

Measuring the selectivity and market timing performance of Islamic mutual funds in the KSA

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ABSTRACT

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This paper examines the selectivity and market timing abilities of Islamic fund managers in the Kingdom of Saudi Arabia (KSA), since the empirical research has yet to explore the profitability and investment risk factors involved. We use a uniquely large set of data for 134 Islamic funds for a period from June 2002 to December 2019, and this was free from any survival bias. We found that Islamic fund managers in the KSA demonstrated good selectivity skills but no market timing ability. We also found that Islamic fund managers in the KSA tend to select companies with aggressive investment patterns despite their low profitability.

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1. Introduction

Mutual funds are an attractive investment since they are managed by professionals to accommodate a high level of diversification. The performance of these funds is a key factor in attracting investors by offering higher returns than other investments. Over the last two decades, financial markets have started offering financial products that comply with investors' moral values, and these are called "ethical investments". Islamic finance is among these alternative forms of investments, and its financial products are in accordance with sharia rules, such as by excluding any involvement in gambling, entertainment, weapons trading, and alcohol products, among others. According to the IFSB's 2019 stability report, in the second quarter of 2018, the Islamic Financial Services Industry was estimated at USD 2.19 trillion. According to the same source, the KSA and Malaysia are dominating the Islamic fund industry, with them together hosting 66% of all Islamic funds. Indeed, Saudi Arabia alone manages 34% of all Islamic funds.

Empirical research on the performance of mutual funds usually focuses on comparing fund performance with a benchmark (local, regional, ethical, or global), and studies' findings have been mixed. Globally speaking, Hakim and Rashidian (2004) found that the Dow Jones Islamic Market World Index (DJIM) performed relatively well compared to the Dow Jones World Index (DJW). Hussein (2005) also found that the Dow Jones Islamic indexes performed better than their conventional counterparts during a bull period, but they provide investors with abnormally negative returns during a bear period. In contrast, Abdullah et al. (2007) found that Sharia compliant funds in the Malaysian capital market out-performed non-Islamic funds in bearish periods, but conventional funds out-performed Islamic ones in bullish periods. They also found that both fund managers demonstrated poor selection and timing abilities. Elfakhani et al. (2007), meanwhile, found that Islamic mutual funds perform

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similar to conventional funds, albeit with some exceptions. Girard and Hassan (2008) found that the performance of Islamic indexes (FTSE Islamic market family) did not differ from that of conventional indices (the MSCI AC World Index and a set of MSCI conventional indexes). Abderrezak (2008), meanwhile, found that Sharia compliant funds in Malaysia demonstrated poor performance compared to their benchmarks, although Islamic and other ethical funds showed similar performance. Hoepner et al. (2011) demonstrated that sharia-compliant funds in Malaysia and the GCC countries did not differ significantly from their respective benchmarks. For a sample of 145 funds, mainly in Malaysia with only three funds in the Middle East, Hayat and Kraeussl (2011) showed that Islamic funds performed with less success than their conventional counterparts in bearish and bullish periods. They attributed this poor performance to the poor selectivity and market timing abilities of sharia fund managers. In contrast, Boo et al. (2017) found that Islamic mutual funds are likely to outperform their conventional benchmarks in Malaysia. They also pointed out that Islamic funds could provide hedging opportunities in financial crises, because they mainly include low risk and highly liquid stocks.

For the KSA, Merdad et al. (2010) found that HSBC's Islamic fund managers showed good selectivity and timing abilities in bearish markets, concluding that sharia-compliant funds act as a means for hedging in crisis periods due to the restrictions that Islamic law imposes on portfolio selection. This concurs with the work of Hoepner et al. (2011), who argued that Sharia compliant funds could offer secure positions because their assets are restricted to the less-leveraged stocks. Rubio (2012) also showed that Islamic funds outperform their international counterparts in the KSA. Ashraf (2013), meanwhile, investigated the selectivity and market timing skills of 159 mutual funds, both Islamic and conventional, during the last global financial crisis and found that sharia-compliant mutual funds outperformed their conventional counterparts in stressed periods. Merdad et al. (2016) explored a wider sample of 143 equity mutual funds, again both Islamic and conventional, for the relatively short 2004–2010 period, and found that sharia-compliant funds in Saudi Arabia outperformed their conventional peers. However, they also found that internationally focused sharia-compliant funds in the KSA demonstrated lower performance than the internationally focused conventional funds. For a sample of 36 mutual funds managed by the Riyadh Capital funds manager, Omri et al. (2018) concluded that Islamic funds outperform their conventional counterparts in the long term. Zouaoui (2019), meanwhile, studied a sample of 15 funds managed by HSBC in the KSA and found that the Islamic fund managers showed better selectivity than the conventional fund managers did. Furthermore, only the managers of internationally focused conventional funds showed good timing abilities.

When assessing the market timing and the selectivity skills of fund managers, previous studies have employed the CAPM, Fama and French's (1993) three-factor model, or Carhart's (1997) model. For our study, we chose to use the latest model of Fama and French (2015, 2018) to take into account the effects of investment and profitability factors related to average returns. We also used a unique data sample, because it covers a relatively long period when compared to other studies, with it spanning from June 2002 to December 2019. This sample was also relatively large, with it covering 134 Islamic funds, and free from any survival bias. Contrary to many studies that have focused on the funds of one institution, we included all fund managers.

The remainder of this paper is structured as follows: Section 2 explains the methodology, while Section 3 describes our choice of data. Section 4 then provides empirical results for the performance of Islamic funds in the KSA in terms of selectivity and market timing, and then the final section presents this study's conclusion.

2. Methodology

To check the selectivity and market timing performance of Islamic mutual funds in the KSA, we refer to the Treynor–Mazuy (1966) and the Henriksson–Merton (1981) models. Based on the CAPM of Sharpe (1966) and Lintner (1965), the Treynor–Mazuy and the Henriksson–Merton models are expressed, respectively, as follows:

$$R_{fund,it} - R_{ft} = \alpha + \beta_1(R_{Mt} - R_{ft}) + \gamma(R_{Mt} - R_{ft})^2 + \varepsilon_{it} \quad (1)$$

$$R_{fund,it} - R_{ft} = \alpha + \beta_1(R_{Mt} - R_{ft}) + \gamma D_t(R_{Mt} - R_{ft}) + \varepsilon_{it} \quad (2)$$

where:

R_{it} is the return of the fund i for month t . R_{ft} is the return of the risk-free asset for month t . R_{Mt} is the return of the market index for month t . D_t is a dummy variable that equals one if the market premium, $(R_{Mt} - R_{ft})$ is positive and zero, otherwise.

Good selectivity by Islamic fund managers in the KSA is associated with a positive intercept α , while a positive γ implies good timing ability among the Islamic mutual fund managers, meaning that they are adept at rebalancing their funds prior to declines and rises in the market. We also test our hypothesis based on Fama and French's (2015, 2018) recent model that takes into account the relationship between average excess returns and size, value, profitability, and investment effects. We sourced these variables from Kenneth French's website, with us taking the factors for emerging markets because according to the website, the

KSA belongs to this class of countries. The extended Treynor–Mazuy (1966) and Henriksson–Merton (1981) models are expressed as follows:

$$R_{fund,it} - R_{ft} = \alpha + \beta_1(R_{Mt} - R_{ft}) + \gamma_1(R_{Mt} - R_{ft})^2 + \beta_2SMB_t + \beta_3HML_t + \beta_4RMW_t + \beta_5CMA_t + \varepsilon_{it} \quad (3)$$

$$R_{fund,it} - R_{ft} = \alpha + \beta_1(R_{Mt} - R_{ft}) + \gamma_2D_t(R_{Mt} - R_{ft}) + \beta_2SMB_t + \beta_3HML_t + \beta_4RMW_t + \beta_5CMA_t + \varepsilon_{it} \quad (4)$$

where SMB_t , HML_t , RMW_t , and CMA_t are systematic risk factors related to size, value, profitability, and investment effects related to average returns.

3. Data

We studied a sample of 134 KSA Islamic funds, with data for them being collected from the Bloomberg database. Our sample covers monthly observations for a period from June 2002 to December 2019, according to the availability of data. Our study included all the traded Islamic funds in the KSA, so it was free from survivorship bias. However, we only considered funds that had traded for more than 24 months. Some 247 funds were available in the KSA at the end of 2019, and our sample covers 134 Islamic funds and includes 19,621 observations. We used the average return on 13-week SAMA Bills as a proxy for the risk-free rate of return R_{ft} . We also use the TASI index as a proxy for the market return. To check robustness, we first examined the selectivity and market timing abilities of the fund managers with regards to the local market index TASI. We then tested their abilities against global Islamic and conventional indexes, specifically the MSCI ACWI Islamic Index and the MSCI world index, respectively. We also obtained the systematic factors for the Fama–French five-factor model from Kenneth R. French’s data library. We used these emerging markets factors as proxies for size (SMB), value (HML), profitability (RMW), and investment (CMA). Table 1 reports the descriptive statistics for the average excess returns and the risk factors of the Fama–French (2015, 2018) model. For the entire period of our study, the average excess return on the 134 Islamic Funds was close to zero percent. Our study period, however, covers the 2007–2008 global financial crisis and the 2014 oil crisis, which helps explain this poor long-term performance. We also noted that the local TASI index, the global Islamic index, and the global world index reported average positive returns for the entire study period.

To estimate our models, we adopted the Fama–MacBeth (1973) approach, because this is appropriate for dealing with effects of time, rather than firm effects, in a panel data set, (Peterson, 2009).

Table 1

Descriptive statistics

	Mean	S.D	25%	Median	75%
Variables					
Average ($R_{fund,it} - R_{ft}$) in %	-0.048	1.954	-0.376	-0.032	0.512
SMB	-0.063	1.610	-0.960	-0.140	1.050
HML	0.454	1.732	-0.690	0.210	1.590
RMW	0.229	1.206	-0.570	0.270	0.930
CMA	0.217	1.417	-0.680	0.230	0.840
Benchmarks					
TASI Index	0.491	6.664	-2.892	0.522	3.958
MSCI ACWI Islamic Index	0.172	1.749	-0.544	0.377	1.111
MSCI World Index	0.171	1.820	-0.775	0.454	1.127

4. Results

Table 2 reports the performance of Islamic funds in the KSA in terms of selectivity and market timing compared to the local benchmark, namely the TASI index. The estimation is based on the TM and HM approaches and refers to the CAPM of Sharpe (1966) and Lintner (1965), as well as the Fama–French (2015, 2018) five-factor model. The average estimated risk-adjusted performance Alpha from the CAPM is positive and statistically significant with both the TM and the HM approaches, thus demonstrating that Islamic funds in the KSA outperform the local market benchmark. This is in line with the work of Merdad et al. (2010, 2016), Ashraf (2013), Hammami and Oueslati (2017), and Zouaoui (2019). This suggests that during our study period, the fund managers of the KSA demonstrated good selectivity skills. To check robustness, we repeated the TM and the HM approaches for the Fama–French (2015, 2018) five-factor model. The same results were found after controlling for the size (SMB), value (HML), profitability (RMW), and investment (CMA) risk factors. The estimated gamma reflecting market timing ability is negative and statistically significant based on the TM and HM approaches for the CAPM of Sharpe (1966) and Lintner (1965), as well as for the Fama–French (2015, 2018) five-factor model. Islamic mutual fund managers in the KSA therefore do not show good market timing abilities, in line with the work of Hayat and Kraeussl (2011) and Zouaoui (2019).

Table 2

Selectivity and market timing of Islamic mutual funds with the market index TASI benchmark

		TM (1966)		HM (1981)	
		CAPM	FF (2015)	CAPM	FF (2015)
		(1)	(2)	(3)	(4)
<i>intercept</i>	α	0.259*** (9.56)	0.279*** (9.96)	0.312*** (10.50)	0.343*** (10.85)
$(R_{Mt} - R_{ft})$	β_1	1.988*** (13.29)	1.911*** (12.68)	2.393*** (13.89)	2.328*** (13.43)
$(R_{Mt} - R_{ft})^2$	γ_1	-0.353*** (-9.30)	-0.349*** (-9.53)		
$D_t(R_{Mt} - R_{ft})$	γ_2			-0.736*** (-10.01)	-0.777*** (-10.38)
<i>SMB</i>	β_2		-0.0123 (-1.28)		-0.0121 (-1.25)
<i>HML</i>	β_3		0.0208** (2.06)		0.0208** (2.08)
<i>RMW</i>	β_4		-0.0918*** (-6.04)		-0.0939*** (-6.08)
<i>CMA</i>	β_5		-0.102*** (-4.44)		-0.111*** (-4.81)
	R^2	0.295	0.305	0.294	0.304
	<i>N</i>	19621	19621	19621	19621
	<i>Funds</i>	134	134	134	134

Selectivity and market timing abilities of Islamic-fund managers in KSA are measured using (i) the Treynor and Mazuy (1966), hereafter TM, approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings, and (ii) the Henrikson and Merton (1981), hereafter HM, approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings. The benchmark is the KSA stock market index: TASI index. Positive intercept α denotes good selectivity ability of Islamic-fund managers and positive γ demonstrates superior timing ability of Islamic fund managers. T-statistics are in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively. *N* is the number of observations and *Fund* is the number of funds in our study.

We may attribute this to the fact that readjustment or rebalancing is performed in accordance with sharia rules rather than for financial reasons (Leitea & Cortezb, 2014). To provide additional robustness, we compared (see Tables 3 and 4) the selectivity and market timing abilities of Islamic funds managers in the KSA with the MSCI world index (a global conventional index benchmark) and the MSCI ACWI Islamic Index (a global Islamic benchmark).

Table 3

Selectivity and market timing of Islamic mutual funds with the Islamic benchmark

		TM (1966)		HM (1981)	
		CAPM	FF (2015)	CAPM	FF (2015)
		(1)	(2)	(3)	(4)
<i>intercept</i>	α	0.412*** (11.09)	0.379*** (11.09)	0.476*** (12.63)	0.500*** (12.42)
$(R_{Mt} - R_{ft})$	β_1	2.813*** (12.27)	2.335*** (9.95)	4.129*** (15.50)	3.971*** (15.45)
$(R_{Mt} - R_{ft})^2$	γ_1	-2.402*** (-5.88)	-3.118*** (-5.49)		
$D_t(R_{Mt} - R_{ft})$	γ_2			-1.680*** (-3.16)	-2.901*** (-4.79)
<i>SMB</i>	β_2		0.0546*** (3.78)		0.0563*** (4.09)
<i>HML</i>	β_3		0.113*** (8.94)		0.101*** (9.29)
<i>RMW</i>	β_4		-0.0885*** (-4.90)		-0.116*** (-5.96)
<i>CMA</i>	β_5		-0.0988*** (-5.22)		-0.119*** (-5.84)
	R^2	0.123	0.145	0.114	0.138
	<i>N</i>	18959	18959	18959	18959
	<i>Funds</i>	134	134	134	134

Selectivity and market timing abilities of Islamic-fund managers in KSA are measured using (i) the Treynor and Mazuy (1966), hereafter, TM approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings, and (ii) the Henrikson and Merton (1981), hereafter HM, approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings. The benchmark is the Islamic global index: the MSCI ACWI Islamic Index. Positive intercept α denotes good selectivity ability of Islamic-fund managers and positive γ demonstrates superior timing ability of Islamic fund managers. T-statistics are in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively. *N* is the number of observations and *Fund* is the number of funds.

The results show that Islamic funds in the KSA outperform both global indexes, but market timing ability is poor, confirming our previous result. We noted that, on average, Islamic funds in the KSA are riskier than the market index (TASI). The systematic

risk Beta is greater than one in all specifications and for all benchmarks. This risk, however, is compensated for by the selectivity abilities of Islamic fund managers. We also noted (see Table 2) a negative effect of size on the average returns of Islamic funds in the KSA. The risk-adjusted returns for the KSA Islamic funds exclude large capitalized stocks with both the TM and the HM approaches. Previous studies in other regions have attributed this negative effect of size to the way that such large stocks are excluded during the screening process for mutual funds (Leite & Cortez, 2014). This observation for Islamic funds in the KSA is inconsistent with the work of Azmi et al. (2020), who noticed a size effect for the MENA region. We may attribute this to their use of Carhart's (1997) model, while we took into account Fama and French's (2015, 2018) recent factors that are related to investment and profitability. As indicated with the local benchmark (see Table 2), the HML coefficient is positive and statistically significant, thus revealing a value effect for the Islamic funds of the KSA. In theory, value stocks are associated with a lower level of risk, and they are usually found among large, high-quality companies that have been trading for a while. This value effect corresponds to the long-term investment perspective of funds, and our results are in line with those of Azmi et al. (2020) for the MENA region, although our model is different. Since value stocks are traded at a lower price than their fundamentals would suggest, we may deduce that ethical fund managers are capitalizing on market inefficiencies, especially when value stocks are more likely to give rise to higher returns than growth stocks in the long term. This suggests that Islamic fund managers in the KSA demonstrated good selectivity ability for the entire study period despite the 2008 financial crisis and the 2014 petroleum crisis, which is all the more notable because the KSA is highly reliant on oil revenues.

Table 4

Selectivity and market timing of Islamic mutual funds with the global benchmark

		TM (1966)		HM (1981)	
		CAPM	FF (2015)	CAPM	FF (2015)
		(1)	(2)	(3)	(4)
<i>intercept</i>	α	0.394*** (10.57)	0.362*** (10.97)	0.435*** (12.42)	0.455*** (11.58)
$(R_{Mt} - R_{ft})$	β_1	2.788*** (11.37)	2.391*** (9.59)	3.917*** (15.24)	3.846*** (14.73)
$(R_{Mt} - R_{ft})^2$	γ_1	-2.113*** (-4.83)	-2.841*** (-4.63)		
$D_t(R_{Mt} - R_{ft})$	γ_2			-0.918 (-1.33)	-1.828** (-2.08)
SMB	β_2		0.0606*** (4.18)		0.0606*** (4.33)
HML	β_3		0.119*** (8.81)		0.111*** (9.41)
RMW	β_4		-0.0694*** (-3.80)		-0.0890*** (-4.35)
CMA	β_5		-0.0795*** (-4.32)		-0.0964*** (-4.83)
	R^2	0.117	0.138	0.109	0.131
	<i>N</i>	19621	19621	19621	19621
	<i>Funds</i>	134	134	134	134

Selectivity and market timing abilities of Islamic-fund managers in KSA are measured using (i) the Treynor and Mazuy (1966), hereafter TM, approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings and (ii) the Henrikson and Merton (1981), hereafter HM, approach in both the CAPM and the Fama–French (2015, 2018) five-factor model settings. The benchmark is the conventional global index: TASI index. Positive intercept α denotes good selectivity ability of Islamic-fund managers and positive γ demonstrates superior timing ability of Islamic fund managers. T-statistics are in parentheses. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively. N is the number of observations and Fund is the number of funds.

The Islamic funds of the KSA have negative exposure to RMW (profitability) and CMA (investment) factors, and this continues to be valid with the TSASI market index (local benchmark), the Islamic global fund benchmark, and the conventional global fund benchmark, with both the TM and HM approaches. We can conclude that the Islamic fund managers of the KSA select companies with aggressive investment patterns despite their low profitability.

5. Conclusion

This study investigated the performance of the Islamic fund managers of the KSA in terms of selectivity and market timing. It stands out by (i) using a larger set of data than in previous studies, with it covering 134 Islamic funds, free from survival bias, for a period from June 2002 to December 2019 and (ii) exploring the investment and profitability risk factors of Fama and French (2015, 2018) and controlling for size and value risk factors related to average returns. We also applied Treynor and Mazuy's (1966) and Henriksson and Merton's (1981) approaches with both the CAPM of Sharpe (1966) and Lintner (1965) and the Fama–French (2015, 2018) five-factor model. First, in accordance with previous studies, we found that the fund managers of the KSA demonstrate good selectivity skills, but they do not show much market timing ability. This implies that the typical Islamic fund manager in the KSA is skilled in selecting assets to include in a fund, but any readjustment is constrained by Islamic values and not necessarily based on financial reasoning. Second, we found that Islamic funds in the KSA tend to exclude large capitalized stocks and that risk-adjusted returns are driven by a value effect, where managers tend to prefer

undervalued stocks that may generate greater returns in the long term. Finally, when considering the profitability and investment risk factors related to average returns, as proposed by Fama and French (2015, 2018), we found that Islamic fund managers in the KSA tend to select companies with aggressive investment patterns despite their low profitability. We suggest that Islamic fund managers, investors, and policy makers in the KSA should evaluate the impact of screening processes on risk and return.

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