

Asset Focus, Contract and Performance of Mutual Fund: Evidence from Malaysian's Funds Market

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ABSTRACT

The objective of this research is to study the benefits of mutual fund for providing a diversification in investment portfolios for domestic and international investors. Specifically, this research investigates the influences of mutual funds characteristics towards performance. This research uses information from a sample of 289 mutual funds for a period of 2000(1) - 2012(6). This research applies regression analysis for panel data. In this study characteristics were divided into two categories funds; contract and asset allocation. Contract of mutual funds were divided into conventional and Islamic contract. Fund asset focus were divided into stock, debt, money market and asset allocation. As market benchmarks are Malaysia Gold Shariah Price Index and KLSE Composite Index for Islamic mutual funds and conventional mutual funds. Results state that mutual fund characteristics show difference effect on a performance. Conventional funds demonstrate higher performance than Islamic funds but the performance of all fund demonstrate lower than benchmark as approved by negative alpha. Similarly results of fund asset focus, the performance show lower performance than benchmark. Nevertheless, the performance of debt focus asset reached up the benchmark as shown by positive alpha. Analysis on non-linear model, results state that all fund managers may not be able to get information and through their expertise in the investment decision could reach an abnormal return. Implication of this finding is the selection investment and taking risk reflected in objective and contract will influence the performance of mutual fund.

JEL classification: G11, G12, G15

Key words: Mutual Fund; Performance, Characteristic of funds

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INTRODUCTION

Studies on the performance of mutual fund examine many perspectives. Among the perspectives are: investment horizon, performance measurement, fund managers performance and funds characteristics. By assuming that all investors have a single horizon investment period and market of mutual fund is the most efficient financial market, researchers like Treynor (1965), Sharpe (1966), McDonald (1974), Grinblatt and Titman (1989), Gruber (1996), Carhart (1997), Zhou (2004) and Erzurumlu (2006) found that investment in mutual funds did not get abnormal returns in the presence of linear functional form of CAPM. However, both assumptions are arguable, due to the individual and/or institutional investors that have varied investment horizon depending on the consumption pattern. This argument also motivates several researchers, among others Tobin (1965), Lee (1976), McDonald (1983), (Lee, Wu and Wei, 1990) and Liu (2006) to consider the variety of investment horizon periods that might have some important implications on empirical estimation towards systematic risk and relationship between return and risks.

For the second perspective, the performance measurement was actively explored in the 1970s (see for example Carlson (1970), McDonald (1974) and, Kon and Jen (1979)), and most of these studies use the Treynor, Sharpe and Jensen indexes and state that investment in mutual fund gave abnormal returns. But later researchers such as Malkiel (1995), Gruber (1996) and Carhart (1997) include other factors that might be considered to absorb market factors. They tested the effect of active mutual fund manager on mutual fund performance. The results show the lower performance than

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market portfolio benchmark and also in index form as passive investment.¹ However, Grinblatt and Timan (1993), Detzler (1999) and Wermers (2000) state that active fund managers performances is higher than performance of market portfolio benchmark and index form as passive investment. Besides that, performance was measured before and after reduction due to costs and expenses involved and based on individual portfolios.

Further research was carried out on the relationship between characteristics of fund and performance itself. The fund characteristics take many views. Connor and Korajczyk (1991), Otten (2002), and Jan and Huang (2003), for example, study the fund characteristics, i.e., the objective of funds, such as income fund, growth fund, balance fund in relation with performance. While, Ippolito (1987), Gruber (1996), and Jan and Hung (2003) study the fund characteristics (which carry the loading charges)² with performance. Otten (2002), Elafahani and Hasan (2005), Detzler (1999), and Baik et.al (2010) study the relationship between fund characteristics which is based on geographical investment and ownership with performance. Christoffersen and Sarkissian (2009) investigated the average skill level and productivities are higher in larger cities. They explored the relationship between size city and productivity. Results found that on average financial centre perform better than others funds. Their argument is the performance is driven by more experience.

Recently, fund characteristics have been expanded to explore the effect of the sales system. In their view, James and Karceski (2006) investigate significant differences between a public unit's retail mutual fund and public unit's non-retail mutual fund in terms of their respective characteristics of performances. Jan and Hung (2003), Chen, Hong, Huang and Kubik (2004) and Philpot and Peterson (2006) investigate further the relationship of characteristics of funds in terms of the value of their assets, rollovers, contributions and assets. Badrinath and Gubellini (2011) evaluated the market neutral and bear mutual funds on the return performance of short-long using multi-factor model. Their result is differences in the bearish posture of these mutual funds results in different performance characteristics. Karagiannidis (2012) investigated the effect of management team level characteristics on portfolio risk and style extremity. Results stated that team with more members, longer tenure and more members with graduate business training hold less risky assets. Member's diversity is related to less extremity style decisions.

In this paper we explore the performance of mutual funds looked at from other perspectives. First, Malaysia mutual fund market can classified into two contracts between investor and fund management and or fund manager, namely Islamic funds and conventional funds. Islamic funds are the process collecting and investing funds should compliant with Shariah Islam, and the other hand conventional funds are not requiring it. Second, mutual fund can classified into Asset focuses; equity, asset allocation, bond/debt and money market. The argument of characteristics affects the performance that different contracts or asset focuses in investment of collected fund will give different characteristics of risk. Rational investor will consider their investment for every additional of risk premium the particular financial asset like mutual funds (James and Karceski, 2006).

The objectives of this research are, generally to study the performance of mutual fund and compared with market portfolio, using Kuala Lumpur Composite Index. Specifically, this study aims: (i) to analyze the benefits of mutual fund in giving some alternatives of portfolio divertible for asset focus: equity, asset allocation, debt and money market. (ii) To analyze the benefits of mutual fund in giving some alternatives of portfolio divertible for fund contract: Conventional and Islamic fund. (iii) To analyze the ability of fund manager in making investment decision based on the market information.

The remaining discussion of this paper will be divided into three sections. The second section will discuss the model and data sources and descriptions. The discussion of empirical results will be discussed in section 3. Section 4 will provide the conclusion.

¹ Active investment is an investment that is actively chosen and changed the assets of portfolio, normally made by fund managers. Passive investment is an investment that is not actively chosen and changed the assets of portfolio, like investment in derivative security based on index.

² Fee for buying or selling mutual fund

MODEL AND DATA DESCRIPTIONS

Research Model

The research methodology involves two steps, i.e., the derivation of a model followed by data description and model estimation.

The standard estimation model was introduced by Jensen (1968) was adopted for measuring fund performance. The standard models of Ramasamy and Yeung (2003), Jan and Hung (2003), Huang (2004), Chen, Hong, Huang and Kubik (2004), Erzarumlu (2006) and Philpot and Peterson (2006) are used to examine the effect of fund characteristics. Therefore, the performance of mutual fund could be written as follows:

$$\text{Perf} = f(\text{Fund Characteristics}) + \varepsilon \quad [1]$$

Equation [1] suggests that characteristic influence the performance of mutual fund. However, our model differs from the previous studies in one aspect. We use different characteristics asset focus and fund contract. We redefined based on the contractual agreement between investor and fund manager. In this research, we use two types of contract namely conventional and Islamic contract. We argue that different contracts give different rights and responsibilities so this will differently affect performance achievements of mutual fund.

Since the study uses the panel data, equation (1) can be rewritten as follows:

$$\text{Perf}_{it} = \beta_0 + \beta_1 \text{FC}_{it} + e \quad [2]$$

Based on equation 2, we estimate the influence of characteristics towards performance of mutual funds. Based on equation (2), the description of variables will be discussed below.

In assessing the performances of mutual fund, many researchers focus their analysis by adopting 3 traditional models, namely Jensen's alpha (1968) called as CAPM model, Fama-French's (1996) three-factor model and Carhart's (1997) four-factor model. This research, however, adopts one-factor model or single-index due to data constraint. Under this model, performance is measured by a constant (Alpha) of the single model. In other words, Alpha serves as relative performance representing additional return as adjusted by the risks of each particular fund or market portfolio under some benchmarks. Jensen (1967) applied the single index or one factor-model measurement under the following formula:

$$R_{it} - r_f = a_i + \beta_i(R_{mt} - r_f) \quad [3]$$

where R_{it} is the rate of return of mutual fund i at time t , r_f is risk-free rate (we used here monthly commercial inter-bank interest rate (Ismail and Shakrani, 2003), R_{mt} is market return of market portfolio m at time t . a_{it} is the alpha of mutual fund i at time t as proxy for performance of mutual fund i . In this research, we use two benchmarks; Kuala Lumpur Shariah Index for Islamic Fund and Kuala Lumpur Composite Index for conventional funds.

The single index model analysis is not stated clearly distinction between security selection and timing ability on part of fund manager ability. So we do not know the performance reached as outcome from the expertise of fund managers in making investment decision with change the investment strategy whether in instrument investment selection or timing selection for example or due to uncontrollable external factor market risk. Another words the fund performance reached due to the "ice hand" or "hot hand" of fund managers. Treynor and Mazuy (1966) proposed the following model to overcome this issue. Chen et. al. (2010) also used the particular model to test the timing ability of mutual fund manager as follows:

$$R_{it} - r_f = a_i + \beta_i(R_{mt} - r_f) + \beta_{iT}(R_{mt} - r_f)^2 + e_{it} \quad [4]$$

The alpha in equation 4 measures a funds' security selection ability, whereas β_T indicates a fund's market timing ability. To validity the quadratic timing model, Jagannathan and Korajczk (1986) have augmented the model as follows:

$$R_{it} - r_f = a_i + \beta_i(R_{mt} - r_f) + \beta_{iT}(R_{mt} - r_f)^2 + \beta_{iC}(R_{mt} - r_f)^3 + e_{it} \quad [5]$$

The equation 5 used to test the higher moments data with add the cubic term. If B_C is significant they argued that the quadratic timing model is not specified (Bouer et al. 2006).

Data Sources

The data of the above variable consist of two data types: individual data on mutual fund and market data such as net asset value, return, size, fee and expenses, characteristics of fund based on contracts (conventional and Islamic fund) and Asset Focus (equity, asset allocation, debt, money market) of mutual fund. The latter is market data such as Malaysia Gold Shariah Price Index and Composite Index of Kuala Lumpur. All data are obtained from the company databases of Bloomberg Research and period used for calculating performance and fund flow of International Islamic is from 2000(M1) to 2012(M6). We drew 289 samples of mutual funds in Malaysia.

We have selected the above benchmark because our sample is divided into Islamic mutual funds and conventional mutual funds, so that it would be appropriate if we use Malaysia Gold Shariah Price Index for Islamic funds because it is one main centre of Islamic financial market and Kuala Lumpur Composite Index for Conventional Funds. Kuala Lumpur's Composite-Index is used as benchmark to comply with analytical-rule of mutual fund in performing an investment portfolio and comparing it with conventional mutual fund.

RESULT ANALYSIS

Descriptive Analysis

The data will be discussed descriptively to validate the panel data estimation. Table 1 presents the descriptive statistics of mutual fund market in Malaysia. This result found that the highest excess return in asset focus is equity fund than the others and conventional funds are higher excess return than Islamic funds. Equity fund and asset allocation funds are above the average excess return and debt and money market funds are below the average excess return likewise Islamic funds.

The information of average excess return of each funds related with the basic theory of finance which state that higher returns reward higher risk. This is illustrated with standard deviation result of each fund. Equity funds are highest return but we can see the risk is also the highest compared with others. Surprisingly, asset allocation focus show an interesting point where average excess return is above the average of fund but the risk is lower than average risk of funds. These results supported by maximum and minimum excess return of all funds. We find un-linearity between return and risk in contracts fund characteristics. Islamic funds show lower excess return than conventional funds but in term of risk, Islamic funds show higher risk than conventional funds. We can argue that Islamic funds invest the funds in equity funds and asset allocation funds due to Shariah compliant conditions where two financial assets are riskier compared by the other financial assets.

Single Index Performance Model

Analysis on mutual fund performance in Malaysia, we first use the single index model we known as capital asset pricing model (CAPM). We measure the performance based on what fund performance is outperformance or underperformance compare with market portfolio. Here, the performance presented by alpha from the single index model we will call alpha Jensen.

Table 2 reported Jensen's alpha from two characteristics of mutual fund; panel a) characteristics based on contract we have two type 1) conventional and 2) Islamic fund, panel B characteristics based on asset focus and we have equity, asset allocation, debt and money market.

Jensen's alpha reported that all mutual funds under category contract whether conventional or Islamic funds demonstrate underperformance indicated by a negative alpha but for conventional is not significant and Islamic fund is highly significant. Almost the same picture with category contract the funds under asset focus is also underperformance showed by negative alpha except debt category. All alphas under fund asset focus are highly significant except the debt focus. Results for all categories fund in Malaysia in the period sample present slight underperformance indicated by an alpha close to zero. Surprisingly, all funds in the market were strong influenced by market risk with lowest impact for debt focus. This result is without a doubt due to the expected cash flow of debt focus is a fixed stream.

We continue the estimation of single index model for individual mutual fund. Results stated in the two last columns present the distribution of individual alpha for each characteristics or category. We report the percentage of significant positive (+) alpha and significant negative (-). Distribution of negative alpha for conventional funds is 54% and positive alpha is 46%. Islamic fund for negative alpha is 51% and positive alpha is 49%. Equity focus for negative alpha is 48% and positive alpha is 52%. Asset allocation focus for negative alpha is 56% and positive is 44%. Debt focus for negative alpha is 20% and positive alpha is 80%. Money market focus negative alpha is 91% and positive alpha is 9%. The individual results implied that almost all mutual funds in Malaysia market show underperformance compared by portfolio market benchmarks.

Market Timing Model

The single index model analysis has not clearly stated clearly distinction between security selection and timing ability on part of fund manager ability. So we do not know about performance reached as outcomes from the expertise of fund managers in making investment decision will change the investment strategy whether in instrument investment selection or timing selection for example or due to uncontrollable external factor market risk. In other words fund performance may be reached due to an "ice hand" or "hot hand" of fund managers.

The equation (4) market timing model, alpha represented the selection ability and β_T represents the timing ability from fund managers. The expected value of β_T is positive for presenting the strong timing ability and consistent with superior timing ability. Table 3 reported the result on the market timing model, all β_T have negative signs meaning that all fund managers there is no timing ability in fund management, the performance of fund just source from selection ability and lucky factor from uncontrollable factor.

Jensen's alpha reported that all mutual funds under categorical contracts whether conventional or Islamic fund show underperformance indicated by negative alpha but for conventional funds are not significant and Islamic funds are highly significant. Almost the same picture with category contract, fund asset focus also show underperformance indicated by negative alpha except debt focus category. All fund asset focus alphas are highly significant except the debt focus. Results presented all categories fund in Malaysia in the period sample are slightly underperformance as indicated by alpha close to zero. Surprisingly, all funds were strongly influenced by market risk or benchmarks with the lowest impact for debt focus. This result is without a doubt due to the expected cash flow of debt focus is fixed stream.

Individual fund analysis from market timing model results stated in the two last columns present the distribution of individual β_T which represents the market timing for each characteristics or category. We report the percentage of significant positive (+) beta T and significant negative (-). Distribution of beta for conventional funds for negative beta t is 84% and positive beta t is 16%. Islamic fund for negative beta t is 52% and positive beta t is 48%. Equity focus for negative beta t is 85% and positive is 15%. Asset allocation focus for negative beta t is 90% and positive beta t is 10%. Debt focus for negative beta t is 52% and positive beta is 48%. Money market focus for negative beta t is 59% and positive beta t is 41%. The individual results implied that almost all mutual funds in Malaysia market show underperformance compared by portfolio market benchmarks.

The individual results implied that almost of all mutual fund managers in Malaysia mutual funds market are not able to capture and utilise the market information to get abnormal returns that expected by mutual fund investors.

Even though, the market timing model popular applied in timing ability analysis of fund manager but some studies argue in term of the validity model (Jaganathan and Korajczyk, 1986) and (Hotel, 2010). They argued that mutual funds data is higher moment frequency so it needs specifically treatment. They add the market timing model with a cubic term as written in equation 5.

Table 4 reported the results on the market timing model-cubic model, all β_C have negative signs meaning that all fund managers there is timing ability in fund management, the performance of fund just source from selection ability and lucky from uncontrollable factors.

Jensen's alpha reported that all mutual funds under category contract whether conventional or Islamic fund show underperformance as indicated by negative alpha but for conventional is not significant and Islamic fund is highly significant. Almost the same picture with category contract the funds under asset focus also show underperformance as indicated by negative alpha except debt focus category. In addition, all alphas under funds asset focus are highly significant except the debt focus. Results presented all categories funds in the period sample show slight underperformance as indicated by alpha close to zero. Surprisingly, all funds in the market were strongly influenced by market risk or

benchmarks with the lowest impact for debt focus. This result is without a doubt due to the expected cash flow of debt focus is fixed stream.

Individual fund analysis from market timing model results stated in the three last columns present the distribution of individual β_C represents the market timing for each characteristics or category. We report the percentage of beta C significant positive (+) and significant negative (-). The distribution of beta-c for of conventional funds negative beta is 82% and positive beta is 18%. Islamic fund, negative beta c is 83% and positive beta c is 17%. Equity focus negative beta c is 89% and positive beta c 11%. Asset allocation focus negative beta c is 94% and positive beta c is 6%. Debt focus negative beta c is 64% and positive beta c is 36%. Money market focus for negative beta c is 59% and positive beta c is 41%. The individual results implied that almost mutual fund manager in Malaysia market are not able to capture and utilise the market information to get abnormal performance that expected by mutual fund investors.

CONCLUSION

This research surveyed 289 samples of mutual fund from 2000(M1) to 2012(M6) periods, by applying multiple regressions of the panel data analysis. The overall result suggests that; the performance of mutual funds in Malaysia is not consistent. Single index model demonstrate poor performance as shown by negative alpha in various benchmarks; Malaysia Gold Shariah Price Index or conventional market portfolio benchmark. Opposite results are showed by non linear model where performance of mutual funds in Malaysia demonstrates good performance as shown by positive alpha. **Secondly**, asset focus funds and contract funds are influenced by portfolio market benchmark with positive signs. **Thirdly**, analysis on the ability of fund managers find that all funds managers have no ability to get and utilise the market information and through their expertise make an investment decision could reach an abnormal return.

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TABLE 1: Descriptive Statistics

	Excess Return	Standard Deviation	Maximum	Minimum	Number Funds
Fund Asset Focus					
Equity	0.00259	0.04807	0.481947	-1.0025	154
Asset Allocation	0.00212	0.03674	0.391345	-1.00247	52
Debt/Bond	0.00117	0.0111	0.160104	-0.29001	61
Money Market	-0.0007	0.01361	0.143961	-0.12056	22
All Funds	0.00201	0.03953	0.481947	-1.0025	289
Fund Contracts					
Conventional	0.00208	0.03725	0.481947	-1.0025	226
Islamic	0.00175	0.04014	0.211804	-1.00235	63
All Funds	0.00201	0.03953	0.481947	-1.0025	289

TABLE 2: Result for Single Index

	Alpha	Benchmark	R ² Adj	Distribution Alpha	
				-	+
Fund Contracts					
Conventional	-0.00026 (0.00020)	0.449374 (0.0050)***	0.24	54%	46%
Islamic	-0.00097 (0.0003)***	0.554956 (0.0074)***	0.45	51%	49%
Fund Asset Focus					
Equity	-0.000621 (0.0003)**	0.665277 (0.0064)***	0.37	48%	52%
Asset Allocation	-0.000349 (0.0004)	0.487343 (0.0088)***	0.34	56%	44%
Debt/Bond	0.000915 (0.0001)***	0.044232 (0.0031)***	0.03	20%	80%
Money Market	-0.001177 (0.0003)***	0.085378 (0.0062)***	0.08	91%	9%

*** = Significant 1%, ** = Significant 5%, * = Significant 10%

TABLE 3: Market Timing Ability Model

	Alpha	Benchmark	Timing Ability (B _T)	R ² Adj	Distribution Alpha	
					-	+
Fund Contracts						
Conventional	0.001372 (0.0002)***	0.461339 (0.0050)***	-0.859692 (0.0545)***	0.25	84%	16%
Islamic Fund	-0.00055 -0.0004	0.554023 (0.0074)***	-0.203565 (0.0858)**	0.45	52%	48%
Fund Asset Focus						
Equity	0.001269 (0.0003)***	0.673364 (0.0064)***	-0.968382 (0.0708)***	0.38	85%	15%
Asset Allocation	0.001204	0.4955	-0.810303	0.35	10%	90%

Debt/Bond	(0.0004)*** 0.00101	(0.0088)*** 0.044887	(0.0969)*** -0.050359	0.03	52%	48%
Money Market	(0.0002)*** -0.000852 (0.0003)**	(0.0032)*** 0.087319 (0.0063)***	(0.0346) -0.165343 (0.0689)**	0.08	59%	41%

*** = Significant 1%, ** = Significant 5%, * = Significant 10%

TABLE 4: Market Timing Ability – Cubic Model

	Alpha	Benchmark	Timing Ability (B _T)	Cubic Timing (B _C)	R ² Adj	Distribution Alpha	
						-	+
Fund Contracts							
Conventional	-8.30E-05 -0.0003	0.584519 (0.0075)***	-0.20418 (0.0616)*	-12.7876 (0.5768)***	0.27	82%	18%
Islamic Fund	-0.0008 (0.0004)**	0.613346 (0.0116)***	-0.22222 (0.0856)*	-6.27502 (0.9408)***	0.45	83%	17%
Fund Asset Focus							
Equity	-0.0003 (0.0003)	0.834547 (0.0095)***	-0.3456 (0.0750)***	-16.46058 (0.7253)***	0.40	89%	11%
Asset Allocation	6.80E-05 (0.0004)	0.605388 (0.0130)***	-0.3452 (0.1043)***	-11.35739 (1.006)***	0.36	94%	6%
Debt/Bond	0.0009 (0.0002)***	0.054535 (0.0050)***	-0.0051 (0.0384)	-0.994758 (0.3691)***	0.03	64%	36%
Money Market	-0.0011 (0.0003)***	0.107635 (0.0096)***	-0.0773 (0.0756)	-2.076916 (0.7411)***	0.08	59%	41%

*** = Significant 1%, ** = Significant 5%, * = Significant 10%