A COMPARATIVE ANALYSIS OF FIXED INCOME UNIT TRUST FUNDS VERSUS EQUITY UNIT TRUST FUNDS IN MALAYSIA

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ABSTRACT

This study examines the performance of fixed income and equity unit trust funds from 2006 to 2012. A total of 31 fixed income and 57 equity funds are evaluated by using the Treynor ratio, Sharpe ratio and Jensen alpha. Results indicate that fixed income funds outperform the market and the Maybank 12-month fixed deposit rate. Their total risk is higher than the fixed deposit rate but lower than the market whereas the systematic risk is lower than both benchmarks. All equity funds outperform the market although their total risk and systematic risk are lower than the latter. Growth funds have a higher total risk than the market and they have outperformed the market. However, only a few value funds could outperform the market. Jensen alpha shows only a few fixed income and equity funds have a significant positive alpha implying that some of the fund managers are either good in market timing or in selecting unit trust funds. There is a significant difference in the performance of equity and fixed income funds and between growth and value funds versus fixed income funds. Results of this study could help investors and fund managers to make informed decisions to improve portfolio performance.

Keywords: equity unit trust funds, fixed income funds, Treynor ratio, Sharpe ratio, Jensen alpha

INTRODUCTION

Unit trust funds industry in Malaysia has seen a tremendous growth in the last 58 years ever since they were first introduced in 1959. In the early years, the growth was rather slow due to lack of a formal structure to support the trading of this product. Upon the establishment of Securities Commission (SC) on 1 March 1993 and the implementation of Securities Commission (Unit Trust Scheme) Regulation in 1996, the industry started to pick up. From only 18 funds in 1979, the number increased to 637 unit trust funds in March 2017, which is a growth of 3438% for the last 38 years or an average annual growth rate of 90%. In terms of net asset value (NAV), there was RM11.7 billion in 1990 which has increased to RM392 billion in 2017, showing a growth rate of 3250% for the last 27 years or an average annual growth rate of 120%. As at 31 March 2017, the percentage of NAV of the unit trust funds industry to the Bursa Malaysia market capitalisation is 21.79% (Securities Commission Malaysia, 2017). Among the different category of funds, fixed income and equity unit trust funds contributed approximately 30% of the total funds in 2017 (FIMM, 2019). As such, this study would focus on these two funds.

Despite their rapid growth, previous researchers such as Abdullah, Mohamad and Hassan (2002), Angelidis, Giamouridis and Tessaromatis (2013), Bialkowski and Otten (2011), Carhart (1997), Fama and French (2010), Fletcher and Marshall (2005), Jones, van der Laan, Frost and Loftus (2008), Leong and Aw (1997), Low and Ghazali (2005), Mohamed and Md. Nassir (1995), N. A. Abdullah and N. A. H. Abdullah (2009), A. R. Abdullah and N. A. H. Abdullah, (2015) and Tan (1995) reported an underperformance of unit trust funds as compared to the market. When the unit trust funds are categorised into different types such as equity and fixed income funds, evidences in the U.S. and Australia also showed that these funds underperformed the market (Kahn & Ruud, 1995; Coggin & Trzcinka; 2000; Fama & French, 2010; Gallagher & Jarnecic, 2002; Malkiel, 1995). Inconsistencies between the growth and performance of the unit trust funds industry particularly in Malaysia raises an issue of whether it is worth to invest in this industry. Malaysian investors have been withdrawing money from their account in Employees Provident Fund (EPF) to invest in this industry. As at 31 December 2013, there were 976,917 EPF contributors who withdrew their saving to invest in unit trust funds under the EPF Members Investment Scheme involving more than RM7.8 billion (EPF, 2013). If such funds are not providing returns that could compensate the risk faced by the contributors as shown in previous studies, it would jeopardise the investors' interest particularly when the EPF money were supposed to be their saving after retirement. Thus, to prevent hazardous situation, there is a need to continuously examine the performance of unit trust funds so

as the investing public, fund management companies, government agencies and regulator could make better investment and policy decision.

Thus far, there is lack of attention given to studies on unit trust performance in Malaysia as compared to its Western counterpart (N. A. Abdullah & N. A. H. Abdullah, 2009; Abdullah, Hassan, & Mohamad, 2007; Abdullah et al., 2002; Annuar, Shamsher, & Ngu, 1997; Leong & Aw, 1997; Low, 2007; Mansor & Bhatti, 2011; Shamsher & Annuar, 1995; Tan, 1995). As such, this study will focus on two objectives which are (i) to examine the performance of the fixed income unit trust funds and equity unit trust funds by using the Treynor, Sharpe and Jensen Index performance measures, and (ii) to examine the difference in the performance of the two categories of funds. To the best of the researcher's knowledge other than Md. Taib and Isa (2007), there is lack of documented evidence from previous Malaysian studies that focus on comparative analysis between both types of unit trust funds in terms of risk and return analysis. It is hypothesised that different types of unit trust fund lead to different outcomes in terms of risk and return.

LITERATURE REVIEW

Modern portfolio theory was proposed by Harry Markowitz (1952) looking into the variance computation of a portfolio to reduce the total risk as well as to illustrate how to mix asset effectively to form the most efficient portfolio. Generally, investors yearn for portfolios that provide the best risks and returns. The selected portfolio varies among investors depending on their utility curve in maximising their satisfaction. They could be anywhere in the efficient frontier as all portfolios that fall on the frontier are the most optimal portfolio. It is where investors receive the highest expected return for a given level of risk or the lowest risk for a given level of return (Reilly & Brown, 2012).

Early studies of mutual funds performance in the U.S. starting from the work by Friend, Brown, Herman and Vikers (1962), Sharpe (1966), and Jensen (1968) found that mutual funds underperformed the market return. In the 1970s, mixed results were reported on the performance of mutual funds in the U.S. where some researchers showed over-performance of mutual funds as compared to the market benchmark (Carlson, 1970; Kon & Jen, 1979; Mains, 1977). The focus during those years was on the use of different benchmarks in measuring performance. In contrast to the finding in the U.S., Firth (1977) found that the unit trust funds in the U.K. underperformed the market due to inferior skill ability of fund managers and a competitive nature of the British stock market. A similar evidence as in the U.K. was seen in the Australian unit trust and mutual funds

where they underperformed three different benchmarks whether they were treated as an overall sample or into subsamples.

In the 1980s, studies in the U.S. centred on market timing ability of fund managers by utilising a non-linear CAPM (Alexander & Stover, 1980; Chang & Lewellen, 1984; Henriksson, 1984; Kon, 1983; Veit & Cheney, 1982) where some of these studies did not show evidence of market timing. By late 1980s, research on mutual funds' performance were concentrated on efficient market theory and benchmark analysis. Lehman and Modest (1987) found that in two of the periods, mutual funds produced lower negative alphas and only one period provides a positive alpha by using a 10-factor APT model. This is in contrast to the finding of Grinblatt and Titman (1989) where mutual funds were showing positive alphas implying they were performing as good as the market when a benchmark that had zero alpha was utilised in their analysis. Their result was further supported by Ippolito (1993).

Literature on the U.S. mutual funds in the 1990s and 2000s delved into performance differences between the social and ethical versus conventional mutual funds. Evidence in the U.S. and the U.K. showed that there was no significant difference in the performance between those funds (Diltz, 1995; Gregory, Matatko, & Luther, 1997; Guerard Jr, 1997; Sauer, 1997). Nonetheless, in Australia, Jones et al. (2008) found that ethical funds underperformed the market benchmarks. In contrast, Lean, Ang and Smyth (2014) showed that socially responsible investment (SRI) funds outperformed their benchmarks for 500 European and 248 U.S. SRI funds. Another perspective on mutual funds studies was examining the performance of funds investing locally and internationally. Most studies in the U.S. found that funds invested internationally outperformed locally invested funds (Redman, Gullet, & Manakyan, 2000; Boudreaux, Uma Rao, Ward, & Ward, 2007) whereas in the U.K., evidence showed that funds invested outside of the U.K. did not produce superior performance as compared to the locally invested funds (Abel & Fletcher, 2004; Fletcher, 1999; Fletcher & Marshall, 2005).

Studies on mutual and unit trust funds in the developed market also looked at the performance of different types of funds. Kahn and Rudd (1995) found that fixed income[1] unit trust funds in the U.S. (all active taxable domestic bond funds, money market funds, international bond funds, index funds, preferred stock funds but excluding junk bond funds) underperformed the market portfolio over the period of 1988 to 1993. This finding was consistent with Gallagher and Jarnecic (2002) study on 66 institutional and 77 retail Australian open-ended active bond unit trust funds over the period of 1990 to 1999. Based on unconditional model and conditional composite performance, the results demonstrated that the retail

bond funds underperformed the market portfolio after adjusting for fees. As for equity[2] unit trust funds, Malkiel (1995) examined the U.S. equity unit trust funds over the period of 1971 to 1991. Result shows that the funds underperformed the market portfolio. This was further supported by Coggin and Trzcinka (2000) who investigated the performance of equity pension fund managers in the U.S. market. They find that it was difficult to discover pension fund managers who could outperform the S&P 500 index. The finding was also supported by Fama and French (2010), who further confirmed the underperformance of the U.S. equity unit trust funds in comparison to the market return.

In contrast to studies in the developed markets, the number of studies on mutual or unit trusts performance in the emerging markets was rather limited. Swinkels and Rzezniczak (2009) found that the Polish equity funds performed as good as their benchmark while bond mutual funds performed better than the 3-month deposit rate. However, Panwar and Madhumati (2006) presented that public sector sponsored mutual funds, private sector mutual funds and private sector foreign sponsor mutual funds underperformed the market benchmarks in the Indian market. Similar evidence as in India was found in Pakistan where the equity, income, Islamic and multi-asset/balanced funds were found to underperform their respective benchmarks.

Evidence on unit trust funds performance in Malaysia showed a mixed result. The first group of studies finds that unit trust funds underperform the market return. Abdullah et al. (2002), Leong and Aw (1997), Shamsher and Annuar (1995), and Tan (1995) found that unit trust funds produced lower return than the market benchmark. The results revealed an insignificant difference in funds' returns between actively and passively managed funds. Although Abdullah et al. (2002) utilised various composite measures such as Sharpe index, Modigliani measure and information ratio, their findings showed that unit trust performance underperformed the Kuala Lumpur Composite Index (KLCI). A limitation of this study was that all the funds were grouped together without segregating them into different types of funds.

A later study conducted by Md Taib and Isa (2007) on 110 unit trust funds covering equity, balanced and fixed income funds in 1991 until 2001 also indicated that they underperformed the market portfolio. They also found that equity funds provided a negative return over all subperiods despite having the most diversified portfolio as compared to fixed income unit trust funds. They concluded that fixed income unit trust funds illustrated a greater performance than equity unit trust funds. This was due to the higher interest rate reserved during the crisis period. Furthermore, by having fixed income unit trust funds, it helped to

hedge an investment portfolio during a bearish market. Another explanation that may lead to greater performance by fixed income unit trust funds was the capital preservation and consistent return received by the funds throughout all subperiods. This is consistent with Low's (2007) finding. By using the Jensen's model to estimate the overall fund performance and the Henriksson and Merton's model to complement it, she found that, on average, the income, growth and balanced unit trust funds displayed negative overall performance. However, income funds outperformed the market returns.

The second group of studies shows that unit trust performance outperformed the market. The earliest study by Chua (1985) illustrated that unit trust funds outperformed the market return over the period 1974 to 1984. This is further supported by Rozali and Abdullah (2006) where they found that the performance of Malaysian equity funds outperformed the market return over the period 1995 to 2004. Nevertheless, there was no significant difference in the performance of different types of funds. The finding is consistent with Abdullah and Abdullah (2009) on their study of 26 domestically invested and 23 internationally invested unit trust funds over the period of 2004 to 2008 and 2005 to 2008, respectively, by using Sharpe, Treynor and Jensen performance measures. They reveal that there was no difference between the performance of domestically invested and internationally invested unit trust funds when Sharpe index was utilised.

Empirical evidence in Malaysia shows mixed results. This might have been caused by small sample size except for Md Taib and Isa (2007). As a result, the findings are less accurate and could only represent the period of analysis. The use of different performance measures and time horizon also contribute to the mixed result where there is a shift of performance of unit trust funds overtime. In addition, the result might also be affected by using an aggregated sample instead of segregating the unit trust funds into specific categories. Thus, this study tried to fill the gap by examining the performance of equity versus fixed income unit trust funds.

METHODOLOGY

This study utilised data from the prospectus and website of 37 asset management companies in Malaysia from January 2006 until October 2012. The starting period of 2006 was selected because in this particular year, there was a double-digit growth of newly issued fixed income unit trust funds. Weekly data on net asset value, inception dates and details of fixed income and equity unit trust funds were gathered from the Bloomberg terminal at the library of Bursa Malaysia; whereas

the weekly KLCI and 90-day Malaysian Treasury Bills representing the market return and risk free rate were gathered from the Thomson Datastream.

From a total of 54 fixed income unit trust funds and 127 equity unit trust funds issued over the period of study, only 31 fixed income unit trust funds and 57 equity unit trust funds were included because they have complete data from January 2006 to October 2012. The equity unit trust funds were then segregated into namely 37 growth equity unit trust funds and 20 value equity unit trust funds. Criteria used in selecting the sample are: (1) they are not closed-ended unit trust funds; (2) not newly launched funds; and (3) no missing data. This study only focuses on open-ended unit trust funds because most retail investors prefer such funds (Li & Lin, 2011). Thus, the results would have direct effect on individual investors. As for newly launched funds, they were excluded because it is not effective to compare funds that have been established in the industry for a period more than 10 years with those that were recently issued.

There are three performance measures used to calculate returns which are the Treynor ratio (Treynor, 1965), Sharpe ratio (Sharpe, 1966) and Jensen alpha (Jensen, 1968). The Treynor ratio uses a systematic risk component of the portfolio's return as measured by portfolio's beta coefficient (β_i) in relation to the market portfolio's return. It evaluates the ability of a portfolio to get an excess return that has been adjusted for systematic risk. The Treynor ratio is calculated as follows:

$$T_i = \frac{R_i - R_f}{\beta_i} \tag{1}$$

where

$$\beta_{(fund\ i)} = \mathrm{Cov}_{(fund\ i, KLCI)} / \sigma^2_{KLCI} \tag{2}$$

R_i is the average return on fund *i* and R_f is the average return on the Malaysian 3-month Treasury Bills[3], a proxy for the risk-free rate of return. β_i is the beta of the unit trust fund over the evaluation period. It indicates the fund's relative volatility.

$$S_i = \frac{R_i - R_f}{\sigma_i} \tag{3}$$

Sharpe (1966) proposed a composite measure to evaluate performance of unit trust funds. Rather than just looking at systematic risk (β_i), total risk of the portfolio represented by standard deviation of returns is utilised (Reilly & Brown, 2012). The Sharpe ratio measures reward-to-risk of a portfolio or excess return per unit of risk. A higher Sharpe ratio indicates better risk-adjusted performance of

the unit trust funds. It is considered to be useful for investors as it could evaluate fund performance by looking at the amount of risk involved. A particular fund may provide returns, but it would only be regarded as superior investment if there is less risk involved to generate such returns. If a Sharpe ratio is negative, it indicates that a risk-less asset would be a better option than the unit trust fund. The formula to measure the Sharpe ratio is as follows:

$$S_i = \frac{R_i - R_f}{\sigma_i} \qquad (3)$$

R_i and R_f were similar to the Treynor measure whereas σ_i is the total risk of fund i. It is calculated as follows:

$$\sigma_i = \sqrt{\frac{\sum (R_i - \overline{R})^2}{(n-1)}} \qquad (4)$$

where

σ_i = standard deviation of fund i

R_i = return of fund i

$\overline{R}$ = mean return of fund i

n = number of weekly returns

The average weekly returns of fund i (R_i) for the Treynor and Sharpe ratios are calculated based on the following formula:

$$R_{it} = \frac{NAV_{it} - NAV_{it-1}}{NAV_{it-1}} \qquad (5)$$

where

R_{it} = return of fund i in period t

NAV_{it} = Net Asset Value of fund i in period t

NAV_{it-1} = Net Asset Value of fund i in period $t - 1$

Jensen's (1968) performance measure is based on the capital asset pricing model (CAPM). Both Treynor and Sharpe performance measure only provide relative performance rankings (Reilly & Brown, 2012). A major advantage of Jensen method is that it corrects for market risk and primarily evaluates security

selection skill, market timing skill or the combination of the skills of the fund manager. The equation below is used to measure the Jensen index:

$$R_{it} - \text{RFR} = \alpha_i + \beta_i (R_m - \text{RFR}) + \check{e}_{it} \tag{6}$$

where

$R_{it} - \text{RFR}$ = excess return of portfolio i in period t

$(R_M - \text{RFR})$ = excess return of market portfolio proxied by KLCI index

α_i = Jensen's alpha to measure portfolio performance

β_i = the systematic risk (beta) for portfolio i

$\check{e}_{it}$ = the random error term

The α_i value indicates whether the portfolio manager is superior or inferior in market timing and/or stock selection to beat the market. A *t*-statistic is used to test the alpha for statistical significance. A significant positive α_i indicates that a fund has superior performance as the fund manager has the ability to beat the market with his stock picking skills. Meanwhile, a significant negative α_i provides inferior performance of funds because its return is below the expectation of the CAPM. The higher the alpha value of a fund indicates the better the performance. For a retail investor, the α_i value is significant because it measures the excess returns a fund generates in relation to the returns generated by its benchmark.

Once performance of all the unit trust funds have been established, an analysis is executed to compare the performance between the fixed income unit trust funds and equity unit trust funds. A Wilcoxon signed-ranked test is executed to test the H_1: Risk adjusted performance of fixed income unit trust funds is not different from the performance of equity unit trust funds; H_2: Risk adjusted performance of fixed income unit trust funds is not different from the performance of growth equity unit trust funds; H_3: Risk adjusted performance of fixed income unit trust funds is not different from the performance of value equity unit trust funds.

ANALYSIS OF RESULTS

Table 1 shows the ranking of the risk adjusted returns of the top 20 fixed income unit trust funds.[4] Maybank 12-month fixed deposit was used as the market

benchmark. The funds' total risk ranges from 0.0653% to 0.9449% as compared to the standard deviation of the KLCI which is 2.0311% and the Maybank 12-month fixed deposit which is 0.0091%. The KLCI standard deviation supersedes the standard deviation of all funds. Among the fixed income unit trust funds, Hong Leong Bond (Hong Leong Institutional Bond) shows the highest (lowest) total risk of 0.5503% (0.0653); whereas AmDynamic Bond (Libra Money Extra) provides the highest (lowest) average weekly return of 0.1754% (0.0604%). The average annual return for fixed income unit trust funds ranges from 3.1408% to 9.1208%. In comparison, the average weekly return of the KLCI is 0.1958% (10.1816% annually) and Maybank 12-month fixed deposit is 0.0626% (3.2552% annually). Systematic risk or beta for all funds is lower than the beta of the Maybank 12-month fixed deposit rate and the KLCI index. The average beta of all funds is 0.0471 way below the benchmarks. This indicates fluctuations in the market returns have a low impact on the returns of fixed income unit trust funds. On average, the Malaysia 90-day Treasury Bills has the lowest return as compared to the fixed income unit trust funds, KLCI and Maybank 12-month fixed deposit rate as its standard deviation and beta of 0.0001 and –0.0006 respectively, were also the lowest.

Table 1

Weekly performance of top 20 fixed income unit trust funds: January 2006–October 2012

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
AmDynamic Bond	0.1754	0.4094	0.2924 (1)	0.0122	0.0978 (2)	0.0012***(1)
Kenanga Bond	0.0923	0.1263	0.2904 (2)	0.0054	0.0680 (6)	0.0004***(6)
HwangDBS Select Bond	0.1190	0.2796	0.2264 (3)	0.0182	0.0348 (11)	0.0006***(2)
Public Select Bond	0.0844	0.1424	0.2018 (4)	0.0059	0.0488 (8)	0.0003***(11)
CIMB Principal Bond	0.0968	0.2276	0.1809 (5)	0.0088	0.0470 (9)	0.0004***(7)
AmBond	0.0973	0.3148	0.1323 (6)	0.0128	0.0325 (12)	0.0004***(8)
CIMB Islamic Enhanced Sukuk	0.1166	0.4969	0.1226 (7)	0.2078	0.0029 (17)	0.0003**(12)
Pheim Income Fund	0.0976	0.3567	0.1175 (8)	0.0695	0.0060 (15)	0.0003 (13)
Eastspring Investments Dana al-Islah	0.1222	0.5894	0.1128 (9)	0.1506	0.0044 (16)	0.0005 (3)

Table 1 (*continued*)

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
CIMB Strategic Bond	0.1115	0.4990	0.1120 (10)	0.0729	0.0077 (14)	0.0005 (4)
CIMB Islamic Sukuk	0.0822	0.2372	0.1119 (11)	0.0042	0.0628 (7)	0.0003** (14)
AmBon Islam	0.0960	0.3632	0.1112 (12)	0.0136	0.0296 (13)	0.0004** (9)
Libra Money Extra	0.0604	0.0443	0.1071 (13)	–0.0002	–0.2190 (20)	0.0000 (20)
HwangDBS AIIMAN Income Plus	0.1547	0.9449	0.1049 (14)	0.3748	0.0026 (19)	0.0005 (5)
Hong Leong Institutional Bond	0.0621	0.0653	0.0989 (15)	0.0007	0.0894 (3)	0.0001 (17)
Public Enhanced Bond	0.1006	0.4899	0.0917 (16)	0.1524	0.0029 (18)	0.0002 (15)
Public Institutional Bond	0.0657	0.1202	0.0836 (17)	0.0005	0.2201 (1)	0.0001 (18)
Pacific Dana Murni	0.0662	0.1277	0.0826 (18)	0.0013	0.0795 (5)	0.0001 (19)
Eastspring Investments Dana Wafi	0.0725	0.2058	0.0818 (19)	0.0021	0.0805 (4)	0.0002 (16)
Hong Leong Bond	0.0963	0.5503	0.0738 (20)	0.0109	0.03719 (10)	0.0004 (10)
Average	0.0903	0.3612	0.0828	0.0471	0.0194	0.0003
KLCI	0.1958	2.0311	0.0690	1.0000	0.0014	0.0000
Maybank 12-month Fixed Deposit	0.0626	0.0091	0.7636	1.0000	0.0001	0.0000
Malaysia 90-day T-Bills	0.0556	0.0001	0.0000	–0.0006	0.0000	0.0000

Note: *Significant at $p < 0.10$; **Significant at $p < 0.05$; ***Significant at $p < 0.01$.

Based on Treynor measure, 19 out of 20 fixed income funds outperformed the KLCI and Maybank 12-month fixed deposit rate that show a respective 0.0014 and 0.0001. Public Institutional Bond provides the highest Treynor value of 0.2201. For Sharpe measure, all funds outperformed the market index of 0.069. Nonetheless, no funds outperformed the Maybank 12-month fixed deposit Sharpe ratio of 0.7636. The highest Sharpe ratio is by AmDynamic Bond with a value of 0.2924. As for Jensen alpha, all funds have a higher value than the KLCI and

Maybank 12-month fixed deposit rate. Among these funds, only nine fixed income unit trust funds have positive alphas that are significantly different at the 95% and 99% confidence level suggesting that they could provide an excess return more than expected, given the risk level. The result contradicts to the finding by Md Taib and Isa (2007) in Malaysia, Kahn and Ruud (1995) in the U.S. and Gallagher and Jarnecic (2002) in Australia. In terms of ranking, AmDynamic Bond is ranked first based on the Sharpe and Jensen measures while it ranks second for the Treynor measure; whereas Hong Leong Bond is ranked 10 for the Treynor and Jensen measure but based on Sharpe ratio, it is ranked 20. Other than this, the three performance measures provide different ranking for the rest of the funds.

Table 2 shows the ranking of the risk adjusted returns of the top 20 all equity unit trust funds (growth and value). The average weekly return for all equity funds is 0.1791%, which exceeds the Malaysia 90-day T-Bills (0.0556%), but lower than the KLCI average weekly return of 0.1958%. The fund with a superior mean return is Kenanga Syariah growth fund with an average weekly return of 0.3241%. Total risk (Systematic risk) of all equity funds ranges from 1.3259% to 2.9559% (0.2983 to 1.0347) with an average of 2.1695% (0.7406). Seven (two) funds have a higher total risk (systematic risk) than the market. Malaysia 90-day T-Bills provide the lowest average weekly return, standard deviation and beta. Based on the three performance measures, Hong Leong Consumer Product is ranked first. For Sharpe and Treynor measures, all the equity funds outperformed the KLCI while for Jensen alpha, seven funds provide a significant positive value, indicating that the portfolio manager is superior in timing the market or in stock selection. The finding of this study is inconsistent to those reported in the U.S. where equity funds underperformed the market (Coggin & Trzcinka; 2000; Fama & French, 2010; Malkiel, 1995).

Table 2

Weekly performance of top 20 all equity unit trust funds: January 2006–October 2012

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
Hong Leong Consumer Product	0.2935	1.3259	0.1794 (1)	0.2983	0.0080 (1)	0.0025***(1)
Kenanga Syariah Growth	0.3241	1.5141	0.1773 (2)	0.6607	0.0041 (3)	0.0018***(2)
Public Small Cap	0.3169	2.0085	0.1301 (3)	0.7679	0.0034 (4)	0.0015**(4)
HwangDBS AIIMAN Growth	0.2762	1.7301	0.1275 (4)	0.7579	0.0029 (7)	0.0011***(8)

(*continue on next page*)

Table 2 (*continued*)

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
Public Dividend Select	0.2559	1.6440	0.1218 (5)	0.4297	0.0047 (2)	0.0014***(6)
Public Focus Select	0.2736	1.8986	0.1148 (6)	0.8229	0.0026 (8)	0.0010**(9)
HwangDBS Asia Quantum	0.3000	2.1551	0.1134 (7)	0.7556	0.0032 (5)	0.0014 (7)
MAAKL al-Faid	0.2405	1.6526	0.1118 (8)	0.7503	0.0025 (9)	0.0008**(12)
HwangDBS Select Opportunity	0.2664	2.1171	0.0996 (9)	0.8671	0.0024 (10)	0.0009 (10)
Eastpring Investment Dinamik	0.1876	1.3751	0.0959 (10)	0.5557	0.0024 (11)	0.0016 (3)
Alliance Dana Adib	0.2129	1.6693	0.0942 (11)	0.7228	0.0022 (12)	0.0006 (13)
Apex al-Sofi	0.2231	1.8177	0.0921 (12)	0.7810	0.0021 (14)	0.0006 (14)
Kenanga Islamic Fund	0.2859	2.5362	0.0908 (13)	1.0347	0.0022 (13)	0.0009 (11)
MAAKL Growth	0.3191	2.9559	0.0891(14)	0.8165	0.0032 (6)	0.0015 (5)
OSK-UOB Dana Islam	0.2215	1.8717	0.0886 (15)	0.7738	0.0021 (15)	0.0006 (15)
AmIslamic Growth	0.2154	1.8229	0.0876 (16)	0.8045	0.0020 (16)	0.0005 (16)
Eastpring Investments Growth	0.2303	2.0223	0.0864 (17)	0.9478	0.0018 (20)	0.0004 (20)
TA High Growth	0.2403	2.2390	0.0825 (18)	0.9409	0.0020 (17)	0.0005 (17)
CIMB Principal Equity Aggressive	0.2320	2.1387	0.0825 (19)	0.9003	0.0020 (18)	0.0005 (18)
Public Equity	0.2432	2.3022	0.0815 (20)	1.0122	0.0019 (19)	0.0005 (19)
Average	0.1791	2.1695	0.0596	0.7406	0.0032	0.0003
KLCI	0.1958	2.0311	0.0690	1.0000	0.0014	0.0000
Malaysia 90-day T-Bills	0.0556	0.0099	0.0000	–0.0006	0.0000	0.0000

Note: *Significant at $p < 0.10$; **Significant at $p < 0.05$; ***Significant at $p < 0.01$.

The equity funds are then split into the growth and value equity unit trust funds category. Tables 3 and 4 present the performance of the top 20 growth equity unit trust funds and value equity unit trust funds respectively. On average, the weekly returns for the growth and value equity unit trust funds are 0.2171% and 0.1067% with standard deviations of 2.2756% and 1.9732% respectively. In comparison to the KLCI average weekly return of 0.1958%, the growth equity funds outperformed the market but for value equity funds, they underperformed the market. This concurs to their total risk where the average total risk for growth (value) equity funds of 2.2756% (1.9732%) is greater (lower) than the market total risk of 2.0311%. Nevertheless, the average systematic risk for growth (0.8575) and value (0.7010) equity funds is lower than the market beta of 1. Kenanga Syariah Growth and Hong Leong Consumer Product is ranked number one in the respective growth and value equity funds category based on the Sharpe and Treynor ratios. Using the same performance measures, all growth equity funds outperformed the KLCI; whereas only four (seven) value equity funds outperformed the KLCI when the Sharpe (Treynor) ratio is used to adjust for risk. On average, the Sharpe ratio (0.0735) and Treynor ratio (0.0019) for growth equity funds are greater than the market. Nevertheless, for value equity funds, the average Sharpe ratio (0.0337) underperformed the market (0.0690) but for the Treynor ratio (0.0026), it outperformed the market (0.0014). The existing finding on growth equity funds contradicts to the study by Coggin and Trzcinka (2000), Malkiel (1995), Fama and French (2010) and Md Taib and Isa (2007) who found that equity funds underperformed the market, but consistent to the result on value equity funds where majority of these funds underperformed the market. As for Jensen measures, there are five (two) growth (value) equity funds that have a significant positive alpha implying that these fund managers have superior market timing or stock selection ability. CIMB Principal Equity Income categorised under the value equity funds provides an inferior performance with a Jensen alpha of –0.0015. As for ranking of funds, the three performance measures provide different ranking for growth equity unit trust funds except for some funds; but the ranking for value equity funds is almost consistent except for AMB Dividend Income fund.

Next, an analysis is executed to examine whether there is a significant difference in the performance of the fixed income and equity unit trust funds. As the distribution of the sample is not normally distributed, Wilcoxon Signed Ranks test is utilised and presented in Table 5. Panel A shows that the risk adjusted performance of fixed income unit trust funds is significantly different from the performance of all equity unit trust funds based on the Sharpe and Treynor ratios with a respective z-score of –2.018 and –2.450, indicating that H_1 is rejected. When the equity unit trust funds is split into growth and value funds, it is found

that the Treynor ratio with a z-score of –2.391 presents a significant difference on the performance between the fixed income and growth equity funds; but for the Sharpe and Jensen measures with a z-score of –1.176 and –1.685, there is no significant difference between the fixed income and growth equity funds (Panel B of Table 5). Thus, H_2 is accepted since the Sharpe and Jensen measures display insignificant results. For value equity funds (Panel C), all risk adjusted performance measures illustrate a significant difference of performance between the fixed income and value equity funds with a significant level of 0.002, 0.025 and 0.006, indicating that H_3 is rejected.

Table 3

Weekly performance of top 20 growth equity unit trust funds: January 2006–October 2012

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
Kenanga Syariah Growth	0.3241	1.5141	0.1773 (1)	0.6607	0.0041 (1)	0.0018***(1)
Public Small Cap	0.3169	2.0085	0.1301(2)	0.7679	0.0034 (4)	0.0015** (4)
HwangDBS AIIMAN Growth	0.2762	1.7301	0.1275 (3)	0.7579	0.0029 (7)	0.0011***(6)
Public Focus Select	0.2736	1.8986	0.1148(4)	0.8229	0.0026 (8)	0.0010** (8)
HwangDBS Asia Quantum	0.3000	2.1551	0.1134 (5)	0.7556	0.0032 (5)	0.0011 (7)
MAAKL al-Faid	0.2405	1.6526	0.1118(6)	0.7503	0.0025 (9)	0.0008**(12)
HwangDBS Select Opportunity	0.2664	2.1171	0.0996 (7)	0.8671	0.0024 (10)	0.0009 (9)
Alliance Dana Adib	0.2129	1.6693	0.0942(8)	0.7228	0.0022 (12)	0.0006 (13)
Apex al-Sofi	0.2231	1.8177	0.0921(9)	0.7810	0.0021 (14)	0.0006 (14)
Kenanga Islamic Fund	0.2859	2.5362	0.0908 (10)	1.0347	0.0022 (13)	0.0009 (10)
MAAKL Growth	0.3191	2.9559	0.0891(11)	0.8165	0.0032 (6)	0.0015 (5)
OSK-UOB Dana Islam	0.2215	1.8717	0.0886 (12)	0.7738	0.0021 (15)	0.0006 (15)

(*continue on next page*)

Table 3 (*continued*)

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
AmIslamic Growth	0.2154	1.8229	0.0876(13)	0.8045	0.0020 (16)	0.0005 (16)
Eastspring Investments Growth	0.2303	2.0223	0.0864 (14)	0.9478	0.0018 (19)	0.0004 (19)
TA High growth	0.2403	2.2390	0.0825(15)	0.9409	0.0020 (17)	0.0005 (17)
CIMB Principal Equity	0.1899	2.4412	0.0550 (20)	1.0448	0.0013 (20)	–0.0001 (20)
Public Equity	0.2432	2.3022	0.0815(16)	1.0122	0.0019 (18)	0.0005 (18)
MAAKL Regular Saving Fund	0.2738	2.6952	0.0810 (17)	0.8927	0.0024 (11)	0.0009 (11)
MAAKL Value Fund	0.3345	3.4449	0.0809(18)	0.8077	0.0035 (2)	0.0017 (2)
MAAKL Progress Fund	0.3309	3.5061	0.0785 (19)	0.7816	0.0035 (3)	0.0017 (3)
Average	0.2171	2.2756	0.0735	0.8575	0.0019	0.0004
KLCI	0.1958	2.0311	0.0690	1.0000	0.0014	0.0000
Malaysia 90-day T-Bills	0.0556	0.0099	0.0000	-0.0006	0.0000	0.0000

Note: *Significant at $p < 0.10$; **Significant at $p < 0.05$; ***Significant at $p < 0.01$.

Table 4
Weekly performance of top 20 value equity unit trust funds: January 2006–October 2012

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
Hong Leong Consumer Product	0.2935	1.3259	0.1794 (1)	0.4779	0.0050 (2)	0.0017*** (1)
Public Dividend Select	0.2559	1.6440	0.1218 (2)	0.7671	0.0026 (3)	0.0009*** (2)
Eastspring Investment Dana Dinamik	0.1876	1.3751	0.0959 (3)	0.5557	0.0024 (4)	0.0005 (3)
Libra Dividend Extra	0.1639	1.5641	0.0692 (4)	0.6226	0.0017 (6)	0.0002 (5)

(*continue on next page*)

Table 4 (*continued*)

Funds	Mean (%)	SD (%)	Sharpe	Beta	Treynor	Jensen
Eastspring Investment Equity Income	0.1471	1.4635	0.0625 (5)	0.5884	0.0016 (7)	0.0001 (6)
Affin Equity	0.1581	1.8683	0.0548 (6)	0.8570	0.0012 (9)	–0.0002 (8)
Hong Leong Penny Stock	0.0000	2.2663	0.0405 (7)	0.9334	0.0010 (10)	–0.0004 (9)
AMB Ethical Trust	0.1430	2.2497	0.0388 (8)	0.6374	0.0014 (8)	0.0000 (7)
MAAKL al-Fauzan	0.1576	2.7375	0.0372 (9)	0.5305	0.0019 (5)	0.0003 (4)
TA South East Asia Equity Fund	0.1579	2.9094	0.0352 (10)	1.1229	0.0009 (11)	–0.0006 (10)
Pacific Dana Aman	0.1027	1.8615	0.0253 (11)	0.7409	0.0006 (12)	–0.0006 (11)
Hong Leong Dana Makmur	0.1044	1.9884	0.0245 (12)	0.7654	0.0006 (13)	–0.0006 (12)
Hong Leong Dividend Fund	0.0888	1.9745	0.0168 (13)	0.8125	0.0004 (14)	–0.0008 (13)
Pacific Premier Fund	0.0862	2.0882	0.0146 (14)	0.8363	0.0004 (15)	–0.0009 (14)
Pacific Milennium Fund	0.0787	2.0630	0.0112 (15)	0.8142	0.0003 (16)	–0.0009 (15)
CIMB Principal Equity Income	0.0485	2.4321	–0.0029 (16)	0.9978	–0.0001 (17)	–0.0015**(18)
Alliance Optimal Income	0.0431	1.5850	–0.0079 (17)	0.5499	–0.0002 (18)	–0.0009 (16)
RHB Dividend Valued Equity Fund	0.0248	2.6353	–0.0117 (18)	0.8817	–0.0004 (19)	–0.0015 (19)
OSK-UOB Global Equity Yield Fund	–0.0742	2.1650	–0.0600 (19)	0.5561	–0.0023 (20)	–0.0021 (20)
AMB Dividend Income	–0.0336	1.2663	–0.0705 (20)	–0.0277	0.0322 (1)	–0.0009 (17)
Average	0.1067	1.9732	0.0337	0.7010	0.0026	–0.0004
KLCI	0.1958	2.0311	0.0690	1.0000	0.0014	0.0000
Malaysia 90-day T-Bills	0.0556	0.0099	0.0000	-0.0006	0.0000	0.0000

Note: *Significant at $p < 0.10$; **Significant at $p < 0.05$; ***Significant at $p < 0.01$.

CONCLUSION

Risk and return analysis of fixed income and equity unit trust funds is revisited in this study to provide investors better information before investing in unit trust funds. The last published material comparing the performance between the two categories of funds was done in 2007 covering a sample period from 1991 to 2001 (Md Taib & Isa, 2007) which is more than 15 years ago. With the changes in the landscape of the Malaysian unit trust industry and its rapid growth, the existing study compares the performance of 31 fixed income and 57 equity unit trust funds (37 growth and 20 value equity unit trust funds) from 2006 to 2012 by using the Sharpe (1966), Treynor (1965) and Jensen (1968) risk adjusted measures. It is found that total risk of the top 20 fixed income unit trust funds is higher than the Maybank 12-month fixed deposit rate but lower than the KLCI. Nevertheless, the systematic risk for all funds is lower than both benchmarks. Treynor measure shows that all except one fixed income funds outperformed the Maybank 12-month fixed deposit rate and the KLCI; whereas for Sharpe ratio, all funds outperformed the market index but no funds outperformed the Maybank rate. Based on Jensen alpha, all fixed income funds have a higher value but only nine of them present significant superior performance than both benchmarks.

Results for equity unit trust funds show that most funds have lower total risk and systematic risk than the market. The top 20 equity funds outperformed the KLCI in both the Sharpe and Treynor measures. As for Jensen alpha, seven funds indicate that the portfolio managers are good in timing the market or in selecting unit trust funds. When the equity funds are categorised into growth and value funds, the average weekly return of the former outperformed the market but the latter underperformed the market. Their total risk shows that the growth equity funds have a higher risk than the market but the value funds' total risk are lower than the market with both funds have lower systematic risk than the market. Based on Sharpe and Treynor ratios, all growth equity funds outperformed the KLCI whereas only a few value equity funds outperformed the KLCI. Jensen performance measures show less number of growth and value equity funds have significant positive alphas. If we are to compare the average weekly return of all unit trust funds, fixed income funds and equity funds with the Malaysia 90-day T-Bills, the latter provides the lowest return, total risk and systematic risk. Further analysis based on Wilcoxon Signed Ranked test shows that there is a significant difference between the performance of all equity funds and fixed income unit trust funds. Specifically, it is found that the performance of fixed income funds is significantly different from the growth equity funds based on Treynor ratio; whereas for value equity funds, all risk adjusted performance measures present a significant difference between the performance of fixed income and value equity funds.

The findings of this study could benefit investors and fund managers in their asset allocation strategy and decision making on which funds to be included to improve portfolio performance. As the Sharpe, Treynor and Jensen risk adjusted performance measures provide contradictory results, selection of unit trust funds should be based on all measures. Relying on one measure would put a person in a risky position of losing his wealth. Another important matter to be considered is the benchmark used to measure fund performance needs to reflect the designated benchmark stated in the fund prospectus as fund managers are normally evaluated based on the stated benchmark. An inaccurate evaluation of fund managers' ability in selection of unit trust funds or timing of the market might exist if the designated benchmark is not taken into account. For government agency such as the EPF, the selection of fund management companies that are handling some of these unit trust funds that have been included in the EPF Members Investment Scheme would need to be examined thoroughly and performance need to be monitored. Measurement of performance would need to be transparent where the calculation of returns would take into account of risk adjusted returns rather than raw returns. Interpretation of the results in this study is limited to the study period from 2006 to 2012. Future research could extend the study period to see if there are changes in the performance of those funds. In addition, other performance measures such as adjusted Sharpe index, adjusted Jensen Index, APT model and other approaches might be considered to see if there are differences in the funds' performance.

NOTES

1. Fixed income funds comprise of government securities, corporate bonds and money market instruments. They provide regular income to investors.
2. Equity funds consist of equities or securities of listed companies. Their performance is linked to the performance of listed companies.
3. The reported Treasury bill rate is an annualised holding period yield on a 3-month Treasury Bills. This rate was converted to a weekly equivalent, consistent with the weekly return of the unit trust funds and the market's return. The formula to compute the estimation of weekly equivalents of the annualised yield is $(1 + \text{Annualised Yield})^{1/52} - 1$.
4. We only show the top 20 fixed income unit trust funds and equity unit trust funds in Tables 1, 2, 3 and 4. Results with the full sample of unit trust funds are available upon request.

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