –A bootstrap analysis, *Economia*, **15**, pp. 294-306. doi.org/10.1016/j.econ.2014.08.002
- Mahreen, M. and Nawazish, M. (2011). An Evaluation of Mutual Fund Performance in an Emerging Economy: The Case of Pakistan, *The Lahore Journal of Economics*, **16**, pp. 301-316.
- Mian S.N. and Muhammad, M.N. (2010). The Determinants of Mutual Fund Growth in Pakistan. *International Research Journal of Finance and Economics*, **54**, pp. 7-84.
- Milonas, N.T. and Rompotis, G.G. (2015). The performance of German fixed-income ETFs in the presence of the debt crisis, *AESTIMATIO, The IEB International Journal of Finance*, **11**, pp. 46-77.
- Mohamad, H., Ebrahimi, S. and Mohamad, H.K. (2014). Persistence of mutual fund performance in Iran, *International Journal of Management and Humanity Sciences*, **3**(9), pp. 3061-3068.
- Nyanamba, E., Muturi, W. and Nyangau, A. (2015). Factors Affecting Profitability of Mutual Funds in Kenya, *International Journal of Economics, Commerce and Management United Kingdom*, **3**(2), pp. 443-455.
- Oduwole, O. (2015). The Performance of Nigerian Mutual Funds in the Period 2011-2014, *Mathematical Theory and Modelling*, **5**(3), pp. 85-95.
- Oleksandra L. and Oldřich R. (2015). Performance evaluation of equity mutual funds in countries with emerging economies: Evidence from BRIC, CEE, SEA and MENA regions, *Procedia Economics and Finance*, **30**, 476-486.
- Philppas, N. (2011). Market Timing and Selectivity: An Empirical Investigation into the Features of Greek Mutual Fund Managers, *The Journal of Applied Business Research*, **18**(3), pp. 97-108.
- Rahman, A.B.M., Fang, Q. and Suborna, B. (2012). Mutual Fund Performance: An Analysis of Monthly Returns of an Emerging Market, *Research Journal of Finance and Accounting*, **3**(4), pp. 34-48.
- Reilly, F.K. (1989). *Investment Analysis and Portfolio Management*, 3rd Ed. The Dryden Press, Orlando Florida, U.S.A.

- Rida A. and Rana A.Q. (2012). Performance Evaluation of Mutual Funds in Pakistan, *Interdisciplinary Journal of Contemporary Research in Business*, **3**(9), pp. 1076-1083.
- Sambo, H.S. (2016). Evaluating the Efficiency of Aggregate Pension Funds Investment Portfolio in Nigeria Using Sharpe Ratio, *Yobe Journal of Economics*, **3**, pp. 174-183.
- SEC (2014). *Statistical Bulletin, 2014*, Securities and Exchange Commission of Nigeria.
- Shakeela, N.A.U., Mustafa, A. and Mukhtar, S.N. (2015). Risk Adjusted Performance Evaluation of Balanced Mutual Fund Schemes in Pakistan, *European Journal of Business and Management*, **7**(1), pp. 179-187.
- Shazia I.K., Zaheer A. and Amir, S.M. (2010). Performance Evaluation of Close-ended Mutual Funds by Investment Objectives in Pakistan's Economy, *Proceedings of the International Conference on Applied Computer Science*, Malta, pp. 96-107. Available at <http://www.wseas.us/e-library/conferences/2010/Malta/ACS/ACS-11.pdf>
- Sukhwinder, K.D., Batra, G.S. and Anjum, B. (2012). Performance Evaluation of Selected Open Ended Mutual Funds in India, *International Journal of Marketing, Financial Services & Management Research*, **1**(1), pp. 29-38.
- Talat, A. and Ali, R. (2009). Performance Evaluation of Pakistani Mutual Funds, *Pakistan Economic and Social Review*, **47**(2), pp. 199-214.
- Tan, Ö.F. (2015). Mutual Fund Performance: Evidence from South Africa, *Emerging Markets Journal*, **5**(2), pp. 49-57.
- Teerapan, S., Ranko, J. and Michael, T. (2014). Liquidity-augmented performance evaluation of Thai's mutual funds, *Investment Management and Financial Innovations*, **11**(2), pp. 28-37.
- Ugwoke, R.O. and Onyeonu, E.O. (2013). An Examination of the Unit Trust Scheme/Mutual Fund as a Veritable Vehicle of Investment in the Nigerian Stock Market, *Research Journal of Finance and Accounting*, **3**(6), pp. 176-184.
- Waqas, A., Muhammad S.R. and Muhammad, R. (2015). A Comparative Study on Performance of Open and Close-ended Mutual Funds in Pakistan, *International Journal of Accounting and Financial Reporting*, **5**(1), pp. 300-314.

