

## ASSET FOCUS, CONTRACT AND PERFORMANCE OF MUTUAL FUND: DOES FUND MANAGER UTILISE THE MARKET TIMING?

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

**JEL classification:** G11, G12, G15

**Keywords:** Mutual Fund; Performance, Characteristic of Funds and Market Timing

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### 1. INTRODUCTION

Studies on the performance of mutual funds have examined many perspectives. Among the perspectives are investment horizon, performance measurement, fund managers performance, and fund characteristics. By assuming that all investors have a single-horizon investment period and the mutual fund market 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 achieve abnormal returns in the presence of the linear functional form of CAPM. However, both assumptions are arguable, due to the individual and/or institutional investors that have varied investment horizons depending on the consumption pattern. This argument also motivated several researchers, among others Tobin

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(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 the empirical estimation of the 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)), in which most of these studies used the Treynor, Sharpe and Jensen indexes and found that investment in mutual funds gave abnormal returns. However, later researchers, such as Malkiel (1995) and Carhart (1997), include other factors that might be considered to absorb market factors. They tested the effect of active mutual fund managers on mutual fund performance. The results show lower performance than the market portfolio benchmark and also in index form as passive investment.<sup>1</sup> Conversely, Grinblatt and Timan (1993), Detzler (1999), and Wermers (2000) stated that active fund managers' performance is higher than the performance of the market portfolio benchmark and index form as passive investment. In addition, performance was measured before and after reduction due to the costs and expenses involved and based on individual portfolios.

Further research was carried out on the relationship between the fund characteristics and performance itself. The fund characteristics have attracted many views. Connor and Korajczyk (1991), Otten (2002), and Jan and Huang (2003), for example, studied the fund characteristics, i.e., the objective of the funds, such as income fund, growth fund, balance fund in relation to performance. While, Ippolito (1987), Gruber (1996), and Jan and Hung (2003) studied the fund characteristics (which carry the loading charges)<sup>2</sup> with performance. Otten (2002), Elafahani and Hasan (2005), Detzler (1999), and Baik et al. (2010) studied the relationship between fund characteristics based on geographical investment and ownership with performance. Christoffersen and Sarkissian (2009) investigated the average skill level and found that productivities are higher in larger cities. They explored the relationship between the size of city and productivity. The results show that, on average, financial centres perform better than other funds. Their argument is that 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) investigated the significant differences between a public unit's retail mutual fund and a public unit's non-retail mutual fund in terms of their respective characteristics of performance. Jan and Hung (2003), Chen, Hong, Huang and Kubik (2004), and Philpot and Peterson (2006) further investigated the relationship of the 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 the multi-factor model. Their results show that differences in the bearish posture of these mutual funds result in different performance. Karagiannidis (2012) investigated the effect of management team level characteristics on portfolio risk and style extremity. The results indicate that teams with more members, longer tenure and more members with graduate business training hold less risky assets. The diversity of members is related to less extremity style decisions.

In this paper we explore the performance of mutual funds from other perspectives. First, Malaysia mutual fund market can be 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 be classified into Asset focuses; equity, asset allocation, bond/debt and money market. The argument is that characteristics affect the performance that different contracts or asset focuses in investment of collected fund will have different characteristics of risk premium in term of contract risk and asset risk. The rational investor will consider their investment for each additional risk premium of the particular financial asset like mutual funds (James and Karceski, 2006).

The objective of this research is, generally to study the performance of mutual fund and compare it with the market portfolio, using the Malaysia Gold Shariah Index and Kuala Lumpur Composite Index as benchmark. Specifically, this study aims (i) to analyse the benefits of mutual funds in giving some alternatives of portfolio divertible for asset focus and contract: equity, asset allocation, debt, money market, Islamic funds and conventional funds. (ii) to analyse the benefits of mutual fund in giving some alternatives of portfolio divertible for fund contract: Conventional and Islamic fund. (iii) To analyse the ability of fund manager in making investment decision based on the market information.

The remaining discussion of this paper is 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.

## **2. MODEL AND DATA DESCRIPTIONS**

### **2.1. 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) is 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 the fund characteristics. Therefore, the performance of mutual funds could be written as follows:

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

Equation [1] suggests that characteristics influence the performance of mutual fund. However, our model differs from the previous studies in one aspect. We use different fund characteristics according to 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; conventional and Islamic contracts. We argue that different contracts give different rights and responsibilities so this will affect the performance achievements of mutual funds differently.

Since the study uses 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 the characteristics (FC) on the performance of mutual funds. Based on equation (2), the description of the variables will be discussed below.

In assessing the performances of mutual funds, many researchers focus their analysis by adopting three traditional models, namely Jensen's alpha (1968) called the CAPM model, Fama-French's (1996) three-factor model and Carhart's (1997) four-factor model. This research, however, adopts a 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 using 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 monthly commercial inter-bank interest rate (Ismail and Shakrani, 2003)),  $R_{mt}$  is market return of market portfolio  $m$  at time  $t$ .  $a_i$  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; the Malaysia Gold Shariah Price Index for Islamic Funds for Islamic Fund and the Kuala Lumpur Composite Index for conventional funds.

The single index model analysis does not clearly state the distinction between security selection and the timing ability on the part of the fund manager ability. Therefore, we do not know whether the performance reached is an outcome from the expertise of fund managers in making investment decisions with a change in the investment strategy in instrument investment selection or timing selection or due to uncontrollable external factor market risk. In other words the fund performance is 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 this 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  $\beta_{iT}$  indicates a fund's market timing ability. To validity the quadratic timing model, Jagannathan and Korajczk (1986) 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 is used to test the higher moment data by adding the cubic term. If  $\beta_C$  is significant they argued that the quadratic timing model is not specified (Bouer *et al.* 2006).

## 2.2. Data Sources

The data of the above variable consist of two data types: individual data on mutual funds such as net asset value, return, size, fee and expenses, the characteristics of mutual fund

based on contracts; conventional and Islamic fund, and asset focuses are equity, asset allocation, debt, and money market. The last is market data such as the Malaysian Gold Shariah Price Index and the Kuala Lumpur Composite Index. The free interest rate is the deposit rate for one month. All data were obtained from the company or mutual funds databases of Bloomberg. The research and periods used for calculating performance are 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 the Malaysian Gold Shariah Price Index for Islamic funds because it is one main centre of Islamic financial market and the Kuala Lumpur Composite Index for Conventional Funds. Kuala Lumpur’s Composite-Index is used as benchmark to comply with analytical-rule of mutual funds in performing an investment portfolio and comparing it with conventional mutual funds.

### 3. ANALYSIS OF RESULTS

#### 3.1. Descriptive Statistics 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 finds that the highest excess return for 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.

**Table 1**  
**Descriptive Statistics**

	<i>Excess Return</i>	<i>Standard Deviation</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Number Funds</i>
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
<b>All Funds</b>	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
<b>All Funds</b>	0.00201	0.03953	0.481947	-1.0025	289

The information concerning the average excess return of each funds related with the basic theory of finance, which states that higher returns rewards higher risk. The risk is illustrated with standard deviation result of each fund. Equity funds are the highest return but we can see the risk is also the highest compared with others. Surprisingly, asset allocation focus shows an interesting point which the average excess returns is above the average return

of fund but the risk is lower than average risk of funds. These results supported by the 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 which two financial assets are riskier compared by the other financial assets.

### 3.2. Single Index Performance Model

In the analysis of the 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 whether the fund performance outperformance or underperformance compared with market portfolio. Here, we call the performance presented by alpha from the single index model, Jensen's alpha.

Table 2 reports Jensen's alpha from two characteristics of mutual fund; first, the characteristics based on the contract we have two types 1) conventional funds and 2) Islamic funds. Second, the characteristics based on the asset focus and we have equity, asset allocation, debt and money market.

Jensen's alpha reports that all alphas of mutual funds under fund 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 the category contract the funds under asset focus is also underperformance showed by the negative alpha except debt category. All alphas under

**Table 2**  
**Result for Single Index**

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

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

fund asset focus are statistically highly significant except the debt focus. The results show that 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 of the 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 the single index model for individual mutual fund. Results state in the last two 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 the conventional funds is 54% and positive alpha is 46%. The Islamic fund with negative alpha is 51% and positive alpha is 49%. The equity focus for negative alpha is 48% and positive alpha is 52%. The asset allocation focus with negative alpha is 56% and positive is 44%. The debt focus with negative alpha is 20% and positive alpha is 80%. The money market focus for the negative alpha is 91% and the positive alpha is 9%. The individual results implied that almost all mutual funds in Malaysia market show underperformance compare it with the portfolio market benchmarks.

### **3.2. Market Timing Model**

The single index model analysis has not clearly stated distinction between security selection and timing ability on part of fund manager ability. Therefore, we do not know about the performance reached is 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  $\hat{\alpha}_T$  represented the timing ability from fund managers. The expected value of  $\hat{\alpha}_T$  is positive for presenting the strong timing ability and is consistent with superior timing ability. Table 3 reports the results on the market timing model of each fund contracts and fund asset focuses. All  $\hat{\alpha}_T$  have a negative signs meaning that all fund managers have no timing ability in fund management. The performance of funds is just source from selection ability and lucky factor from uncontrollable factor.

Jensen’s alpha reports that all mutual funds under categorical contracts whether conventional or Islamic fund demonstrate underperformance, as indicated by negative alpha. For conventional funds are not significant and Islamic funds are highly significant. Almost the same picture with the categorical contract, fund asset focuses also show underperformance, as 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 being for funds with debt focus. This result is not a doubt due to the expected cash flow of debt focus is the fixed stream.

**Table 3**  
**Market Timing Ability Model**

	<i>Alpha</i>	<i>Benchmark</i>	<i>Timing Ability</i> ( $B_T$ )	$R^2$ <i>Adj</i>	<i>Distribution Alpha</i>	
					-	+
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 (0.0004)***	0.4955 (0.0088)***	-0.810303 (0.0969)***	0.35	10%	90%
Debt/Bond	0.00101 (0.0002)***	0.044887 (0.0032)***	-0.050359 (0.0346)	0.03	52%	48%
Money Market	-0.000852 (0.0003)**	0.087319 (0.0063)***	-0.165343 (0.0689)**	0.08	59%	41%

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

Individual fund analysis from market timing model results state in the last two columns present the distribution of individual  $\beta_T$  which represents the market timing for each characteristics or category. We report the percentage of significant positive (+) beta T and significant negative (-). The distribution of beta for conventional funds with negative beta T is 84% and positive beta T is 16%. The Islamic fund with negative beta T is 52% and positive beta T is 48%. The equity focus with negative beta T is 85% and positive is 15%. The asset allocation focus with negative beta T is 90% and positive beta T is 10%. The debt focus with negative beta T is 52% and positive beta T is 48%. The money market focus with 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 compare it with portfolio market benchmarks.

The individual results implied that not all mutual fund managers in Malaysia will be able to capture and utilise the market information, and through their expertise, the investment decisions could achieve abnormal returns that is expected by mutual fund investors.

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

Table 4 reports the results of the market timing model-cubic model. All  $\hat{\alpha}_C$  have negative signs and significant, meaning that all fund managers have no timing ability in fund



management, the performance of fund just source from selection ability and lucky from uncontrollable factors.

**Table 4**  
**Market Timing Ability – Cubic Model**

	<i>Alpha</i>	<i>Benchmark</i>	<i>Timing Ability (B<sub>T</sub>)</i>	<i>Cubic Timing (B<sub>C</sub>)</i>	<i>R<sup>2</sup> Adj</i>	<i>Distribution -</i>	<i>Alpha +</i>
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%

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 of market timing model results state in the last two columns. It presents the distribution of individual  $\hat{\alpha}_C$  represented the market timing for each characteristics or category. We report the percentage of beta C that significant positive (+) and significant negative (-). The distribution of beta-c for conventional funds with negative beta is 82% and positive beta is 18%. The Islamic fund with negative beta c is 83% and positive beta c is 17%. The equity focus with negative beta c is 89% and positive beta c is 11%. The asset allocation focus with negative beta c is 94% and positive beta c is 6%. The debt focus with negative beta c is 64% and positive beta c is 36%. The money market focus with negative beta c is 59% and positive beta c is 41%. The individual results implied that

almost mutual fund manager in Malaysia market will not be able to capture and utilise the market information to achieve abnormal performance that is expected by mutual fund investors.

#### 4. CONCLUSION

This research surveyed 289 samples of mutual funds for the period of January 2000 to June 2012, by applying multiple regressions of the panel data analysis. The overall results suggest that the performance of mutual funds in Malaysia is not consistent. Results of single index model demonstrate poor performance due to the negative alpha present in various benchmarks such as the Malaysia Gold Shariah Price Index or the KLSE composite index as the market portfolio benchmark. In addition, in the results for non linear model the performance of mutual funds in Malaysia demonstrates good performance as shown by positive alpha. **Secondly**, the asset focus funds and contract funds are influenced by portfolio market benchmark with positive signs. **Thirdly**, analysis of the timing ability of fund managers find that most funds managers have no timing ability to utilise the market information and through their expertise make an investment decision that could achieve abnormal return.

#### Notes

1. Active investment is an investment that is actively chosen and changes the assets of the portfolio, and is normally made by the fund managers. Passive investment is an investment that is not actively chosen and does not change the assets of the portfolio, such as investment in derivative securities based on the index.
2. Fee for buying or selling mutual funds.

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