Journal of Nusantara Studies 2019, Vol 4(2) 193-218
Universiti Sultan Zainal Abidin
ISSN 0127-9386 (Online)
http://dx.doi.org/10.24200/jonus.vol4iss2pp193-218

Journal of Nusantara Studies (JONUS)

PERFORMANCE OF *SHARIAH* VERSUS CONVENTIONAL FUNDS: LESSONS FROM EMERGING MARKETS

Ruzita Abdul-Rahim, *Aisyah Abdul-Rahman, & Pick-Soon Ling

Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia
*Corresponding author: eychah@ukm.edu.my

Received: 1 Apr 2019, Accepted: 1 Oct 2019

ABSTRACT

This study compares the performance of Shariah and conventional mutual funds in emerging markets. The performance of 833 Shariah and conventional funds in 6 emerging markets from 2000 to 2015 was analyzed. We analyzed the Sharpe index, Treynor index, and Jensen's alpha to compare the performance of Shariah and conventional funds. Jensen's alpha results conform to those of Sharpe's in indicating that Shariah funds slightly outperform their conventional counterparts particularly in the case of Malaysia, Pakistan, and South Africa. Conventional funds perform exceptionally well in Egypt. Further investigation using the Henriksson–Merton model shows that fund managers' performance relies nearly completely on their stock selection skills because they have either inferior or ineffective ability in timing the market. This study is the first cross-country attempt to compare the performance of Shariah and conventional funds in emerging markets in terms of risk-adjusted returns, security selectivity, and market timing capability.

Keywords: Emerging markets, Jensen's *alpha*, mutual funds, risk-adjusted performances, *Shariah* mutual funds

Cite as: Abdul-Rahim, R. Abdul-Rahman, A., & Ling, P-S. (2019). Performance of *Shariah* versus conventional funds: Lessons from emerging markets. *Journal of Nusantara Studies*, 4(2), 193-218. http://dx.doi.org/10.24200/jonus.vol4iss2pp193-218

1.0 INTRODUCTION

Mutual funds are among the indirect investment instruments that are managed by a team of professionals working for fund management companies (FMCs). FMCs pool their capital from a broad range of investors and then invest it in assets such as fixed income assets, equities, and real properties that match the objectives of their funds. The professionals or more commonly known as the fund managers are expected to use their expertise, knowledge, and experiences to significantly outperform the market in return for sales charges and management fees.

Paradoxically, empirical evidence about the performance of these funds shows mixed results. Although Senapathy and Krishna (2015), Goyal (2015), and Ayaluru (2016) showed that mutual funds outperform all the benchmark indices using risk return analysis and risk adjusted performance, Rahman, Qiang, and Barua (2012) presented inconclusive results for the Indian market. Rahman et al. (2012) found that the majority of sampled funds outperform the market based on Jensen's alpha and Treynor index but underperform using the Sharpe index. Bhagyasree and Kishori (2016) analyzed the individual fund performance and determined that over half of mutual funds outperform the market benchmark given the positive Jensen's alpha, in addition to having positive Sharpe ratios.

Despite the questionable performance of mutual funds, the demand for such investment is increasing. In line with the tremendous growth of Islamic finance, the mutual fund industry has introduced the *Shariah*-compliant mutual funds (henceforth, *Shariah* funds) as an alternative to the conventional mutual funds to cater to Muslim investors who are increasingly cautious about the need to comply with *Shariah* principles. In general, the four main *Shariah* principles that govern the permissibility of investment are that business activities must be free of interest (*riba*), excessive uncertainty (*gharar*), speculation (*maysir*), and unlawful (*haraam*) business activities, such as those related to alcohol, pork products, gambling, and military equipment or weapons. In addition, the growth of Islamic mutual funds is driven by the compatibility of *Shariah* investment principles with ethical investing or socially responsible investment (Al-Khazali, Lean, & Samet, 2014; Al-Khazali, Leduc, & Alsayed, 2015). Consistent with the conceptual difference, empirical studies on the stock market report differences in profitability and risk level between Islamic and conventional stock indexes

(Albaity & Ahmad, 2008; Al-Khazali et al., 2014; Pranata & Nurzanah, 2016; Rejeb & Arfaoui, 2016; Umar, 2017), thereby conjecturing differences in mutual funds' performance as well.

Shariah funds have been increasingly accepted as an alternative investment instrument in Muslim-denominated countries, such as Egypt, Pakistan, Malaysia, and Saudi Arabia; and in other markets, such as the UK, Japan, Mauritius, and India. Despite the increasing popularity of this fund, studies on its performance as opposed to its conventional counterparts are still scant. Such evidence is crucial in investment decision because apart from the different characteristics explained previously, Bauer, Koedijk, and Otten (2005), Hayat and Kraeussl (2011), and Rao, Tauni, and Iqbal (2015) argued that *Shariah* principles limit the scope of asset universe from which fund managers achieve their portfolio diversification to only permissible investments.

Notwithstanding the limited literature comparing the returns of *Shariah* and conventional funds in individual countries, a few studies are reviewed in the current research. Ahmad and Haron (2006), Abdullah, Hassan, and Mohamad (2007), Bashir and Nawang (2011), and Boo, Ee, Li, and Rashid (2016) analyzed this issue in the Malaysian context; Merdad, Hassan, and Alhenawi (2010) and Ashraf (2013) for Saudi Arabia, Shah, Iqbal, and Malik (2012), Jabeen and Dars (2014), and Rao et al. (2015) for Pakistan; and Dahlifah and Supriyanto (2015) for Indonesia.

The literature collectively shows mixed results in the performance of *Shariah* versus conventional funds at the individual country level. To the best of our knowledge, no similar studies have compared the performance between *Shariah* and conventional funds in India, Mauritius, and South Africa. To date, we have discovered two studies, namely, Hoepner, Rammal, and Rezec (2011) and Elmesseary (2014a) that cover cross-country comparison. However, the former only focuses on *Shariah* funds, whereas the latter compares security selectivity and market timing capabilities between *Shariah* and conventional funds for the Gulf countries (excluding Egypt). Hoepner et al. (2011) evaluate the performance of 365 *Shariah* funds in 20 countries, namely, Egypt, Morocco, South Africa, Indonesia, Singapore, Malaysia, Pakistan, Australia, Luxembourg, Germany, Ireland, Liechtenstein, the UK, Bahrain, Kuwait, Qatar, Saudi Arabia, UAE, Canada, and the US. The results from their study infer that national characteristics are important in explaining the heterogeneity in *Shariah* funds. The six largest Islamic financial centers (i.e., Bahrain, Kuwait, Qatar, Saudi Arabia, UAE, and Malaysia) reveal that *Shariah* funds outperform international market benchmarks. By contrast, countries with less developed Islamic financial services show that *Shariah* funds underperform the international market benchmarks. Although Elmesseary (2014a) provided evidence from cross-

country comparison, he only focused on Gulf countries, which are beyond the scope of this study.

Therefore, this study fills in the gap in the literature by investigating the relative performance of *Shariah* to conventional funds in six selected emerging markets, namely, Malaysia, Pakistan, India, Mauritius, South Africa, and Egypt. Although other markets offer *Shariah* and conventional funds, the majority are excluded from the sample because of the unavailability of certain data. Unlike Hoepner et al. (2011), which investigated *Shariah* funds' performance via 365 funds from 20 countries; and Elmesseary (2014a), which compared *Shariah* and conventional funds in 5 Gulf countries via 90 mutual funds, the current study offers a large total fund data sampling of 833 to compare the *Shariah* and conventional funds in the emerging markets.

The current study focuses on emerging markets for two main reasons. First, emerging markets have high potential for growth as suggested by its characteristics. The market capitalization of emerging countries remain at 12.6 percent of the world (Bekaert, Harvey, Lundblad, & Siegel, 2011), but their economies show greater potential to grow than developed markets. This claim is shown by the relatively large pool of income measured by gross domestic product (GDP) of approximately 30 percent of the world GDP. The high performance is consistent with its higher volatility relative to that of the world. Second, capital market liberalization in the emerging markets, which started in the 1980s, has turned the emerging markets as the most profitable investment destination (Bekaert et al., 2011). This situation is considered a good candidate to obtain geographical diversification because emerging markets have not completely integrated into the world's market (Bekaert et al., 2011).

To achieve the objective of the current study, 833 funds comprising 181 *Shariah* and 652 conventional funds that span from January 2000 to December 2015 are selected. The pool of sample is smaller compared with the population of mutual funds in the selected countries because of constraints in funding and data availability. The performance of these funds is assessed based on their monthly risk-adjusted returns as measured using three performance appraisal evaluation models: Sharpe and Treynor indexes and Jensen's *alpha*. Further analysis of the performance of the two fund groups using Henriksson and Merton's (1981) model is done to distinguish stock selection from market timing abilities.

The remainder of this paper is structured as follows. The succeeding sections presents the background of the selected emerging markets, followed by data and methodology. Thereafter, we describe and discuss the empirical findings and end with conclusion in the last section.

2.0 LITERATURE REVIEW

Studies conducted in Malaysia indicate that evidence is still inconclusive on whether *Shariah* or conventional funds perform well (Ahmad & Haron, 2006; Abdullah et al., 2007; Bashir & Nawang, 2011; Boo et al., 2016). The differences in data samples and market conditions may be a few of the rationales for the mixed results. Ahmad and Haron (2006) determined no significant difference in terms of mean return from a sample of 12 *Shariah* and 77 conventional funds from 2000 to 2003. Bashir and Nawang (2011) compared 11 *Shariah* and 29 conventional funds from 1990 to 2009 and determined that the conventional funds outperform the market, while Shariah funds underperform the market. Abdullah et al. (2007) determined from a sample of 14 *Shariah* and 51 conventional funds from 1992 to 2001 that *Shariah* outperform conventional funds during bearish markets but the table is turned during bullish market. Similar findings with Abdullah et al. (2007) are documented in Boo et al. (2016). In particular, the data for the latter are from 131 *Shariah* and 317 conventional funds from 1996 to 2013.

Relative to Malaysia, several studies compare *Shariah* and conventional funds in Pakistan and report mixed results. Shah et al. (2012) concluded that *Shariah* outperforms conventional funds using Sharpe, Treynor, Jensen's *alpha*, and Modigliani and Modigliani. However, *Shariah* funds' performances are below market benchmarks based on 31 *Shariah* and 94 conventional funds. Jabeen and Dars (2014) tested a smaller sample size for a recent period compared with Shah et al. (2012) and determined that conventional funds are better than Shariah funds in four of the six years from 2006 to 2012. Similar to Shah et al. (2012), Iftikhar and Amin (2014) reported data in favor of *Shariah* funds for 2007 to 2010 and during bearish market from 2008 to 2009. Rao et al. (2015) obtained evidence indicating only slightly better performance among Islamic funds compared with conventional funds. However, the two groups do not outperform the market. The Jensen's alpha in Nafees, Qamar, and Ahmad (2018) focused on results of equity funds and showed that *Shariah* outperform conventional funds. Moreover, the two funds do not outperform the market, which is similar to the result in Rao et al. (2015).

In the Pakistani market, Shah and Hijazi (2005) determined that mutual funds performed better than the market. However, Mahmud and Mirza (2011), Nafees, Shah, and Khan (2011), Ali and Qudous (2012), Naz, Mustafa, Mukhtar, Nawaz, and Bashir (2015), and Hussain, Hussain, and Hassan (2016) used different data samplings and showed contrasting results, in which the Pakistani funds underperform their respective benchmarks. Different

number of sample size, mutual funds, assessing techniques, and sampling period could be one of the possible reasons for the inconclusive results.

In the Mauritian market, Nitish, Sawkut, Boopen, Vinesh, and Suraj (2009) reported that the mutual funds are well-diversified and five out of seven funds studied record Sharpe ratios above 1.0. This finding shows that all except for one fund have reported positive alphas, which means the funds have outperformed the market. This finding in the Mauritian market contradicts that of Bialkowski and Otten (2011), which consistently showed that mutual funds underperform compared with Poland's market. Meanwhile, Bertolis and Hayes (2014) showed that mutual funds in South Africa underperform the market during economic downturns and outperform the market during bullish periods.

Elmesseary (2014b) indicated that the conventional and *Shariah* funds' risk-adjusted returns in the Egyptian market do not differ substantially from each other. Merdad et al. (2010) showed that the risk-adjusted returns of *Shariah* funds in Saudi Arabia are higher than the conventional funds in the overall and bearish periods but are lower than the conventional funds during the bullish period. Similar to Merdad et al. (2010), Ashraf (2013) concluded that *Shariah* funds in Saudi Arabia perform better than conventional funds during the bearish periods from the results of Jensen's alpha. Dahlifah and Supriyanto (2015) determined that *Shariah* funds in Indonesia have superior risk adjusted returns than conventional funds, although no significantly statistical difference is observed between the two.

Elmesseary (2014a) compared fund managers' capability between *Shariah* and conventional funds in five Gulf countries (i.e., Kuwait, UAE, Oman, Qatar, and Bahrain). The results indicate no difference between *Shariah* and conventional funds in security selectivity and market timing. However, *Shariah* funds perform slightly better than their conventional counterparts in stock picking ability from 2007 to 2012, although the opposite holds during the bearish period from 2007 to 2009. The two fund groups show poor market timing ability during the entire and bearish periods.

Other than comparing returns, only a few studies have investigated the performance of *Shariah* versus conventional funds in terms of the fund managers' capability in security selection and market timing in the individual country. This finding is supported by Merdad et al. (2010), Ashraf (2013) in Saudi Arabia, Nafees et al. (2018) in Pakistan, Mansor and Bhatti (2011), and Bashir and Nawang (2011) in Malaysia. Merdad et al. (2010) used 28 funds and determined no substantial difference in security selectivity between *Shariah* and conventional funds using four different market indices, namely, the GCC Islamic Index, MSCI World Islamic Index, TASI (locally focused conventional index), and MSCI World Index IMI.

Although the *Shariah* and conventional funds underperform the MSCI Islamic index and MSCI world index, the market timing skills are higher for conventional compared with *Shariah* funds. Ashraf (2013) revealed contradictory results with a large and recent data sampling for Saudi Arabi. That is, *Shariah* funds appear to have better performance in security selection and market timing than conventional funds. This finding relatively differs from that of the Malaysian context, in which Mansor and Bhatti (2011) showed that the superior performance of *Shariah* funds in security selectivity skill hold and vice versa for market timing ability. Bashir and Nawang (2011) determined that conventional funds are better than *Shariah* in managerial abilities. Nafees et al. (2018) discovered that *Shariah* funds in Pakistan are better than conventional funds in timing their market, although the opposite is true in stock selection.

2.1 Background of the Sample Markets

The first mutual fund in history was offered in 1774 in the Netherlands and since that time, the fund has grown tremendously but only as far as developed markets are concerned. The 2015 report in Datamarket indicates that the share of mutual fund industry is 15 percent of the world's GDP of USD74.78 trillion. In the 2015 statistics reported by European Fund and Asset Management Association (EFAMA), the US mutual fund industry alone accounts for 48.4 percent of the world's total net assets under management (AUM). European markets collectively contribute 33.2 percent of AUM, whereas other developed markets (i.e., Canada, Australia, and Japan) account for 10 percent. South Africa and India report 0.4 percent each, while Malaysia and the other sample markets for this study fall under the "other" category, which merely account for 0.7 percent of the world's AUM. Although the mutual fund industry appears trivial on the world scale, this industry is an integral component of an individual country's economy. The mutual fund industry accounts for 29.95 percent of GDP in Malaysia and 39.02 percent in South Africa. Moreover, this industry remains extremely small in the other four sample markets (i.e., 7.33 percent in India, 4.64 percent in Egypt, 1.56 percent in Pakistan, and 1.5 percent in Mauritius). The 2017 report by the Investment Company Institute indicates that the net asset values of mutual funds in Pakistan, India, and South Africa are USD4.591 billion, USD307.387 billion, and USD181.762 billion, respectively. Malaysia's mutual funds account for USD105.188 billion.

In response to the growth of Islamic banking and capital market, the mutual fund industry has evolved accordingly by offering *Shariah* funds, which are becoming a popular alternative for investors in Muslim or non-Muslim countries. For example, a Muslim country like Pakistan, *Shariah* funds account for 42.27 percent of the total mutual funds. In another

Muslim country, such as Malaysia, *Shariah* funds account for 18.22 percent. The distributions of Muslims based on the Factbook of Central Intelligence Agency (CIA) in our sample of emerging markets are as follows: Pakistan, 96.4 percent; Egypt, 90 percent, Malaysia, 61.3 percent, Mauritius, 17.3 percent; India, 14.2 percent, and South Africa, 1.5 percent (CIA, 2019).

3.0 METHODOLOGY

This study analyzes the monthly average returns for six selected emerging markets, namely, Malaysia, Pakistan, South Africa, Mauritius, Egypt, and India. The period of study starts from January 2000 to December 2015. The mutual fund data are retrieved from the Bloomberg database, while market returns and risk-free rates are downloaded from the Thompson Reuters Datastream. The market and risk-free rate of returns are proxied using the respective stock market indices and the treasury bills for the six emerging markets (see Table 1). Of the 833 mutual funds selected, 181 are *Shariah* funds and 652 are conventional funds.

Table 1: Summary of data

No.	Market	Proxy of R_M	R_{FR} Proxy	*Shariah* Funds	Conventional Fund	Total
1	Malaysia	FBM KLCI	3m T-bill	105	226	331
2	Pakistan	Karachi SE 100	6m T-bill	51	97	148
3	South Africa	FTSE/JSE All Share Index	91-day tender	12	54	66
4	Mauritius	Mauritius SE SEMDEX Index	91-day T-bill	2	158	160
5	Egypt	EGX 30 Index	3-month T-bill	6	35	41
6	India	S&P BSE (SENSEX) 30	91-day T-bill	5	82	87
	Total			181	652	833

Four performance appraisal methods are employed to evaluate the fund's performance, namely, Sharpe, Treynor, Jensen's *alpha,* and Henrikkson-Merton. Sharpe and Treynor measure the excess return per unit risk but differ in the type of risk used. Sharpe uses total risk, while

Treynor uses market risk, thereby making the methods appropriate for well-diversified portfolios. Jensen's *alpha* separates the performance of the fund from the effect of changes in market condition. Although Jensen's *alpha* represents performance of fund relative to the market, this method does not separate the performance of two basic management skills of fund managers. Henrikkson and Merton (1981) introduced a model that separates fund performance into managers' stock selection skill (*alpha*) and market timing skill (*gamma*). Table 2 summarizes the four performance evaluation models used in this study.

Table 2: Summary of performance appraisal methods

Measurement	**Formula**
Sharpe's Index	$Sharpe = \frac{R_p - R_{FR}}{\sigma_t}$ (1)
Treynor's Index	$Treynor = \frac{R_p - R_{FR}}{\beta_p}$ (2)
Jensen's *alpha* Index	$\alpha_j = (R_p - R_{FR}) - \beta_p(R_M - R_{FR}) + \epsilon_p$ (3)
Henriksson and Merton Index	$\alpha_j = (R_p - R_{FR}) - \beta_p(R_M - R_{FR}) + \gamma Max[0, -(R_M - R_{FR})] + \epsilon_p$ (4)

Definition:

R_p = return of funds,

R_{FR} = risk-free rate of return,

σ_t = standard deviation (total risks) of the fund's return,

β_t = beta coefficient or systematic risk of the fund,

α_j = Jensen's *alpha* performance coefficient or coefficient of stock selection,

β_p = systematic risk of funds,

R_M = market's returns,

$Max[0, -(R_M-R_{FR})]$ = market timing factor, which takes the maximum term of positive market risk premium, or otherwise 0,

γ = coefficient of market timing, and

ε_p = error term.

4.0 ANALYSIS AND DISCUSSION

Table 3 presents the statistical properties of the sample funds and the market and risk-free rate of returns. The overall results for the 833 funds show that the average returns on conventional funds barely show any difference from *Shariah* funds. At the country level, findings that favor conventional funds are reported in Malaysia, Pakistan, and Mauritius. Meanwhile, *Shariah* funds perform only slightly better than conventional funds in the remaining three markets of South Africa, Egypt, and India. Except for India, the performance differences between the two fund groups are economically and statistically insignificant. The 80-basis point difference reported for Mauritius appears meaningful economically but statistically insignificant. In India, *Shariah* funds provide 5.19 percent monthly average, whereas their conventional counterparts provide 2.30 percent returns. The 289-basis point difference is economically and statistically significant. These preliminary findings suggest that investors of *Shariah* funds are not necessarily worse off despite the argument (Bauer et al., 2005; Hayat & Kraeussl, 2011; Rao et al., 2015) that they are subject to certain limitations imposed by the *Shariah* principles.

Another important result reported in Table 3 is the relative performance of these mutual funds to the respective markets' risky (R_M) and risk-free (R_{FR}) benchmarks. For the overall sample, the average returns of the two fund categories are at least twice or thrice as high as those of the market portfolio and risk-free securities, respectively. The results are the same for each of the sample market with one exception, that is, *Shariah* funds in Mauritius. In general, although conventional funds are reasonably well off, *Shariah* funds are at best performing better than the risk-free securities. In Pakistan and South Africa, both fund categories (Islamic and conventional) give performance relative to the market portfolio that is significantly better. In Malaysia, only conventional funds perform significantly better than the market, while only *Shariah* funds perform significantly better than the market in India.

Table 3: Descriptive statistics of fund, market, and risk-free rate of returns

Portfolio	Mean	Med	Max	Min	Std. dev	Skew	Kurt	$t_{shariah}$	t_{conv}
Full Emerging Markets (181 *Shariah* and 652 conventional funds)									
Rp_{Sha}	0.0223	0.0299	0.3715	−0.3096	0.1039	−0.2904	4.2813		0.0990
Rp_{Con}	0.0233	0.0313	0.2823	−0.3911	0.0971	−0.6415	4.4889	-0.0990	
R_M	0.0115	0.0134	0.1193	−0.1472	0.0401	−0.3856	3.7689	1.3400	1.5550
R_{FR}	0.0061	0.0059	0.0084	0.0041	0.0008	0.2012	2.8669	2.1660**	2.4620**
Malaysia (105 *Shariah* and 226 conventional funds)									
Rp_{Sha}	0.0194	0.0268	0.3957	−0.3879	0.1195	−0.1930	4.4176		0.2250
Rp_{Con}	0.0222	0.0269	0.4164	−0.4641	0.1250	−0.3815	4.2366	−0.2250	
R_M	0.0048	0.0088	0.1355	−0.1522	0.0436	−0.2006	4.3201	1.5910	1.8230*
R_{FR}	0.0024	0.0024	0.0030	0.0015	0.0003	−0.6162	3.3521	1.9680*	2.1930**
Pakistan (51 *Shariah* and 97 conventional funds)									
Rp_{Sha}	0.0378	0.0435	0.4048	−0.3199	0.1098	−0.3025	4.5752		0.1060
Rp_{Con}	0.0392	0.0409	0.6402	−0.5929	0.1321	−0.2781	7.8974	−0.1060	
R_M	0.0197	0.0214	0.2727	−0.3616	0.0796	−0.3298	6.0824	1.7240*	1.7530*
R_{FR}	0.0075	0.0078	0.0121	0.0010	0.0029	−0.6191	2.7217	3.4440***	3.3230***
South Africa (12 *Shariah* and 54 conventional funds)									
Rp_{Sha}	0.0412	0.0393	0.2938	−0.4977	0.1132	−0.6601	5.4400		−0.2540
Rp_{Con}	0.0387	0.0306	0.5048	−0.2298	0.0792	1.8178	11.7686	0.2540	

R_M	0.0106	0.0108	0.1403	−0.1396	0.0494	−0.1257	3.2902	3.4300***	4.1630***
R_{FR}	0.0067	0.0061	0.0111	0.0042	0.0019	0.5371	2.1038	4.2220***	5.5920***
Mauritius (2 *Shariah* and 158 conventional funds)									
Rp_{Sha}	0.0059	0.0220	0.2963	−0.3811	0.1311	−0.5386	3.3466		0.5580
Rp_{Con}	0.0139	0.0355	0.4670	−0.6757	0.1428	−0.6838	5.4232	−0.5580	
R_M	0.0084	0.0061	0.1663	−0.1859	0.0434	0.1064	7.2019	−0.2390	0.5110
R_{FR}	0.0051	0.0045	0.0111	0.0008	0.0027	0.2993	1.9931	0.0820	0.8520
Egypt (6 *Shariah* and 35 conventional funds)									
Rp_{Sha}	0.0268	0.0438	0.7407	−0.8176	0.2129	−0.1614	5.4036		−0.0660
Rp_{Con}	0.0255	0.0332	0.3471	−0.5789	0.1246	−0.5277	5.2962	0.0660	
R_M	0.0139	0.0077	0.4017	−0.2928	0.0974	0.3317	4.4149	0.6540	1.0130
R_{FR}	0.0086	0.0085	0.0130	0.0045	0.0019	0.1906	2.6432	0.9860	1.8730*
India (5 *Shariah* and 82 conventional funds)									
Rp_{Sha}	0.0519	0.0418	1.0007	−0.2739	0.1517	2.6584	18.8369		−1.6860*
Rp_{Con}	0.0230	0.0322	0.2243	−0.4230	0.0770	−1.0967	8.1238	1.6860*	
R_M	0.0116	0.0116	0.3041	−0.1797	0.0743	0.0882	3.9291	2.3530**	1.4660
R_{FR}	0.0059	0.0061	0.0105	0.0026	0.0016	−0.1125	2.4775	2.8330***	3.0770***

Notes: Abbreviations: RP is return of portfolio while others follow the conventional definitions.

Independent t-tests are used to compare mean between returns. The skewness and kurtosis indicate the return series are not normally distributed but are fairly symmetrical. Positive kurtosis indicates the returns have fat tails or leptokurtic distribution.

The provision of superior performance against the market justifies the fees and charges that investors must incur in entrusting their capital in the hands of the fund managers. This finding implies that an active investment strategy (e.g., funds) would produce higher returns than a passive investment strategy through indexing or buy-and-hold strategy. Other than Mauritius, Egypt is another exception to these rules. Not only are the funds in these countries inferior to the market portfolio, they are also not significantly better than the risk-free securities except for Egypt's conventional funds.

The results of skewness of the return series are generally negative, thereby indicating that the funds are inclined to perform poorly over the study period. Figure 1 illustrates that the sample emerging markets were severely affected by the 2007–2008 global financial crisis. Given that Malaysia contributes nearly 40 percent to the sample funds, the market appears in the negative in the aftermath of the 1997–1998 Asian financial crisis. The patterns show that the fund returns are more volatile than the market return. Table 3 shows that the standard deviations of the entire sample funds are approximately twice as high as the market's, with *Shariah* funds recording a slightly higher figure than their conventional counterparts. At the country level, similar patterns are reported in South Africa, Egypt, and India (for *Shariah* funds only).

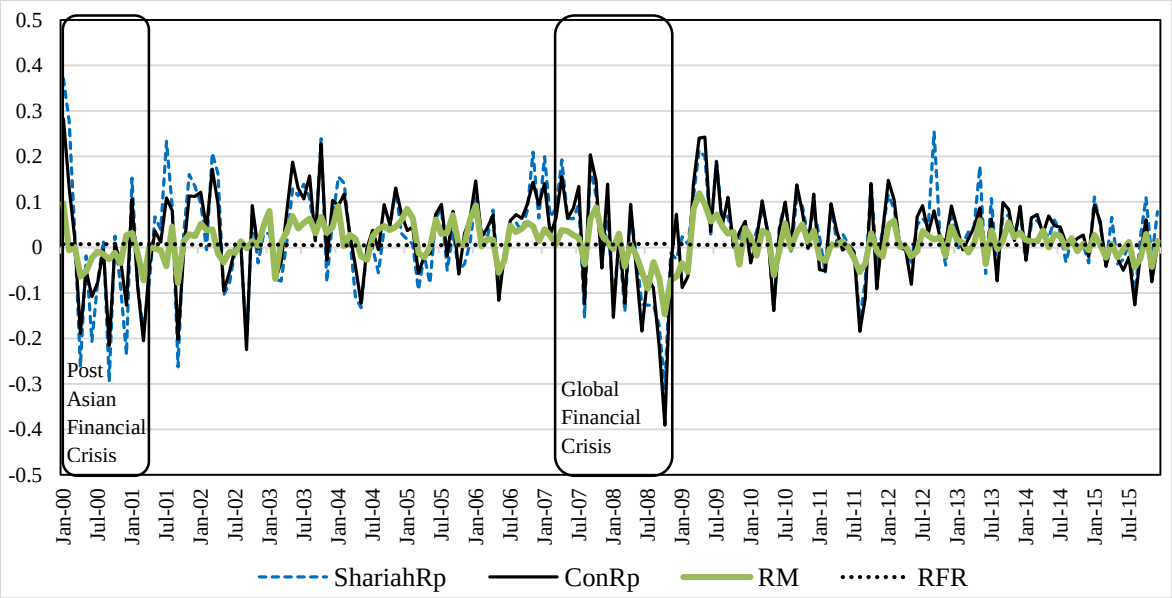

Figure 1: Trend of returns of mutual funds, market portfolio, and risk-free security

The preliminary results of the current study are relatively consistent with Abdullah et al. (2007), Shah and Hijazi (2005), Senapathy and Krishna (2015), and Goyal (2015) because the

average returns of the *Shariah* and conventional funds are positive and higher than the market returns. The result is consistent with Mansor and Bhatti (2011), in which conventional funds perform slightly better than *Shariah* funds although the latter is riskier.

The similarity between *Shariah* and conventional funds is confirmed by the near perfect correlation (0.9141) between their returns. Their reasonably high correlations (corr > 0.6614) with the market returns imply that the fund managers do not necessarily succeed in their attempt (if any) to diversify away from the market to generate the considerably high returns reported earlier. Meanwhile, the fund returns are negatively correlated with risk-free rate of returns. This finding could have an important implication on fund managers given the portfolio theory that diversification effect can be optimized by combining assets that are negatively correlated. The negative correlation between returns on market and risk-free security also suggests that capital tends to flee from equity to debt market.

Table 4: Correlation matrix

	$\mathbf{Rp_{Sha}}$	$\mathbf{Rp_{Con}}$	$\mathbf{R_M}$	$\mathbf{R_{FR}}$
$\mathbf{Rp_{Sha}}$	1.000			
$\mathbf{Rp_{Con}}$	0.9141***	1.000		
$\mathbf{R_M}$	0.6614***	0.7716***	1.000	
$\mathbf{R_{FR}}$	−0.1722***	−0.2602***	−0.3982***	1.000

Notes: Abbreviations R_P is return of portfolio or fund, while others follow the conventional definitions.

To quantify the differences between the funds and benchmarks, this study estimates their risk-adjusted returns first by using conventional performance appraisal methods of Sharpe and Treynor. Contrary to the preliminary results, which are based on the raw returns in Table 3, the risk-adjusted returns of Sharpe show that *Shariah* funds are better than conventional funds in the overall sample, Malaysia, and Pakistan. The results for South Africa (Mauritius) remain in favor of *Shariah* (conventional) funds. In the remaining two markets, conventional funds perform better than *Shariah* funds and their advantage is significant in the case of Egypt.

Table 5: Sharpe and Treynor measures of fund performance

Sample	**Measurement**	**Rp_{Sha}**	**Rp_{Con}**	**Mean Differences**	**t-stat**	**Note**
Overall	Sharpe index	0.3341	0.3041	0.0301	0.6170	No difference
	Treynor index	0.0289	0.1461	−0.1171	−1.1060	No difference
Malaysia	Sharpe index	0.1562	0.1360	0.0202	1.4890	No difference
	Treynor index	0.0070	0.0104	−0.0034	−0.9310	No difference
Pakistan	Sharpe index	0.7609	0.7492	0.0117	0.0780	No difference
	Treynor index	0.0744	0.7567	−0.6823	−1.4490	No difference
South Africa	Sharpe index	0.2929	0.2174	0.07545	1.0370	No difference
	Treynor index	0.0002	0.0181	−0.0179	−0.4070	No difference
Mauritius	Sharpe index	0.0056	0.0527	−0.0471	−0.1530	No difference
	Treynor index	0.0056	0.0247	−0.0190	−0.1380	No difference
Egypt	Sharpe index	0.0393	0.6854	−0.6461	−2.3080**	Shariah < conventional
	Treynor index	0.0260	0.5205	−0.4945	−2.5910**	Shariah < conventional
India	Sharpe index	0.3022	0.6195	−0.3173	−0.5590	No Difference
	Treynor index	0.1070	−0.0440	0.1511	0.2590	No Difference

*Notes: The mean-difference is tested based on the risk-adjusted return of Shariah minus conventional funds. Asterisk ***, **, and * significant difference at 1%, 5%, and 10% level, respectively.*

Meanwhile, the risk-adjusted returns based on Treynor constantly indicate that conventional funds perform better than their *Shariah* counterparts except in India, where the results from Sharpe and Treynor are contradicting. Conflict between the Sharpe and Treynor measures could result when the portfolio is inadequately diversified. The diversification level of the funds can be gauged based on the R-squared value attained from an asset pricing model, such as Jensen's *alpha*. At this point, the results are not reliably conclusive for a recommendation. We proceed by estimating the Jensen's *alpha* of the return series to estimate the performance of the funds after considering market risks.

The results of R-squared from the Jensen's *alpha* models (see Table 6) first indicate that *Shariah* funds are more diversified than conventional funds. Although the diversification level varies between markets, Shariah funds are consistently more diversified than their conventional funds except in Mauritius. The low R-squared value reported for India appears to explain correctly the conflicting results between Sharpe and Treynor previously reported. When diversification is reasonably high, such as among funds in Malaysia, South Africa, and Egypt (57%>R2>33%), Sharpe and Treynor provide similar rankings. The results from Jensen's alpha conform perfectly with the results from Sharpe index. That is, other than the overall sample, Shariah funds in Malaysia, Pakistan, and South Africa outperform their conventional counterparts, whereas the opposite is true in the remaining three markets.

Table 6: Jensen's *alpha* performance of *Shariah* versus conventional funds

Portfolio	CAPM α (t-stat)	CAPM MRP (t-stat)	Diagnostic test R^2	Diagnostic test F-stat	Diagnostic test D-W	t-test result mean diff t(α) (t-stat)
Full Emerging Markets (181 *Shariah* and 652 conventional funds)						
Rp_{Sha}	0.0201 (3.1274)***	1.7265 (10.8123)***	0.4489	192.4711	2.0771	0.1991 (0.3780)
Rp_{Con}	0.0112 (2.9283)***	1.5211 (6.9079)***	0.2732	135.2585	1.9169	
Malaysia (105 *Shariah* and 226 conventional funds)						
Rp_{Sha}	0.0206 (1.8423)*	2.2072 (13.6271)***	0.5427	253.8294	2.0911	0.1397 (0.8000)
Rp_{Con}	0.0133 (1.7025)*	2.4364 (13.1383)***	0.4766	292.6895	2.0341	
Pakistan (51 *Shariah* and 97 conventional funds)						
Rp_{Sha}	0.0171 (6.3067)***	0.9202 (5.8995)***	0.2812	91.0426	2.0179	0.1191 (0.0900)
Rp_{Con}	0.0339 (6.1876)***	0.9713 (4.7299)***	0.2060	68.5141	2.0553	
South Africa (12 *Shariah* and 54 conventional funds)						
Rp_{Sha}	0.0169 (3.0101)***	1.6305 (10.7631)***	0.5180	168.0592	2.2323	0.7735 (1.1070)
Rp_{Con}	0.0176 (2.2367)**	1.1208 (5.8127)***	0.3574	88.9795	1.9626	
Mauritius (2 *Shariah* and 158 conventional funds)						
Rp_{Sha}	0.0021 (−0.2230)	0.7228 (2.1829)**	0.0400	7.2695	1.9436	−1.0802 (−0.3870)
Rp_{Con}	−0.0100 (0.8573)	1.5468 (2.8149)**	0.1143	36.9755	1.6891	
Egypt (6 *Shariah* and 35 conventional funds)						
Rp_{Sha}	0.0309 (0.4147)	1.7391 (13.7687)***	0.5717	248.9614	1.9519	−6.5138 (−2.2880)**
Rp_{Con}	0.0080 (6.9285)***	0.9100 (8.2086)***	0.3311	131.8997	1.9198	
India (5 *Shariah* and 82 conventional funds)						
Rp_{Sha}	0.0440 (2.5644)**	0.4720 (1.8324)*	0.0398	3.3982	2.2174	−2.6255 (−0.6130)
Rp_{Con}	0.0166 (5.1899)***	0.1237 (0.3653)	0.0182	1.6013	1.8375	

*Notes: The mean-difference is tested based on the risk-adjusted return of Shariah minus conventional funds. Asterisk ***, **, and * significant difference at 1%, 5%, and 10% level, respectively.*

The advantage of Jensen's *alpha* over Sharpe and Treynor models is that the measure allows assessing the performance of funds separately from the mere effect of market condition (as represented by market risk premium, MRP). A positive (negative) *alpha* value would indicate the funds have outperformed (underperformed) the market. Overall, the *alpha* values in Table 6 show that the performance of the two groups of funds are significantly higher than zero, indicating that the funds outperform the market. Between the two groups, although the mean raw returns (see Table 3) are higher for conventional funds, the *alpha* value for *Shariah* funds is higher for the overall sample. This finding suggests that *Shariah* funds are more likely to perform better than conventional funds, albeit the insignificant difference. This finding is consistent with previous studies (e.g., Abdullah et al., 2007; Mansor & Bhatti, 2011; Shah et al., 2012; Iftikhar & Amin, 2014; Merdad et al., 2010; Dahlifah & Supriyanto, 2015).

Overall, the comparison at the country level reveals that the significant performance relative to the market is particularly pertinent in the case of the two fund groups in Pakistan and among conventional funds in Egypt and India. Both fund groups in South Africa and *Shariah* funds in India perform reasonably higher than the market, whereas the results in Malaysia are only conventionally significant. The weakest performance is reported among funds in Mauritius and *Shariah* funds in Egypt. The fact that these funds have MRP coefficients that are highly significant indicate that their returns move closely with the market returns. This behavior is particularly true in the case of funds in Malaysia and Egypt. Although tracking the market index works relatively well for conventional funds in Egypt, their *Shariah* funds do not generate similar performance, which is the same for funds in Malaysia.

To gain an improved insight on the performance of the funds, we segregate the performance (Jensen's *alpha*) into two basic abilities that are expected from fund managers, namely stock selection (*alpha*) and market timing (*gamma*). Table 7 shows that the overall Shariah funds perform better than the conventional ones in stock selection, which is consistent with Nafees et al. (2018) and Elmesseary (2014b). Meanwhile, conventional funds are relatively better in timing the market, although both funds are passive or poor in that aspect. The weak market timing results in the current study is consistent with that in Mansor and Bhatti (2011), while the relatively better performance among conventional funds is consistent with that in Merdad et al. (2010). The difference in these abilities is insignificant. Given that the

sample markets are not particularly in good condition during the study period because of the global financial crisis or Asian financial crisis, their performance could have been improved had they not been passively tracking the market (as indicated by the significantly positive beta of market risk premium).

Table 7: Stock selection and marketing timing abilities of Shariah versus conventional funds

Portfolio	**Manager abilities**		**Market**	**Diagnostic tests**			**Mean diff (t-value) of**	
	α	**γ**	**MRP**	**R^2**	**F-stat**	**D-W**	**t(α)**	**t(γ)**
Full Emerging Markets (181 *Shariah* and 652 conventional funds)								
Rp_{Sha}	0.0276	−0.8409	1.2339	0.4638	99.3499	2.0813	0.2536	−0.1885
	(2.3608)[b]	(−0.4924)	(5.4748)[c]					
Rp_{Con}	0.0148	−0.3211	1.3697	0.2884	69.9538	1.9269	(0.9610)	(−1.4890)
	(2.1073)[b]	(−0.3039)	(3.5836)[c]					
Malaysia (105 *Shariah* and 226 conventional funds)								
Rp_{Sha}	0.0367	−1.6038	1.2764	0.5600	131.0040	2.0925	0.3657	−0.3559
	(2.0511)[b]	(−1.0878)	(6.6419)[c]					(−2.1500)
Rp_{Con}	0.0177	−0.2763	2.3018	0.4861	148.9740	2.0327	(1.9660)**	**
	(1.6854)[a]	(−0.7319)	(6.6034)[c]					
Pakistan (51 *Shariah* and 97 conventional funds)								
Rp_{Sha}	0.0125	0.1835	1.0441	0.2935	47.3602	2.0238	0.1828	−0.1091
	(3.5481)[c]	(0.4880)	(3.3583)[c]					
Rp_{Con}	0.0309	0.1299	1.0681	0.2216	36.7001	2.0445	(0.2200)	(−0.4410)
	(3.3653)[c]	(0.5971)	(2.9089)[c]					
South Africa (12 *Shariah* and 54 conventional funds)								
Rp_{Sha}	0.0418	0.2533	1.7202	0.5330	86.1233	2.2256	0.4012	0.0088
	(1.6301)	(0.1795)	(6.0480)[c]					
Rp_{Con}	0.0120	0.3942	1.3020	0.3750	45.6921	1.9842	(0.8310)	(0.0200)
	(1.2240)	(0.1707)	(3.5379)[c]					
Mauritius (2 *Shariah* and 158 conventional funds)								
Rp_{Sha}	0.0045	−0.1551	0.6531	0.0407	3.6823	1.9401	−1.2382	0.4911
	(−0.0401)	(−0.2535)	(1.1328)					
Rp_{Con}	0.0043	−1.3433	0.9144	0.1318	20.2691	1.7029	(−0.5450)	(0.6230)
	(1.1981)	(−0.7446)	(1.1019)					
Egypt (6 *Shariah* and 35 conventional funds)								
Rp_{Sha}	0.2515	0.2179	1.8063	0.5794	126.8047	1.9736	−4.3297	0.3291
	(0.8942)	(−0.8330)	(6.4267)[c]				(−2.4980)**	(0.5550)
Rp_{Con}	0.0208	−0.3493	0.7374	0.3516	73.7478	1.9525		
	(5.2239)[c]	(−1.1620)	(3.7626)[c]					
India (5 *Shariah* and 82 conventional funds)								

Rp_{Sha}	0.0313 (1.2290)	0.5603 (0.7108)	0.6547 (1.7706)[a]	0.0463	1.9744	2.2710	−1.5559 (−2.3440)*	−0.0019 (−0.110)
Rp_{Con}	0.0068 (2.7849)[c]	0.5329 (0.7127)	0.3490 (0.7948)	0.0405	1.5953	1.8791	*	

Notes: Abbreviations Rp is return of portfolio, α represents the stock selection skill while γ represents market timing ability as estimated using Henrikkson-Merton model. MRP represents market risk premium. D-W stands for Durbin-Watson. Independent t-tests are used to compare the stock selection skill and market timing ability between two groups of funds. Superscripts [a], [b], and [c] indicate significance at 10%, 5%, and 1%, respectively.

The finding for the overall sample appears generally driven by the sample funds in Malaysia, which exhibit similar fund management style. However, the evidence in Malaysia is considerably clear because *Shariah* funds perform substantially better than their conventional counterparts in stock selectivity, whereas the reverse is true for market timing. In stock selection, *Shariah* funds in Pakistan and South Africa perform better than their conventional counterparts, although the difference is insignificant in these markets. The two groups of funds in these markets are indifferent in market timing performance but the positive *gamma* suggests the performances are more effective than funds in Malaysia in attempting market timing.

Other than in Malaysia, the two groups of funds in the studied markets are indifferent in their market timing ability. Albeit consistently being insignificant, market timing appears most effective in India. In contrast to Malaysian funds, the MRP *beta* for Indian funds is small and only conventionally significant in *Shariah* funds. These findings suggest that fund managers in India are considerably active in managing their funds by reallocating their portfolio according to the condition of the market. Note that conventional funds in India perform better than *Shariah* funds in both abilities. However, the method for conventional funds to outperform consistently the market is through the selection of the right stocks rather than timing the market. By contrast, *Shariah* funds appear to be passive and ineffective in timing the market and relatively rely on market movement while lacking in stock selectivity. The small R-squared values reported for these funds suggest that *Shariah* and conventional funds in India are not leveraging on diversification effect.

Similar to the case in India, conventional funds in Egypt perform better than *Shariah* funds. However, unlike conventional funds in India, these funds perform exceptionally well by selecting the stocks and following the market thereafter. *Shariah* funds are also tracking the market but probably too extensively, such that their good performance cannot be attributed to

either stock selectivity or market timing. The large market *beta* for the *Shariah* funds suggests that they perform poorly relative to conventional funds as their component securities are highly sensitive to the market condition, conjecturing the role of *Shariah* fund managers in achieving portfolio diversification. Conventional funds outperform the market and the *Shariah* funds by focusing on more conservative securities.

Mutual funds in South Africa are among the best performers within the scope of our sample markets. The results in Table 7 indicate that the good performance is not related significantly to the skills of the fund managers. That is, although both skills contribute positively to the performance, neither the *Shariah* nor the conventional funds show significant *alphas* or *gammas*. By contrast, market *betas* are highly significant for the two fund categories and particularly for *Shariah* funds. These findings suggest that funds in South Africa perform quite reasonably by tracking the market, whereas stock selection and market timing are kept at minimum but are done effectively. This finding suggests that to outperform the market, the funds need to be more active and effective in applying their stock selection and market timing skills.

The results are not at all encouraging in Mauritius. Funds in this market are neither good in stock selection nor market timing. Similar to the case in India, these funds lack diversification and thus, cannot take advantage of the ups in the market. The lack of all types of managerial abilities explains the funds' poor performance (see Table 3). The close resemblance between fund returns and risk-free rate of returns suggests that *Shariah* funds are probably concentrated on money market instruments. The numerous conventional funds present generally outperform the market (Table 3). However, this performance is not significant and the result in Table 7 suggests that such outcome could be due to the sluggishness of the managers in market timing.

Overall, the results from the six emerging markets suggest that investors of *Shariah* funds are not necessarily worse off relative to investors in conventional funds. The mean returns indicate that investors of funds are experiencing superior performance than the markets, specifically in South Africa, Pakistan, India, and Malaysia, thereby indicating that they are better off than those who are investing passively in the equity market. Investors in *Shariah* funds in India have a clear advantage as opposed to investors in conventional funds. Jensen's *alpha* consistently provides evidence to support earlier evidence that investing in funds provide better returns than passive equity investment. In Egypt, an exceptional performance is observed among conventional funds. The results generally suggest that both categories of funds perform poorly or lack the capability in timing the market. The weak market timing ability among

Shariah funds might be explained from the argument that *Shariah* principles prohibit speculation activities that are commonly associated in short-term flipping or trading activities. Nonetheless, the evidence indicates similar issues among conventional funds, and the weak performance is not likely caused by the prohibition.

5.0 CONCLUSION

This study compares the mean returns and risk-adjusted returns between the *Shariah* and conventional funds for six emerging markets (i.e., Malaysia, Pakistan, South Africa, Mauritius, Egypt, and India) using Sharpe, Treynor, and Jensen's *alpha* models from January 2001 to December 2015. We further analyze managerial capabilities using the Henriksson–Merton model. The 181 *Shariah* funds and 652 conventional funds indicate that the results of the mean returns show that conventional funds are higher than *Shariah* funds, but the results are relatively contradicting to the risk-adjusted returns. The findings of Jensen's *alpha* reveal that *Shariah* funds relatively outperform the conventional funds for the overall emerging markets and three out of six individual markets (i.e., Malaysia, Pakistan, and South Africa). Meanwhile, Egyptian and Indian conventional funds outperform *Shariah* funds. In addition, the results of Henriksson–Merton indicate that fund managers' performance depends closely on their stock selection ability, while they are considerably ineffective in market timing. Several implications can be derived from the following findings. (1) Mean returns are often misleading. Hence, investors should resort to the risk-adjusted returns, such as Jensen's *alpha*. (2) Regulators, such as the Securities Commission, may promote the substantial issuance of *Shariah* funds because it performs quite well in most of the individual countries in the emerging markets. (3) Fund managers in Malaysia, Pakistan, and South Africa suggest their retail and institutional investors to invest in *Shariah* funds because they offer relatively higher risk-adjusted returns compared with conventional funds despite only a few funds offered in the market. (4) Fund managers in emerging markets should be considerably effective in applying their market timing skills to improve their performance. Lastly, this study presents suggestions for future research, such as to expand the data coverage to worldwide data sample and analyze whether the risk-adjusted returns of *Shariah* and conventional funds behavior of developed markets are similar to that of the emerging markets. Moreover, investment style strategy using such multi-factor models as the Fama–French three-factor, Carhart four-factor, and Q-Factor can be further analyzed to assess whether investment style concerns, such as size, firm's value, and momentum, may differ between the *Shariah* and conventional funds.

ACKNOWLEDGMENT

This is funded by Universiti Kebangsaan Malaysia (UKM) under grant i.e. EP-2015-048.

REFERENCES

Abdullah, F., Hassan, T., & Mohamad, S. (2007). Investigation of performance of Malaysian Islamic unit trust funds comparison with conventional unit trust funds. *Managerial Finance, 33*(2), 142-153.

Ahmad, M., & Haron, R. (2006). The comparison of performance of Islamic and conventional unit trust funds in Malaysia. Retrieved from http://irep.iium.edu.my/10836/1/The_performance_of_islamic_and_conventional_unit_trust_funds_in_Malaysia_Young_Conference_UiTM_IDB.pdf

Albaity, M., & Ahmad, R. (2008). Performance of Syariah and composite indices: Evidence from Bursa Malaysia. *Asian Academy of Management Journal of Accounting and Finance, 4*(1), 23-43.

Ali, R., & Qudous, R. A. (2012). Performance evaluation of mutual funds in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 3*(9), 1076-1083.

Al-Khazali, O. M., Lean, H. H., & Samet, A. (2014). Do Islamic stock indexes outperform conventional stock indexes? A stochastic dominance approach. *Pacific-Basin Finance Journal, 28*(1), 29-46.

Al-Khazali, O. M., Leduc, G., & Alsayed, M. S. (2015). A market efficiency comparison of Islamic and non-Islamic stock indices. *Emerging Markets Finance and Trade, 52*(7), 1587-1605.

Ashraf, D. (2013). Performance evaluation of Islamic mutual funds relative to conventional funds: Empirical evidence from Saudi Arabia. *International Journal of Islamic and Middle Eastern Finance and Management, 6*(2), 105-121.

Ayaluru, M. P. (2016). Performance analysis of mutual funds: Selected reliance mutual fund schemes. *Parikalpana-KIIT Journal of Management, 12*(1), 52-62.

Bashir, M. S., & Nawang, W. R. W. (2011). Islamic and conventional unit trusts in Malaysia: A performance comparison. *Journal of Islamic Economics, Banking and Finance, 7*(4), 9-24.

Bauer, R., Koedijk, K., & Otten, R. (2005). International evidence on ethical mutual fund performance and investment style. *Journal of Banking & Finance, 29*(7), 1751-1767.

Bekaert, G., Harvey, C. R., Lundblad, C. T., & Siegel, S. (2011). What segments equity markets? *The Review of Financial Studies, 24*(12), 3841-3890.

Bertolis, D. E., & Hayes, M. (2014). An investigation into South African general equity unit trust performance during different economic periods. *South African Actuarial Journal, 14*(1), 73-100.

Bhagyasree, N., & Kishori, B. (2016). A study on performance evaluation of mutual funds schemes in India. *International Journal for Innovative Research in Science & Technology, 2*(11), 812-816.

Bialkowski, J., & Otten, R. (2011). Emerging market mutual fund performance: Evidence for Poland. *The North American Journal of Economics and Finance, 22*(2), 118-130.

Boo, Y. L., Ee, M. S., Li, B., & Rashid, M. (2016). Islamic or conventional mutual funds: Who has the upper hand? Evidence from Malaysia. *Pacific-Basin Finance Journal, 42*(1), 183-192.

Dahlifah, & Supriyanto, T. (2015). Analysis of conventional mutual fund and Sharia mutual fund performance for investor's investment decision. *Research Journal of Finance and Accounting, 6*(3), 108-113.

Elmesseary, M. (2014a). Stock picking and market timing of the Gulf fund managers: Evidence from the financial crisis. *European Journal of Sustainable Development, 3*(4), 389-402.

Elmesseary, M. (2014b). Stock picking and market timing of the Egyptian fund managers: Evidence from the financial crisis. *European Journal of Sustainable Development, 3*(4), 309-322.

Goyal, M. M. (2015). Performance evaluation of top 10 mutual funds in India. *Indian Journal of Commerce & Management Studies, 4*(1), 51-55.

Hayat, R., & Kraeussl, R. (2011). Risk and return characteristics of Islamic equity funds. *Emerging Markets Review, 12*(2), 189-203.

Henriksson, R. D., & Merton, R. C. (1981). On market timing and investment performance II. Statistical procedures for evaluating forecasting skills. *Journal of Business, 54*(4), 513-533.

Hoepner, A. G. F., Rammal, H. G., & Rezec, M. (2011). Islamic mutual fund's financial performance and international investment style: Evidence from 20 countries. *The European Journal of Finance, 17*(9-10), 829-850.

Hussain, R. Y., Hussain, H., & Hassan, A. (2016). Risk adjusted performance evaluation of mutual funds and selection abilities of fund managers in Pakistan. *Pakistan Business Review, 18*(1), 76-98.

Iftikhar, N., & Amin, I. U. (2014). Islamic mutual funds' financial performance in adverse economic conditions: A case of Pakistan. *Peshawar Islamicus, 5*(1), 19-34.

Jabeen, H., & Dars, J. (2014). *Comparison between Islamic and conventional mutual funds in Pakistan.* (Jurnal internasional diterbitkan). ISRA University Hyderabad, Pakistan.

Mahmud, M., & Mirza, N. (2011). An evaluation of mutual fund performance in an Emerging Economy: The case of Pakistan. *The Lahore Journal of Economics, 16*(1), 301-316.

Mansor, F., & Bhatti, M. I. (2011). Risk and return analysis on performance on the Islamic mutual funds: Evidence from Malaysia. *Global Economy and Finance Journal, 4*(1), 19-31.

Merdad, H., Hassan, M. K., & Alhenawi, Y. (2010). Islamic versus conventional mutual funds performance in Saudi Arabia: A case study. *Journal of King Abdulaziz University: Islamic Economics, 23*(2), 163-200.

Nafees, B., Qamar, M. A. J., & Ahmad, N. (2018). Lucrativeness of Islamic vs conventional mutual funds in Pakistan. *Pakistan Business Review, 19*(4), 861-876.

Nafees, B., Shah, S. M. A., & Khan, S. (2011). Performance evaluation of open end and close end mutual funds in Pakistan. *African Journal of Business Management, 5*(28), 11425-11434.

Naz. S., Mustafa, A. U., Mukhtar, A., Nawaz, S., & Bashir, T. (2015). Risk adjusted performance evaluation of balanced mutual fund schemes in Pakistan. *European Journal of Business and Management, 7*(1), 179-187.

Nitish, B., Sawkut, R., Boopen, S., Vinesh, S., & Suraj, F. (2009). Analysing mutual funds performance: The case of emerging Mauritian economy. *The Icfai University Journal of Financial Economics, VII*(2), 47-60.

Pranata, N., & Nurzanah, N. (2016). Conventional and Islamic indices in Indonesia: A Comparison on performance, volatility, and the determinants. *Indonesia Capital Market Review, 7*(2), 113-127.

Rahman, A. B. M. M., Qiang, F., & Barua, S. (2012). Mutual fund performance: An analysis of monthly returns of an Emerging Market. *Research Journal of Finance and Accounting, 3*(4), 34-46.

Rao, Z., Tauni, M. Z., & Iqbal, A. (2015). Comparison between Islamic and general equity funds of Pakistan: Difference in their performances and fund flow volatility. *Emerging Economy Studies, 1*(2), 211-226.

Rejeb, A. B., & Arfaoui, M. (2016). Conventional and Islamic stock markets: What about financial performance? Munich Personal RePEc Archive Paper No. 73495. Retrieved from https://mpra.ub.uni-muenchen.de/73495/

Senapathy, M. R., & Krishna, K. M. (2015). Performance of mutual funds - An empirical study. *International Journal of Advanced Technology in Engineering and Science, 3*(2), 130-146.

Shah, I. U., Iqbal, J., & Malik, M. F. (2012). Comparative valuation between Islamic and conventional mutual fund. *International Research Journal of Finance and Economics, 96*(1), 28-34.

Shah, S. M. A., & Hijazi, S. T. (2005). Performance evaluation of mutual funds in Pakistan. *The Pakistan Development Review*, *44*(4), 863-876.

Umar, Z. (2017). Islamic vs conventional equities in a strategic asset allocation framework. *Pacific-Basin Finance Journal*, *42*(1), 1-10.