A Survey of Literature on Islamic Equity Style Investing and its Applications

Shahrin Saaid Shaharuddin[1*], Wee-Yeap Lau[2] & Rubi Ahmad[1]

[1]Faculty of Business and Accountancy, University of Malaya, Lembah Pantai, Kuala Lumpur 50603 Malaysia
[2]Faculty of Economics and Administration, University of Malaya, Lembah Pantai, Kuala Lumpur 50603 Malaysia

Abstract: The study of equity style investing and its application to Islamic stock markets is limited but evolving. The need for analysis in this area is more pronounced as a result of investors and fund managers placing a greater level of importance on equity style investing. However, with the absence of Islamic equity style indices in many emerging markets, the analysis and further utilization of this investment strategy are impeded. Looking at the seminal papers by Sharpe (1992), as well as Fama and French (1992), which are the cornerstone of the idea and methodologies of equity style investing, this survey also traces the work contributed by scholars that have evolved along the way. Findings related to the literature seem to suggest that there are many areas that require further research, especially to explain the idiosyncratic nature of Islamic equity style investing.

1. Introduction

The Islamic capital markets having been growing at a rapid pace over the past few decades. Despite the evolution of the Islamic capital markets in areas such as the banking industry, stock market, *Sukuk* market, fund management, and *Takaful* industry, there seems to be a disparity in terms of the methods applied in managing Islamic funds compared to conventional funds. The evolution of the Islamic stock markets as a result of international development of capital markets by government institutions and multinational companies to meet the needs of not only Muslim but also non-Muslim investors and financiers, has been widely accepted by governments, researchers and the investment community. However, the existing literature on Islamic fund management seems to suggest that there has not been sufficient work performed in the area of asset pricing, especially relating to Islamic equity style investing.

Equity style investing has developed as a result of investors creating investment portfolios consisting of stocks that share similar characteristics. Historically, investors and fund managers have found that it is better to develop a portfolio of stocks that have similar characteristics for the purpose of making asset allocation decisions. This style of investing however relies on the availability of stock market indices that group stocks according to similar characteristics. This variation of stock market indices, which groups stocks according to similar characteristics, are better known as equity style indices.

The majority of equity style indices that have been developed and made commercially available are based on conventional stocks. The absence of commercially available Islamic equity style indices has resulted in a shortage of studies being performed on Islamic equity

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* Corresponding author: Shahrin Saaid Shaharuddin. Email: shahrin@um.edu.my. Telephone number: +603 7967 3837

style investing. This has proven to be an impediment to investors who are now looking to Islamic stocks as an alternative to conventional stocks for the purpose of creating a diversified portfolio.

At present, studies on Islamic equities and fund management have been limited to studies relating to the effects of *Shariah* screening and diversification benefits, as well as cointegration with conventional indices. The diversification benefits of Islamic stocks during periods of economic downturn have been argued by Saiti *et al.* (2014), as well as Abbes *et al.* (2015). Furthermore, Islamic stocks have been shown to be attractive investments during periods of recession as they are less volatile (Sensoy *et al.* 2015). However, studies by Yilmaz *et al.* (2015) have indicated that the Islamic stock market indices are not decoupled from conventional indices.

Given the fact that there is a gap in the area of Islamic equity style investing, which can be explained by the absence of Islamic equity style indices, this creates opportunities for further research, especially in emerging economies that are benefiting from the growth of the Islamic capital markets. An emerging economy, such as Malaysia, has benefited from double digit growth rates[1]. The growth rate globally for Islamic financial assets has been estimated at 15% to 20% a year since 1990 (Iqbal and Mirakhor 2013).

The Islamic stock market on the other hand has benefitted from this rapid growth in the Islamic capital markets, as evidenced by a cumulative aggregate growth rate (CAGR) of 8.16% of the Dow Jones Islamic Market International Titans Index since its inception in January 1996 to December 2015[2]. In Malaysia, the FTSE EMAS *Shariah* index, which is the Islamic stock market index that captures the performance of all *Shariah* compliant stocks in one of the largest and most dynamic Islamic stock markets in Malaysia, has experienced a CAGR of 6.79% since its introduction in January 2007 to December 2015[3]. The increase in the importance of the Islamic capital market in Malaysia can also be viewed from the point of view of the growth in the Islamic fund management industry (as shown in Table A.1 of Appendix A).

Fama and French (1992, 1993), and Sharpe (1992) have been credited for their contribution to the growth and development of a theoretical framework for equity style investing. As one of the first proponents of equity style investing, in their seminal paper on the three-factor model, Fama and French (1992) argued that, in addition to the market risk premium, other factors exist like size and value, which help to explain stock returns. This discovery brought about an awareness among the investment fraternity of the existence of equity style investing in the form of value and small cap portfolios.

In the same year, the seminal paper on asset allocation and performance measurement was published by the Nobel Laureate William Sharpe (1992). In his paper, he introduced an asset class factor model that is able to decompose mutual fund returns into their respective asset allocation categories based on a technique known as return-based style analysis (RBSA). This method of determining the performance of stocks categorized based on similar characteristics is also known as style analysis. The introduction of the style box by

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[1] According to Ernst & Young's World Islamic Banking Competitiveness Report (2014-2015), Islamic financial assets grew at double digit rates from 2003 to 2013, and now stand at over USD1.8 trillion.

[2] The Dow Jones Islamic Market International Titans Index is a stock market index that consists of the 100 largest *Shariah* compliant stocks from various countries.

[3] Malaysia has also developed to become one of the most important centres for the development of the Islamic capital markets, and, as at the end of 2014, held 57% of total market capitalization of the Islamic capital markets (Canada Islamic Finance 2016). Also, as at December 2015, there were a total of 667 *Shariah* compliant stocks listed on the Kuala Lumpur Stock Exchange with a market capitalization of MYR1.086 trillion.

Morningstar in the 1990s further enhanced the interest of academia and investment practitioners in style classification. Style classification also leads towards equity style investing, which is also known as style investing (Barberis and Schleifer 2003). Style investing is the process of categorizing assets into broad classes, such as large-cap stocks and value stocks, and different asset classes also influence the way investors make asset allocation decisions (Bernstein 1995).

Nonetheless, despite the claims of Fama and French (1992, 1993) and Sharpe (1992) of a better approach to asset pricing, various researchers have presented evidence to contest the theoretical validity of their models. For instance, in direct contravention to Fama and French's (1992, 1993) study, Dimson and Marsh (1999) showed evidence that the size effect does not exist when it comes to companies on the London Stock Exchange. Small companies, which are otherwise known as "value" companies, did not show evidence of a positive size premia. This anomaly later became known as the "reversal of size effect", and was later corroborated by other researchers.

The study of the literature on Islamic equity style investing has presented some issues and opportunities on how researchers and investors can gain by understanding the performance of Islamic stocks once classified according to different styles and characteristics. In order to highlight some of these issues, we firstly describe equity style investing from the perspective of Islamic stocks. This is followed by a study of the Fama and French three-factor model and how it has been applied in non-US markets. We then evaluate Sharpe's approach to style investing and performance attribution. This is followed by a review of equity style indices for both conventional and Islamic stocks. Finally, we conclude by providing a synopsis of our findings from the study of the literature and future areas of study that would be of interest to investors and researchers.

2. Equity Style Investing from an Islamic Equity Style Perspective

The evidence thus far seems to indicate that equity style investing has numerous advantages to investors and fund managers. Nonetheless, investors and fund managers are deprived of making equity style investment decisions based on *Shariah* compliant stocks due to the absence of Islamic equity style indices that group Islamic stocks based on common characteristics. It can be hypothesized that better investment decisions can be made by applying Islamic equity style investing techniques based on Islamic stocks that have been categorized according to similar characteristics and the performance measured in the form of an Islamic equity style index.

By definition, equity style investing is the process of developing investment portfolios based on stocks with common characteristics (Bernstein and Tupper 1998). Different "styles" of investing can be developed based on defining stocks according to structural segments (i.e. investment charters of mandates, permissible investments and risk tolerance of managers and investors), psychological factors (i.e. regret aversion of the investment manager) and information asymmetry (i.e. not all companies have the same flow of information) (Bernstein and Tupper 1998). Equity style investing therefore extends beyond investing in growth and value stocks (growth being high P/E ratio and value being low P/E ratio stocks) and categorizes stocks based on size and market capitalization.

Equity style investing has various benefits including developing style rotation strategies for managers. In Malaysia, the findings seem to suggest that growth strategies for stock picking outperformed value strategies after the 1997 Asian Financial Crisis due to a slide in earnings per share growth (Bernstein 1998). The style strategy, which has proven to work in the case of Malaysia, combines earnings, momentum, value and optimism. However, optimism as measured by high broker optimism (as explained by buy recommendations) and low broker optimism (as explained by sell recommendations) do not hold any predictive

power and add to the performance. This can be proven by the figure below, which indicates that broker's buy recommendations not only underperformed but also lost value added during the 1996-1997 Asian Financial Crisis (Figure 1).

The bulk of research studies performed so far on equity style investing have been based on conventional stocks. However, in comparing Islamic and conventional stocks, it can be argued that there are various ways in which investors can benefit by classifying Islamic stocks according to style and that the study of Islamic equity style investing is in no way redundant or irrelevant. The differences between Islamic and conventional stocks are described in Table 1.

While conventional stocks in Malaysia need to be approved by the Securities Commission of Malaysia (SC) before being added as a constituent of the FTSE Bursa Malaysia EMAS Index, the *Shariah* compliant Malaysian stocks need to be approved by the *Shariah* Advisory Council (SAC) of the SC. Once approved, the Islamic stocks will be added as a constituent in the FTSE Bursa Malaysia EMAS *Shariah* index, which is rebalanced and reconstituted semi-annually.

The differences between Islamic and conventional stocks in terms of the effects of screening do not prevent the development of Islamic equity style portfolios. The recent emergence of interest in the area, as evidenced by the studies of Dewandaru *et al.* (2015), Waukhausl *et al.* (2015), and Merdad *et al.*. (2015), suggests that it would be beneficial to conduct further studies in the area of Islamic stocks and how it is affected by style investing.
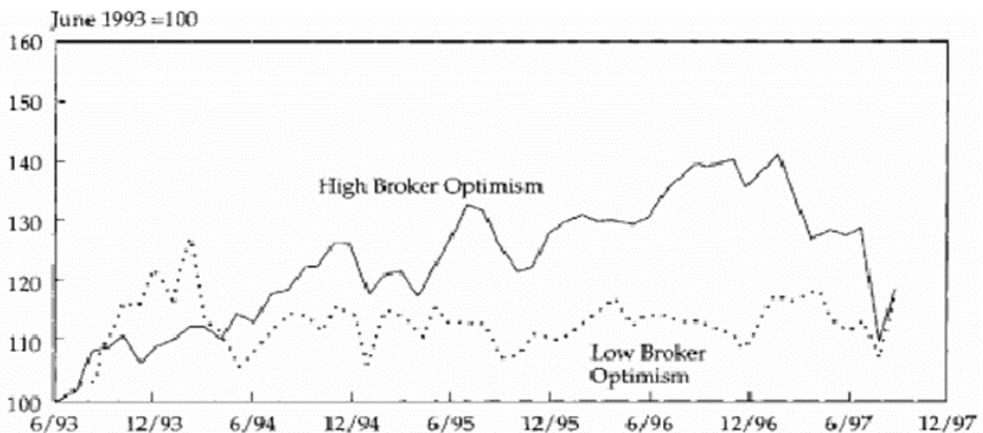

Figure 1: Malaysian Brokers' Optimism, June 1993- September 1997
Note: Cumulative performance relative to the Kuala Lumpur Composite Index
Source: Based on data from The Estimate Directory (Bernstein and Tupper, 1998)

This outcome validates that the level of diversification in the co-integration based portfolio outperformed the correlation based portfolio over the long run and throughout the crisis periods. This is aligned with the findings from Philips *et al.* (2012), which indicated that using correlation as a method of portfolio construction does not necessarily yield the best result.

Fama and French's research evaluated the joint effects of market beta, size, E/P ratio, leverage and the Book Value (BV) / Market Value (MV) on a cross-section of average returns, and they found that there is a negative relationship between size and average return, as well as a positive relationship between the BV/MV ratio and average return (Reilly and Brown 2009). Consequently, Fama and French successfully argued that two additional factors – size and book-to-market ratio – should be included in the capital asset pricing

model to further improve the model. In fact, the same notion was applied in this case to demonstrate that beta has no ability to explain cross-sectional variations in equity returns. Rather, size and book-to-market value of equity explain the cross-sectional returns of stocks. This finding was later substantiated through the research work done by Grinold (1993), Davis (1994), and He and Ng (1994) to name a few.

Table 1: Differences and similarities between Islamic and conventional shares from an equity style investing perspective

	Islamic shares	Conventional shares
Screening methodology	Stocks needs to be approved by the *Shariah* Advisory Council (SAC) of the Securities Commission of Malaysia (SC) based on *Shariah* guidelines. Excludes equities which may promote Gharar (fraud), Bai al-Ma'dum (selling items that are not owned). Muslim intellectuals continue to argue about the legitimacy of interest and *riba* (Kamla and Alsoufi, 2015).	SC approves listing of stocks based on conventional listing requirement guidelines.
Mutual funds	Islamic mutual funds are made up of funds that have been screened of debt based and profit based investments (Hartono et al., 2014).	Conventional mutual funds can freely choose between debt based and profit based investments.
Style investing	Recent interest in the area of style investing.	Graham and Dodd (1934) have argued for the benefits of investing in value stocks since the 1930s.
Asset pricing models	Asset pricing models (Fama and French, 1992) in Islamic finance were tested by Kianpoor and Dehghani (2016) based on the Tehran Stock Market. Little evidence of Islamic stocks being tested by analysts in other studies.	Numerous examples including most recently the Fama and French five-factor model (Fama and French, 2015).
Equity style indices	Few equity style indices, i.e. S&P Dow Jones Islamic Indices	Numerous equity style indices, i.e. S&P, Vanguard, Russell Co., Morningstar etc.
Risk and volatility	Islamic indices performance varies. Less volatile compared to conventional indices (Sensoy et al., 2015)	More volatile compared to Islamic indices.
Diversification benefits	Diversification benefits by creating a portfolio of conventional and Islamic stocks (Saiti et al., 2014). Also supported by Abbes et al. (2015). Hedging benefits of using Islamic investments was argued by Ashraf and Mohammad (2014).	Less benefits when comparing a portfolio purely made up of conventional stocks compared to a portfolio that consists of conventional and Islamic stocks.
Decoupling of Islamic and conventional indices	Islamic and conventional indices are not decoupled (Yilmaz et al., 2015).	Not decoupled from Islamic indices.

Fama and French's (1992) findings complement and improve on the capital asset pricing model (CAPM), which is also known as the three-factor model. The findings of Fama and French suggest that it was in fact the characteristics of the stocks that explains the cross-correlation between stocks of similar characteristics (Daniel and Titman 1997). The Fama and French (1992) findings also paved the way for studies in the area of return based style analysis (RBSA). Based on the return based analysis, Horst et al. (2004) later found that style analysis leads to significant efficiency gains in factor loadings when factors have low cross-correlations.

Fama and French's stylized approach was further tested by various researchers with results that vary. For instance, Lakanishok, Shleifer and Vishny (1994) studied the Fama and French three-factor model and its impact on value and growth investment strategies. Their findings seem to indicate that value investment strategies are more beneficial, which supports the hypothesis of Fama and French (1992). The earlier work by Chan, Hamao and Lakonishok (1991) also ascertained the benefits of value investing in the Japanese stock market.

However, there are research findings that are contradictory to the three-factor model. As an example, Ahmad and Nanda (2000) suggested that growth and value stocks are not mutually exclusive, and that the combination of the two stylized factors outperforms equity style stocks. Furthermore, Chan and Lakonishok (2004) argued that returns on growth stocks that originate from companies in fast paced and dynamic industries outperform value stocks.

These contradictions seem to indicate that further work needs to be performed in the area of fund management in relation to style investing. An area that needs further analysis in fact is investor behaviour. Lakonishok *et al*. (1994) argued that the problem with value investing strategies is that investors make suboptimal investment decisions that jeopardizes the effectiveness of the value style investment strategy. Nonetheless, there have been studies that seem to indicate that equity style "value" investing in emerging markets does benefit investors (Kargin *et al*. 2002)

4. Findings of Fama-French Three-factor Model in non-US Markets

This breakthrough by Fama and French (1992) was later used by researchers in order to test the newly hypothesized Fama and French three-factor model. However, there still remains the issue of developing Fama and French factors before further analysis can be performed. In this vein, Faff (2003) managed to overcome this problem by creating Fama and French factors based on Frank Russell (i.e. Russell Co.) style portfolio construction methods. Consequently, Faff (2003) managed to ascertain that the Fama and French model can be supported after having been tested based on a multivariate asset-pricing analysis.

Having said that, the results of the analysis by Faff (2001, 2003) and other researchers seems to indicate that there are idiosyncrasies in the chosen data and methods applied in testing the three-factor model that needs to be further explained. By analysing the performance of 24 Australian industry portfolios, which were represented on the Australian Stock Exchange (ASX), Faff (2001) referred to a 'perverse' finding in the form of a 'reversal' of the size effect, which contradicts the principles argued by Fama and French (1992, 1993). Furthermore, Faff (2003) argued in his paper that there is a high proportion of SMB and HML betas that take on a positive sign. Long Pham (2007) also contributed towards the debate surrounding the empirical performance of the CAPM and the Fama and French model by constructing market proxies for the Fama and French factors by using Daiwa Style indices based on Japanese stocks as stylized facts. Also, Walid and Lau (2009), who followed up on the work by Faff (2003) found in the Russell/Nomura style index, supported the claims made by prior research.

However, acceptance of the three-factor model was less persuasive based on research performed by other researchers. For instance, Faff (2009) sought to address some findings that he described as variables in the Fama and French model, which might not be as robust as suggested in prior literature. The research seems to indicate that when the estimated risk premium is taken into account, the support for the Fama and French model is less persuasive. Furthermore, this paper also uncovered a negative size premium, and supported the argument that was initially posed by Dimson and Marsh (1999) of the reversal of the size effect where small, value type companies do not outperform growth companies.

Kothari (1995) further argued that book to market results are affected by a selection bias. The cross-section of expected return reveals statistically significant compensation for beta risk for an equally weighted index. However, the relation between book-to-market equity returns are weaker and less consistent compared to Fama and French (1992).

5. Style Investing and Performance Attribution

The seminal paper by Sharpe (1992), which was hailed as the cornerstone that defined this shift in thinking amongst investors towards a new approach in investment and portfolio management based on focussing on the characteristics of different categories of shares. It was from the findings of this paper that investors later coined the phrase "style investing".

In his paper, Sharpe (1992) argued that equity style stocks can be classified further based on growth and value stocks. In doing so, he characterized growth and value stocks based on size and value stocks. To further explain, variables used to explain growth and value stocks are the Price-to-Book (P/B) ratio (where the higher P/B ratio represents growth stocks and the low P/B ratio represents value stocks) and market capitalization of firms (where large market capitalization represents growth stocks and low market capitalization represents value stocks).

Sharpe's 1992 paper has relevance to Islamic equity style investing as a framework was proposed to decompose and analyse the performance of stocks with different characteristics. According to Sharpe (1992) stocks can be grouped based on market capitalization as well as growth and value stocks, as explained in Figure 2 below.
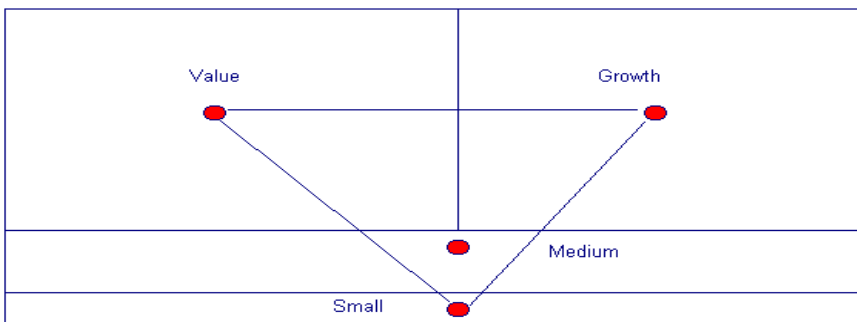

Figure 2: Composition of four domestic equity classes
Source: Sharpe (1992)

Sharpe's (1992) study also shows evidence that value stocks outperform growth stocks over the long-run and that this also applies to various asset classes as well as mutual funds. The practical implications of Sharpe's (1992) study are that the performance of an investment portfolio can be tracked based on a set of equity style indices that group the stocks based on common characteristics (Tan 2003). This gave rise to Sharpe's style

analysis that uses equity style index benchmarks in order to maximize the gains from a portfolio of stocks with similar traits. The combination of funds chosen would also imply the sort of asset allocation style preferred by the fund manager.

Sharpe's findings were later reiterated and tested by various researchers. For instance, Focardi *et al.* (2004) argued that there are categories of stocks with similar characteristics and patterns that performed differently as compared to other categories of stocks. It was also found in the same study that returns of stocks within certain categories were highly correlated in comparison with the returns of stocks within categories that were relatively uncorrelated.

As a result of these findings, there was a significant amount of interest in studying the implications of this observation regarding style investing amongst academics and practitioners. For instance, fund managers would use this knowledge of growth and value style stocks to firstly classify stocks according to style. Following from that, depending on their "style" of investing, a "growth" fund manager would seek to invest in high P/B ratio companies and "value" fund managers would invest in low P/B ratio companies. Value managers, however, have been viewed as investors who are the best in understanding the nature of classes of stocks and gain higher returns from the portfolio mix that they create.

The ability to select stocks that "outperform" the market was also later argued by Kahl (2002). In this study, he argued that value investors would seek to invest in stocks that are priced below the perceived value. By choosing these stocks, investors are aiming to generate returns over and above what the market expects. Consequently, this gave rise to another method of valuing over or under-valued stocks based on the P/B ratio and Price/Earnings (P/E) ratio.

6. Equity Style Indices

One of the most significant advancements that developed as a result of style investing is the development of equity style indices. Equity style indices, which serve as a benchmark index consisting of equity style shares, have been widely accepted and used as an index to measure the performance of portfolios.

The equity style index would not only be used as a gauge of performance for shares, but also to forecast future returns and the direction of the stock market. In testing the style index, Haughton and Pritamani (2005) argued that in order for the index to be reliable as a benchmark, it needs to have a low tracking error ('standard deviation of return difference') between the mean return of the style universe and the style index itself. This characteristic is known as representativeness.

When it is analysed from the point of view of equity style investing in developing markets, there seems to be a need for further study due to the lack of research performed in the developing economies. The same can also be said when it comes to the Islamic capital markets. However, in a recent study, which includes an analysis on style investing, Walkhausl and Loeb (2013) studied the performance of Islamic indices and conventional indices between 2002 and 2012. They found that the Islamic indices generally outperform the developing and emerging markets. Furthermore, an interesting finding relates to the fact that it was revealed that Islamic funds have a strong emphasis on growth stocks in developed markets and large-capitalization stocks in emerging markets.

The scarcity of research on the Fama and French three-factor model on emerging market economies is limited not only from the point of view of conventional stock markets, but also from the point of view of Islamic equity markets. From the point of view of Islamic mutual funds in Malaysia, there is little evidence of research performed based on the Fama and French three-factor model. However, in a recent research paper, Ajmi *et al.* (2014) managed to argue that the decoupling of the Islamic market from their conventional

counterparts reduces the portfolio benefits from diversification when viewed from the point of view of equity funds.

The generalized method of moments methodology introduced by Lars Peter Hansen (1982) however, has proven to be an effective method in analysing the Fama and French three-factor model. The research thus far has proven to the affirmative that the Fama and French model is valid under various different settings. Wei *et al.* (2004) argued that the GMM is an especially useful method when it comes to analysing daily returns that are non-normal for most financial assets, as the GMM estimator is simpler to apply compared to the maximum likelihood estimator.

On the other hand, Walid and Lau (2009) continued the research by Faff while constructing a Russell/Nomura style index and supported the claims made by prior research. The results from the study were derived from the Generalized Method of Moments (GMM) technique. In doing so, the analysis managed to suggest that the Fama and French model is more reflective of the Japanese stock market.

The evidence from the literature seems to indicate that there is a need to perform further studies on Islamic mutual funds in relation to the Fama and French model. Even though this study is mainly concerned with the applicability of the Fama and French model when tested against Islamic mutual funds, the results of this analysis can be used to support claims from other studies about the diversification benefits and the performance of fund managers in Islamic mutual funds compared to conventional funds.

7. Islamic Equity Style Indices

The subsequent increase in interest in the area of style investing contributed towards the development of equity style indices. Various internationally recognized index providers have developed equity style indices to serve the interest of fund managers and investors. Examples of index providers that have created and managed their own style based indices include Morningstar, Vanguard, Standard and Poor's (S&P), MSCI and Russell Co. However, one important observation is that most of the equity style indices created are conventional in nature and are ordinarily created based on stocks that are listed in developed countries. In comparison, only a limited number of equity style indices have been created for the purpose of monitoring Islamic *Shariah* compliant stocks.

Nevertheless, there has been considerable growth in the Islamic capital markets since the 1990s. For instance, the Dow Jones Islamic Market International Titans Index experienced a CAGR of 8.16% since it was first introduced in January 1996 to December 2015 (Thomson Reuters Datastream, 2016), there have been a number of Islamic equity style indices created. This is followed by the creation of Islamic equity style indices by the well-established index providers that act as a benchmark for investors. Table 2 below indicates the Islamic equity style indices based on index provider and details the coverage of the style indices according to the categories of stock market index portfolios (including types of stock markets, country or region and groups of stocks) as well as the existence of style factors.

Table 2 (Panel A and B) indicates that most index providers have developed Islamic stock market indices based on categories or regions as well as categories of stocks. However, even though certain index providers have produced Islamic equity style indices, these indices are not comprehensive to include all stylized factors (such as growth, value and size factors) and may be targeting a specific group of stocks in other cases. One example is the Thompson Reuters Ideal Ratings Islamic indices, which have indices for countries and regions but do not produce indices that cover growth and value style factors. The absence of Islamic equity style indices for developing countries is also an important fact to note, as the Islamic capital markets in countries such as Iran, Malaysia and the

Table 2: International Islamic equity style index providers

Panel A:

Index Providers	Russell Co.	FTSE	MSCI
Islamic Index Coverage	Regional indices including: - BRIC[4] - Developed Emerging Markets Global - Global + GCC[5] - US Islamic Large	*Shariah* Indices including: - FTSE Bursa Malaysia EMAS *Shariah* Indices and Hijrah Indices - FTSE SET *Shariah* Indices - FTSE TWSE Taiwan *Shariah* Index - FTSE/JSE *Shariah* Indices - FTSE SGX *Shariah* Index - FTSE Physical Industrial Metals Index	Regional indices including: - Developed economies - Emerging markets - GCC Frontier Markets
Source	Russell-Ideal Ratings Islamic Indices	FTSE *Shariah* Global Equity Index	MSCI Global Islamic Indices
Growth and Value Style Factors	No	No	No
Size Factor	Yes	Yes	Yes

Panel B:

Index Providers	S&P Dow Jones	Morningstar	Thompson Reuters
Islamic Index Coverage	Country and Regional Islamic Indices including Strategic and Thematic Indices. For example: - DJ Islamic Market International Titans 100 Index - DJ Islamic Malaysia Titans 25 Islamic (USD) - DJ Islamic Sustainability Index	Classifies funds in Growth and Value factors. For example: - Aberdeen Islamic I Equity Class - Public Islamic Asia Tactical Allocation Fund However, no benchmark index is available	Regional, country and sectoral indices
Source	S&P Dow Jones Islamic Indices	my.morningstar.com	Thompson Reuters Ideal Ratings Islamic Indices
Growth and Value Style Factors	No	Yes	No
Size Factor	Yes	Yes	Yes

Middle-East over the last few decades cannot be ignored and would prevent important research from being performed on these markets.

Nonetheless, it is important that equity style indices need to serve investors and fund managers, and, to this end, should possess certain fundamental characteristics that investors value, such as representativeness and reliability. Index providers use various methods in constructing their indices, including the value weighted, market capitalization method as

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[4] BRIC refers to Brazil, Russia, India and China

[5] GCC refers to Gulf Cooperation Council, which is a political and economic alliance of six Middle Eastern countries – Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain and Oman.

well as the modified weighted method to construct an index. However, it has been argued that the market capitalization method is the most effective way to measure the performance of stocks, and to encapsulate various other requirements of investors.

The Islamic equity style indices created by index providers, such as Russell Co. and FTSE, however, seek to report index values that are as accurate and reliable by following the index construction rules and maintenance methods. The construction methodology can be found as explained on the websites of the index providers (i.e. Russell Co. Style Indexes).

In fact, index providers have placed a lot of importance on addressing the issues relating to representativeness, objectivity, transparency, definition as well as maintenance issues. It is in the area of the maintenance of the index that well known index providers have focused their efforts on managing issues relating to index reconstitution and rebalancing, and the possible effects on the index as a result of corporate actions such as stock splits and dividend announcements (refer to Russell Global Index's construction methodology).

From the point of view of the various index providers, however, it can be observed that they apply their own methods when it comes to creating the equity style indices. This is done for the purpose of capturing certain style characteristics. For instance, the S&P Dow Jones index would include companies that are leaders in their industry and would not necessarily need to meet market capitalization rules (Siegel, 2003). The Dow Jones index would also differ from the Russell Co. equity style index because it uses six factors: P/B, projected P/E, projected and trailing earnings per share (EPS) growth and dividend yield.

The different methods applied by the index providers have been argued as causing confusion amongst users of style indices, as it creates the problem of the trade-off between simplicity and the explanatory power of the index (Siegel 2003). Nevertheless, this has not prevented researchers from improving the style indices by introducing a multifactor approach (Rosenberg *et al.* 1985).

The issue relating to the purity of the style indices is also a cause for concern as it was found that style indices could not be "purely" classified as either growth or value stocks. This issue was in fact addressed by Russell Co., as well as Wilshire who classified the indices based on a "pure" growth, value or neutral equity style index.

Provided equity style indices can be developed efficiently to meet the requirements of investors and fund managers, they can undoubtedly serve as a tool that could be used to create portfolios that outperform the market (Reilly *et al.* 2009). This argument was reiterated by Dor and Jagannathan (2003) who observed a substantial increase in investments by mutual funds, pension funds, hedge funds and institutional investors over the last two decades. Both active and passive fund managers can construct portfolios that can generate abnormal returns otherwise known as "alpha". Hence, the portfolio construction technique based on Islamic equity style indices, whether it may be through full replication, sampling or quadratic optimization (Reilly *et al.* 2009), would be advantageous to fund managers.

Also, fund managers can utilize the style index in order to develop a "contrarian" strategy and gain abnormal returns. This was argued by Bernstein (1995) who found that value stocks do not outperform growth stocks in all instances and that good companies are not necessarily good investments. Furthermore, he argued that there is a relationship between macroeconomic factors and style indices that needs to be taken into account when creating equity style indices. Furthermore, it was found that certain growth-oriented managers who have particular skills contribute towards generating abnormal returns (Chen *et al.* 2013).

Dor and Jagannathan (2003) further argued that a common problem for fund managers is in interpreting the results of the style analysis. It is important that benchmarks are

mutually exclusive, comprehensive and that asset class returns should not be correlated with one another. To complement this, Lucas *et al.* (2002) found that by utilizing equity style stock market indices, fund managers can develop investment strategies which generates excess returns by applying a style rotation strategy. Furthermore, style analysis can also be beneficial after having accounted for county and sector factors (Hall *et al.* 2010).

The utility of equity style indices for fund managers was criticized by Siegel (2003) who argued that an equity style index should not only serve as a benchmark to understand individual stocks and to describe a fund managers approach to managing a portfolio but also should be used to evaluate a fund manager's performance. It was also argued that the equity style indices that were created were correctly classified based on objective and rigorous construction methods so that the indices that are created are intuitively appealing and are representative of stock performance in reality.

There does not appear to be much literature pertaining to style indices in Islamic stock markets. This is even more apparent when it comes to the Islamic stock markets in developing countries. Siegel (2003) however, did caution that it is important that if equity style indices are to be applied in developing countries, that the users of the indices need to pay special attention to index maintenance issues and classification of emerging economies' stocks when it comes to selection as index constituents, as well as the effects of currency translation on the indices. Furthermore, it is vital that issues such as investibility, liquidity, transaction costs and float adjustments, together with a level of objectivity and transparency, need to be accounted for when viewed against style factors.

The special nature of developing countries has made it necessary for index providers to make fundamental changes to the indices when required. An example is the case of Malaysia after the Asian Financial Crisis of 1997. The MSCI experienced some problems in deciding whether or not to include Malaysia as a member of the EAFE index and EMF index as this would have been perceived as "double counting" or inflating the value of the index when they should in fact be excluded. This classification problem is an issue that index providers have since dealt with.

However, in studying equity style indices in developing countries, Waulkhausl *et al.* (2012) found that investors in Islamic indices seem to invest mainly in growth and positive momentum stocks (Waulkhausl *et al.* 2012). Nevertheless, Ajmi *et al.* (2014) recently weighed in on this argument by contending that Islamic stock market indices seem to have a link with conventional indices and that the idea that both indices are decoupled is in fact not true. Dewandaru *et al.* (2015) on the other hand tested the merits of introducing a style based approach to Islamic stocks by using an Islamic portfolio with a multi-rotation strategy derived from three prominent styles; notably, momentum, value and quality investing.

More recently, Jawadi *et al.* (2014) identified the benefit of using the Islamic index during the financial crisis as Islamic stocks outperformed conventional stocks. From a portfolio diversification point of view, this would be an interesting option for investors and fund managers who are seeking to diversify their portfolio into stocks that are less risky and produce superior returns during periods of uncertainty.

Of the research papers that have been written about Islamic equity funds, there seems to be agreement that Islamic funds appear to perform differently from conventional funds. However, as argued by Makni *et al..* (2015), this does not necessarily mean that Islamic funds are more attractive compared to conventional alternatives. Given that, there is evidence similar to Ajmi *et al.* (2014) to argue that Islamic funds are better for investors during financial crisis periods. For example, Kassim et al. (2012) also found the benefits of investing in Islamic equity funds.

The breadth of the literature thus far seems to indicate that there is a limited amount of attention on analysing Islamic equities from an equity style point of view. Besides the

examples that have so far been mentioned, at present, Muslim scholars of Islamic finance have focussed their attention primarily on comparative studies between Islamic and conventional stocks (i.e. Jawadi *et al.* 2014, Ashraf *et al.* 2014). Other Muslim scholars are concerned about addressing some of the important issues relating to the religiosity of the Islamic capital markets. For instance, Kamla *et al.* (2015) sought to address the issues relating to the treatment of bank-interest as it relates to the Islamic principle of discouraging *riba*, or interest in financial and banking activities.

However, in the recent past, there has been an emergence of interest in the area of Islamic equity style investing. For example, Dewandaru *et al.* (2015) undertook a comprehensive study on how Islamic portfolios can be created using three different investment styles – momentum, value and quality investing. Kianpoor and Deghhani (2016) recently concluded in their study that stocks grouped according to growth and value stocks on the Tehran stock exchange follow the Fama and French three-factor model (1992).

Islamic equity fund managers on the other hand have been accused of preferring growth and small-cap oriented stocks, and that indices and conventional indices are more value and mid-cap focused (Hassan and Girard *et al.* 2011). Islamic fund managers have also been found to be inefficient when it comes to the timing and selection of Islamic stocks. This was in fact argued by Lai *et al.* (2010) as well as Bashir (2011). Furthermore, it was argued that socially responsible funds do not necessarily outperform conventional funds (Renneboog *et al.* 2008). Merdad *et al.* (2015) on the other hand used a four-factor model that controls for market capitalization, size, book-to-price as well as Islamic effects, and described what was termed as the "negative Islamic effect" when comparing the returns of Islamic stocks versus conventional stocks in Saudi Arabia.

Even though there is a scarcity in the literature when it comes to studies on Islamic equity style investing there is evidence that interest has risen recently. The development of an Islamic equity style index would undoubtedly increase the depth and breadth of research in this niche area.

8. Conclusion and Future Areas of Research

The evidence from the survey of the literature seems to indicate that investors and fund managers are placing greater importance on equity style investing. Fund managers have in fact moved ahead and are seeking to create stylized portfolios using more complicated multifactor beta models. An example of this is the smart beta portfolio construct, which is becoming more popular among portfolio managers. This is currently happening despite the fact that researchers and analysts have argued for a more simple and parsimonious method for constructing equity style indices.

From an investment point of view, it would be necessary for fund managers of Islamic equity style funds to study the implications of using Islamic equity style indices on their portfolios. Nonetheless, as a first step, investors and fund managers need to create Islamic equity style indices and in an efficient manner. Furthermore, research has to be performed to evaluate whether emerging market Islamic style indices do in fact perform in a "contrarian" way in comparison to the developed Islamic equity style indices as this will influence the design and construction of the Islamic equity fund.

In conclusion, the results of the survey of literature seem to indicate that there are numerous opportunities looking forward to perform analysis on Islamic equity style investing methods. This will require researchers to not only have a deeper understanding of contemporary methods to evaluate equity style portfolios, but also the idiosyncratic nature of Islamic equity style funds.

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Appendix A
Islamic Capital Market Statistics

The development of the Islamic capital markets has witnessed the increase in the total size of the Islamic fund management industry in Malaysia. Total Islamic Assets Under Management (AUM) exceeded MYR132 billion in December 2015 (Refer to Table A.1). During the same period, the number of Islamic Unit Trust Funds (UTF) stands at 193 from a total of 612 in the Malaysian unit trust fund industry. Furthermore, the total net asset value of the Islamic UTF's are MYR346.58 billion which represents 15% of the total size of the UTF industry. The Islamic UTF's in terms of NAV have grown from 13.6% to 15% from December 2014 to December 2015.

Table A: Islamic fund management statistics

	Dec-15	Dec-14
Islamic assets under management (AUM)		
Islamic AUM[6] of FMC's[7] (RM billion)	132.38	110.6
Total fund management industry (RM billion)	667.88	629.98
% Islamic AUM of FMCs to total industry	19.80%	17.60%
Launched funds		
Islamic UTF[8] (RM billion)	193	188
Total industry (RM billion)	612	612
NAV Islamic UTF (RM billion)	52.12	46.66
NAV total industry (RM billion)	346.58	343.02
% to total industry	15.00%	13.60%

Source: Securities Commission of Malaysia website (accessed on 31 March 2016)

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[6] The Assets Under Management (AUM) includes assets that are sourced from collective investment schemes as well as private mandates

[7] FMC's refers to Fund Management Companies

[8] Unit trust fund (UTF)