



**School of Business**

**Accounting and Finance**

# **The Halal-Based Equity Investments in Kuwait**

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## Glossary of Arabic Terms Used

<i>Akhlaq</i>	Ethics, or morality.
<i>Allah</i>	The Arabic word that means God.
<i>Almanakh</i> Market	An unofficial parallel stock exchange market (an over-the counter market) evolved in 1972 in Kuwait.
<i>Aqidah</i>	Belief or faith.
<i>faqih</i>	A person trained in <i>fiqh</i> or <i>Shariah</i> scholar.
<i>Fatwa</i>	A religious opinion, ruling or provision presented to a person who seeks it with regard to an incidence that has already occurred or expected to occur.
<i>Fiqh</i>	Islamic Jurisprudence.
<i>Gharar</i>	Excessive uncertainty.
<i>Halal</i>	Permissible, legitimate, or lawful.
<i>Haram</i>	Unlawful, prohibited, forbidden, or sin.
<i>Ibadat</i>	Worship.
<i>Ijara</i>	Installment leasing.
<i>Ijma</i>	The consensus of opinions by all of the <i>Shariah</i> scholars or jurists in a certain era.
<i>Ijtihad</i>	The application of the faculty of reasoning by qualified <i>Shariah</i> scholars for the purpose of forming an opinion with respect to an issue on which there is little or nothing in the <i>Qur'an</i> or the <i>Sunnah</i>
<i>khalifa</i>	A vicegerent.
<i>Maqasid al-Shariah</i>	The holistic objectives that Shariah attempt to accomplish, or the general purposes and wisdom behind all or most of Shariah rulings.
<i>Maslahah</i>	General benefit, interest or advantage.
<i>Maysir</i>	Games of chance.
<i>Muamalat</i>	Transactions.
<i>Mudarabah</i>	A form of partnership in which one partner finances the project ( <i>rub al-mal</i> ) usually the customer, while the other party ( <i>Mudarib</i> ), usually the IFI, manages it. The <i>Mudarib</i> would be entitled to certain amount of profit at a pre-determined rate as a reward for their contribution in managing the fund.
<i>Murabahah</i>	The resale of assets or goods with an agreed upon profit mark-up on the cost, for instance the bank agrees to buy as asset from a third party and then

resell it to its client with a mark-up, the client purchases the asset either immediate or deferred payment.

<i>Musharakah</i>	Partnership contract in which both parties contribute capital and may form a joint Management.
<i>Qiyas</i>	Analogical deduction, which seeks to establish a similarity between new cases and early practices found in the <i>Qur'an</i> or <i>Sunnah</i> .
<i>Qur'an</i>	The last revealed word of Allah to the Prophet Muhammad by the Angel Gabriel.
<i>Riba</i>	Interest.
<i>Shariah</i>	Islamic law or sometimes called <i>fiqh</i> (Islamic Jurisprudence).
<i>Sukuk</i>	Commonly referred to as the Islamic equivalent of bonds, particularly they are certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services.
<i>Sunnah</i>	The authentic tradition that comprises all the <i>Hadiths</i> , which are the transmitted reports by the Prophet Muhammad's companions of what he said, did, or approved.
<i>Takaful</i>	Social guarantee, which is a <i>Shariah</i> compliant insurance alternative to conventional insurance.
<i>Tawarruq</i>	A contract in which the seller, a financial institution, arranges a transaction by selling a commodity to the client for deferred payment. The institution then sells the commodity, as an agent on behalf of the client to a third party, in the market and then credits the price to the account of the client.
<i>Ummah</i>	Nation.
<i>Umumbalwa</i>	Unfavorable widespread situations affecting most people and are difficult to avoid.
<i>Usul al-fiqh</i>	The fundamentals of jurisprudence.
<i>Zakat</i>	An annual obligatory financial levy on all surplus wealth and agricultural income of Muslims to help the needy.

## Abbreviations

<b>AAOIFI</b>	Accounting and Auditing Organization for Islamic Financial Institutions
<b>All Halal-M.C</b>	Pure <i>Halal</i> and (MH-M.C) Stocks
<b>All Halal-M.C-Halved</b>	PH and (MH-M.C- Halved) stocks
<b>All Halal-TA</b>	PH and (MH-T.A) Stocks
<b>All Halal-TA-Halved</b>	PH and (MH-T.A- Halved) stocks
<b>All Sin-M.C</b>	Sin and (MS-M.C) Stocks
<b>All Sin-M.C- Halved</b>	Sin and (MS-M.C- Halved) stocks
<b>All Sin-T.A</b>	Sin and (MS-T.A) Stocks
<b>All Sin-T.A-Halved</b>	Sin and (MS-T.A- Halved) stocks
<b>ANOVA</b>	Analysis of Variance
<b>CAPM</b>	Capital Asset Pricing Model
<b>CBK</b>	Central Bank of Kuwait
<b>CMA</b>	Capital Market Authority
<b>CML</b>	Capital Market Line
<b>CP</b>	Control Portfolio
<b>DFM</b>	Dubai Financial Market
<b>DIB</b>	Dubai Islamic bank
<b>DIFX</b>	Abu Dhabi Securities Market
<b>DJIMI</b>	Dow Jones Islamic Market Index
<b>FM</b>	Fund managers
<b>FTSE</b>	Financial Times <i>Shariah</i> Index
<b>GCC</b>	Gulf Cooperation Council
<b>GDP</b>	Gross Domestic Product
<b>GFC</b>	Global Financial Crisis
<b>GIFF</b>	Global Islamic Finance Forum
<b>GLM</b>	General Linear Model
<b>HCCAS</b>	Higher Consultant Committee for Application of <i>Shariah</i> law in Kuwait
<b>ICB</b>	International Classification Benchmark
<b>IDB</b>	Islamic Development Bank
<b>IFIs</b>	Islamic financial institutions
<b>IFRS</b>	International Financial Reporting Standards
<b>IFSB</b>	Islamic Financial Services Board
<b>IIBR</b>	Islamic Interbank Benchmark Rate
<b>IPO</b>	Initial Public Offering
<b>IS</b>	Islamic stocks
<b>KAMCO</b>	Kuwait Asset Management Company
<b>KFH</b>	Kuwait Finance House
<b>KIA</b>	Kuwait Investment Authority
<b>KIB</b>	Kuwait International Bank

<b>KSE</b>	Kuwait Stock Exchange
<b>KSX15</b>	Market capitalization weighted index that tracks the performance of top 15 companies in the KSE
<b>MENA</b>	Middle East and North Africa
<b>MH</b>	Mixed <i>Halal</i> stocks
<b>MH-M.C</b>	Mixed <i>Halal</i> stocks that comply with AAOIFI's (2006) financial criteria
<b>MH-M.C- Halved</b>	Stocks that comply with a halving of AAOIFI's (2006) financial criteria thresholds
<b>MH-T.A</b>	Mixed <i>Halal</i> stocks that comply with AAOIFI's (2004) financial criteria
<b>MH-T.A- Halved</b>	MH stocks that comply with a halving of AAOIFI's (2004) financial criteria thresholds
<b>MPT</b>	Modern Portfolio Theory
<b>MS</b>	Mixed Sin stocks
<b>MSCI</b>	Morgan Stanley Capital International
<b>MSCI</b>	Morgan Stanley Capital International
<b>MS-M.C</b>	Mixed Sin stocks that fail to comply with AAOIFI's (2006) financial criteria
<b>MS-M.C- Halved</b>	Stocks of companies that fail to comply with a halving of AAOIFI's (2006) financial criteria thresholds
<b>MS-T.A</b>	Mixed Sin stocks that fail to comply with AAOIFI's (2004) financial criteria
<b>MS-T.A- Halved</b>	Stocks of companies that fail to comply with a halving of AAOIFI's (2004) financial criteria thresholds
<b>MV</b>	Average Market Value
<b>NBK</b>	National Bank of Kuwait
<b>NCB</b>	Saudi Arabia National Commercial Bank
<b>OIC</b>	Organization of Islamic Conferences
<b>OPEC</b>	Organization of Petroleum Exporting Countries
<b>PBUH</b>	Peace Be Upon Him
<b>PH</b>	Pure Halal Stocks
<b>SAC</b>	Securities Commission' Shariah Advisory Council in Malaysia
<b>SCS</b>	<i>Shariah</i> -compliant stocks
<b>SML</b>	Security Market Line
<b>SRI</b>	Social Responsible Investment
<b>SS</b>	<i>Shariah</i> Supervisory baod member (SSB) or <i>Shariah</i> Auditors interviewee
<b>SSB</b>	Shariah Supervisory Board
<b>UAE</b>	United Arab Emirates
<b>UKIFS</b>	UK Islamic Finance Secretariat

## **Acknowledgement**

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Finally, my thanks go to each individual who has contributed to the success of this thesis but whom I inadvertently omitted.

## Declaration

I hereby declare that I am the author of this thesis: that the work of which this thesis is a record has been done by myself, and that it has not previously been accepted for a higher degree.

Signed.....

Date.....

**Khaled Obaid Alotaibi**

## Certificate

We certify that Khaled Obaid Alotaibi has worked the equivalent of eight terms on this research, and that the conditions of the relevant ordinance and regulations have been fulfilled.

Signed.....

Date.....

**Professor Christine Helliard**

Signed.....

Date.....

**Dr. Nongnuch Tantisantiwong**

## Abstract

Most of the prior research in the area of Islamic Investments has looked at performance; little attention has been given to the relationship between screening criteria and performance, especially in the GCC region. Therefore, this thesis examines the impact of using different screening criteria on the creation, and hence the performance of, *Halal* portfolios in Kuwait. In contrast to previous studies, the present study breakdowns *Halal* stocks in to ‘pure *Halal*’ (PH) and ‘Mixed *Halal*’ (MH), and the non-*Halal* stocks in to ‘Sin’ and ‘Mixed Sin’ (MS). This is to respond to the debate among *Shariah* scholars about the screening criteria, whether the *fatwa* on investing in them should be revisited and is it the right time to move towards pure *Halal* investments only. Specifically, this study explores the impact of tightening the current screening criteria on the creation and performance of *Halal* portfolios under different market conditions. Hence, broadly speaking, this thesis examine the issues associated with the creation and performance assessment of the *Halal* and non-*Halal* portfolios.

For the purpose of this study, both quantitative and qualitative methods were employed. Firstly, due to the scarcity of literature, information and issues related to screening and performance were discussed with 58 face-to-face interviews with key figures in the Islamic investment funds industry in the GCC. The interviews explore whether MH are good investments from a *Shariah* perspective, and if there is a need to revisit the *fatwa* and the screening criteria. Secondly, different *Halal* portfolios were constructed based on the screening definitions suggested by the interviewees using a content analysis of companies’ annual reports listed in Kuwait Stock Exchange (KSE). This is to investigate the impact of applying different screens on the size of the *Halal* asset universe and whether it is possible to create diversified pure portfolios or at least MH that are close to pure *Halal* portfolios. Thirdly, quantitative methods were employed to examine whether these *Halal* portfolios are good investments from a financial perspective, using parametric and non-parametric statistical analysis and traditional risk-adjusted performance measures. Performance was first compared with the KSE market and a control portfolio (CP) as benchmarks then a ‘matched pair’ approach was also conducted. Finally, a general linear model (GLM) was applied to inspect whether the *Shariah* classification of stocks or other factors such as firm size, sector, and the global financial crisis (GFC) impact on performance.

The findings from the interviews suggest that PH and MH investee companies are different types of *Halal* investments, and that there are a growing number of Islamic funds and individual investors that invest only in PH stocks, driven by religious motivations. Further, some interviewees seriously questioned the *Shariah*-compliance of MH stocks and thought of the *fatwa* that allows MH stocks should be revisited. Therefore, many interviewees agreed that the financial screening criteria needed to become tighter and that companies in Muslim countries should be treated differently from western ones as noted by Wilson (2005). Interviewees revealed that AAOIFI’s screening criteria are widely adopted in the GCC but most interviewees believed that the change in AAOIFI’s criteria in 2006 from total asset to market capitalization was intended to expand the *Halal* asset universe. Nonetheless, the analysis of companies’ annual reports finds that the use of AAOIFI (2006) during the GFC resulted in a sizeable number of MH equities being re-categorised as MS stocks, but without harming portfolios’ performance.

Further, the statistical analyses suggest that there is no penalty for *Halal* investments during the full, the bullish or GFC periods, even after halving the screening thresholds. Differences were

only identified during the bearish period, showing that some sin portfolios performed better, but overall, *Halal* portfolios did not underperform either the CP or the KSE index in any of the sample periods.

Moreover, the GLM analysis also supports this finding that the *Shariah*-compliance of stocks is not the main factor affecting performance, but rather the sector they belong to and the GFC period. Hence, Islamic funds should consider allocating their investments more in the non-financial sectors rather than in the financial sector, especially during bearish markets to improve diversification. Nevertheless, there are fewer PH non-financial stocks, so, a ban on investment in MH stocks is premature, but ‘tightening’ the MH stocks’ financial screening thresholds is currently a better option. Some interviewees, also suggested that PH investors could diversify their portfolios by investing across all GCC stocks markets. Thus, Islamic fund managers need to be active fund managers focusing on certain sectors and markets in different market conditions.

Halving the financial screening thresholds did not hurt MH portfolios’ performance because the loss in the number of MH stocks is compensated for by the lower interest-bearing gearing ratio of the individual companies suggested by the halved thresholds. This is supported by previous studies that report a negative relationship between stock returns and firms’ gearing, especially during market downturns (Penman et al., 2007; George and Hwang, 2010; Bhatt and Sultan, 2012).

Finally, the screening analysis reveals an inadequate level of disclosure for assessing Sharia-compliance from companies’ annual reports. This highlights the need for harmonizing the *Shariah* screening criteria, and the development of accounting and auditing standards based on Islamic values rather than western ones to reflect the unique characteristics of *Halal* investment.

## **Chapter 1: Introduction**

## 1.1 Introduction

This research is motivated by the significant growth of the Islamic investment funds industry in the Gulf Cooperation Council (GCC) countries and particularly in Kuwait. Prior studies argue that Islamic funds provide competitive performance characteristics while addressing ethical and religious values (Abullah et al., 2007; Merdad et al., 2010; Hassan et al., 2010; BinMahfous and Hassan, 2012; Ashraf, 2013), which seem to be inconsistent with portfolio theory if these *Shariah* (Islamic law) screens result in a significantly smaller investment universe than conventional funds. In contrast, other studies show that Islamic funds underperform conventional unrestricted funds (Derigs and Marzban, 2009; Hayat and Kraeusl, 2011) (see Chapter 3). It is therefore, of interest to examine the impact of using different screening methods on the creation, and hence the performance of, *Halal* portfolios. In the GCC, it is common to find Islamic funds and investors investing in both ‘pure’ *Halal* (PH) and ‘mixed’ *Halal* (MH) stocks<sup>1</sup> that contain some ‘sin’ element based on certain *Shariah* screens.<sup>2</sup> In addition, some Islamic funds and investors invest only in pure *Halal* stocks. This is because investing in MH stocks was established by a *fatwa* (a *Shariah* opinion)<sup>3</sup> at the time when pure *Halal* stocks were rare, and hence, this was granted as an exception, and is not an ideal Islamic investment option (Al-Shubali, 2005; Al-Tunaji, 2009; Al-Nifasa, 2010). Thus, voices have been raised to revisit this *fatwa* with current information and empirical evidence (Al-Tunaji, 2009) to see whether Islamic funds (and investors) still need to invest in MH investee companies. Therefore, contrary to most academic research on Islamic equity investments, this thesis responds to these calls and, hence bridges this significant gap in the literature. Therefore, the primary purpose of this study is to increase our knowledge and understanding of the issues

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<sup>1</sup> The concept and screening criteria of Pure (PH) and Mixed *Halal* (MH) stocks are elaborated in Chapter 5 and a brief definition of these terms is provided in section 1.4.

<sup>2</sup> The Islamic funds’ screening criteria is discussed in Chapter 3.

<sup>3</sup> *Fatwa* is defined in detail later in this chapter.

associated with the creation and performance assessment of the Halal and non-Halal portfolios to investigate whether Islamic funds, and religious and ethically driven investors bear any financial penalty in order to comply with their values. Further, this study examines the impact of using different screening methods on the creation and hence performance of Halal portfolios. Moreover, the thesis explores the impact of making the screening ‘tighter’ and ‘stricter’ on the choice of securities in Halal portfolios, to investigate whether it is possible to move towards pure Halal investments without compromising performance. Finally, this thesis seeks to discover whether the Shariah-compliant classification of stocks, firm size, sector or global financial crisis (GFC) period affect performance.

In order to achieve these research objectives, the thesis attempts to answer the following research questions: (i) how do participants define and screen PH and MH equity investments?; (ii) do participants believe that MH stocks are still necessary for a *Halal* diversified portfolio?; (iii) is there a financial penalty for investing in *Halal* equity portfolios?; (iv) did AAOIFI’s change in screening criteria in 2006 affect portfolio creation and performance?; (v) is there an impact of halving AAOIFI’s screening thresholds on portfolios creation and performance?; and (vi) does the *Shariah*-compliant classification of stocks, firm size, sector or GFC period affect performance?

The chapter introduces the reader to Islam, *Shariah* law, and Islamic investment guidelines in sections 1.2 and 1.3 as a background to this thesis. Section 1.4 elaborates on the debate related to the *Shariah* legitimacy of MH stocks which has motivated the current research. Section 1.5 outlines the structure of the thesis and section 1.6 concludes.

## **1.2 Background**

Muslims believe that Islam is not a new religion but rather the continuation and culmination of previous religions, as they are all from the same source, Allah, the Arabic word that means

God, the one and only true God who created the whole universe (Ahmad, 2010; Kettell, 2011). However, Islam is a comprehensive religion that contains guidelines and rules that cover all aspects of life, at the individual as well as collective levels in matters of faith, worship, social life and economic factors (Al-Buraey, 1988; Haneef, 1996; Vogel and Hayes, 1998; Khan, 1999; Qadhi, 2002; Al-Zuhayli, 2005; Laldin, 2008; Ahmad, 2010). Thus, it is not just a religion but it is a way of life that should be practiced and reflected upon in all Muslim's actions (Qadhi, 2002; Bakar, 2008).

Islam literally means submission, obedience, surrender, and peace and full submission and obedience to Allah (Kamali, 2006; Ahmad, 2010). Muslims believe that Islamic teachings are direct orders from Allah, providing absolute guidance to human beings (Kamali, 2006; Kettell, 2011).<sup>4</sup>To follow Allah's commands and *Shariah*, believers follow the thoughts of his final messenger on earth, Muhammad, peace be upon him (PBUH)<sup>5</sup> (*Fiqh*<sup>6</sup> Encyclopedia ,vol. 4 ,p259).

Islam comprises three main components namely: *Aqidah* (belief), *Akhlaq* (ethics and morality), and *Shariah* (Al-Jazaeri, 1995; Zaidan, 1999; Kettell, 2011) as shown in Figure 1.1.

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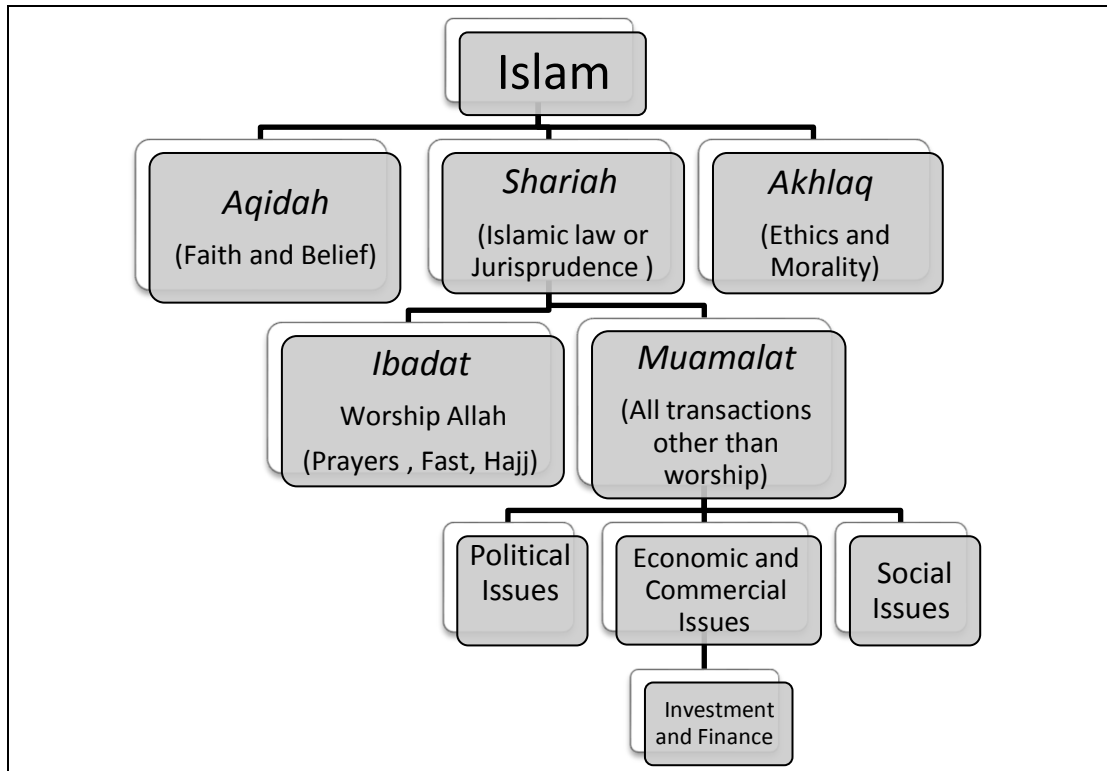
<sup>4</sup> Several translations of the Holy Qur'an are used in this thesis to convey the English from the Arabic text. Such as: Khan and Al-Hilali (1999), Al-Islami(1997), Asad(2008) and websites such as: <http://www.altafsir.com/TafseerQuran.asp>

<sup>5</sup> PBUH is an abbreviation for; peace be upon him, it is always preferable to mention this statement when saying or writing the prophet Muhammad's name (Alyahsobi, 2002). Having said that, (PBUH) will be mentioned once to reflect this fact.

<sup>6</sup>*Fiqh* briefly refers Islamic Jurisprudence and will defined later chapter.



**Figure 1.1: The Holistic picture of Islam as a way of life**



Note: This figure illustrates a holistic picture of Islam being a way of life.

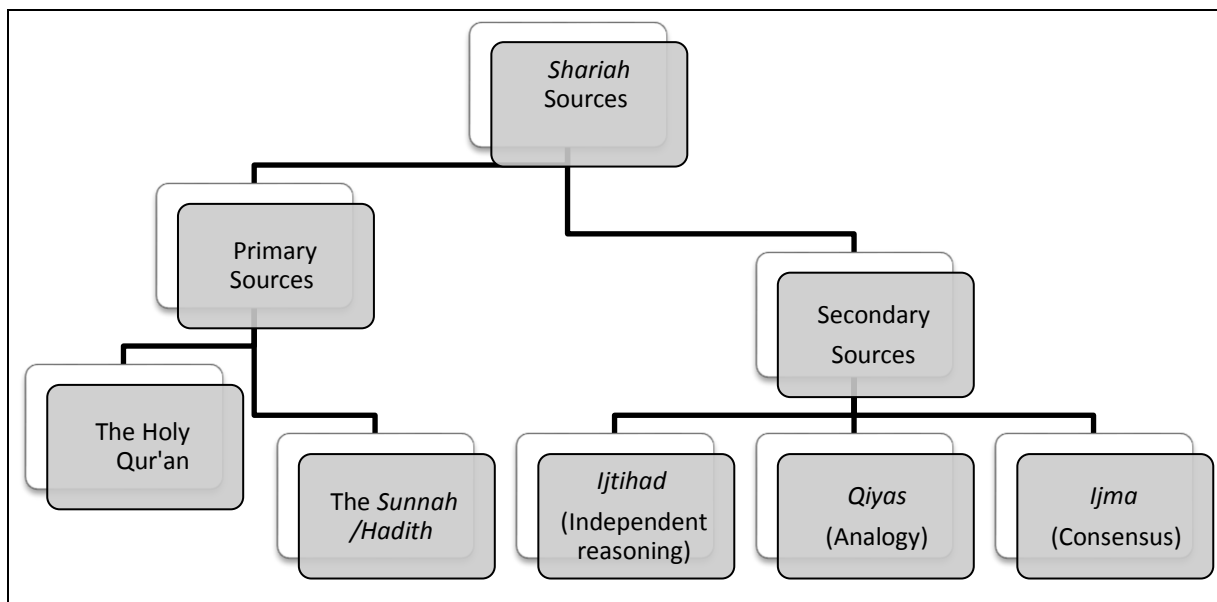
Source: Adapted from Zadian (1999), Lee and Detta (2007), Kettell (2011), and Aljazeera (2013)

*Shariah* literally means the way or the path to a watering way (oasis) in the desert and is technically concerned with Islamic law, or sometimes called Islamic Jurisprudence (*Fiqh*) (Bakar, 2008; Kettell, 2011). *Shariah* governs all forms of practical actions that confirm faith and belief (Vogel and Hayes, 1998; Bakar, 2008). In other words, *Shariah* refers to commands, prohibitions, guidance, and principles that Allah has addressed to mankind pertaining to their conduct in this world and salvation in the hereafter (Kamali, 2006). As illustrated in Figure 1.1, *Shariah* is divided into two Jurisprudence elements: *Ibadat* (worship) and *Muamalat* (transactions). *Ibadat* is concerned about the person's relationship to Allah which often refers to the five pillars of Islam (Haneef, 1996), while *Muamalat* is concerned about person to person relationships (Al-Jazeera, 1995). Furthermore, *Muamalat* has three components: politics, social and economics (Al-Jazeera, 1995; Zaidan, 1999; Kettell, 2011). The root of

Islamic investment and finance, which is the focus of this thesis, is found under the economic and commercial system that forms a significant segment of *Shariah*, which cannot be isolated from ethics and beliefs as they are all integrated components of Islam.

*Shariah* is the Islamic legal system associated with a code of behavior (Vogel and Hayes, 1998; Lewis, 2001; Lee and Detta, 2007). *Shariah* has two main sources, primary sources and secondary sources (Al-Buraey, 1988; Bakar, 2008; Visser, 2009; Kettell, 2011) as demonstrated in Figure 1.2.

**Figure 1.2: *Shariah*'s Primary and Secondary Sources**



Source: adapted from Al-Buraey (1988), Bakar (2008), and Visser (2009)

The primary sources are the Holy *Qur'an* and *Sunnah*. The Holy *Qur'an* is the last revealed word of Allah to the Prophet Muhammad by the Angel Gabriel (Ahmad, 2010). *Sunnah* (the authentic tradition) that comprises all the *Hadiths*, which are the transmitted reports by the Prophet Muhammad's companions of what he said, did, or approved (Kamali, 2006; Philips, 2006). The holy *Qur'an* provides general principles and the essential practice of Islam but it does not go into details; the details are provided by the prophet Muhammad in his *Sunnah*, thus

the *Sunnah* acts as an interpretation of the *Qur'an* and adds to it (Ahmad, 2010).<sup>7</sup> Nevertheless, neither the *Qur'an* nor *Sunnah* cover every circumstance that a person might encounter and there are many other contemporary issues (Vogel and Hayes, 1998; Kamali, 2006; Bakar, 2008).

The *Qur'an* is not a legal document but rather a book of religious and moral principles and exhortations that also embody important legal enunciations (Lee and Detta, 2007). Therefore, *Shariah* scholars also rely on secondary sources described in Figure 1.2. First, *Ijtihad*, which refers to the application of the faculty of reasoning by qualified *Shariah* scholars for the purpose of forming an opinion with respect to an issue on which there is little or nothing in the *Qur'an* or the *Sunnah* (Vogel and Hayes, 1998; Attia, 2007; Bakar, 2008). Second is the *Ijma* that refers to the consensus of opinions by all of the *Shariah* scholars or jurists in a certain era (Philips, 2006; Bakar, 2008). Third is the *Qiyas* (analogical deduction) which seeks to establish a similarity between new cases and early practices found in the *Qur'an* or *Sunnah*, so as to extend the ruling from an original case, mentioned by primary text (*Qur'an* or *Sunnah*) to a new case with the same common cause as the former (Bakar, 2008; Zaidan, 1999; Al-Zuhayli, 2005). Thus, *Shariah* scholars do not use *Qiyas* to produce a new law, but use it to reach a new ruling on a different matter. For example, drinking wine is explicitly forbidden in the *Qur'an*, due to its intoxicating effect; therefore, whenever this cause is found (intoxication) prohibition is applicable, such as in the case of narcotic drugs (Al-Qaradawi, 2005).<sup>8</sup>

The primary and secondary sources of *Shariah* sources presented in Figure 1.2 are discussed in depth under a discipline known as *Usul al-fiqh* (the fundamentals of jurisprudence) which is concerned with establishing a scientific proof of Islamic derivation of substantive legal

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<sup>7</sup> The *Sunnah* functions similar to New Testament of the bible because it interprets the Old Testament. Furthermore, the process of collection, compilation and authentication of *Sunnah* and the New Testament all occurred after the demise of Moses, Jesus and Muhammad.

<sup>8</sup> For more details about *Shariah* sources, see Vogel and Hayes (1998), Al-Zuhayli (2005), Bakar (2008), and Kettell (2011).

principles (Vogel and Hayes, 1998; Attia, 2007; Al-Mubarak and Osmani, 2010; Kettell, 2011). *Fiqh*, which literally means deep understanding, refers to the science of rulings extracted from detailed *Shariah* sources and the process of gaining knowledge of *Shariah* through jurisprudence (*Fiqh Encyclopedia*, 1995). A person trained in *fiqh* is known as a *faqih* or *Shariah* scholar. The *Faqih* is able to determine legal rulings or provisions known as *fatwa*. There are five rulings: obligatory; recommended; prohibited (*Haram*); disapproved; and permissible (*Halal*) (Al-Zuhayli, 2005; Al-Qaradawi, 2005; Bakar, 2008). At the time of the Prophet Muhammad, issues were addressed without controversy based on revelations received from Allah, or on his personal opinion subsequently confirmed or corrected by revelation. But after the Prophet's death, there was a need for this role and Islamic jurisprudence developed over the centuries by four different schools of thoughts (Al-Dihlawi, 2003; Ahmad, 2010; Philips, 2006).<sup>9</sup> Although the four jurisprudence schools correspond to different methods of conducting jurisprudence, they are all equally accepted by all Muslims around the world (Al-Dihlawi, 2003; Bakar, 2008).<sup>10</sup> However, for issues that are not discussed within the four Jurisprudence schools (e.g. investing in the stock market) *Ijtihad* is exercised within large groups of *Shariah* scholars and specialists institutions such as the Council of Islamic Jurisprudence Academy. These entities work side by side with professionals and experts because one of the *fiqh* rules of issuing a *fatwa* is that it should be based on a deep conceptualization and understanding of the case. The Accounting and Auditing Organization

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<sup>9</sup> The four Sunni schools, named after the jurists who taught them, are in chronological order: The *Hanafi* (rationalist) school; the *Maliki* school (traditionalist), the *Shafi* school (moderate) and the *Hanbali* school (fundamentalist) (Al-Dihlawi, 2003; Bakar, 2008). They all agree on the fundamental *Shariah* principles derived from the *Qur'an* and *Sunnah*. However, they sometimes hold differing views on their interpretation and application of law (Alasrag, 2010). *Sunni* Muslims are the vast majority of Muslims (90%). They follow the four schools of Jurisprudence. *Shia* Muslims did not exist until a later stage in Islamic history. Most Shias (between 68% and 80%) live in four countries: Iran, Pakistan, India and Iraq (see the Pew Research Center's Forum on Religion and Public Life web site; [http://www.pewforum.org/Muslim/Mapping-the-Global-Muslim-Population\(6\).aspx#footnote](http://www.pewforum.org/Muslim/Mapping-the-Global-Muslim-Population(6).aspx#footnote)).

<sup>10</sup> More details about the four schools of thoughts are found in Al-Dihlawi (2003); Philips (2006), and Bakar (2008).

for Islamic Financial Institutions (AAOIFI) has issued its *Shariah* standard No.29 that discusses the stipulations and ethics of *fatwas* in an institutional framework defining a *fatwa*, as:

“*Shariah* opinion presented to a person who seeks it with regard to an incidence that has already occurred or expected to occur. It does not refer to answering queries pertaining to hypothetical incidence.” (p.400)

This is why the *Shariah* Supervisory boards (SSB) are sometimes called *fatwa* committees as their primary function is basically issuing *fatwa*. They base their *fatwa* on the primary and secondary sources of *Shariah* and employ their own interpretations in some cases (Siddiqui, 2007). There are certain conditions and requirements for those who issue *fatwa* SSB to be fulfilled.<sup>11</sup>

Rosly (2010) outlines that in order to determine *Shariah* compliance, or the legitimacy, of a financial transaction, a SSB should consider more than just on contractual basis, and include *Maqasid al-Shariah*,<sup>12</sup> financial reporting, and legal documentation. According to Al-Ghazzali<sup>13</sup> the objective of *Shariah* is to promote the wellbeing of all mankind by protecting their faith or religion, their human self, their intellect, their posterity, and their wealth (Attia, 2007). Choudhury and Hussain (2005, p.216) highlight that:

“There is a rich premise for the normative principles of ethics and values emanating from Islam to be incorporated in the matters of money, finance, accountability and the real economy.”

There are several investment principles or guidelines that underpin Islamic investment, as derived from the *Quar’an*, *Sunnah*, or *Ijtihad* (Sano, 2000; Hassan and Lewis, 2007; Derigs

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<sup>11</sup> These are discussed in more detail in the AAOIFI *Shariah* Standard No.29 (2008, pp.397- 407).

<sup>12</sup> *Maqasid al-Shari’ah* is the holistic objectives that *Shariah* attempt to accomplish, the general purposes and wisdom behind all or most of *Shariah* rulings (Attia, 2007; Ziqaba, 2010; Rosly, 2010; Yaacob and Donglah, 2012).

<sup>13</sup> Al-Ghazzali is a great Islamic philosopher and *Shafi* jurist, he died in (505 A.H/1058A.D). A.H is an abbreviation of After *Hijra*. *Hijra* means emigration, which was the start of the Islamic calendar, that day when Prophet Muhammad emigrated from *Mekkah* to *Madinah*, which was in 622 A.D. The Prophet died in 11A.H/632 A.D.

and Marzban, 2008; Kettell, 2011) in order to accomplish *Maqasid al-Shariah* (Ziqaba, 2010; Rosly, 2010). These are discussed in the next section.

### 1.3 Islamic Investment Guidelines

Islamic investment involves the prohibition of *Riba* (interest), *Maysir* (games of chance), *Gharar* (taking excessive risks in contracts), *Haram* (unlawful) activities that include unethical business (Sano, 2000; Sultan, 2007; Kettell, 2011) together with the payment of part of ones wealth to benefit society (*Zakat*)<sup>14</sup> (Khan, 1999; Imam and Kpodar, 2010; Rosly, 2010). These should be the basic requirements that govern Islamic investment decision makers who wish to adhere to *Shariah* objectives. In addition, others add the prohibition of monopolies, extravagance and stinginess and the promotion of justice, fairness, and honesty (Laldin, 2008; Al-Qaradawi, 2005). Some argue that, in order to achieve *Shariah's* holistic objectives, environmental issues should also be considered in the practices and investment decisions of Islamic financial institutions (IFIs)<sup>15</sup> (Hassan, 2005; Kamla, 2006, Kamla et al., 2009). This is based on the concept of *khalifa* (a vicegerent) that is highlighted several times in the *Qur'an* and asserts that humankind holds a privileged position in Allah's creation on earth with a responsibility for caring for Allah's earthly creations (Kamla et al., 2009), so abusing one of his creations, whether a living being or a natural resource, is considered as sin in Islam (Hassan, 2005). Looking after living beings or natural resources is a good deed, and people are rewarded for that. The prophet Muhammad affirmed this, as translated by Hassan (2005, p.17):

“the believers who plants a tree, a person, or an animal eats thereof, but it is regarded as having given a charitable gift (for which there is great recompense)”.

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<sup>14</sup> *Zakat* is an Arabic term that means literally purification, growth and blessing. It is an annual obligatory financial levy on all surplus wealth and agricultural income of Muslims (Khan, 1999) to help the needy (Zuhayli, 2003).

<sup>15</sup> Islamic financial institutions (IFIs) include: banks, investment house, financing entity, *Takaful* (co-operative insurance) or re-*Takaful* that adheres fully to *Shariah* law and is overseen by a SSB, which is also reflected in its articles of association (Alqahtani, 2012).

In another *Hadith*, the prophet asserts the importance of sustainable land and nature as translated by Hassan (2005, p.18) as follows: “When doomsday comes, if someone has a palm shoot in his hand, he should plant it”. Thus, environmental issues are deeply rooted in the teachings of the *Qur’an* and *Sunnah*.

The prohibition of *Riba* is one of the important guidelines that distinguishes Islamic investments from ethical or social responsible investment (SRI). *Riba* is an Arabic word that means ‘to grow’, ‘expand’, ‘increase’, ‘inflate’ or ‘excess’ (Al-Razi, 1994, p.285). More precisely, *riba* has been defined in the *fiqh* terminology as any unjustified increase in capital for which no compensation is given (from the *Shariah* perspective) (Al-Zuhayli, 2009). Thus, any lending or borrowing that occurs in conventional banking based on *riba* is prohibited no matter how small or large payment is and whether it is paid as fixed or variable percentage of the principal, or an absolute amount, in advance or on maturity, a gift or service to be received as a condition for a loan (Chapra, 1985; Lewis, 2001; Ahmad and Hassan, 2007; Ayub, 2007). The prohibition of *riba* is based on many statements in the *Holy Qur’an*, *Hadith* and *Ijma*. For example, Allah clearly stated in the *Qur’an* that:

“O you who believe! Fear Allah and give up what remains of your demand for *riba* if you are indeed believers. If you do not, take notice of war from Allah and his Messenger: but if you repent, you shall have your capital sum: deal not unjustly, and you shall not be dealt with unjustly.” [2:278-279].

“That they took *riba*, though they were forbidden; and they devoured people’s wealth wrongfully: we have prepared for those amongst them who reject faith a grievous punishment” [4:161].

Interest, or usury, is not unique to Islam or the pre-Islamic period but also dates back to other religions such as Christianity and Judaism, which deemed interest an illegal and punishable

practice (Suhail, 1999; Mews and Abraham, 2007; Ayub, 2007; Hossain, 2009; Abul Rahman, 2010).<sup>16</sup>

Many argue that the prohibition of *riba* comes from *Maqasid al-Shariah* (Ziqaba, 2010). For instance, several articles attempt to examine the underlying meaning of the prohibition of interest in the modern Islamic financial system (Chapra, 2000; Zaher and Hassan, 2001; El-Gamal, 2004; Nur, 2005; Ahmad and Hassan, 2007; Bakar, 2008; Chapra, 2009; Hossain, 2010). In general, they all argue that interest causes evil in society and is immoral. These studies generally emphasise that money in Islam, unlike within an interest based system, is not a commodity but rather a medium of exchange and a measurement and store of wealth. Thus, charging interest for lending money is not allowed. Furthermore, it is argued that interest establishes an injustice between lenders and borrowers because earning money without any effort does not make that earning legitimate from a *Shariah* perspective; there is a principle that states that earnings are not legitimate until a risk is taken (Usmani, 2010). Thus, lenders should not be guaranteed a positive return without putting in any effort, whilst entrepreneurs that borrow are not rewarded with a positive return for their hard work and management (Ahmad and Hassan, 2007). In addition, Zaher and Hassan (2001) also rationalize the prohibition of *riba* as increasing efficiency, stability and growth. This is because the principles of Islam promote socio-economic justice and the equitable distribution of income and wealth,

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<sup>16</sup> According to Hossain (2009, p.243-244) the Old Testament in the Bible states:

“Torah and Talmud,<sup>16</sup> encourage the granting of loans but without interest. Charging interest has been considered as worst sins and has forbidden according to Jewish law... Similarly, the early Christian Church connected to the New Testament, declared that any kind of interest was against divine law, preventing pious and outwardly pious Christians from using capital for mercantile purposes. In 1179, Pope Alexander III excommunicated usurers, which in that period was seen as an extremely harsh punishment”.



including a just return from all members of society from economic development (Chapra, 1985; Choudhury and Hussain, 2005).<sup>17</sup>

Indeed, the avoidance of interest marks a fundamental difference between Islamic and conventional financial companies (Khan and Mirakhor, 1989; Nur, 2005). Therefore, investing in the stocks of any conventional interest-based financial institution or company whose core activities contradict *Shariah* is clearly prohibited and considered as sin in *Shariah* (Al-Nashmi, 1998; Al-Salaami, 1998; Al-Qurdi, 2001; Al-Birwari, 2001; AL-Sulaman, 2005; Al-Tunaji, 2009). Similarly, investing in fixed-income securities, preferred stocks and/or convertible notes is also prohibited as the principal is guaranteed and the predetermined rate of return stipulated (Siddiqui, 2007). Furthermore, margin trading and short selling in the operational aspect of stocks are also prohibited in *Shariah* because they include interest (Usmani, 2010).

Moreover, there are certain activities that deemed to be sin (*Haram*), which may include the following: (i) gambling and gaming; (ii) adult entertainment and pornography; (iii) *Gharar* (excessive uncertainty; an example would be conventional insurance companies); and (iv) the manufacture or sale of *Haram* products such as alcohol pork, or tobacco. Therefore, investing in companies engaged directly in these activities is prohibited in *Shariah* (Khatkhatay and Nisar, 2007; Sultan, 2007; Derigs and Marzban, 2008; Abul Rahman et al., 2010; Kettell, 2011; Ho et al., 2012).

Al-Qaradawi (2005) notes that the rationale behind the prohibition of gambling or lotteries is that it makes people dependent on chance, luck and empty wishes, taking them away from serious work and productive efforts. However, in Islam, an individual's property is sacred and

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<sup>17</sup> For Muslim investors, knowing the rationale behind the prohibition of *Riba* (Interest) is not much important as the prohibition of it is stated in the *Qur'an* and *Hadith*. This is why Al-Razi as quoted by Nur (2005, p23) argues that:

“The prohibition of *riba* is provided by the text of *Qur'an*. It is not necessary for humanity to know the rationale of the prohibition. Therefore, the prohibition of *riba* must be regarded as definitely known even though we do not know the rationale of its prohibition”.

may not be taken away from the owner except through lawful exchange, or unless he or she gives it freely as a gift or to charity (Qadhi, 2002). Accordingly, taking property from a person who has lost it through gambling is unlawful. Furthermore, engagement in the manufacture or trade of any *Haram* product such as alcohol or pork is prohibited based on verse [4:90] and the *Hadith* that states:

“Surely, Allah and His messenger have prohibited the sale of wine, the flesh of dead animals, swine and idols”.

*Shariah* scholars have applied *Qiyas* to conclude that trading in any harmful product such as tobacco is sin because of the dangerous effects on one’s health, wealth, family and society (Aal Ash-Sheikh et al., 2000).<sup>18</sup> This is a general rule designed to prohibit anything that causes a person’s death, either quickly or gradually, or is harmful to his or her health or community (Al-Qaradawi, 2005; Dusuki, 2007). As the prophet said as translated by Al-Qaradawi (2005, p.79): “do no harm yourself or others”. Thus, consuming or selling tobacco is a sin in *Shariah*, because seeking benefit through harming others is prohibited (Islam and Al-Khateeb, 1995; Aal Ash-Sheikh et al., 2000; Al-Qaradawi, 2005; Dusuki, 2007). In addition, the purpose of *Shariah* rulings is to protect the faith, souls, minds, private parts, and money, hence it is an obligation to protect individuals’ health and wealth, as well as the whole of society (Islam and Al-Khateeb, 1995; Dusuki, 2007).

Furthermore, evidence of the prohibition of immoral activities is derived from the *Qur’an* and *Sunnah*. For instance, Allah states in the *Qur’an*:

“The things that my Lord hath indeed forbidden are: shameful deeds, whether open or secret.”  
[7:33]  
“Do not go near to adultery. Surely it is a shameful deed and evil, opening roads (to other evils)” [17:32].

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<sup>18</sup> The Qur’an states that “do not kill yourselves, verily Allah is to you Ever-Merciful” [4:29].

Therefore, not only is adultery prohibited, but also anything that leads to illegal sex (outside marriage), nudity and pornography (Al-Qaradawi, 2005) due to its negative effects on the society's health and behavior (Dusuki, 2007). All of these prohibitions have implications for what *Shariah*-compliant funds cannot invest in, as discussed next.

#### **1.4 Pure, Mixed and Sin Equity Investments**

Islamic investment funds have to eliminate the stocks of companies that indulge in 'sin' activities as their core business; (e.g. manufacturing or distributing alcohol). *Shariah* scholars allow investments in the stocks of companies that fully conform to *Shariah* guidelines, which do not borrow or keep surplus cash in interest-bearing accounts (Usmani, 2010). However, investment in companies whose core business is *Halal*, but that sometimes borrow or receive small amounts of interest or sin revenue is widely debated by *Shariah* scholars from different schools of thought (Abdul Rahman et al., 2010). These companies are usually called mixed companies, as their core businesses are *Halal* but may include some earnings generated from *Haram* non-operating activities (Usmani, 2010). The term 'mixed' investee companies is not found in the academic literature that discuss the screening or performance of Islamic funds, as Islamic funds' equity assets are described as *Shariah*-compliant stocks. Hence, the literature does not distinguish between mixed *Halal* stocks (MH), mixed sin stocks (MS), or pure *Halal* stocks (PH). The difference between MH and MS is that former comply with certain screening criteria, while the latter ones fail to comply with such criteria.

The debate about mixed companies is elaborated only in the Arabic *fiqh* literature (see: Kuwait Finance House, 1998<sup>19</sup>; Al-Nashmi, 1998; Al-Salaami, 1998; Al Manea, 1998; Al-Qurdi, 2001; Al-Birwari, 2001; Al-Quradaqi, 2002; Al-Khalel, 2005; Al-Shubali, 2005; Al- Sulaman, 2005;

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<sup>19</sup> Kuwait Finance House has published a book containing the six conference papers presented by well-known *Shariah* scholars on this and other issues covered at this conference (three allowed MH stocks while three did not). See the references in the Arabic references section.

Al-Nifasa, 2010). These studies discuss the legitimacy of investment in such stocks from a *Shariah* point of view based on the premise that it is common for companies in a global interest-based financial system to borrow from conventional financial institutions to finance their activities (Kamal, 2001; Abdul Rahman et al., 2010). Many Islamic international bodies have contributed to the development of the *Shariah*-compliant equity investment industry, including: the Organization of Islamic Conferences (OIC); the *Fiqh* Academy; AAOIFI; the Islamic Development Bank (IDB); and the Islamic Financial Services Board (IFSB) (Ho et al., 2012). In particular, this issue was first discussed at the seventh conference of the OIC *Fiqh* Academy in Saudi Arabia on 9-14 May 1992, then subsequently at a conference held by the Kuwait Finance House in Kuwait on 2-4 November 1998 (Al-Quradaqi, 2002).<sup>20</sup> During that period, very few IFIs existed that offered *Shariah*-compliant financing to large companies<sup>21</sup> or could be invested in by Islamic fund managers or even individual Muslim investors. However, since then, the number of IFIs has increased. For instance, it is more popular nowadays in the GCC countries to find Islamic funds and investors who only invest in ‘pure’ *Halal* stocks that have a SSB.<sup>22</sup> Indeed, it is the role of the SSB to ensure persistently that such companies do not engage in any *Haram* transactions (Abdul Rahman, 2010; Kasim et al., 2013). Companies that do not have a SSB may involve in *Haram* activities currently or in the future (e.g. by placing any surplus income in an interest-bearing account or investing in conventional bonds).

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<sup>20</sup> The SSB of Al-Rajhi (Islamic) bank in Saudi Arabia has discussed the legitimacy of MH stocks in their *Shariah* resolution no. 485 in 23/ 8/ 1422 H (according to the Islamic calendar) that corresponds to 8/11/2001 and approved the investments in such stocks given that they were compliant with their screening criteria (similar to AAOIFI’s screens) but restricted this approval to the necessity of such investment (see Al-Tamimi, 2005; Al-Nifasa, 2009; Al-Tunaji, 2009). See Appendix 1.1 for AAOIFI’s screening criteria (2004) and (2006).

<sup>21</sup> *Shariah*-compliant financing could take different forms, such as *Murabah*, *Ijara* (instalment leasing) and *Musharakah*. For instance, with regard to real estate, instead of borrowing money, the bank obtains a property and leases it to a *Shariah*-compliant investor, who pays rent instead of interest, which is called *Ijara* (Mirakhor and Zaidi, 2007; Usmani, 2010). For further details on the Islamic finance instruments, see: Vogel and Hayes (1998), Nyazee (1999), Mirakhor and Zaidi (2007), El-Gamal (2006); Bakar (2008); Visser (2009), and Usmani (2010).

<sup>22</sup> See Chapter 2 for more details about the diffusion of IFI and Islamic funds.

Some *Shariah* scholars forbid investments in the stocks of companies with any degree of involvement in *Haram* activities (see: Al-Qurdi, 2001; Al-Nashmi, 1998). This is why some investors avoid investing in ‘mixed’ stocks even if the *Haram* element is a minor component of the business, such as airlines, hotels and supermarket chains that sell alcohol or pork (Wilson, 2004; Al-Qurdi, 2001; Al-Tunaji, 2009). This, nevertheless, results in a limited selection of potential securities to put in to a portfolio (Wilson, 2004, 2005; Derigs and Marzban, 2008).

The *Shariah* scholars who forbid investment in MH stocks (with any degree of *Haram* element) rely on the previous texts quoted from the *Qur’an* and *Sunnah* that prohibit such activities, as well as other texts that highlight the importance of pure earnings, such as the *Qur’an*:

“Help you one another in virtue, righteousness and piety but don not help one another in sin and transgression” [4:2].

Also, in the *Hadith* as translated by Qadhi (2002, p.34) the prophet said:

“O People! Allah is al-Tayyib (Pure), and He only accepts that which is pure! Allah has commanded the believers what He has commanded the Messengers, for He said, ‘O Messengers! Eat from the pure foods, and do right,’ and He said, ‘O you who believe! Eat from the pure and good foods we have given you”.

Hence, the *Hadith* shows the importance of pure *Halal* food and deeds and of not mixing them with *Haram* ones. This includes how money is earned and spent, as seeking *Halal* sustenance and earnings is an obligation for every Muslim (Qadhi, 2002), because Allah accepts what is pure. The following *Hadith* as translated by Qadhi (2002, p.35) for instance signifies that Allah only accepts pure *Halal* charity:

“Whoever gives charity equivalent to a date, from his pure earnings- and Allah only accept pure- then Allah will accept it with his right hand, then He will nurture if for its companion, like one of you nurtures his foal, until it becomes like a mountain”.

Therefore, *Shariah* scholars who forbid investments in any MH companies do not need to differentiate between a large or small *Haram* element (Al-Nashmi, 1998; Al-Salaami, 1998; Al-Qurdi, 2001), arguing that a person who trivializes any sinful deed indicates that he has a

weakness in his faith (Qadhi, 2002). Hence, Khatkhatay and Nisar (2007) suggest that MH companies should be considered unacceptable, even if their *Haram* activities are comparatively minor. Moreover, Al-Tunaji (2009) suggests that that investment in MH stocks should be re-evaluated.

Furthermore, those who disallow MH stocks base their argument on the fact that a shareholder of a company is a partner in that company and hence, according to the *fiqh* literature, an agent for other partners in matters relating to their joint business (Usmani, 2010; Al-Zuhayli, 2009). Thus, if the company is engaged in a *Haram* transaction, this means that the shareholder of that company has authorized (tacitly) the management to proceed with it, and hence will also be rightfully attributed to him and bears the sin too (Usmani, 2010).

On the other hand, another group of *Shariah* scholars, who form the majority of SSBs of Islamic funds, permit investment in MH stocks (Al-Birwari, 2001). They argue that being a shareholder of a company is different from being in a simple partnership, as discussed in the old *fiqh* literature (Al-Quradaqi, 2002; Al-Nifasa, 2010).<sup>23</sup> This is because all of the actions of a partnership are rightfully attributed to each partner, while a large number of shareholders own the stocks of a company and the opinions of individual shareholders can be dominated by the majority shareholders (Al-Quradaqi, 2002; Usmani, 2010). Therefore, if a shareholder raises an objection at an Annual General Meeting about a particular *Haram* transaction but is overruled by the majority, it is unfair to say that he has approved that transaction or should be held accountable for it (Usmani, 2010). Nevertheless, all of the *Shariah* scholars who allow MH stocks require shareholders to purify any interest based income or other non-*Halal* income

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<sup>23</sup> Another argument outlined in the old *fiqh* literature focuses on Muslims and non-Muslims jointly sharing the management of a company, as some prohibited activities in *Shariah* might not be prohibited by other religions, which could lead the non-Muslim partner to invest in such *Haram* activities, especially if he or she manages the company. For that reason, many jurists from all schools of thought discourage such MH companies, although they are not prohibited; if Muslims manage them, then they are permissible according to all jurists (Al-Quradaqi, 2002; Al-Khalel, 2005).

by donating it to charity (Elgari, 2002; Khalel, 2005; Al-Shubali, 2005; Khatkhatay and Nisar, 2007; Ayub, 2007; Hassan and Lewis, 2007; Derigs and Marzban, 2008; Abdul Rahman et al., 2010).<sup>24</sup> Furthermore, these groups of scholars who allow investment in MH stocks argue that the existing global financial system is dominated by the tenets of capitalism. Hence, finding fully *Shariah*-compliant securities is difficult within the pervasiveness of interest transactions (Al-Quradaqi, 2002; Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Usmani, 2010). Thus, investing only in PH investee companies may create a hardship for Muslim investors, because the majority of listed stocks are MH companies (SAC, 1997;<sup>25</sup> AAOIFI, 2004; Al-Shubali, 2005; Al-Khalel, 2005; Al-Nifasa, 2010), including big blue chip stocks and leading stocks in the markets. Henceforth, based on the *Shariah* principles that, “hardship always calls for relaxation” and “if necessity arises, prohibited matters can be allowable”<sup>26</sup>, some *Shariah* scholars tolerate investments in MH stocks as an exception in certain conditions (Kamal, 2001; Al-Quradaqi, 2002; SAC, 2007), until a reasonable number of pure *Halal* stocks become available (Al-Tunaji, 2009; Al-Nifasa, 2010), as derived from the following Qu’ranic verse:

“Allah intends for you ease and does not intend for you hardship” [2:185].

It is also based on the following *Shariah* rules as translated by SAC (2007, p.128):<sup>27</sup>

“Adversity allows for measures to bring about ease.”

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<sup>24</sup> Donating non-*Halal* earnings to charity is unique to Islamic investment funds, as mentioned in Table 3.1 (Chapter 3) and see Chapter 5. However, *Shariah* scholars indicate that this charitable giving will not be rewarded by Allah in the hereafter, as it is impure and Allah will only accept what is pure, so it should not be spent on building mosques, printing the *Qur’an* or paying *Zakat* (Al-Quradaqi, 2002).

<sup>25</sup> SAC is the abbreviation of the Securities Commission *Shariah* Advisory Council in Malaysia.

<sup>26</sup> The term necessity is described in Islamic jurisprudence as the case when a person fears extreme difficulty or danger that he is almost sure will harm him, in order to protect five necessary things: religion; the soul; money; reason; and honor. This case allows him to do something illicit or leave a duty or delay it or make some haram things to become halal, however, certain conditions should be applied, such as: (i) necessity exists in reality and is not illusory, potential, or expected; (ii) there will be no other permissible ways to prevent the evil other than those which contradict *Shariah*; (iii) they should be limited to the needed amount and should be restricted to the duration of the excuse to drive the evil away only, because necessities should be evaluated in a proper and careful manner and the principle that states that if cause of forbiddance disappears, the forbidden thing reappears (Al-Qardawi, 2005; Ibin Juzai, 2005).

<sup>27</sup> SAC, at its second meeting on 21 August 1996, discussed the status of MH stocks and concluded that they can be included in the list of *Shariah*-compliant Securities based on certain screening criteria (See SAC, 2007, P.150).

“If a situation faces a problem, *Shariah* allows for a way out.”

“Something forbidden which occurs widely (and which is difficult to avoid), *Shariah* brings relief to those affected”.

They also argue that, if a company’s primary business is *Halal* but it keeps its surplus income in an interest bearing account, for instance, the fact that it receives a small incidental (non-operating) interest income will not render all of the company’s business *Haram* (Usmani, 2010), based on the *fiqh* principle that mixing an immaterial proportion of *Haram* with a majority of *Halal* does not render the whole entity *Haram* (Al-Quradaqi, 2002). Moreover, based on the *fiqh* discussion, if there is an invalid *Haram* condition in the contract, this does not render the entire contract invalid (Al-Zuhayli, 2005, 2009). Finally, it is argued that investing in certain companies (e.g. utilities, infrastructure industries) has importance and general benefit for Muslim nations and countries, given that the *Haram* element is very small (Al-Quradaqi, 2002; Al-Shubali, 2005; SAC, 2007).

This debate among *Shariah* scholars, especially among those who seek to discourage investment in MH stocks, had made Muslim involvement in the stock markets very scant during the past few decades. Nevertheless, changes took place in the 1990’s due to the development of more open jurisprudence views and allowing MH equity investments, led to the emergence of several Islamic indices (Hussein and Omran, 2005; Hassan and Lewis, 2007) and attracted more interest in Islamic equity investment.

Nonetheless, allowing investments in MH stocks is not ideal, and is rather, a contemporary stage, and thus, further steps should be taken to encourage Islamic funds and investors to move towards investing in only pure *Halal* investee companies (Al-Tunaji, 2009). Therefore, these *Shariah* views on MH stocks, has led some to call for the *fatwa* on investing in mixed companies to be revisited in light of the growth of these purely Islamic companies (Al-Tunaji, 2009) especially in GCC region (elaborated in the next chapter). This is because the *fatwa*



allowing MH stocks is restricted to the need and necessity for such investment which may no longer exist nowadays (Al-Quradaqi, 2002; Al-Khalel, 2005; Al-Shubali, 2005; Al-Tunaji, 2009; Al-Nifasa, 2010).

Therefore, contrary to other Islamic fund studies, this thesis is motivated in providing empirical evidence as whether there is still a need to invest in MH stocks in Kuwait, as case study of the GCC, considered the hub of Islamic finance and investment, triggered by their mounting oil wealth and economic growth (El-Qorchi, 2005; Hasan and Dridi, 2010; KFH research, 2011). In particular, this thesis examines whether it is possible to create a diversified portfolio of pure or at least close to pure *Halal* portfolios without paying a penalty. If there is no significant downside for using the ‘stricter’ definitions of *Shariah*-compliant portfolios, then there is a valid reason to justify banning investments in MH stocks by Islamic funds based on the current screening criteria (see Appendix 1.1 for AAOIFI’s screening criteria). However, if there is a cost to such strict *Shariah* screens, investors can decide on whether or not they wish to limit their investments to a restricted set of investments in PH stocks or continue investing in MH stocks depending on their religious values. Henceforth, unlike the prior research on the topic, this thesis investigates the screening and performance of ‘pure’ *Halal* (PH) stocks, ‘mixed *Halal*’ (MH) stocks, ‘mixed sin’ (MS) stocks, and ‘sin’ stocks of various sectors under different market conditions.

Further, the current thesis seeks to discover the impact of using an appropriate *Shariah*-compliant alternative as the risk-free rate when measuring the risk-adjusted performance of *Halal* portfolios. This is based on the argument that conventional portfolio performance evaluation measures fail to account for the ethical and Islamic motives of investors (see Rahimie, 2010, Ooi and Lajbcygier, 2013). In particular, traditional portfolios performance measures, the Sharpe and Traynor ratios, use interest-based instruments such as T-bills as a

proxy for the risk-free rate which is banned in *Shariah*. Finally, the thesis explores the key factors that impact on stocks performance and whether the *Shariah* classification of stocks to PH, MH, MS, and Sin is important (before and after reducing the screening thresholds).

This thesis contributes to the limited research on the performance and screening of Islamic funds as it bridges the gap between the professional and academic research. The findings of this thesis will support SSBs, regulators (including AAOIFI), and policy makers on deciding whether to revisit the current *Shariah* screening criteria of MH stocks and pave the way to develop *Shariah* alternative evaluation measures and benchmarks that are interest-free. The results of this thesis are also of interest to Islamic fund managers and investors, as it provides insights into stock selection and screening processes, and asset allocation strategies that may generate higher financial returns under different market conditions.

## **1.5 Thesis Structure**

The remainder of the thesis is structured as follows. Chapter 2 provides the background to the equity investment environment in the GCC and to Islamic investment development in particular. It presents an overview of the GCC economies and the historical development of their stock markets with more emphasis on Kuwait. The final part of the chapter sheds light on the development of Islamic investment industry in the GCC.

Chapter 3 contains a comprehensive review of the academic literature on the screening and performance of ethical and Islamic funds. First, this chapter supplies an overview of modern portfolio theory (MPT). Second, it offers a background to ethical and faith-based investment funds. Then the chapter reviews the prior research on the screening and performance of ethical funds and finally it discusses the literature on the screening and performance of Islamic funds.

The research methodology and methods used in this study are elaborated in Chapter 4. In particular, it gives an overview of the different philosophical underpinnings of social research

whilst it outlines the philosophical assumptions adopted for the inquiry of this thesis and hence the research paradigm and methods. The research methods (qualitative and quantitative) employed are discussed briefly and their appropriateness within the chosen functionalist paradigm. More details of the research methods are elaborated in the relevant empirical chapters.

The empirical research is discussed in chapters 5-8. Since the literature on the performance and screening of Islamic equity investments is dearth, the thesis attempts first to gain information related to Islamic fund screening processes, and of performance evaluation measures from a wide number of key practitioners who were interviewed, including Islamic fund managers, SSBs, investors, and regulators. The results of the 58 semi-structured interviews form the content of Chapter 5. Further, this chapter analyses whether the Islamic funds are good investments from a *Shariah* point of view. Particularly, the results provide views on the concept of *Halal* equity investments (PH and MH), the screening criteria, the necessity to revisit the screening criteria of MH stocks, current methods of portfolio performance evaluation and the appropriateness of using traditional portfolio evaluation measures.

Chapter 6 creates different *Halal* portfolios based on the screening definitions suggested by the interviewed practitioners and the literature using a content analysis of companies' annual reports. Particularly, the chapter describes the qualitative and quantitative *Shariah* screening process and reports the screening results of companies before and after halving the screening thresholds to examine the impact of applying different screens on the size of the *Halal* asset universe.

Chapter 7 examines the performance of the different portfolios created in Chapter 6. This chapter presents the results of the quantitative analysis to understand the return and risk characteristics of the *Halal* (PH and MH *Halal*) and non-*Halal* (Sin and MS) portfolios under

different screens during the sample period (2006-2011) which includes 3 sub-periods (bullish period 2006/7, financial crisis period 2008/9, and bearish period 2010/11). The chapter employs various parametric and non-parametric statistical tests of portfolios returns and the three traditional risk-adjusted returns, namely: Sharpe (1966) Treynor (1965), and Jensen (1968). The final part of the chapter shows the portfolios' performance after replacing the risk-free rate component of traditional performance measures with a *Shariah*-compliant one (the *Murabahah*<sup>28</sup> rate of return).

Chapter 8 takes the analysis of Chapter 7 a step further by applying two different approaches, namely; a matched pairs approach, and a general linear model (GLM). The matched pairs approach controls for firm's size and sector when comparing the performance of different *Halal* and non-*Halal* portfolios, whereas, the GLM is fitted to the data to test for the source of variance in the returns of Kuwait Stock Exchange (KSE) equities by examining the importance of *Shariah* classification of stocks to *Halal* and non-*Halal* under the current and halved screens, a firm's size, sector, and the impact of the GFC period. Specifically, this is to discover whether the *Shariah* classification of stocks (before and after reducing the screening thresholds) affects performance.

Finally, Chapter 9 concludes the current thesis. It summarizes the main findings that have emerged from the empirical analysis. The chapter highlights the contributions of the study as well as suggesting result policy implications. Further, the chapter outlines limitations of the current study and concludes by suggesting avenues for future research.

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<sup>28</sup> *Murabahah* is the resale of assets or goods with an agreed upon profit mark-up on the cost, for instance the bank agrees to buy an asset from a third party and then resell it to its client with a mark-up, the client purchases the asset either immediate or deferred payment (Mirakhor and Zaidi, 2007). A main difference between *Murabahah* and interest-based lending is that the mark-up is not stipulated in terms of time period; hence, if the client fails to make a deferred payment on time, the mark-up does not increase. Further, the bank owns the asset between the two sales, thus bears the associated risks (see Mirakhor and Zaidi, 2007).

## 1.6 Summary

This chapter has introduced the reader to the thesis which follows. It first sheds light on Islam as a way of life and its components, namely: *Aqidah* (belief); *Akhlaq* (ethics and morality); and *Shariah*. The chapter asserts that Islamic investment and finance is rooted under the commercial transaction discipline that forms a significant segment of *Shariah*, which cannot be isolated from ethics and beliefs as they are all integrated components of Islam. The sources of *Shariah* have been discussed briefly. The subject of this thesis (MH equity investments) falls under one of the secondary sources of *Shariah*, namely *Ijtihad*, as qualified *Shariah* scholars apply their own reasoning to come up with an opinion on the *Shariah*-compliance of investing in MH companies. This explains why there is a debate among *Shariah* scholars about the compliance of MH stocks and their screening criteria. In addition, it shows the potential to revisit the old *Ijtihad* that allowed MH equity investments in the 1990's based on updated information and empirical evidence that may emerge from this thesis. The thesis examines *Shariah* views on MH stocks and whether the *fatwa* on investing in them should be revisited as many *Shariah* scholars agree that MH investment are not ideal, and further steps may need be taken to encourage Islamic funds to move towards making only pure *Halal* investments only. Therefore, this thesis is interested in examining the issues associated with the creation and performance assessment of the *Halal* and non-*Halal* portfolios. Particularly, the qualitative analysis (interviews) explores first whether Islamic funds are currently good investments from a *Shariah* perspective, and if there is a need to revisit the tolerance of MH screening criteria. In addition, the quantitative analysis (Chapters 6-8) investigates whether Islamic funds are good investments from a financial perspective. Particularly, the empirical chapters examine if it is possible to create diversified pure portfolios or at least MH but close to pure *Halal* portfolios, without bearing a financial cost. Further, this study empirically investigates whether it is the

*Shariah* classification of stocks, firm's size, sector, and the GFC period that impact performance. Hence, if there is no significant cost for PH investments, having 'stricter' *Shariah*-compliant portfolio, and *Shariah* classification of stocks is not affecting performance, then there is a valid reason for *Shariah* scholars to justify banning investment in MH stocks based on current screens. Finally, the chapter outlines the structure of the thesis and highlights the material contained in the subsequent chapters.

## **Chapter 2: An overview of the Gulf Cooperation Council (GCC)**

### **Stock Markets and Islamic Investment Industry**

## **2.1 Introduction**

This chapter provides the background to the context of the present study, and presents a description of the investment environment for *Halal* and non-*Halal* stocks in the GCC region with an emphasis on Kuwait. It introduces the reader to the economies of the Gulf Cooperation Council (GCC) countries and the development of their stock markets. It highlights their performance in light of the global financial crisis (GFC) and the ‘Arab Spring’ political crisis. Furthermore, the chapter sheds light on the development of Kuwait’s economy and stock exchange. Finally, the chapter attempts to provide insights into the Islamic finance and investment industry in the GCC. More weight has been given to Kuwait, as it will be the main context of the empirical investigation of this thesis.

The remainder of the current chapter is organized as follows. Section 2.2 outlines and discusses the GCC countries’ historical and economic background. Section 2.3 then presents an overview of the performance of the GCC stock markets, while section 2.4 elaborates on the development of the KSE. An overview of the Islamic finance and investment industry in the GCC is provided in section 2.5, with a focus on Kuwait. Finally, section 2.6 offers some preliminary conclusions.

## **2.2 An Overview of the Emerging GCC Stock Markets**

On May 25, 1981, Bahrain, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates (UAE) established the Gulf Cooperation Council (GCC) (Mohanty et al., 2011). These Arab countries share similar characteristics, such as their religion, language, history, traditions, and geography (Abu-Hassin, 2010).<sup>29</sup> The aim of the GCC was to build political and economic ties

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<sup>29</sup> *Shariah* is the principal source of law in the GCC, but is generally adopted in matters such as family matters, succession, and applied to some extent torts and criminal law.



among these six countries members.<sup>30</sup> Previously, these countries had been colonized by the west but Saudi Arabia gained independence from Britain in 1934 and Oman gained it in 1650 after the departure of the Portuguese colonists, Kuwait gained its independence from British colonization in 1961, while Bahrain, Qatar, and the UAE achieved theirs in 1971(Jamhour, 2011).

The GCC states are located on the west coast of the Arabian Gulf,<sup>31</sup> and extend from the southern borders of Iraq and Jordan to the northern borders of Yemen and eastwards to the Red Sea, as shown in Figure 2.1 below. Saudi Arabia accounts for about 83% of the land area of the GCC region and 65% of its population, while Oman is the second largest in terms of land area but third with regard to population size, after the UAE, while Qatar and then Bahrain follow Kuwait in terms of both land area and population (see Appendix 2.1).The GCC region has a huge desert landscape, with no rivers or lakes and infrequent rainfall except in Oman and certain cities in the south of Saudi Arabia.

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<sup>30</sup> Particularly, Article (4) of the GCC Charter (as reported in the GCC customs union report, 2012, p.7) outlined that the basic objectives of the Cooperation Council include, inter alia, "to effect coordination, integration and inter-connection between Member States in all fields in order to achieve unity between them". Nevertheless, the essential motive in creating the GCC block was to strengthen the political security and economic interests of those countries in the face of the political instability during that time in the region, due to the Iranian revolution occurring in 1979 and the First Gulf War between Iraq and Iran breaking out in 1980 (Jamhour, 2011).

<sup>31</sup> Iranians call this body of water the "Persian Gulf" while Arab countries call it the "Arabian Gulf" or "Arabic Gulf" or "Arab Gulf". The name Persian Gulf is still recognized by as the legal international standard by the United Nations. Iran has warned Google it will face "serious damages" if it does not denote the area as the Persian Gulf. Further, when the National Geographic Society decided to feature both terms in its 2004 world atlas edition, Iranians launched a huge internet offensive. In 2010, it warned that airlines using the term Arabian Gulf on in-flight monitors would be barred from Iranian airspace. (See: <http://www.bbc.co.uk/news/world-middle-east-18108246> )

**Figure 2.1: The GCC Countries and the Surrounding Region**



Source: Department of Geography, Kuwait University

The stock markets in the Middle East are fairly recent compared to the developed markets in the west, yet grew quickly (Al Mutari, 2011) prior to the GFC (Balli et al., 2013). The GCC countries have implemented economic reforms in recent decades, including financial liberalization (Akoum et al., 2012) allowing foreign investors directly to purchase stocks in that country's markets (Henry, 2000). In this context, the GCC's policy of removing capital flow restrictions has led to more openness across the region (Bley and Saad, 2011).

The GCC market liberalization, and the accumulation of wealth and liquidity has contributed to the emergence of the formal trading of securities and the establishment of stock markets in the region (Bley and Chen, 2006; Al-Hunnayan, 2011; Akoum et al., 2012). Although some form

of trading in securities had existed in the GCC region since 1935, it was not until the 1980s that formal stock markets were established in the GCC, as shown in Table 2.3.

**Table 2.3: The Development of the GCC Financial Markets**

<b>Country</b>	<b>Stock Trading Begins</b>	<b>Current Market System Established</b>	<b>Electronic Trading Since</b>	<b>Foreign Investment Ceiling for Listed Stocks</b>
<b>Bahrain</b>	1957	1987	1987	49% in general, 10% for a single entity; some banks & insurance companies are 100% open to foreign ownership; 100% in general for GCC nationals.
<b>Kuwait</b>	1952	1983	1995	100% in general, 49% for some banks.
<b>Oman</b>	1988	1998	1998	Up to 70% with further restrictions at the company level; restrictions may differ for GCC nationals.
<b>Qatar</b>	1997	1997	2002	25% in general.
<b>Saudi Arabia</b>	1935	1985	1988	25% for GCC nationals; other foreign investors may access the market via mutual funds managed by Saudi banks.
<b>UAE</b>	1989	2000	2000	49% in general, through different restrictions may apply to individual companies; 100% for GCC nationals with the company's approval.

Note: This table shows the development of the GCC stock markets and the restriction on foreign investment, stating when stock trading began, the current stock market system, and the date when electronic trading was established in each GCC country. The last column outlines the foreign investment ceiling for investing in listed stocks.

Source: Bley and Chen (2006) and Standard and Poor's Global Stock Market factbook (2009, p.338) for the foreign investment restrictions information.

Table 2.3 outlines the development of the GCC financial markets, revealing that trading first started in Saudi Arabia; the oldest stock market in the region was established in Kuwait in 1983, while the newest financial markets are found in the UAE [the Dubai Financial Market (DFM) and the Abu Dhabi Securities Market (DIFX)]. Table 2.3 shows that the most open market for foreign investment is the KSE, while the Saudi Arabia stock market is the most restricted, as foreign investors may access it only via mutual funds, as reported by Standard & Poor's (2009, p.338). The market liberalization in Kuwait compared to other GCC countries

has contributed positively to the stock market. According to Standard & Poor's (2009, p.341), there are no restrictions on entering or exiting the financial market in any GCC country, with the exception of Saudi Arabia. Compared to other emerging markets, the GCC financial markets are currently vastly advanced in terms of regulations and technology, as the stock exchanges are electronically linked with the banks, settlement and clearing agencies, and brokerage firms for the faster, more reliable execution of transactions (Al-Hunnayan, 2011).

The financial markets in the GCC are the largest in the Middle East region in terms of market capitalization and volume (Al-Mutari, 2011) and the Saudi financial market is the largest in the MENA countries (Al-Mutari, 2011). According to Standard & Poor's (2009, p.30), of the top 40 stock markets around the world, Saudi Arabia stock market is ranked 21st and 20th in the world for total market capitalization and total traded value respectively, followed by Kuwait.<sup>32</sup>

Table 2.4 shows the number of listed companies, market capitalization, and value and volume traded from 2002-2012 for each GCC stock market.

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<sup>32</sup> The UAE's two financial markets and Qatar (ranked 32nd and 29<sup>th</sup>, 35th and 28<sup>th</sup>, and 40<sup>th</sup> in both cases, respectively. The Omani and Bahraini stocks markets were not among the MSCI top 40 stock markets.

**Table 2.4: Overview of GCC Stock Markets; Number of Listed Companies, Market Capitalization, Value and Volume Traded, from 2002-2012**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Number of Listed Companies</b>											
<b>Bahrain</b>	42	42	42	47	49	43	45	49	44	44	40
<b>Kuwait</b>	95	108	125	158	180	196	204	204	214	213	211
<b>Oman</b>	96	96	96	96	124	120	122	120	119	136	144
<b>Qatar</b>	25	28	29	31	36	40	42	48	43	42	42
<b>Saudi Arabia</b>	68	70	73	77	86	111	127	135	146	150	157
<b>UAE</b>	37	44	53	89	102	120	130	133	130	130	130
<b>Total</b>	363	388	418	498	577	630	670	689	696	715	724
<b>Market Cap. (US\$ bn)</b>											
<b>Bahrain</b>	7.60	9.70	13.50	17.40	21.10	27.00	19.90	16.92	20.82	17.20	16.00
<b>Kuwait</b>	35.80	61.50	75.20	142.10	143.80	210.50	121.10	96.30	128.76	105.30	100.00
<b>Oman</b>	5.20	6.60	7.60	12.70	12.90	23.00	15.00	17.32	19.97	18.30	20.10
<b>Qatar</b>	10.60	26.70	40.40	87.10	60.90	95.50	76.70	87.84	123.63	125.60	126.30
<b>Saudi Arabia</b>	74.90	157.30	305.90	646.00	326.30	519.00	246.50	318.73	352.49	338.80	373.40
<b>UAE</b>	29.90	39.60	82.30	231.40	168.70	257.40	132.00	135.86	104.76	93.80	103.20
<b>Total</b>	164.00	301.40	524.90	1136.70	733.70	1132.40	611.20	672.98	750.42	699.00	739.00
<b>Value Traded (US\$ bn)</b>											
<b>Bahrain</b>	0.20	0.30	0.50	0.70	1.30	1.10	2.10	0.48	0.29	0.30	0.30
<b>Kuwait</b>	22.70	55.10	51.80	97.60	59.20	135.50	129.70	75.52	44.43	21.80	25.90
<b>Oman</b>	0.60	1.50	1.90	3.60	2.30	5.20	8.70	5.93	3.42	2.50	2.60
<b>Qatar</b>	0.90	3.20	6.40	28.30	20.50	29.90	48.20	25.52	18.44	22.90	15.60
<b>Saudi Arabia</b>	35.70	159.10	473.00	1103.70	1402.80	682.10	523.50	336.87	201.91	292.90	514.10
<b>UAE</b>	1.10	2.00	18.20	140.60	120.40	151.00	146.30	67.83	28.27	15.50	19.40
<b>Total</b>	61.20	221.20	551.80	1374.50	1606.50	1004.80	858.50	512.15	296.76	355.90	577.90
<b>Volume (million stocks)</b>											
<b>Bahrain</b>	353	406	336	458	728	851	1,676	852	612	519	628
<b>Kuwait</b>	27,834	49,563	33,544	52,338	37,658	70,433	80,924	106,411	74,692	38,343	84,243

<b>Oman</b>	192	315	345	512	926	2,989	4,199	6,062	3,019	2,366	4,142
<b>Qatar</b>	80	190	317	1,033	1,865	3,411	3,894	3,450	2,094	2,303	1,760
<b>Saudi Arabia</b>	11,430	35,414	63,675	70,996	73,439	58,862	59,683	56,647	33,007	48,536	86,134
<b>UAE</b>	209	561	6,069	34,146	51,356	157,318	126,344	152,363	55,953	40,964	56,902
<b>Total</b>	40,098	86,449	104,286	159,483	165,971	293,864	276,718	325,786	169,377	133,031	233,808

Note: this table outlines the number of listed companies, total market capitalization, total value traded, and volume of stocks traded in each GCC stock market for 2001-2012. The UAE figures are an aggregate of the Dubai and Abu Dhabi stock markets. The market capitalization and value traded are measured in US \$ billion units, while the volume is measured in million stocks.

Source: Global House Research database, KAMCO research GCC equity Market reports (2011, 2012, 2013), World Bank online database: <http://data.worldbank.org> , and countries respective stock market websites; Bahrain Stock Market: <http://www.bahrainbourse.net>, Oman (Muscat Securities Market): <http://www.msm.gov.om/>, Kuwait Stock Exchange (KSE): <http://www.kse.com.kw/A/>, the Saudi Financial Market (Tadawul): <http://www.tadawul.com.sa/>, and finally in UAE, (i) Abu Dhabi Securities Exchange (ADX): <http://www.adx.ae/>, (ii) Dubai Financial Market (DFM): <http://www.dfm.ae/>.

A visual inspection of Table 2.4 reveals that despite the variation across different years, the Saudi stock market accounts for almost half of the total GCC market capitalization, and is greater than the other five GCC stock markets combined in terms of traded value followed by the KSE. However, the KSE is the largest stock market in the region in terms of the number of listed stocks across all years, except for Oman in 2002.<sup>33</sup> The volume of traded stocks in the KSE was originally the highest in the GCC, after which the Saudi Stock Market caught up, suggesting that these stock markets are the most liquid in the GCC region. The numbers of listed companies in all GCC stocks markets increased in 2005 and 2006, and remained fairly stable after the GFC of 2008 but, in 2010, some companies were delisted from certain stock markets, such as in Bahrain, Oman, and the UAE. Most delisted firms were small and young investment companies that struggled to meet debt obligations after the GFC or companies that violated financial reporting requirements such as report earnings on time (see Al-Arabiya, 2012).<sup>34</sup> The trading activities in the GCC stock markets are low.<sup>35</sup> Al-Mutari (2011) suggested that this may be because: (i) GCC stock markets have a relatively low investors' participation rate, as the number of active investors is less than 3% of the total adult population compared to more than 20% in developed markets;<sup>36</sup> (ii) GCC governments own a significant portion of many of the listed stocks and tend to hold them for long periods, which essentially reduces market liquidity; (iii) the role of institutional investors remains thin or absent compared to developed markets; (iv) despite the stock market liberalization in most GCC countries, foreign

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<sup>33</sup> Oman and Bahrain are the smallest of the GCC stock markets in terms of market capitalization and value traded. But, in 2007, the Oman (Muscat) stock market experienced remarkable growth in terms of market capitalization, value and volume traded.

<sup>34</sup> Hudson (1987) reports that the majority of companies which go to liquidation are small and young companies, he also reports that regions and industries affect companies' liquidation.

<sup>35</sup> The total traded value and volume is thinner in Bahrain, Oman, Qatar, and the two individual UAE stock markets (ADX and DFM).

<sup>36</sup> The low participation rate of local investors could be due to the small number of listed stocks or the lack of diversification opportunities across different sectors; for instance, the banking sector overcrowding the market, while stocks of service and industrial companies are scarce (Al-Mutari, 2011).

access restrictions hinder foreign direct investment, leading to markets that are dominated by domestic retail investors, who tend to exhibit less sophisticated investment behavior than institutional investors (Sturm et al., 2008).

In 2006 there was a significant drop in the market capitalization of the Saudi, Qatar and UAE stock markets after the burst of the speculative bubble in the GCC markets (Sturm et al., 2008; Hertog, 2012). Sturm et al. (2008) indicate that the 2006 market correction was not a result of a real economic crisis and did not have a negative impact on economic activity.<sup>37</sup> Saidi (2006) highlights that higher equity prices have driven investment and corporate borrowing based on expected returns, buoyant domestic demand and robust cash flows. Kuwait was less affected by the 2006 crash as it witnessed only a relatively small correction of its stock market (Sturm et al., 2008). The 2008 GFC, however, hit all GCC stock markets, causing them to lose one-third or less of their value (Hertog, 2012) as shown in Table 2.4. The total GCC market capitalization fell from US\$ 1132.40 billion in 2007 to US\$ 611.20 billion in 2008 (a drop of 62%). Furthermore, a further drop in market capitalization occurred in 2011, affecting most markets (except Qatar). This coincided with the Arab Spring in the MENA region and the domestic protests in Kuwait, Bahrain, and Oman. Nevertheless, the 2011 drop was much less than that of 2008. This negative momentum continued to influence in the KSE in 2012 but to a lesser extent. The total value of stocks traded also fell during these years from 1606.5 US\$ billion in 2006 to 1004.8 US\$ billion in 2007 (a 47% reduction) and from 858.5 US\$ billion in 2008 to 512.2 and 296.8 US\$ billion in 2009 and 2010 (further drops of 52% and 55%) respectively, although it picked up in 2011 and 2012.

Figure 2.1 plots the performance of the Morgan Stanley Capital International (MSCI) US\$ price index for all GCC countries, and was chosen because it is the most common index across

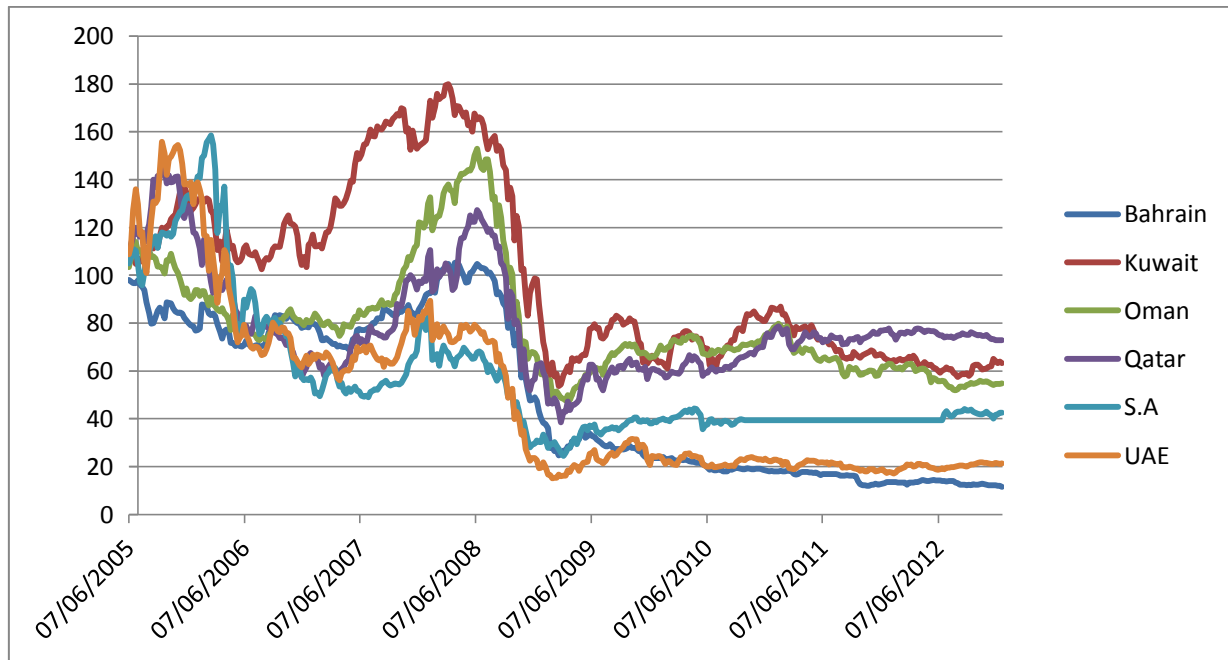
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<sup>37</sup> Some interviewees in Chapter 5 assert that the few listed stocks (concentrated in certain sectors), low free floats and limited alternative investment vehicles such as bonds had caused the bubble in GCC stock markets in 2005-2006.



all six countries, measured in US\$.<sup>38</sup> Further, Appendix 2.2 compares the performance of the official KSE and MSCI Kuwait indices visually.

**Figure 2.2: Performance of GCC Stock Markets: June 2005- Dec. 2012**



Note: this figure plots the performance of the MSCI US\$ price index for each of the six GCC states, indexed from 100 points for June 2005- December 2012.<sup>39</sup>

Source: Weekly data were extracted from the Thomson Reuters DataStream

Figure 2.2 shows the correction among GCC markets and the shock that hit all markets in 2006, with less impact on KSE, as reported earlier. The figure also shows the GFC impact in the region, in 2008, causing the severe slowdown of the financial sector due to the high leverage of many financial institutions, utility and real-estate companies, especially in Dubai (Ellaboudy, 2010). Indeed, the range, depth, and damage caused by the GFC was worse than that caused by the Great Depression of the 1930s (Ellaboudy, 2010). Figure 2.2 illustrates that, overall, the KSE performed the best of the GCC stock markets from 2005-2012.<sup>40</sup> Figure 2.2 shows small reactions associated with political instability after the Egyptian revolution on the

<sup>38</sup> The data were only available from June 2005.

<sup>39</sup> There are some missing data from the MSCI Saudi price index for the period 29/9/2010-29/6/2012 as the price index remained constant during this period.

<sup>40</sup> It is worth noting however that the Qatar MSCI index managed to catch up after the Arab Spring, which could be attributed to Qatar's successful domestic and regional policy towards this political event (Davidson, 2013).

25<sup>th</sup> of January 2011, for Kuwait, Saudi Arabia, and the UAE which have significant direct investments in Egypt's telecommunications, real estate and other sectors (Capital Standards Report, 2011). According to KAMCO research (2012) several key developments occurred in 2012, with the implementation of the regulations of the Capital Markets Law issued by the Capital Market Authority (CMA)<sup>41</sup> in Kuwait, the recovery of the real estate sector in Dubai and the announcement by the Saudi CMA that allows listings by foreign companies. Moreover, the government backup of the key economic and financial sectors has supported and enhanced the performance of stock markets with steady growth in corporate earnings (KAMCO research, 2012).

This section has provided an overview of the GCC economies and their stock markets in light of the recent financial and political crisis, which presents a contextual background to this thesis. The next section focuses on Kuwait financial system and particularly on the historical development of KSE which is the stock market investigated in this thesis.

### **2.3 The Development of Kuwait Stock Exchange (KSE)**

The KSE was the first stock exchange in the GCC region, starting with initial public offering (IPO) of the National Bank of Kuwait (NBK) in 1952 that became the first shareholding company (Al-Shamali, 1989). The 1960s witnessed several IPOs of companies in different economic sectors, and investment demand started to increase, coupled with the substantial increase in financial revenues after the oil exploration (Al-Yaqout, 2006). During this period, stocks were traded through real estate brokers and in public cafes and prices were determined by market forces of each individual location (Al-Shamali, 1989; Al-Yaqout, 2006). This continued until 1970, when Law No. 32 was issued to regulate the trading of securities of public shareholding companies, to oversee trading activities and, most importantly, it paved the

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<sup>41</sup> See Kuwait Capital Market Authority Website: <http://www.kuwaitcma.org/>.

way towards establishing a formal stock market in Kuwait (Al-Yaqout, 2006; Almujaed, 2011; Al-Wasmi, 2011). In February 1972, the first formal stock market in Kuwait was established, first operating under the Ministry of Commerce and Industry with the supervision of the Securities Department, later replaced by a market committee with higher authority and responsibilities (Union of Investment Companies, 2008). By 1982, 40 companies were traded on the exchange, annual trading volume was about \$7 billion and total market capitalization was approximately \$30 billion (Butler and Malaikah, 1992). An unofficial parallel stock exchange market (an over-the counter market) also evolved in 1972, known as the *Almanakh* Market (Butler and Malaikah, 1992). This market began trading stocks in Kuwaiti and other Gulf-based companies next to the official Kuwaiti exchange to circumvent the regulations established by the government to govern stock trading (Butler and Malaikah, 1992; Al-Wasmi, 2011; Al-Mutari, 2011). The main difference between the official and unofficial markets was the use of forward contracts based on post-dated cheques (Butler and Malaikah, 1992). The absence of a legal framework created bubble in stock prices, inflating them to more than ten times their face value (Abumustafa, 2007; Almujaed et al., 2013).<sup>42</sup> Investors started to cancel their post-dated cheques before the due date and confidence dissipated among them, transforming the KSE to become illiquid, and collapse in 1982 (Abumustafa, 2007; Almujaed, 2011). The *Almanakh* stock market crisis led to \$93 billion in losses; \$17 billion on the official market and \$76 billion on the unofficial one (Butler and Malaikah, 1992).<sup>43</sup> The government intervened after this crisis to boost confidence, competence and efficiency in the KSE; with new regulations related to stock trading control, information disclosure, securities

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<sup>42</sup> Among the reasons for the *Almanakh* Market crash, as reported by many academics, are: (i) stock prices that were derived from rumour rather than fundamentals; (ii) a dearth of investment and financial experience and knowledge among investors, (iii) insider trading, and (iv) a fall in market liquidity as large numbers of post-dated cheques were used for settlements (Alshimmiri, 2004; Abumustafa, 2007; Al-Sharrah, 2009).

<sup>43</sup> For more details regarding the collapse of the *Almanakh* stock market, see Al-Shamali (1889), Al-Yaqout (2006), and Al-Sharrah (2009).

registrations, capital and credential requirements for brokers, restrictions on margin trading (Butler and Malaikah, 1992; Abumustafa, 2007; Almujaed, 2011; Al-Mutari, 2011). On the 14<sup>th</sup> of August 1983, an Emiri Decree was issued establishing the current KSE as an independent body overseen by both a market committee and an executive management team (KSE, 2013).<sup>44</sup> The KSE opened its doors to the public and with a new trading system that operated similarly to that of developed stock markets (Almujaed, 2011).

Trading activities became more stable in the KSE after the *Almanakh* market crash, and a circuit breaker was later introduced to protect the market from sharp changes in stock prices (Al-Yaqout, 2006) as detailed in Appendix 2.3.

Transaction costs in the KSE are small as small brokerage fee is charged, to encourage Kuwaiti and foreign investors to invest in the market (Almujaed et al., 2013).

The market also grew from the privatization program that began in 1993 when the Kuwait Investment Authority (KIA) started to sell its shares to the public, reaching 90% across 62 companies (Al-Mutari, 2011). In 2000, foreign investors were allowed to directly purchase, sell, and own up to 100% of listed companies, with earnings not subject to taxation (Al-Wasmi 2011; Almujaed et al., 2013). In addition, the Central Bank of Kuwait (CBK) liberalized the banking sector by allowing foreign banks to operate in Kuwait, such as BNP Paribas, HSBC and the National Bank of Abu Dhabi (Al-Mutari, 2011).

The KSE is amongst the most active and technologically sophisticated stock exchanges in the region (Abumustafa, 2007). The Kuwait Clearing House was established in 1986, which banned the use of post-dated cheques and in November 1995, it implemented its first electronic trading system in October 1998; forwards and futures were introduced in August 2003; online trading started in November 2003; and options have been traded on the KSE since March 2005

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<sup>44</sup> See the KSE website at: <http://www.kuwaitse.com/KSE/About.aspx>.

(KSE official website, 2013). In late 2009, the KSE signed a partnership contract with NASDAQ, to create the “SMARTS” surveillance system and a new “X-stream” trading system. The former was implemented in May 2010, and the first phase of the latter began in May 2012 (KSE Index Rulebook, 2012).<sup>45</sup> Consequently, in 2012, the CMA reclassified the KSE sectors to bring them into line with global classification standards, in addition to launching a new index as a benchmark representing the performance of the market. In particular, listed companies were reclassified into sectors based on the International Classification Benchmark (ICB). Prior to May 2012, there had been seven industrial sectors: banking; investment; insurance; industrial; service; food; and non-Kuwaiti firms. However, the new sector classification added more sectors and reclassified some companies into: oil and gas, basic material, industrial, health care, consumer service, telecommunications, banks, insurance, real estate, financial services, and technology. Moreover, in May 2012, “KSX15” was launched, in addition to the official KSE index which is a market capitalization weighted index that tracks the performance of 15 companies in the KSE based on size and liquidity; reviewed and selected semi-annually (KSE Index Rulebook, 2012). Table 2.5 details the constituents of the KSX15 index.

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<sup>45</sup> For more details about the X-stream” trading system, the “SMARTS” surveillance system, and the new “KSX15” index, see the KSE rule book (2012) available at:  
<http://www.kuwaitse.com/Portal/Report/Index%20Rulebook%2009052012.pdf>

**Table 2.5: The Kuwait 15 Index (KSX15) Constituents as of December 2012**

No	Code	Sector	Sector (New)	Liquidity (K.D million)	Market Capital (K.D million)	Market Cap Rank	Liquidity Rank	Weighted Market Cap. (%)	Weighted Liquidity (%)	Weighted to KSE Total Market Cap (%)	Weighted to KSE Total Market Liquidity (%)
1	NBK	Banking	Banking	243	4310	1	1	22.06	24.46	15.47	10.21
2	ZAIN	Services	Telecom.	140	3623	2	2	18.55	14.06	13.01	6.00
3	KFIN*	Banking	Banking	120	2352	3	3	12.04	12.1	8.44	5.00
4	NMTC	Services	Telecom.	30	1179	4	24	6.04	2.98	4.23	1.24
5	BOUBYAN*	Banking	Banking	28	1136	5	26	5.82	2.82	4.08	1.18
6	GBK	Banking	Banking	51	1132	6	13	5.8	5.08	4.06	2.12
7	ABK	Banking	Banking	11	953	8	44	4.88	1.12	3.42	0.47
8	CBK	Banking	Banking	34	878	9	22	4.49	3.46	3.15	1.45
9	BURG	Banking	Banking	41	834	10	18	4.27	4.17	2.99	1.74
10	MABANEE	Real Estate	Real Estate	70	806	11	8	4.13	6.99	2.89	2.92
11	FOOD	Food	Consumer Goods	15	683	12	38	3.5	1.52	2.45	0.64
12	AGLTY	industrials	industrials	70	534	13	9	2.73	6.99	1.92	2.92
13	KPROJ	Investment	Financial Services	29	528	14	25	2.7	2.92	1.9	1.22
14	KIB*	Banking	Banking	44	306	15	16	1.57	4.43	1.1	1.85
15	NIND	industrials	Financial services	69	277	17	10	1.42	6.9	0.99	2.88
	Total			995	19533	130	259	100	100	70	42.00
	Total KSE			2383	27859						

Note: this table details the KSX15 constituents as of December 2012, showing the codes of these 15 companies, their corresponding sector under the previous and new classifications, the liquidity and market capitalization in K.D million units, the weighted market cap., and weighted liquidity within the index and among the overall KSE stocks. The exchange rate is 0.2815 K.D per \$US at the end of December 2012.<sup>46</sup> \* Denotes Islamic banks that have a *Shariah* Supervisory board monitoring their activities.

Source: KSE website, 2013

<sup>46</sup> This exchange rate is based on the <http://www.xe.com/currencytables> database, last visited on 21/3/2013.

An inspection of Table 2.5 reveals that these 15 companies represent 70% and 40% of the KSE's total market capitalization and total liquidity respectively. It shows that the banking sector dominates this KSX15 index in terms of liquidity and market capitalization. Five of the banks included in the KSX15 are conventional commercial banks while three are Islamic banks; one of them, Kuwait International Bank (KIB), converted from a conventional to an Islamic bank in July 2007.<sup>47</sup> The top three companies in the index: NBK,<sup>48</sup> Zain,<sup>49</sup> and KFH,<sup>50</sup> represent more than half of the KSX15 in terms of liquidity, and account for 37% and 21% of the KSE's total market capitalization and total liquidity respectively.

The CBK, established in 1969, plays an essential role in facilitating the monetary transactions of the KSE and acts as the chief regulatory authority of banks, financial companies (Al-Mutari, 2011) and investment funds. In February 2010, the Kuwaiti Parliament passed Law No. 7/2010 regarding the establishment of the CMA as well as Ministerial Decree No. 38/2011 that reorganized the CBK's supervision of finance companies. As of September 2011, the supervision of investment companies and both Islamic and conventional investment funds was transferred from the CBK to the CMA, and the role of the CBK became limited to supervising the financing activities of investment companies (CBK annual report, 2012). The CMA introduced new regulations in 2011-2013 to increase transparency, protect the rights of shareholders and investment fund holders, and enhances market performance and

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<sup>47</sup> The other conventional bank that converted to an Islamic one on April 2010, but is not part of the KSX15 is Ahli United Bank.

<sup>48</sup> The National Bank of Kuwait (NBK) was the first commercial bank in Kuwait and the entire Arabian Gulf region, established in 1952 by prominent Kuwaiti merchant families. It was declared the safest bank in the Middle East (2009-2011). For more details, see the NBK website: [http://www.nbk.com/aboutnbk/profile/default\\_en\\_gb.aspx](http://www.nbk.com/aboutnbk/profile/default_en_gb.aspx).

<sup>49</sup> Zain is a pioneering mobile telecommunications company in the Middle East that started in 1983 in Kuwait as the region's first mobile operator. It provides mobile and data services to 42.7 million active individual and business customers in eight Middle Eastern and North African countries, with a workforce of over 6,000 as of the 31<sup>st</sup> of December, 2012. For more details, see the Zain website: <http://www.zain.com/about-zain/>).

<sup>50</sup> Kuwait Finance House (KFH) was the first Islamic bank in Kuwait, established in 1977. It provides *Shariah*-compliant products and services, covering banking, investment, trade finance, commercial and real estate financing services. KFH was the only Islamic bank in Kuwait until 2004. For more details, see the KFIN website: <http://www.kfh.com/en/about/index.aspx>

efficiency. The CBK has played a crucial role after the GFC to support the financial and banking system in the country (CBK annual report, 2011).

The KSE's market capitalization has consistently been one of the largest in the Arab markets, and currently accommodates over 200 companies, totaling over US\$ 100 billion in market value. With a market capitalization to GDP ratio of approximately 100%, the KSE has a stock market which is deeper than many of its regional peers (KSE, 2013)<sup>51</sup>. The KSE enjoyed rapid growth between 1985 and 2008, until the annual value of stocks traded, increasing from KD115.7 million to KD35.74 billion (CBK Bulletins, 2008).

The price index of the KSE recorded a new high in 2007; it rose from 1365 in 1995 to 12558 in 2007, but declined by 38% in 2008 as a result of a downward trend among the world's stock markets after the GFC (CBK Bulletins, 2008). Nevertheless, there were continual political and financial problems through the decades. For example, the Iraqi invasion of Kuwait on the 2<sup>nd</sup> of August 1990 led the market to close for two years (Abumustafa, 2007). In recent years, the KSE has become more sensitive to global financial events, as on the 11<sup>th</sup> of September 2001 and GFC in 2008; reacted to shocks like other developed markets (AIMujamed, 2011).

In addition to the global events, KSE was exposed to local political unrest during 2009-2012 impacting the KSE's performance and slowed down economic projects (KAMCO, 2012). Kuwait has the longest history of political participation in the Middle East and implemented the most democratic political system among GCC countries (Al-Wasmi, 2011; Sabrie and Hakala, 2013) thereby, it has faced political challenges.<sup>52</sup> The political situation, however, became more stable following the liberation of Kuwait from the Iraqi invasion of 1990 when

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<sup>51</sup> See Kuwait Stock Exchange (KSE) website : <http://www.kuwaitse.com/KSE/About.aspx>

<sup>52</sup> In June 1961, the Emir, Abdullah Al-Salim Al-Sabah, promulgated the country's first constitution which outlined that it is a hereditary Emirate state with a parliamentary system of government, where sovereignty rests with the nations and is the source of power (Sabrie and Hakala, 2013). However, there were struggles between key members of the Sabah ruling family and the Parliament, leading to the suspension of both the constitution and Parliament in 1976 and 1986 (Salem, 2007).



Parliament resumed its central role, and the country witnessed several economic reforms (Salem, 2007). As parliament enjoys considerable freedom and authority, compared to other GCC countries, in 2006, the opposition aggressively questioned key cabinet members of the Sabah family, particularly the Prime Minister (Nasser Al-Mohammed Al-Sabah), about their alleged misuse of state funds and corruption (Salem, 2007; Davidson, 2013; Sabrie and Hakala, 2013). This led to continued political distress until the Emir demanded the dissolution of the parliament and called for new elections in May 2008 (Sabrie and Hakala, 2013), but the previous prime minister was reappointed and therefore the political disputes escalated. This is because, although parliament plays a significant role in legislating and holding the executive accountable, it does not have the power to formulate the government or name the Prime Minister. In October 2012, the Emir dissolved this new parliament after only a few months and called for early elections again in December 2012 but under a new election law. This caused the opposition and youth activists to lead mass protests to boycott the elections (Sabrie and Hakala, 2013). Nevertheless, it is believed that KSE will continue to persist despite these negative political events based on the positive economic growth assisted by robust oil prices, expected improvement in liquidity, investors' confidence of the implementation of CMA regulations (KAMCO, 2012). Further, this optimistic view is supported by the argument that following each political dispute and the Emir dissolving parliament, as in 1999, 2006, 2008, 2009, and 2012, new elections are called and the situation becomes more stable, indicating that KSE copes with these short term political unrests.

Having discussed the investment environment of the GCC countries and of Kuwait in particular, the final section of this chapter provides an overview of Islamic finance and investment in the region which is of interest to this thesis.

## 2.4 An Overview of Islamic Finance and Investment Industry in the GCC

The Islamic finance industry is claimed to be one of the fastest growing industries, with a growth of between 15 to 20% per annum for the past decades (Yaacob and Donglah, 2012). The amount of Islamic assets under management expanded from US\$ 150 billion in the mid-1990s to US\$ 1.14 trillion in 2011, and is expected to cater to a growing Muslim population of 2.5 billion by 2020 (Malaikah, 2012). Islamic finance, in less than a decade, has evolved from a niche to a mainstream industry in the international financial system, growing not only in Muslim majority countries like Malaysia, Indonesia, and the GCC but also in other regions, such as the UK, Australia, France, Luxembourg, Hong Kong and South Korea (Global Islamic Finance Forum Guide Book (GIFF), 2010). Hence, there are now more than 300 IFIs spread across more than 75 countries worldwide (Ayub, 2007). For example, the UK is a leading western country in Islamic finance, with \$19bn of reported assets, largely based on HSBC Amanah, 22 banks (five of which are fully Sharia compliant), 37 *Sukuk*<sup>53</sup> issues raising \$20bn currently listed on the London Stock Exchange, including 10 listed in 2011, and 25 law firms providing services in Islamic finance (the UK Islamic Finance Secretariat (UKIFS), 2012). The Islamic finance and investment industry is expected to prosper even post the 2008-2009 GFC, as there is plenty of room for further growth in the asset management activities and *Sukuk* issuance, coupled with generic growth in the IFI (Mirakhor and Zaidi, 2007; Alqahtani, 2012).

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<sup>53</sup> *Sukuk* is the plural of the Arabic word 'Sakk', meaning "legal instrument, deed, check" and is the Arabic name for *Shariah*-compliant financial certificates, which are commonly referred to as the Islamic equivalent of bonds (Alqahtani, 2012). In particular, *Sukuk* are certificates of ownership of the underlying assets that are transferred to a large number of investors; they provide a stable income and are tradable (Tariq, 2004; Mirakhor and Zaidi, 2007). AAOIFI (2010, p.307) defines *Sukuk* as: "Certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services or (in the ownership of) the assets of particular projects or special investment activity, however, this is true receipt of the value of *Sukuk*, the closing of subscription and the employment of funds received for the purpose for which the *Sukuk* were issued". The difference between *Sukuk* and companies' stocks is that they are certificates of equal redeemable value representing undivided shares in ownership of the tangible assets of particular projects or specific investment activity, usufruct and services (Ayub, 2007). *Sukuk* are attractive investment instruments for IFIs and funds that cannot invest in conventional securities (Wilson, 2008). See the AAOIFI *Shariah* standards (2010), Tariq (2004), Mirakhor and Zaidi (2007), Al-Amine (2008), Wilson (2008) and Alqahtani (2012) for more details about the different types of *Sukuk*.

The emergence of Islamic finance and investment can be traced back to 1963 by the pioneering effort led by Ahmad Elnaggar, which took the form of a savings bank based on profit-sharing in the Egyptian town of Mit Ghamr, followed by the Nasser Social Bank in 1971 (Iqbal and Molyneux, 2005). The public sector promotion of Islamic banking began with the Islamic Development Bank in 1975 (Iqbal and Molyneux, 2005). Table 2.6 documents the evolution of the Islamic financial market and trends in the industry. It shows that the 1980's enjoyed the largest shift in Islamic finance, as it spread from the Middle East and Gulf region to Malaysia and the Americas, together with an increased range of services, from Islamic banking to *Takaful* insurance, and Islamic investment funds activity.

**Table 2.6: Evolution of the Islamic Financial Markets**

	1970's	1980's	1990's	2000's
<b>Islamic Financial Services</b>	Commercial Islamic banks	1) Commercial Islamic banks; 2) <i>Takaful</i> <sup>54</sup> insurance; 3) Islamic investment funds	1) Commercial Islamic banks; 2) <i>Takaful</i> insurance; 3) Islamic investment companies; 4) Islamic investment funds; 5) Asset management companies; 5) Brokers and dealers	1) Commercial Islamic banks; 2) <i>Takaful</i> insurance; 3) Islamic investment funds 4) Asset management Companies; 5) Brokers and dealers 6) Islamic Investment banks; 7) <i>Sukuk</i> ; 8) Hedge funds 9) Private equity and Islamic and Islamic RETS's
<b>Region</b>	Gulf and Middle East	Gulf, Middle East and Asian Pacific	Gulf, Middle East, and Asian Pacific	Gulf, Middle East, Asian Pacific, Europe, Americas, and Global offshore markets

Source: Global Islamic Finance Forum (GIFF) m Guide Book (2010, p.256)

<sup>54</sup> *Takaful* (social guarantee) is the *Shariah* compliant insurance alternative to conventional insurance. Literally, it stems "from the Arabic verb *kafal*, meaning to take care of one's needs is descriptive of a practice whereby participants in a group agree jointly to guarantee themselves against loss or damage" (Abdul Wahab et al., 2007, p.374). In Malaysia, Section 2 of the *Takaful* Act 1984 defines *Takaful*, as cited in Abdul Wahab et al. (2007, p.374), as "a scheme based on brotherhood, solidarity and mutual assistance which provides for mutual financial aid and assistance to the participants in case of need whereby the participants mutually agree to contribute for that purpose", and *Takaful* business as a "business of *Takaful* whose aims and operations do not involve any element which is not approved by the *Shariah*". Conventional insurance is forbidden because it mainly involves a substantial *Gharar* component that affects the outcome of an insurance contract (El-Gamal, 2006; Ayub, 2007; Sultan, 2007).

The first fully-fledged Islamic commercial bank introduced to the conventional financial system in the Middle East was established in Dubai in 1975, namely Dubai Islamic Bank, followed by KFH in 1977 established in Kuwait, after which Bahrain, Qatar and lastly Saudi Arabia launched their Islamic banks in 1979, 1982 and 1987 respectively (Wilson, 2009). The differences between Islamic and conventional banking are outlined in Appendix 2.4. Islamic banks' assets account for 15.5% of the regional banking system's assets (KFH research global Islamic finance directory, 2009). The growth of Islamic banks' assets was rapid, growing at an average of 45%, ranging from 28.3% in Kuwait to 65.8% in Qatar (Hasan and Dridi, 2010). Table 2.7 outlines the total assets of Islamic banks in the GCC for 2008-2012.

**Table 2.7: Total Assets of Islamic Banks in the GCC from 2008-2012**

Name	Country	2012		2011		2010		2009		2008	
		Mn \$	Rank	Mn \$	Rank	Mn \$	Rank	Mn \$	Rank	Mn \$	Rank
Al-Rajhi Bank	K.S.A	71,391.14	1	58,957.18	1	49352.52	1	45584.84	1	44036.26	1
Kuwait Finance House	Kuwait	52,284.94	2	48,330.22	2	44720.34	2	39235.16	2	38209.86	2
Dubai Islamic Bank	UAE	25,967.81	3	24,667.24	3	24544.52	3	22956.05	3	23153.97	3
Abu Dhabi Islamic Bank	UAE	23,326.46	4	20,241.44	4	20492.62	4	17450.07	4	13944.50	4
Qatar Islamic Bank	Qatar	20,105.86	5	16,011.20	6	14240.48	5	10788.21	5	9214.31	5
AlBaraka Islamic Bank	Bahrain	19,055.13	6	17,154.04	5	1346.56	17	929.89	19	1001.46	17
Masraf Al Rayan	Qatar	16,929.32	7	15,183.04	7	9527.52	6	6626.81	8	4606.47	7
Emirates Islamic Bank	UAE	10,146.92	8	5,850.04	12	8916.88	7	6886.37	7	7188.84	6
Ahli United Bank	Kuwait	9,362.67	9	9,435.78	8	8746.77	8	7855.35	6	N/A	
Bank Albilad	K.S.A	7,950.59	10	7,403.15	9	5638.16	10	4648.79	10	4285.83	8
Qatar International Bank	Qatar	7,845.17	11	6,416.34	11	4993.76	11	4546.54	11	3527.82	11
Ithmaar Bank	Bahrain	7,245.02	12	6,899.42	10	6743.57	9	6105.93	9	N/A	
Boubyan Bank	Kuwait	6,701.84	13	5,572.03	13	4690.88	12	3352.61	14	3045.66	12
Sharjah Islamic Bank	UAE	4,987.51	14	4,828.73	14	4538.47	13	4349.87	12	4230.42	9
Kuwait International Bank	Kuwait	4,443.21	15	4,015.73	15	4069.36	14	3962.67	13	3924.01	10
Al Salam Bank	Bahrain	2,505.92	16	2,457.22	16	2280.24	16	2090.27	16	1474.70	14
Bahrain Islamic Bank	Bahrain	2,214.93	17	2,231.78	17	2488.52	15	2425.42	15	2324.40	13
Khaleeji Commercial Bank	Bahrain	1,258.41	18	1,190.21	18	1114.95	19	1259.60	18	1236.70	16
ABC Islamic Bank	Bahrain	1,066.75	19	1,034.82	19	1208.65	18	1318.40	17	1461.35	15
<b>Total Assets of Islamic Banks</b>		294,790		257,880		219,655		192,373		166,867	
<b>Total Assets of Conventional Banks</b>		884,451		787,623		948,356		899,891		874,139	
<b>Total Assets of All banks</b>		1,179,240		1,045,502		1,168,010		1,092,264		1,041,005	
<b>% of Islamic Banks</b>		25.00%		24.67%		18.81%		17.61%		16.03%	

Source: Institute of Banking Studies-Kuwait Report (2011).

Note: this table shows the asset size in million US dollars (Mn \$) of the 21 Islamic bank in the GCC and ranks them accordingly for 2008-2012.

Table 2.7 reveals that the biggest two Islamic banks, namely Al-Rajhi Bank in Saudi Arabia and KFH in Kuwait capture, on average, 44% of the total assets of Islamic banks in the whole GCC.<sup>55</sup> Although Bahrain has the highest number of Islamic banks in the GCC, combined, they represent the smallest asset size among their counterparts for all years. The Islamic banks in Qatar record the highest growth rate from year to year. Table 2.7 shows that Islamic banks in the GCC comprise 16% of the total banks in 2008, but this rate grew significantly in spite of the impact of GFC, until it reached 25% in 2012.<sup>56</sup>

There is evidence suggesting that Islamic banks have been affected differently from conventional ones, in terms of the Islamic banks' business model (Beck et al., 2013) that reduced the adverse effect on profitability in 2008 (Hasan and Dridi, 2010). Further, weaknesses in risk management practices in some Islamic banks led to a greater decline in profitability in 2009 compared to that of conventional banks (Hasan and Dridi, 2010). Moreover, Smolo and Mirakhor (2010) indicate that although the GFC had less of an impact on IFIs, the capitalist financial system is also relevant to the development of IFIs as Trabelsi (2011, p.23) highlights:

“This financial crisis pushed most developed countries to lower their banking rates and to implement null-approximating interest rates, a move which replicates the principle adopted by Islamic banks. Also, it is necessary to include the moral and ethical principles in our behaviour and in the management of our institutions and to highlight the ill-fate of speculation.”

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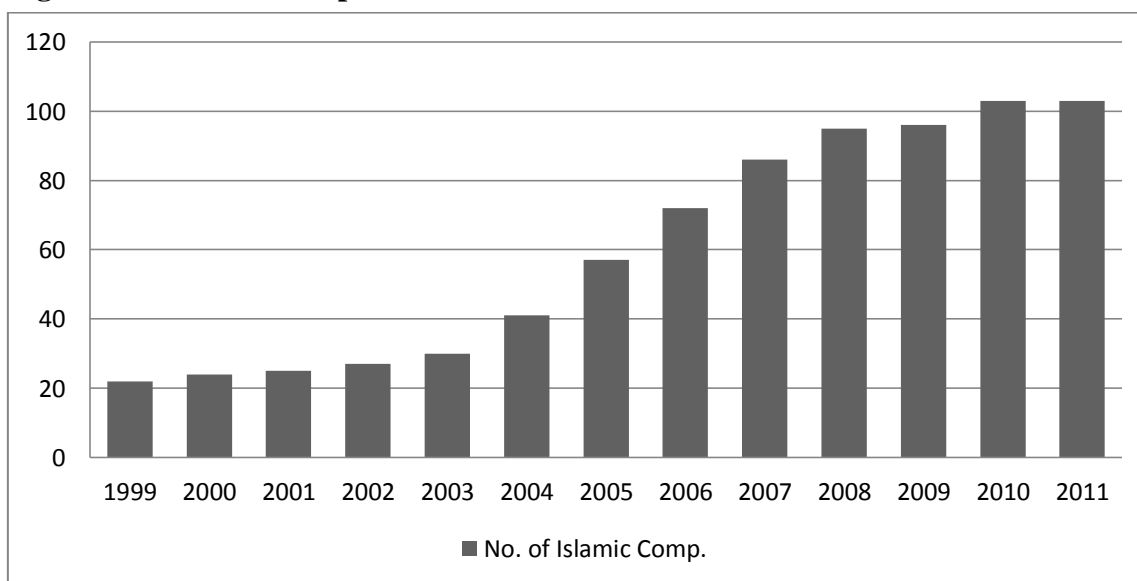
<sup>55</sup> Alrajhi and KFH together account for 49%, 44%, 43%, 42%, and 42% of total Islamic banks in the GCC for 2008-2012 respectively.

<sup>56</sup> Oman entered the Islamic finance and banking industry late, as it established its two Islamic banks only in 2012; Bank Nazwa established in August, and Alizz Islamic bank in December (see the website of Central Bank of Oman: <http://www.cbo-oman.org> website). This is because of the lack of support by the Omani government for developing the Islamic finance industry (Wilson, 2009) although it was one of the people's requirements after the serious protests of 2011 in Oman as a reflection of the Arab Spring (Worrall, 2012). Recently, more conventional banks in Oman have started to offer Islamic windows to offer *Shariah*-compliant services. For instance, Oman's largest bank is now licensed to offer *Shariah*-compliant services in order to benefit from the industry's growth prospects (see the website of Central Bank of Oman).

In contrast, Bourkhis and Nabi (2013) suggest that there is no significant difference between Islamic and conventional banks in the MENA region in terms of the effect of the GFC. They attribute this to the divergence from an Islamic business model which would have kept them sound even during the crisis. However, based on a wider sample of 510 banks across 22 countries ( 88 of which are Islamic), Beck et al. (2013) found that Islamic banks performed better during the GFC due to their higher capitalization and better asset quality. Similarly, Karim et al. (2010) found that the crisis does not seem to affect the co-movements of Islamic and conventional stock indices in Malaysia. Yet, it was advised after the GFC that IFIs reduce their reliance on debt-based products and move closer to equity-based, risk-sharing instruments (Smolo and Mirakhor, 2010).

According to the Global Islamic Finance Forum (GIFF) guide book (2010), Islamic banking represents the bulk of Islamic finance assets (82%), followed by *Sukuk* (11.7%), Islamic funds (5.5%) and *Takaful* (0.7%). Figure 2.3 shows the number of Islamic companies in the GCC, including Islamic banks, *Takaful*, and other companies, based on the Global Investment House (2012).

**Figure 2.3: Islamic Companies in the GCC**



Note: this figure shows the total number of pure Islamic companies in the GCC, excluding Oman, for 1999-2011. Source: Global investment House (2012)

Figure 2.3 shows that the number of pure Islamic companies (PH)<sup>57</sup> in the GCC, excluding Oman, grew after 2003 until the GFC of 2008-2009. Kuwait accommodates the majority of PH companies in the GCC as, according to Al-Muthanna Islamic index,<sup>58</sup> launched in March 2009, there are 57 pure Islamic companies in the KSE. The authorities in Kuwait and Bahrain, among the GCC governments, have been the most supportive of Islamic finance; Bahrain has become the major center for Islamic banking and *Takaful* (Wilson, 2009). However, because Bahrain has a small, thin stock market, it is unable to accommodate pure Islamic or *Shariah*-compliant stocks or Islamic funds. Saudi Arabia has not prevented Islamic banking from playing a significant role its financial sector; but there has been a reluctance to promote it further (Wilson, 2009).<sup>59</sup> The Kuwaiti government has encouraged Islamic banking, for instance by contributing 49% of the paid capital of KFH (Al-Wasmi, 2011). After the increase in IFIs in the late 1990's, parliament passed Law No.30 in 2003 that empowered the CBK to oversee IFIs in Kuwait and KSE receives listing requests mostly from IFIs (Al-Wasmi, 2011). Furthermore, the activities of most non-financial companies listed on the KSE do not conflict with *Shariah* law (Al-Wasmi, 2011). For instance, the Al-Muthanna market report (2012) identifies 129 pure Islamic companies (PH) and *Shariah*-compliant companies (MH)<sup>60</sup> out of the 199 KSE companies, across all sectors as showed in Table 2.8.

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<sup>57</sup> The interviews in Chapter 5 reveals that Global investment House define pure Islamic companies (PH) based on their articles of association, while this thesis defines PH stocks based on: (i) company's article of association that states clearly that all its transactions are governed by *Shariah* principles; and (ii) the company has a SSB that oversees its transactions and submits an annual *Shariah*-compliant report at the end of financial year. See Chapter 5 for more details about the definition of PH in the GCC.

<sup>58</sup> The Al-Muthanna Islamic index (MUDX) is a weighted index that tracks the performance of 57 PH listed on the KSE. The index was launched on the 1st of March 2009. (See the Al-Muthanna index <http://www.mic.com.kw/MuthannaWeightedIslamicIndex-Methodology.pdf>).

<sup>59</sup> Wilson (2009) notes that Saudi Arabia could potentially become the global forerunner of Islamic finance and contributes to the industry worldwide if the Saudi Arabian Monetary Agency (SAMA) and Capital Markets Authority took a more pro-active role.

<sup>60</sup> The stocks of *Shariah*-compliant companies are defined in this thesis as Mixed Halal (MH) stocks that are compliant with certain screening criteria. The interviews analysis showed that Al-Muthanna Index rely on a specialized screening provider that currently use AAOIFI's 2006 screening criteria (See Chapters 5 and 6).



**Table 2.8: The Pure Islamic and *Shariah*-compliant stocks in KSE by sectors**

<b>Sector</b>	<b>Number of Listed companies</b>	<b>Pure Islamic and <i>Shariah</i>-compliant companies</b>	<b>% of Total</b>
<b>Oil and Gas</b>	7	5	71
<b>Basic Material</b>	5	4	80
<b>Industrial</b>	39	37	95
<b>Consumer Goods</b>	7	6	86
<b>Health Care</b>	3	3	100
<b>Consumer Services</b>	17	10	59
<b>Telecom.</b>	3	3	100
<b>Banks</b>	12	5	42
<b>Insurance</b>	9	2	22
<b>Real Estate</b>	38	28	74
<b>Financial Services</b>	55	23	42
<b>Technology</b>	4	3	75
<b>Total</b>	199	129	65

Note: this table shows the numbers and percentages of pure Islamic and *Shariah*-compliant KSE companies across all market sectors as of 31/12/2012 (under the new classification introduced in May 2012). *Shariah*-compliant (MH) companies are defined based on AAOIFI criteria

Source: Al-Muthanna Market Research (December 2012)

Table 2.8 indicates that pure Islamic and *Shariah*-compliant companies exist in all sectors of the KSE, representing 65% of the total number of stocks. Moreover, the Al-Muthanna Market Report (2012) highlights that Islamic and *Shariah*-compliant stocks account for 47% (KD 198 million) and 56.5% (KD 422.48) of the total value traded and volume of KSEX15 respectively.

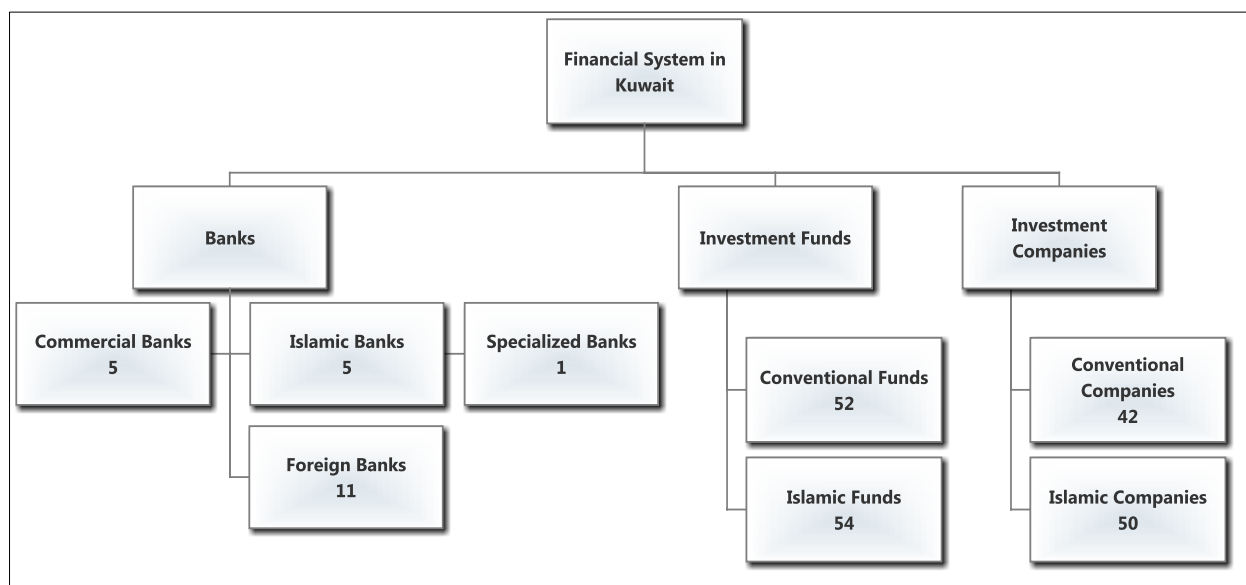
Figure 2.3 below reveals that the number of Islamic banks is now equal to that of conventional ones in Kuwait. Two conventional banks converted to Islamic ones (Kuwait-Real Estate Bank converted in July 2007 and the Bank of Kuwait and the Middle East in March 2010).<sup>61</sup>

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<sup>61</sup> To convert to an Islamic bank, a bank first applies to the Central Bank (CBK) showing its desire to convert totally into an Islamic bank. The bank should provide at least a five-year forecast of its economic feasibility, a study on the clients' feedback on the bank's conversion, a study of the legal environment, technical issues related to IT and transaction processing, and the conversion plan to being an Islamic bank and time table. Most importantly, the conversion process should include appointing a SSB that provides continued *Shariah* supervision and permanent checking of contracts, transactions, and procedures. Moreover, the bank is required to offer training to its staff on the Islamic banking system. Furthermore, all interest-based assets and liabilities should be replaced by Halal ones (see AAOIFI *Shariah* standard no. (6) for more details about this). When all requirements are fulfilled the CBK approves its conversion to an Islamic bank. This process may take one or two years, for example Kuwait international Bank was the first bank to convert to an Islamic one in Kuwait and it took two years. See Mustafa (2006), AAOIFI (2010) *Shariah* standard No. 6.

Moreover, the number of investment companies and investment funds is more than that of conventional ones. Most investment funds are equity funds, and most Islamic funds invest in both PH and MH stocks.

**Figure 2.3: Number of Institutions under the Financial System in Kuwait**



Source: Central Bank of Kuwait (2013)

In terms of Islamic investment funds globally, the first Islamic investment fund was launched in the Middle East in the 1970s, since then the Islamic funds industry has spread over 75 countries with an annual growth rate of 15% (GIFF, 2010). According to Eurekaledge (2011),<sup>62</sup> the total number of Islamic investment funds is estimated to be 717, with assets standing at over US\$ 77 billion. Most of the of Islamic funds (70%) are small funds, as the assets under management are under US\$ 100 million, and only less than 10% of Islamic funds have assets under management of over US\$ 500 million (GIFF, 2010) revealing the infancy of the industry and the potential for growth. Most Islamic investment funds invest in equities (60%), money market (15%) and trade finance funds account (15%), and mixed asset funds account for 10% of Islamic funds' asset class (KFH research, 2011). According to KFH

<sup>62</sup> Eurekaledge is the world's largest alternative investment funds research house; they provide the Islamic Funds database. See <http://www.eurekaledge.com/specialfunds/islamicdirectory.asp>.

research (2011), Islamic funds' assets are poised to expand further, moving towards gradually recovering their pre-GFC state.

The majority of Islamic funds' assets are invested in the Middle East and Asia, particularly in the GCC and Malaysia (Eurekahedge, 2011; KFH research, 2011). Malaysia and Saudi Arabia are the most popular Islamic funds hubs, accommodating 27% and 22% of Islamic funds, followed by Kuwait and the UAE, with 12% and 7% respectively (Eurekahedge, 2011). Table 2.9 illustrates the most recent figures for Islamic and conventional funds, including equity funds in the GCC region.

**Table 2.9: Islamic and Conventional Investment Funds in the GCC region**

	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE
<b>Islamic Equity Funds</b>	1	23	0	0	82	4
<b>Conventional Equity Funds</b>	5	35	9	6	54	38
<b>Other Asset Class Funds</b>	1	55	0	0	104	18
<b>Total Investment Funds</b>	7	113	9	6	240	60

Note: this table shows the number of Islamic and conventional equity funds, other asset class investment funds that include real estate, money market, bonds, and balanced funds, in each GCC country, and the final row reports the total number of investment funds as of the March 2013.

Source: extracted from GulfBase.com<sup>63</sup>

Table 2.9 shows that the vast majority of investment funds in the GCC are clustered in Saudi Arabia and Kuwait, including funds of equities, real estate, commodities, money market, and mixed assets funds. Nevertheless, the vast majority, if not all, are equity funds such as those in Bahrain, Oman, Qatar, and the UAE. Kuwait has the least number of equity funds, but they still account for more than half of the total investment funds. Saudi Arabia holds the bulk of Islamic funds in the GCC, as the majority of funds in the country are Islamic investment funds (equity and non-equity funds), followed by Kuwait.<sup>64</sup>

<sup>63</sup> GulfBase datasets provide financial information, market data, IPOs and investment funds in the GCC region. Most datasets require a subscription to be accessed. The Zaywa, Eurekahedge and Bloomberg databases do not cover all of the GCC investment funds.

<sup>64</sup> Oman and Qatar have not yet hosted any Islamic funds, as reported by Gulf Base (<http://www.gulfbase.com/>). However, they are expected to launch new Islamic funds. For the case of Oman, as a result of the growing

The attraction of the GCC and Malaysia regions is attributed to the following factors, as documented by KHF research (2011, p.7):

“(i) strong economic growth in the Middle East and Asia by high oil and commodity prices; (ii) developed Islamic capital market frameworks especially in Malaysia; (iii) high awareness from its Muslim population who continuously seeks for *Shariah* compliant investments; (iv) the better understanding of portfolio diversification and the need to invest in ethical based products among non-Muslim investors”.

Eurekahedge (2011) adds that these regions hold the largest number of *Shariah*-compliant companies compared to elsewhere. In general, the drivers that contribute to the rapid growth of Islamic investment around the world are somewhat similar, according to Hasan and Dridi (2010, p5):

“(i) strong demand in many Islamic countries for *Shariah*-compliant products; (ii) progress in strengthening the legal and regulatory framework for Islamic finance; (iii) growing demand from conventional investors, including for diversification purposes; and (iv) the capacity of the industry to develop a number of financial instruments that meet most of the needs of corporate and individual investors”.

Moreover, El-Qorchi (2005, p.1) outlines the following reasons for the diffusion of the Islamic investment industry:

“[The] Strong demand from a large number of immigrant and nonimmigrant Muslims for Sharia-compliant financial services and transactions. A second is growing oil wealth, with demand for suitable investments soaring in the Gulf region. And a third is the competitiveness of many of the products, attracting Muslim and non-Muslim investors”.

Further, one of the reasons that has triggered the growth of Islamic investment even for conventional investors is that it may provide an opportunity to obtain potential benefits from international portfolio diversification, even after the GFC (Karim et al., 2010; Ghoul, 2012; Balli et al., 2013). Despite the political unrest in the MENA region, Islamic finance in the GCC

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demand triggered by the Arab Spring in the Middle East (Worrall, 2012). Qatar is experiencing a potential economic boom and is targeting becoming a future global hub for Islamic finance (Islamic finance news, 2013). The Qatar Central Bank recently announced that it will offer local banks QAR 1 billion (US\$ 274.66 million)-worth of *Shariah*-compliant notes (Hussain, 2013).

has benefitted from the economic and financial stability existing in most countries (the UK Islamic Finance Secretariat (UKIFS), 2012).

## **2.5 Summary**

This chapter has provided an overview of the GCC and Kuwaiti context most relevant to the present study. In particular, it presented a background of the investment environment for *Halal* and non-*Halal* stocks in the GCC region with an emphasis on Kuwait.

This chapter reviews the economic, financial, and historical background of the GCC states. In particular, it presents an overview of the GCC investment environment by exploring their economic and stock market developments and performance. The final part of the chapter sheds light on the Islamic finance and investment industry development and diffusion across the region.

A number of interesting findings emerge from the discussion of these topics. First of all, the GCC economies experienced rapid growth since the Iraqi war in 2003, with the oil and gas income being the main driver of growth that triggered the diffusion of Islamic finance and investment.

Despite the political uncertainty in the region, the GCC states in general were resilient after the GFC, showing sustainable growth in their economies supported by robust oil prices and the government backup of key economic sectors. Similarly, despite the fact that Kuwait enjoys the most democratic political system among the GCC countries, it faced political disputes in 2009 onwards that have affected its economic growth and the KSE's performance (including *Halal* and non-*Halal* stocks). Nevertheless, the surge in oil prices and implementation of the CMA regulations are expected to improve and enhance the investment environment in Kuwait for Islamic investment funds.

The GCC stock market liberalization, in addition to the increasing wealth and liquidity has enhanced the development and performance of the stock markets in the region. Although the Saudi stock market is the largest in the region in terms of market capitalization, value and volume traded, KSE is the first established and largest in terms of the number of listed stocks and performed the best among the rest of the GCC stock markets.

The chapter suggests that Islamic funds' assets are poised to expand further, gradually moving towards their pre-GFC state with the majority of Islamic funds' assets invested in the Middle East and Asia, particularly in the GCC region and Malaysia. Many factors have contributed to the prosperity of the Islamic finance industry in the GCC region, including: the growing oil wealth, increased awareness of *Shariah*-compliant investments, the economic and financial stability in most countries, progress in strengthening the legal and regulatory framework, and the growing demand by conventional and ethical investors. There is potential for growth in the Islamic funds industry in Qatar and Oman in the future.

Kuwait accommodates the majority of purely Islamic and *Shariah*-compliant companies in the GCC, as the government has been the most supportive across all GCC countries although the number of Islamic funds in Saudi Arabia is greater than in Kuwait due to the higher demand as a percentage of population. Nevertheless, both countries accommodate the largest two Islamic banks that capture 44% of the total assets of Islamic banks throughout the whole GCC region. However, despite this rapid growth of Islamic Investments in the GCC region and the importance of Saudi Arabia and Kuwait in accommodating the industry, only few studies has been conducted in Saudi Arabia (Merdad et al., 2010; Bin Mahfouz and Hassan, 2012), while none in Kuwait. Therefore, this thesis is motivated by examining the performance of Islamic investments in the GCC in general (chapter5) and in Kuwait in particular (chapters 6-8) as it could be an ultimate investment environment for *Halal* equity investments.

## **Chapter 3: A Review of the Literature on Ethical and Islamic Funds**

### **3.1 Introduction**

Investment funds play a significant role in equity markets through mobilizing investable funds, based on investors' preference (Reilly and Brown, 2006; Gitman and Joehnk, 2007). Thus, many investors consider equity investment funds as an ideal investment tool for an ultimate asset allocation as they are managed by professional fund managers (Elton et al., 2007; Gitman and Joehnk, 2007). Conventional Investment funds seek to maximize returns without any restriction on their investable asset universe. However, ethical and faith-based investment funds have added a new dimension that attempts to integrate ethical, religious, social or environmental considerations into the asset selection (Schueth, 2003; Sparkes and Cowton, 2004; Cowton, 2004).

Ethical and faith-based screened funds seek to make profits while remaining ethical as well; otherwise the industry will not be able to grow and prosper, as few investors are prepared to accept low returns on their investment in order to be in alignment with their beliefs (Solomon, 2007; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011). Nevertheless, this chapter covers the literature that attempts to address the relationship between “doing good” and “doing well”, as being ethical or religious can entail additional costs for such types of screened investment. In the context of modern portfolio theory, such a restriction may culminate in ethical or religious investors holding a suboptimal portfolio that adversely affects the return and risk characteristics (Kurtz, 2005) depending on the degree of strictness of the adopted screens. Therefore, this chapter reviews the prior studies on the screening and performance of ethical and Islamic equity investments as a sub-group of faith-based funds.

The rest of this chapter is structured as follows. Section 3.2 provides an overview of modern portfolio theory and relates it to ethical investment. Section 3.3 presents a brief background to ethical, faith-based (including Islamic) and socially responsible investment. Section 3.4



outlines the screening criteria and performance of ethical and sin investments while Section 3.5 highlight the screening criteria and performance of Islamic or *Halal*-based investment. Finally, section 3.6 concludes the chapter.

### **3.2 An Overview of Modern Portfolio Theory**

Modern portfolio theory (MPT) was developed by the pioneering work of Markowitz (1952). He was the first person to provide a rigorous framework for the return and risk relationship through designing a mathematical approach to asset selection and portfolio management. Markowitz (1952) approach is based on mean-variance optimization, where he offered an explanation of how to reduce risk, variance or standard deviation or volatility, through the concept of diversification. According to MPT, the variability of portfolio return is attributed to the portfolio's variance; hence diversification is achieved by avoiding securities with high covariance. Therefore, what is essential in portfolio construction is to consider how the individual securities are correlated with each other. Consequently, it is crucial to diversify investments of securities across different industries since they are more likely to have lower covariance than companies within an industry, especially industries with different economic characteristics. MPT outlines that including additional low correlated securities within a portfolio reduces its volatility or risk, but only to a certain level, at which point the portfolio manager must bear a certain level of risk called systemic or market risk which cannot be diversified away. This is because the MPT argues that holding all the securities in the market may diminish the maximum amount of diversifiable risk, the risk of the market itself remains, as the standard deviation or variance falls very slowly after a certain number of securities are included.

Moreover, Evans and Archner (1968), raised doubts concerning the economic justification of increasing portfolios sizes beyond ten securities, while others argue that there is a significant

reduction in risk moving from 10 shares to 25 (Poon et al.,1992). Further, Statman (1987) found that a well-diversified portfolio should include at least 30-40 randomly chosen stocks.

Through the relationship between portfolio return and risk, Markowitz was able to formulate the “efficient frontier”, which is a graphical presentation of the combination of all portfolios of risky securities that are mean-variance efficient. Tobin (1958) further extended the MPT by showing that investors can achieve an optimal portfolio through including risk-free securities with their riskless assets. Hence, an efficient portfolio is one that provides the highest return for a given level of risk or, in other words, one that provides minimum risk for a given level of return. Portfolios falling below the efficient frontier fail to represent the optimal level of diversification which can be obtained by a different allocation of securities.

MPT was the foundation for the original capital assets pricing model developed by Sharpe (1966), Lintner (1965) and Mossin (1966). Since then, the Capital Asset Pricing Model (CAPM) has been used in many different applications such as estimating the cost of capital for companies and evaluating the performance of managed portfolios (Fama and French, 2004).

CAPM seeks to explore the relationship between return and risk based on the concept that any security’s required rate of return is equal to the risk-free rate of returns plus a risk premium, that represents only the risk remaining after diversification. CAPM demonstrates this relationship graphically through the Security Market Line (SML), where the slope of the line can change, or the line can shift upward or downward, in response to changes in risk or required rates of return. It uses the idea of beta which measures risk as the relationship between a particular security or portfolio’s movements and the movements of the overall stock market. CAPM uses a security or portfolio’s beta  $\beta_i$  to calculate the investor’s expected returns (see equation 4.3 in the next chapter).  $\beta_i$  is the slope of the SML that draws the relationship between the portfolio’s return and risk as measured by the portfolio’s systematic risk. The

CAPM framework provided the basis for the development of a number of portfolio performance measures such as Treynor (1965), Sharpe (1966) and Jensen (1968), stemming from the MPT framework (Fama and French, 2004; Joro and Paul, 2006). These three traditional performance measures have been extensively employed in the literature to measure the performance of ethical investments (e.g. Mallin et al., 1995; Sauer, 1997; Bello, 2005; Kreander et al., 2005; Statman, 2005; Chong et al., 2006; Statman, 2006; Lyn and Zychowicz, 2010; Carosella et al., 2012) as well as in Islamic funds' performance (e.g. Hakim and Rashidian, 2004; Hussein and Omran, 2005; Abdullah et al., 2007; Girard and Hassan, 2008; Merdad et al., 2010; Rahimie, 2010; Hayat and Kraeussl, 2011; Shah et al., 2012; Ashraf, 2013). Treynor (1965), Sharpe (1966) and Jensen (1968)'s performance measures are explained in greater detail in the next chapter.

MPT implies that ethical or faith-based funds cannot effectively be diversified, due to the limited number of available securities that can be included in a portfolio or they favour or avoid certain industries, hence, will underperform the market and other well-diversified funds (Bello, 2005; Kurtz, 2005; Lee et al., 2010; Lyn and Chowicz, 2012). This is because the screening process imposes an additional set of constraints that may vary depending on their intensity (Lee et al., 2010), and eliminates certain companies, industries, and sectors from being selected which tend to bear a substantial level of specific risk (Barnett and Solman, 2006).

The majority of studies addresses the performance of ethical and faith-based investments through the MPT framework (e.g. Bello, 2005; Kurtz, 2005; Rahimie, 2010), while a few others employ both MPT and stakeholder theory to explain their performance (Barnett and Salomon, 2006; Renneboog et al., 2008a). Stakeholder theory suggests that maximizing stakeholder interests may result in higher company productivity and value (Lee et al., 2010).

Therefore, companies that are involved in ethical or socially responsible practices are more likely to attain superior performance in the long run (Barnett and Salomon, 2006). The link between performance and MPT is addressed again in section 3.4.2 when discussing the performance of ethical investments.

The next section provides a background of ethical and faith-based investment before discussing the screening and performance of ethical non-Islamic and Islamic investments in sections 3.4 and 3.5.

### **3.3 Background to Ethical and Faith-Based Investments**

Cowton (1994, p.215) defines ethical investment as:

“The exercise of ethical and social criteria in the selection and management of investment portfolios, generally consisting of company shares (stocks). This contrasts with standard depictions of investment decision-making in finance textbooks, which concentrate solely on financial return in the form of dividends and capital gains, and risk”

Therefore, ethical investment integrates investors’ financial objectives with religious values, social and environmental concerns (Ghoul and Karam, 2007; Solomon, 2007; Lyn and Zychowicz, 2010; Louche et al., 2012). Yet, Lewis and Mackenzie (2000), Gregory and Whittaker (2007), Hong and Kacperczyk, (2009), and Kim and Venkatachalam (2011) argue that some investors in ethical funds are willing to accept lower returns in order to be aligned with their ethical stance. However, for ethical investment industry to grow the funds will need to appeal to a wider group of investors (Gregory and Whittaker, 2007).<sup>65</sup>

Ethical investment includes faith-based investment, SRI, sustainable investment, green investment and environmental investment. According to Schueth (2003, p.189):

“Social investing, socially responsible investing, social aware investing, ethical investing, values-based investing, mission-based investing... all describes the same concept. These terms tend to be used interchangeably within the investment industry to describe an approach to invest that integrates personal values and societal concerns into the investment decision-making process”.

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<sup>65</sup> The financial performance of ethical funds is reviewed in section 3.5.2.

Some authors indicate that they share considerable similarity (O'Rourke, 2003); while others argue that they are not equivalent (Torres et al., 2004) as there could be a significant variation in how they define and screen ethical investment (Hamilton et al., 1993; Roberts et al., 2007). Renneboog et al. (2008a) agrees with Schueth (2003) that these concepts are more or less the same, as noted below:

“SRI is an investment process that integrates social, environmental, and ethical considerations into investment decision making. Unlike conventional types of investments, SRI apply a set of investment screens to select or exclude assets based on ecological, social, corporate governance or ethical criteria, and often engages in the local communities and in shareholder activism to further corporate strategies towards the above aims”. (p.1723)

Sparkes and Cowton (2004) argue that ‘ethical investment’ is an older term, used by church investors in the U.K, U.S, and Australia, but over time this term was replaced by ‘socially responsible investment’, abbreviated to SRI. Hence, ethical investment has religious origins (Sparkes, 2001; Schueth, 2003; Kreander and McPhail, 2004; Statman, 2005; Ghoul and Karam, 2007; Dion, 2009; Lyn and Zychowicz, 2010; Carosella et al., 2012; Louche et al., 2012). The religious foundation of ethical investment or SRI has been in existence for thousands of years, since religions were revealed. For example, ethical guidelines based on Jewish teachings, date back over 3,500 years (Schwartz et al., 2007) and hence, the principles of SRI are rooted in Judaism, Christianity and Islam, the three dominant religions around the world that promote peace and avoid business practices that harm humans and society (Blowfield and Murray, 2008). Thus, Christian, Jewish, and Islamic funds are classified as faith-based funds, a sub-category of SRI (Ghoul and Karam, 2007; Louche et al., 2012). Ghoul and Karam (2007) indicate that that these types of faith-based funds share many overlaps in their screening criteria. Moreover, Lyn and Zychowicz (2010) report that a new faith-based index introduced in 2008, called the Dow-Jones Dharma Index, targets the Dharmic

religions—Hinduism, Buddhism, Jainism, and Sikhism. It is argued that faith or religious values should be combined with business activities, organizational issues, work values, and investment decisions (Ali and Gibbs, 1998; Dion, 2009; Louche et al., 2012). For instance, Lyn and Zychowicz (2010, p.142) stated that:

“It may be worthwhile for financial advisers not only to understand the goals, risk tolerance, and investment horizon of their clients, but to determine their clients’ ethical profile as well—that is, whether they will consider their faith values in putting together their investment portfolio.”

Nevertheless, Mews and Abraham (2007) argue that we should recognize that we all share a common concern with the ethical foundation of any financial relationship, regardless of whether we describe the world as Christian, Jewish, Muslim or secular. The modern origins of SRI emerged initially from religious groups such as the Methodists and Quakers, in the U.S. in the 17<sup>th</sup> century (Louche et al., 2012). The Social Investment Forum report (1999, p.5) outlines that:

“In the mid-1700s, the founder of Methodism, John Wesley, emphasized the fact that the use of money was the second most important subject of New Testament teachings. As Quakers settled North America, they refused to invest in weapons and slavery. For hundreds of years, many religious investors whose traditions embrace peace and nonviolence have actively avoided investing in enterprises that profit from weapons and other products designed to kill fellow human beings”.

Later, these religious groups imposed more criteria for example to avoid investing in the stocks of companies that are involved in the production or business of alcohol, tobacco or gambling, which they call ‘sin’ stocks (Schueth, 2003; Carosella et al., 2012; Louche et al., 2012). According to Fabozzi et al. (2008, p.84), ‘Sin’ is defined in the *Random House Unabridged Dictionary* (2nd edition) as “any act regarded as such a transgression, especially a willful or deliberate violation of some religious or moral principle” p.1784. Fabozzi et al. (2008) argue that each society has its own definitions of the terms “responsibility”, “morality” and

“legality”, and, consequently each defines sin investment differently. For instance, Kumar et al. (2011) highlight that the Protestant and Catholic churches hold very distinct views on gambling,<sup>66</sup> as a sin industry, and found that “in regions with higher Catholic–Protestant ratios, investors exhibit a stronger propensity to hold lottery-type stocks”(p.671). Hence, different Christian Churches have also developed their own ethical criteria for their investment strategies (Dion, 2009). Furthermore, in Arab countries, many consider the traditional Western banking industry as a sin industry because interest is forbidden by the *Qur’an* (Fabozzi et al., 2008). Hong and Kacperczyk (2009) define sin investments as holding stocks in companies in the tobacco, alcohol and gambling industries, while Fabozzi et al. (2008) define sin stocks more broadly to include companies engaged in alcohol, adult services, gaming, tobacco, weapons, and biotech alterations activities.<sup>67</sup> In some Arab or Muslim countries, some of these sin industries discussed in the literature are already illegal. For instance, alcohol, adult services and the gaming industry are forbidden by law in Kuwait and Saudi Arabia.

Faith-based funds, mainly Christian funds, have been in existence in the U.S. for some time (Mill, 2006). In 1928, the first US religious investment was launched by the Pioneer Fund Group that refused to invest in companies involved in alcohol or tobacco (Schwartz et al., 2007). Furthermore, in the U.K. for instance, the Quakers in 1832 avoided investing in the armaments sector, while the Methodist Church established a fund in 1960 and correspondingly the church commissioners of the Church of England imposed ethical screening criteria on their investments; however both funds were limited to the churches and not open to the public (Kreander and McPhail, 2004). The first retail ethical fund in the world that was available to the public was Ansvar Aktiefond Sverige in Sweden, established in 1965 by the insurance

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<sup>66</sup> Gambling is considered a sin industry in which many ethical and faith based industries avoid investing.

<sup>67</sup> Hong and Kacperczyk (2009) excluded stocks in the adult entertainment industry, arguing that there are very few publicly traded companies with heavy operations in this industry. In addition, they excluded stocks in the defence sector because there is some debate about the sin classification of such activity.

company Aktie-Ansvar, which still exists today (Kreander and McPhail, 2004). Ethical investment moved from its religious origins to include various other guidelines informed by issues such as the political concerns of the Vietnam War, civil and human rights violations, and environmental concerns. It was argued that the Vietnam War and the political climate of the 1960s marked a turning-point for SRI (Blowfield and Murray, 2008) that began its modern roots (Schueth, 2003), whereby the anti-Vietnam war movement, and the boycotting of companies whose activities involved the production of armaments resulted in the emergence of SRI. Hence, the U.S Pax World Fund was launched in 1971, which responded to the demand of investors for companies that supported the war to be screened out (Blowfield and Murray, 2008). This fund was thought to be the first ethical fund in the world (Knoll, 2002). The first U.K. ethical investment fund was not available until 1984, provided by Friends Provident Stewardship<sup>68</sup> (Cowton, 2004) and established by Christian Quakers (Kreander and McPhail, 2004). Then the awareness of ethical investment increased and SRI issues continued to be an aspect of investment decisions (Mallin, 1995; Schueth, 2003; Solomon, 2007) with moral and ethical values informing financial and economic objectives. Therefore, ethical investment nowadays is a common investment style and policy adopted by many institutional investors, such as mutual funds, pension funds and portfolio managers. Indices providers have also created indices that individual investors can use to match their investments with their religious and ethical values (Sparkes, 2001; O'Rourke, 2003). The increase in the awareness and interest in ethical investment has led to an increased demand for such investments (Mallin, 1995). SRI investors may focus on one or a combination of environmental, social and governance issues (ESG) (Solomon, 2007), while green investing may also be described as sustainable investing or environmental investing, which usually involves investing in companies that are dedicated

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<sup>68</sup> Friends Provident is a leading a leading life insurance company that provides and manages ethical funds, which is still operating today, see their website: <http://www.friendslife.co.uk/sri/>



to efforts that promote environmental sustainability (Kurtz, 2005). SRI has been one of the fastest growing areas of finance over the past few decades (Sparkes, 2001; Cowtown, 2004; Gregory and Whittaker, 2007; Schwartz et al., 2007). It has have attracted investors in Canada, Australia, Japan and Europe (The Social Forum Report, 2011), as evidenced by the growth in the number of ethical SRI funds offered by institutional investors (Solomon, 2007). This growth has been enhanced by the development of several ethical and SRI indices, such as KLD's Domini 400 social index (DSI), established in 1990, the Citizens Index constructed in 1995, the Dow Jones Sustainability family indices (DJSI), launched in 1999, and the Jantzi Social Index (JSI), established in 2000 in Canada, all based in the US, together with the FTSE4Good index, produced in 2001, based in the U.K. (see: Havemann and Webster, 1999; Knoll, 2002; Sparkes 2002; Blowfield and Murray, 2008; Consolandi et al., 2009). According to the Forum for Sustainable and Responsible Investment in the US, \$80.9 billion was invested in 375 different investment funds based on environmental, social and governance criteria at the outset of 2011, representing a 15.9-percent growth in combined assets since the beginning of 2010, when 346 alternative funds managed a combined total of \$69.8 billion.<sup>69</sup> In the U.K., there was approximately £11 billion invested in green and ethical retail funds as at 30<sup>th</sup> of June 2012, based on around 80 U.K. domiciled funds (Ethical Investment Research Service (EIRIS), 2012).<sup>70</sup>

Ethical funds have also grown in Islamic countries, but there are known as Islamic investment funds, *Shariah*-compliant investment funds or *Halal* investment funds. Hence, Islamic investment funds are faith-based funds and are deemed to be a subset of ethical funds, since the foundation of their business philosophy is closely tied to religion (Haniffa and Hudaib, 2007). Therefore, non-Muslim investors may consider Islamic investing as a close substitute for SRI

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<sup>69</sup> See the Annual Sustainability and Financial Report of Forum for Sustainable and Responsible Investment in the US (2011). Downloaded from their website: <http://ussif.org>

<sup>70</sup> See Ethical Investment Research Service (EIRIS) official website: <http://www.eiris.org/news/statistics.html>

(Hayat and Kraeussl, 2011). Islamic funds follow the Islamic investment principles under the regulations of *Shariah* law that designates investments in certain sectors as either *Halal* or *haram*. The assets under the management of Islamic funds have recorded a rapid growth rate of 20% in recent years (KFH research,<sup>71</sup> 2011). Table 3.1 highlights some of the differences between conventional, ethical, and Islamic investment funds as reported by Rahimie (2010).

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<sup>71</sup> KFH Research Ltd is the world's first Islamic investment research arm to be established by an Islamic Bank. A direct subsidiary of Kuwait Finance House, KFH Research was established in 2007. Based in Malaysia, KFH Research plays a crucial role in linking the Gulf Cooperation Council (GCC) countries with the rest of Asia and other emerging Islamic financial markets. See <http://www.kfhresearch.com/>.

**Table 3.1: Comparison between Conventional, Ethical, and Islamic Equity investment funds**

<b>Key Areas</b>	<b>Conventional Investment Funds</b>	<b>Ethical Investment Funds</b>	<b>Islamic Investment Funds</b>
<b>Main purpose of investment</b>	The investment seeks to maximize financial return only.	The investment seeks financial return while pursuing ethical motives.	The investment seeks financial return while conforming to <i>Shariah</i> law.
<b>Investment policy</b>	Investment policy does not make any specific reference to socially-oriented concern.	Investment policy is guided by a clearly stated ethically-oriented or socially responsible investment policy.	Investment policy is guided by the <i>Shariah</i> principles.
<b>Securities selection process</b>	Securities selection is made solely based on the characteristics of the securities that suit the objectives of the investment but without reference to any specific socially-oriented considerations.	Ethical criteria is clearly identified which will served as the filtering mechanism in securities selection process or when deciding whether to invest or to avoid a particular asset or stock.	<i>Shariah</i> guidelines are used as the screening mechanism in securities selection process to ensure only <i>Halal</i> securities are selected whilst non- <i>Halal</i> securities are avoided.
<b>Asset universe</b>	Unlimited. All securities can be selected or admitted into the conventional portfolio.	Limited. Only securities that fulfill the pre-determined ethical criteria will be selected (negative or positive).	Limited. Only the <i>Shariah</i> compliant securities are allowed for Investment (usually negative screens).
<b>Investment support services</b>	Only requires investment research support services to search for undervalued securities and monitor the investment performance.	Requires the following services: 1. Ethical board to screen, monitor and make decision on securities admissibility or withdrawal. 2. Research team to search for potential securities and monitor fund's performance.	Requires the following services: 1. <i>Shariah</i> advisory board to screen, monitor and make decision on securities admissibility or withdrawal. May also requires <i>Shariah</i> officer to supervise and monitor <i>Shariah</i> -compliance. 2. Research team to search for potential securities and monitor fund's performance.
<b>Shareholders' activism</b>	Shareholders/investors do not play active role in advising company to act ethically or socially responsibly.	Shareholders/investors play active role in ensuring company's activities remain within ethical boundaries.	Shareholders/investors do not always play active role in advising company to act within <i>Shariah</i> principles.
<b>Income Purification</b>	No income purification.	No income purification.	Income derived from non- <i>Halal</i> sources should be deducted and paid out to charity. Required to pay <i>Zakat</i> to needy.

Source: Rahimie (2010)

Table 3.1 shows that Islamic funds incorporate ethical and religious considerations into their investment decisions, as reflected by their screening criteria. Hence, their asset universe is limited compared to that of conventional funds that can invest in any security in the stock market. Ethical funds may impose negative or positive screens or a combination of the two (Blowfield and Murray, 2008; Lyn and Zychowicz, 2010), while most Islamic funds mainly use negative screens (see Chapter 5). Negative screening means excluding securities that are inconsistent with their ethical or religious guidelines, while positive screening directs investments to securities that are socially responsible to society (O’Rourke, 2002; Knoll, 2002; Forte and Miglietta, 2007; Lee et al., 2010). SRI puts more weight on environmental, human rights, and corporate practices than Islamic funds (Forte and Miglietta, 2007).<sup>72</sup> Some SRI funds engage with investee companies to encourage them to adopt more socially responsible practices, termed shareholder advocacy, and establish an active dialogue with investee companies (O’Rourke, 2003; Schwartz et al., 2007), whereas only a few Islamic funds do so. Islamic funds are required to ‘cleanse’ any impure earnings generated from non-*Halal* activity, such as interest bearing revenues, by donating them to charity (Elgari, 2002; Ayub, 2007; Hassan and Lewis, 2007; Usmani, 2010) because it is assumed that the vast majority of listed investee companies involve a sin element in their activities, such as non-operating interest revenues.<sup>73</sup> In addition, Islamic funds are also required to pay *Zakat*<sup>74</sup> to the needy as part of their social responsibility to society.

Islamic funds usually follow a sector exclusion screening strategy (Forte and Miglietta, 2007)<sup>75</sup> rather than a best-in-class strategy that is adopted by some funds and index providers such as

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<sup>72</sup> This is one of the critiques of Islamic funds, as they should address such issues (see: Hassan, 2005; Kamla, 2009).

<sup>73</sup> The purification of Islamic funds’ earnings is discussed in greater detail in Chapter 6.

<sup>74</sup> Some Islamic funds might pay the *Zakat* on behalf of their investors, while others only calculate and declare the amount of *Zakat* that the investors themselves should pay.

<sup>75</sup> Screening and ethical strategies are discussed in the following section.

DJSI. For example, the DJSI does not avoid firms in the gambling, alcohol and tobacco sectors but includes the best companies in each industry, although they are ‘sin’ stocks (Statman, 2005; EUROSIF, 2006).

Moreover, Islamic funds apply financial screens to examine the *Shariah* compliance of securities related to interest bearing debt, interest bearing investments, non-*Halal* income and liquidity; these issues may not necessarily be a concern for SRI-focused ethical investors. For instance, Forte and Migletta (2007) compared three ethical FTSE European indices<sup>76</sup> with one Islamic index (FTSE Islamic Europe) and found that the latter had no financial sectors represented (including banks, insurance and financial services), while the other three indices were strongly represented by financials (16-18% in banks, 9-11% in insurances). This is because financial companies in the west are not compliant with *Shariah*. However, IFIs assets are growing and expected to reach USD 4 trillion in 2020 while the Muslim population is expected to grow from its current 1.5 billion to 2.5 billion (KFH research global Islamic finance directory, 2009).

The next two sections investigate the screening and performance of the non-Islamic ethical investment funds then the screening and performance of Islamic investment funds.

### **3.4 Non-Islamic Ethical Equity Investments**

#### **3.4.1 Screening Criteria**

Screening is defined as the process of selecting securities of companies to be part of the investment fund based on a series of criteria (O’Rourke, 2003; Schueth, 2003). The most common screening criteria used by SRI ethical investments are negative and positive screening, best-in-class and engagement strategies (Sparkes, 2001; O’Rourke, 2003; Sparkes

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<sup>76</sup> These three ethical indices are: DJ Sustainability Europe, DJ Sustainability Europe ex AGTF and FTSE4 Good Europe.

and Cowton, 2004; Statman, 2005; Ghoul and Karam, 2007; Solomon, 2007). This section elaborates on the different ethical investment strategies applied by different ethical funds and presents some examples of screens followed by certain faith-based funds as sub-groups of ethical funds. Table 3.2 identifies the most commonly adopted ethical investment strategies.

**Table 3.2: Common Ethical Equity Investment Screens Adopted by SRI Funds**

<b>Style</b>	<b>Description</b>
<b>Ethical ‘negative’ screening</b>	Avoiding companies on ethical, moral or religious grounds (e.g. alcohol, gambling, tobacco).
<b>Environmental/ social ‘negative’ screening</b>	Avoiding companies for involvement in environmentally or socially damaging Screening sectors or practices (e.g fossil fuels).
<b>‘Positive’ screening</b>	Active inclusion of companies because of environmental or social benefits.
<b>Community and social investing</b>	Allocation of capital directly to enterprises that explicitly provide social returns.
<b>Best-in-class</b>	Active inclusion of companies that lead their sectors in environmental or Social performance.
<b>Sustainability themes</b>	Active selection of companies on the basis of investment opportunities driven by sustainability factors, such as renewable energy.
<b>Constructive engagement</b>	Dialogue between investors and company management to encourage more environmental, social and governance practices. It is more related to institutional investors.
<b>Shareholder activism</b>	Use of shareholder rights to pressurize companies to change environmental, social or governance practices.

Source: the European Sustainable Investment Forum (EUROSIF, 2006), and the Forum for Sustainable and Responsible Investment (US SIF, 2008).

Some faith-based funds may use positive screens but most of them use negative screens (Lyn and Zychowicz, 2010). Particularly, more than 80% of SRI funds employ negative screens as part of their portfolio creation process (Social Investment Forum, 2005; Lee et al., 2010). Schueth (2003, p.190) argues that: “screening decisions are never black and white, always gray”. This may explain why there is for example, best-in-class screening strategy. However, some investors believe that this works against SRI because they are unconvinced that there are clear dividing lines between perfectly pure and less pure companies; perfectly socially responsible or irresponsible (Statman, 2005; Statman, 2006). Table 3.3 focuses on the

screening criteria of faith-based investment funds excluding Islamic investment funds which will be discussed in more detail in section 3.5.1.

**Table 3.3: Religious-Based Equity Investment Funds**

<b>Fund Name</b>	<b>Religion</b>	<b>Screens</b>
<b>Aquinas Funds</b>	Catholic	Seeks out and invests in companies which promote the values of Catholic moral or social teachings.
<b>Ave Maria</b>	Catholic	In general, avoids companies with products, services, and activities that violate the core values of the Roman Catholic Church. More specifically, avoids investments in companies involved in the practice of abortion, and those with anti-family policies (pornography or policies that undermine the sacrament of marriage).
<b>Christian Stewardship Funds</b>	Evangelical Christian	Avoids companies involved in abortion, alcohol, gambling, pornography, and tobacco.
<b>MMA Funds</b>	Mennonite, Amish, Brethren and Missionary churches	Seeks out companies that support positive values such as the respect for human dignity, responsible management, and environmental stewardship, while avoiding industries and activities like gambling, alcohol and tobacco production, and military contracting.
<b>Noah Fund</b>	Judeo-Christian	Avoids companies involved in alcohol, tobacco, gambling, pornography and abortion.
<b>Timothy Plan</b>	Fundamentalist Christian/ Judeo-Christian	Avoids investing in companies that are involved in practices contrary to Judeo-Christian principles (abortion; pornography; anti-family entertainment; non-traditional married lifestyles; alcohol; tobacco; gambling).

Source: Schwartz et al. (2007).

The vast majority of the faith-based funds shown in Table 3.3 focus on “sin” screens, such as avoiding tobacco, alcohol, military activities, firearms, or nuclear weapons, while only a few focus on social issue screens, such as child labor, animal rights, or environmental issues. Table 3.3 also shows that different funds may have different screening criteria for ethical investment depending on their religious background (Kreander and McPhail, 2004; Dion, 2009; Carosella et al., 2012; Louche et al., 2012). Furthermore, different Christian churches have also developed their own ethical criteria (Dion, 2009; Ghoul and Karam, 2007; Louche et al., 2012).

Statman (2005) affirms that Evangelical Christians are more likely than Catholics or the members of mainline Protestant denominations to exclude firms involved with adult entertainment, gambling, alcohol production, abortion products, and equal family benefits for homosexual employees, whereas Catholics and mainline Protestants are more concerned about firms' environmental profiles. Furthermore, SRI and religious fund providers may change or modify their screening criteria. For example, although tobacco is the top screen among SRI funds, gambling was the second-most common screen in 1999 that fell to fifth in 2003 (Statman, 2005).

### **3.4.2 The Performance**

This section investigates ethical investment's performance. This rapid worldwide growth of SRI has inspired academics and practitioners to research SRI performance (Ortas et al., 2012). There is a significant body of literature that compares the performance of 'ethical' and 'non ethical' investments. Empirical investigations attempted to examine whether the ethical or social screening would affect portfolio diversification and hence portfolio performance, as implied by MPT (Lee et al., 2010). This is because MPT suggests that employing criteria in the decision making other than return, risk, and diversification will limit the amount of potentially lucrative investments as the screening process enforces an additional set of constraints on a wealth-maximizing investor (Bello, 2005; Kurtz, 2005). Nevertheless, the literature does not always suggest that SRI funds or 'ethical' companies underperform financially (Luther et al., 1992; Luther and Matatko 1994; Bal and Leger, 1996; Gregory et al., 1997; Kurtz, 1997; Sauer, 1997; Statman, 2000; Kreander et al., 2002; Hamilton et al., 1993; Mill, 2006; Kreander et al., 2005; Statman, 2006; Schröder, 2007; Bauer et al., 2007; Renneboog et al., 2008b; Statman and Glushkov, 2009; Hirschberger et al., 2011; Louche et al., 2012). Whereas some studies find evidence for the significant underperformance of SRI funds (Cortez et al.,



2009; Geczy et al., 2005; Lee et al., 2010), fewer studies detect a significant outperformance such as Mallin et al. (1995). The existing studies do not unequivocally demonstrate but rather hint that SRI investors are willing to accept suboptimal financial performance in order to remain compliant with their ethical or social values (Renneboog et al., 2008a; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011). Sparkes (1995) highlighted that only 35% of SRI investors would continue to invest in SRI funds if the anticipated financial return from these fell below that of non-SRI funds, which is consistent with Sparkes (2001). Kurtz (2005, p.134) affirmed that:

“It is also bound up with how you, as a fiduciary, think markets operate. If you believe portfolio performance is driven primarily by quantitative factors, and you are comfortable optimizing your portfolios to a benchmark, typical social screens will probably not be too burdensome. As long as the screens are not too restrictive, the factor exposures can be adjusted as required using modern quantitative portfolio management tools. But if you think a good investment strategy should concentrate on a relatively small group of carefully researched stocks, you may find social screens have unwelcome impact on that portfolio. Or, if you are a strong believer in modern portfolio theory, you may find the prospective diversification costs unacceptable”.

This quote implies that, if the screens are too restrictive, SRI would be burdensome. This is because, by definition, SRI funds might be required to eliminate profitable investments due to their screening practices (Lee et al., 2010). Furthermore, screening may encompass the exclusion of not merely certain companies, but whole industries, sectors and even economic sectors, from the portfolios of SRI funds (Barnett and Salomon, 2006). Therefore, the more screens applied, the more the restrictive and smaller is the investment universe and a limited potential for diversification (Hussein and Omran, 2005). However, the reduced selection of companies could be offset by the benefits gained from investing in companies that have a strong corporate social responsibility, are more effectively managed and hence offer greater performance (Lee et al., 2010). The analysis on the financial performance of ethical equity investments has been approached in different ways. Some studies compare the risk-adjusted

returns of ethical or SRI indices with the conventional market equity indices (Saure, 1997; Arms, 1999; Statman, 2006; Schröder, 2007; Consolandi et al., 2009; Statman and Glushkov, 2009; Huimin et al., 2010; Carosella et al., 2012), while others investigate the risk-adjusted returns of specially constructed equity ethical and non-ethical indices or portfolios of company stocks (Diltz, 1995; Havemann and Webster, 1999; Derwall et al., 2005). The other stand of literature examines the risk-adjusted performance of retail equity SRI funds, which represents the vast majority of empirical work (Luther et al., 1992; Hamilton et al., 1993; Luther and Matatko, 1994; Mallin et al., 1995; Gregory et al., 1997; Statman, 2000; Bauer et al., 2005; Kreander et al., 2005; Barnett and Salomon, 2006; Bauer et al., 2007; Girard et al., 2007; Hirschberger et al., 2011). Studies on ethical indices or specially constructed portfolios can focus on the impact of ethical screening on investment to examine solely the performance of the underlying ‘ethical’ securities. For instance, Statman (2005, p.10) affirms that:

“These studies [actual retail SRI] teach us little about the relative returns of stocks of socially responsible companies since expenses create gaps between the returns of stocks and the returns of mutual funds that contain these stocks, and these gaps vary from fund to fund. We can learn more about the relationship between the returns of stocks of socially responsible companies and the returns of stocks of conventional companies by comparing indexes of stocks of socially responsible companies to indexes of stocks of conventional companies”.

Therefore, studies on SRI indices or specially created portfolios are not affected by other factors that may affect the impact of screening on performance (Sauer, 1997). Such factors are attributed to the fund manager’s skills regarding asset allocation, security and sector selection and the timing ability of trading, in addition to factors related to transaction costs and managers’ fees (Sauer, 1997; Arms, 1999; Statman, 2005; Geczy et al., 2005; Schröder, 2007). In addition, unlike studies on ethical funds, studies on indices or portfolios do not necessarily use multi-factor models, such as the Fama-French (1993) model or the four-factor model of Carhart (1997), because the indices do not follow specific investment styles or timing ability, but rather it is a passive investment strategy according to their pre-determined screening

criteria. Moreover, Schröder (2007) adds two other reasons for only using the single-factor model (to estimate the Jensen alpha and beta) rather than multifactor models: (i) the indices are only adjusted infrequently, in most cases only once or twice a year; and (ii) almost all of the ethical indices are closely related to a single conventional benchmark index. Studies that construct their own hypothetical portfolios also argue that they are less biased due to the pre-determined investment objectives or specific investment philosophies of funds and indices. This may vary from fund to fund and index to index, thereby making comparison inaccurate. Most of these studies largely involve funds in the U.K. and U.S. retail markets. A summary of the important studies on ethical and SRI funds and indices is provided in Appendix 3.1.

The picture that emerges from previous studies suggests that the findings are mixed as noted earlier, but most of the studies find that the differences between ethical and non-ethical investments are marginal and statistically insignificant. Fewer studies found that ethical investments were able to outperform their counterparts (Derwall et al., 2005). This is in line with the principles of MPT that predicts a negative financial performance for ethical equity investments as ethical and social screens restrain the diversification possibilities and, therefore, lead investors to engage in less favorable investments. However, Barnett and Salomon (2006) and Renneboog et al. (2008b) found that there was a non-linear inverse relationship between the number of social screens used by a fund and its financial performance. They argued that SRI funds with low levels of screening offer similar investment opportunities to conventional funds, since fewer companies are eliminated. However, as the number of screens increases, more companies are eliminated and the portfolio, therefore, becomes less diversified and experiences decreased risk-adjusted returns (Girard et al., 2007; Ortas et al., 2012).

In contrast, Lee et al. (2010) found that screening intensity does not have an impact on funds' raw returns and total risk (unsystematic risk, measured by standard deviation) but found

evidence of a positive relationship between the number of screens and a portfolio's  $\beta$ . Hence, Lee et al. (2010) recommend that SRI investors should consider funds that do not screen too intensively; otherwise, they would expose their investments to systematic risk. However, Sauer (1997) finds that the additional socially responsible screening associated with SRI do not necessarily result in higher volatility and reduced returns. Sauer (1997) argue that the screening process results in companies that enjoy a stronger financial position and more profits than companies that are excluded, as environmentally responsive companies are less likely to encounter environmental lawsuits. Similarly, SRI funds that are screened for product quality and customer satisfaction are less likely to be subjected to product liability suits and costly settlements but can establish strong firm loyalty and, thus, higher product sales (Arms, 1999). Furthermore, some studies argue that the better a firm's social performance, the more effectively it can attract resources (Waddock and Graves, 1997; Ortas et al., 2012). Therefore, social responsibility may serve as a source of competitive advantage for companies. Further, as the level of investors' awareness increase, in terms of social responsible issues, more pressure will be put on companies that are not responding to such issues to change (Sauer, 1997). In addition, the reputation for social responsibility produces a financial benefit and protects firms from stock declines during crisis (Schnietz and Epstein, 2005). This contributes to the growing evidence of the positive relationship between corporate social practices and financial performance. In contrast, others argue that expenditure on social betterment may increase a firm's costs, hence putting it at an economic disadvantage in a competitive market (Barnett and Salomon, 2006) which would detract from a firm's financial performance. Further concerns include lack of diversification associated with the limited investment universe, additional screening and monitoring costs, increase in volatility and lower returns (Sauer, 1997). Thus, firms need to balance a tradeoff between profit maximization and social responsibility because

they cannot maximize their value if they ignore the interests of their various stakeholders (Jensen, 2001). However, most studies on the financial performance of SRI do not take into account the fact that investors may gain additional utility by investing according to their values (Beal et al., 2005; Hirschberger et al., 2011). Thus, there must be a holistic definition of utility beyond the concept of the financial return from ethical funds (Beal et al., 2005). Beal et al. (2005) argued that there are three motivations for ethical investment, namely: (i) financial returns; (ii) non-wealth returns; and (iii) social change. Hence, faith or ethical investments provide certain investors a flow of pleasure, satisfaction and social status, which could mean more to them than financial returns (Hamilton et al., 1993; Jensen, 2001; Statman, 2005; Beal et al., 2005). Furthermore, ethical screening creates potential investment opportunities that positively contribute to social and economic welfare (Lewis and Cullis, 1990; Hussein and Omran, 2005). Moreover, the increased awareness of SRI among investors puts pressure on companies to comply with ethical, social, and environmental concerns (Sauer, 1997). Environmental catastrophes tend to increase the interest in and awareness of the importance of SRI issues (Renneboog et al., 2008b), such as the banking crisis, the BP oil spill in the Gulf of Mexico, and the flooding in Pakistan. Lewis and Cullis (1990) argue that the rise of consumer activism and higher consciousness of SRI has enhanced investors' preferences which, in turn, has inspired a demand for ethical investment. If this demand for SRI companies increases, then so will their stock market price. Luther et al. (1992, p.57) highlighted this fact as follows:

“...investment demand for shares in institutions with such products as ‘natural cosmetics’ or positive employment policies may be stimulated. From the purely financial view, growth in such investor sentiment may be expected to produce gains in shares with a ‘positive’ ethical rating and losses on others”.

Furthermore, Ortas et al. (2012, p.592) highlighted that their results opposed MPT during a bearish market, as ethical companies were doing as well as the conventional index, for the following reasons:

“The companies belonging to the BCSI [ethical index] seem to get financial benefits due to the following issues: their commitment to a rational use of natural resources and environmental preservation, their commitment to CSR principles, their commitment to high levels of transparency about corporate governance issues, and their reduced exposure to insider ownership. Thus they can access long-term sources of financing while maintaining their activism in corporate social investment processes and their outperformance in ethics management and other social issues. All of these considerations bring these companies in the BCSI the opportunity to benefit from enhanced business opportunities that could improve their performance. This is due to investors’ perception that these well-governed companies are less risky and are able to achieve a better financial performance in the mid- to long term”.

Moreover, the contradictory results in the literature could be due to the different data, the economic market conditions during which the studies were undertaken, and or the performance measurement adopted. Few studies have addressed the performance of ethical investments across different market conditions (Consolandi et al., 2009; Huimin et al., 2010; Ortas et al., 2012). However, Ortas et al. (2012) suggest that it would be interesting to investigate whether the risk-adjusted returns of ethical investment is affected by different market cycles. Schnietz and Epstein (2005) found that socially responsible companies are less exposed to the declines associated with this financial distress, even when controlling for possible trade and industry effects. However, after the GFC in 2008, some studies on SRI found a change in their performance pattern. For instance, Ortas et al. (2012) found that the risk and return performance of the ethical index showed a regime change from the third quarter of 2008, which accords to the worldwide stock market crashes due to the GFC. The SRI indices have exhibited higher risk and lower return levels compared to the conventional indices. They interpreted their finding by arguing that firms in SRI indices were more sensitive to economic fluctuations and changes in the market cycle than those included in the conventional indices.

With regard to the portfolio performance, the valuation methods used in the literature are the traditional Jensen-alpha, Sharpe and the Treynor ratios as noted earlier. Some studies employ one or more of these portfolio performance measures. Statman (2000) uses a modified Sharpe ratio based on Statman (1987) and Modigliani and Modigliani (1997) as a measure of risk,

called “excess standard-deviation-adjusted return”. Furthermore, Carosella (2012) used, in addition to the three traditional measures (Jensen alpha, Sharpe ratio, Treynor ratio), the reward to semi variability ratio that measures the downside risk of a stock when it is below a target return. Hence, any return at or above that target is not included in the calculation. Moreover, some researchers employed a combination of the traditional measures, derived from the single-factor-model based on CAPM, while other multifactor models, such as the Fama and French (1993), or Carhart (1997) model, such as Bauer et al. (2005) and Scholtens (2005). However, as mentioned earlier, different methods may lead to conflicting findings and, hence, extra caution should be exercised when employing more than one methodology. For instance, Scholtens (2005) found that the Dutch SRI funds outperform conventional ones, using a single factor CAPM, but that the opposite was true when using the Carhart’s (1997) multifactor-factor model. The primary purpose of studies that utilize multifactor models is to investigate the investment style of ethical funds (Bauer et al., 2005; Scholtens, 2005). However, this thesis is interested in examining the performance of the *Halal* portfolios per se rather than their investment style such as small cap vs. large cap or growth vs. value (see Fama and French, 1993; Carhart, 1997).

Another approach that is prevalent in the ethical investment literature is a matched pair analysis, suggested by Mallin et al. (1995) to overcome the concern reported by Luther et al. (1992) and Luther and Matatko (1994) that ethical fund investments are biased towards smaller market capitalization companies. Luther and Matatko (1994) suggested using a small cap. stocks benchmark in addition to the conventional stock market index to address this bias when measuring the performance of ethical investments. However, finding a proper benchmark is not always easy (Kreander et al., 2005). Therefore, Mallin et al. (1995) followed by others (see Gregory et al., 1997; Statman, 2000; and Kreander et al., 2005) directly compare the

performance of matched 'ethical' and 'non-ethical' investment funds based on similar characteristics, such as fund objectives, fund size and age.

The next section investigates the other side of ethical or faith based investments, looking at the performance of sin investments to see whether they behave differently.

### **3.4.3 Performance of Sin Stocks**

There is evidence to suggest that 'sin' stocks earn higher risk-adjusted returns (Fabozzi et al. 2008; Hong and Kacperczyk, 2009; Liston and Soydemir, 2010), and consequently their exclusion may directly lead to the underperformance of an ethical portfolio (Statman and Glushkov, 2009; Ooi and Lajbcygier, 2013).

Some studies find that sin stocks are more volatile (Goodall, 1994; Chen and Bin, 2001) and underperform the market index (Chen and Bin, 2001; Salaber, 2007). Goodall (1994) suggests that gaming stocks in the U.S tend to be more volatile than the market throughout his twenty year sample period (1973-1992). Chen and Bin (2001) found that, between 1993 and 1997, gaming stocks, on average, yielded a lower return (alpha) and greater systematic risk (beta) in the US stock market. Salaber (2007) examined the returns of sin portfolios (including companies involved in tobacco, alcohol and gaming) for the period 1926-2005 in the U.S market and found that tobacco and alcohol stocks recorded higher returns during recessions than expansions; the return on gaming stocks does not vary with the business cycle, but sin stocks in general showed inferior performance compared to non-sin ones. Fabozzi et al. (2008) found that the sin portfolio of 267 companies in 21 countries over a 37-year sample period (1970-2007) across six industries (alcohol, adult services, gaming, tobacco, weapons, and



biotech) outperformed<sup>77</sup> common benchmarks. The lowest annual return earned by sin stocks was 6.55% in Taiwan and the highest was 27.46% in the US. Fabozzi et al. (2008, pp.92-93) mention several possible reasons for the superior performance of sin stocks, as follows:

“First, an economic gain might accrue from not conforming to social standards, as it costs firms both implicitly and explicitly to uphold such standards. The evidence is also consistent with the position that a sin stock is initially undervalued due to the negative affect of the average investor, although previous evidence shows that sin stocks are not underpriced (Salaber [2007]).Ironically, these industries are the hardest to start, most closely monitored, and most severely disciplined by social opinion, but unlike other monopoly businesses, they are the least regulated in terms of pricing. Thus, the positive risk-adjusted returns we find also support the argument that the sin industries which have survived have earned positive monopolistic returns”.

Consequently, Fabozzi et al. (2008) argue that, because companies in the sin industries enjoy monopolistic power, they manage to persist against all odds, and should be compensated with an excess premium. Furthermore, Kim and Venkatachalam (2011) attributed the superior performance of sin stocks to the high quality of the financial reporting to attract a wider investment and analyst base, which is a result of the greater regulatory scrutiny to which they are exposed due to the nature of the products they sell; for instance, these companies receive close scrutiny by lawyers, politicians, and public opinion (Hong and Kacperczyk, 2009). Hong and Kacperczyk (2009) focused on U.S sin stocks involved in alcohol, tobacco or gaming and found that they are relatively undervalued and have higher risk-adjusted returns. They argued that such outperformance could be due to the higher expected returns because of the increased product market litigation risk for these companies. In spite of that, Hong and Kacperczyk (2009) and Liston and Soydemir (2010) provided evidence that the sin portfolio outperforms the faith-based portfolio (Ave Maria Fund) relative to the market. They reveal that faith-based and sin betas tended to move in opposite directions during most of their sample period (2001 -

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<sup>77</sup> Fabozzi et al. (2008) measured performance based on excess returns and risk-adjusted excess returns computed with the standard procedure utilizing the CAPM.

2007). Finally, Durand et al. (2013) compared the performance of sin stocks (alcohol, tobacco, and gaming industries)<sup>78</sup> with non-sin stocks (except financials) for 1990-2009 in seven Pacific-Basin stock markets.<sup>79</sup> They establish that sin stocks generate negative risk-adjusted returns in all markets. Interestingly, Durand et al. (2013) revealed that, in Australia and New Zealand, the countries which are culturally closest to the US, shareholders are less likely to hold sin stocks, while in Japan and South Korea, they are more likely to do so. This finding was justified by the cultural basis of individualism and collectivism. Durand et al. (2013) argued that more individualistic investors might shy away from sin stocks, as they believe that they can influence the world and take responsibility for their actions.

Having discussed the screening and performance of the ethical (non-Islamic faith-based), SRI, and sin investments, the next sections elaborate on the screening and performance of Islamic (*Halal*) investments, as a subset of the faith-based investment.

### **3.5 Islamic Investments**

#### **3.5.1 Screening**

The literature divides the *Shariah* guidelines for identifying *Halal* equity investments into two types of screen: (i) qualitative (sector or business) screens; and (ii) quantitative (financial) screens (see: Wilson, 2004; Siddiqui, 2007; Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abdul Rahman, 2010; Ho et al., 2012; Pok, 2012). Most Islamic funds apply these criteria as negative screens. In Malaysia however, Islamic funds use a certain type of positive screening as the SAC requires that the core activities of the investee company should have importance and *maslahah* (general benefit or interest or advantage) to Muslim society, to the

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<sup>78</sup> They followed Hong and Kacperczyk (2009) in identifying sin stocks using the FTSE/Dow Jones Industry Classification Benchmark obtained from Thomson DataStream.

<sup>79</sup> The Pacific-Basin markets are Australia, India, Japan, South Korea, Malaysia, New Zealand and Singapore.

country and *ummah* (nation) (SAC, 2007, Al-Mubarak and Osmani, 2010). This is as highlighted by Wilson (2004) who asserts that investing in companies that encourage trade with Muslim countries could be considered a positive screen for promoting economic cooperation among the Muslim world. This is because it “enables Muslim capital to be harnessed within Islamic world, increasing brotherhood and solidarity and reducing reliance on *Riba*-based debt finance” (Wilson, 2005, p.213).<sup>80</sup> Yet, the practice of Islamic investment screening not mirrored full positive social and ethical screening, and has been criticized for focusing on negative rather than positive screens (Siddiqui, 2007). Hence, Islamic equity investment funds should become more involved in positive screening and shareholder activism like SRI funds, as this helps them to accomplish *Maqasid al-Shariah* as reported in Chapter 1(also see Sano, 2000; Ziqaba, 2010; Yaacob and Donglah, 2012). Marzban and Asutay (2012, pp.146-165) suggested that:

“ The *Shari’ah* screening process, not only at the institutional level but also in its overall evaluation, should follow a comprehensive screening process by ethical and social factors whereby the aspirations of Islamic moral economy can be fulfilled and the narrow ‘form’ oriented screening process can be substantiated by a ‘substance’ oriented process”.

Nevertheless, it is argued that positive screening is more complicated than negative screening, as it requires the extensive analysis of different complex issues such as pollution and workplace practices (Kamal, 2001), which takes time, given the low level of companies’ disclosure especially in emerging markets (Salter, 1998; Al Mutawaa, 2010).

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<sup>80</sup> Other examples of positive screening are investing in companies whose activities are environmentally friendly as the Qur’an stats that humans are trustees on this earth and must safeguard the environment (Kamla et al., 2006), investing in companies that are more involved in profit and loss sharing financing rather debt-based financing even if the latter are *Shariah*-compliant because the former is more beneficial to the economy (Al-Suwailem, 2009), investing in companies that provide *Qard Hassan* (interest-free loan) and charity to individuals who need them, investing in companies that positively contribute to the welfare of society, investing in companies that have clear polices on payments of wages and bonuses and provide equal opportunities as Islam promotes morality, justice and brotherhood (Maali et al., 2006).

The following two sub-sections elaborate on the qualitative and quantitative screening criteria applied by Islamic funds.

### **3.5.1.1 Qualitative Screening**

The first level of screening for *Shariah* compliant stocks is qualitative (or sector compliant) screening that ensures that the business of the company is *Halal* and does not contradict *Shariah* (Kamal, 2001; Siddiqui, 2007; Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abdul Rahman et al., 2010; Ho et al., 2012; Pok, 2012; Marzban and Asutay, 2012). Islamic funds usually define sector compliance based on the core business of the company; for example, a hotel group or airline is acceptable but a brewery is not (Wilson, 2004). Therefore, any company that is involved in *riba* transactions or in any of these former unethical or *Haram* activities as their core business (e.g. manufacturing or distributing) is screened out from the *Halal*-based universe. Companies that are not primary engaged in such *Haram* activities but whose business comprises a material proportion of these activities are also eliminated (Wilson, 2004) (see Chapter 1).

Little research has been conducted on the *Shariah*-compliant investment screening methods adopted by Islamic funds and indices (Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abul Rahman et al., 2010; Pok, 2012; Ho et al., 2012). Khatkhatay and Nisar (2007) compared the *Shariah*-compliant screening criteria of the Dow Jones Islamic Market Index (DJIM) in the U.S, the Securities and Exchange Commission (SEC) in Malaysia, and the Meezan Islamic fund in Pakistan. Interestingly, they suggested that mixed companies should be considered unacceptable, even if their *Haram* activities are comparatively minor. This critical modification of the screening practices is also supported by Al-Tunaji (2009) and other scholars, who believe that mixed stocks should be banned.

Derigs and Marzban (2008) analyzed the impact of applying wider alternative *Shariah* screens for Islamic funds and indices on a sample of S&P 500 index constituents. They concluded that the asset universe differs significantly in terms of size as well as constituents. However, their analysis revealed that only minor differences exist with respect to the qualitative sector screens, similar finding reported by Pok (2012). Table 3.4 compares the qualitative screens for several providers and users.

**Table 3.4: Qualitative *Shariah* Screens**

	DJIM	FTSE	S&P	MSCI	HSBC	Amiri	DIB	Azzad	Meezan
<b>Alcoholic Beverages</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Biotechnology (Genetic &amp; Foetus)</b>					Y				
<b>Broadcasting &amp; Entertainment</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Conventional financial services</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Gambling</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Hotels</b>	X	Y	X	Y		Y	Y	X	
<b>Insurance</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Meat Production</b>								X	
<b>Media Agencies*</b>	X		X		Y			X	Y
<b>Pork-related products</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Restaurants &amp; Bars</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Tobacco</b>	X	Y	X	Y	Y	Y	Y	X	Y
<b>Trading of Gold &amp; Silver</b>			X						
<b>Weapons &amp; Defence</b>	X	Y		Y	Y	Y	Y	X	

Note: This table shows the qualitative screens of the particulars screening providers and users. The first four columns are Islamic index providers, namely: the Dow Jones Islamic Index Market index (DJIM) established in 1999, the Financial Times *Shariah* Index (FTSE) established in 1998, the Standard & Poor's Islamic Index launched in 2006, the Morgan Stanley Capital International Islamic Index (MSCI) established in 2007. The second two are banks, and the last three columns are fund managers.

X denotes core business

Y denotes any involvement

\* Except newspapers

Source: Derigs and Marzban (2008)

Table 3.4 shows the qualitative screens of various screening providers and users, as surveyed by Derigs and Marzban (2008). They noted that some screening providers (DJIM, S&P Islamic indices, and Azzad Islamic funds) eliminate companies with any involvement in *Haram*

business whereas the other group [FTSE, MSCI, indices and HSBC, Amiri,<sup>81</sup> the Dubai Islamic bank (DIB), and Meezan Islamic funds] allows the inclusion of companies whose core business is *Halal* but that receive a negligible portion of their revenue from Haram activities. Hence, they indicated that this would reduce the *Halal* asset universe significantly, as industries such as airlines, hotels and wholesalers, who all sell alcohol, would be considered non-compliant. It is worth noting that this does not mean that DJIM, S&P and Azzad Islamic funds eliminate all mixed companies, because they use financial screens to control for interest-bearing debt and *Haram* earnings.

Both Ho et al. (2012), and Pok (2012) compared the *Shariah*-compliant screening criteria adopted in Malaysia with the world's leading index providers. For instance, Ho et al. (2012), compared the *Shariah* screens in Malaysia, for index providers (DJIM, FTSE, MSCI, and S&P), a *Shariah* service provider (Shariah Capital),<sup>82</sup> two fund managers (Azzad and Amiri) and three banks (Saudi Arabia National Commercial Bank (NCB),<sup>83</sup> DIB and HSBC). Nevertheless, Ho et al. (2012), did not apply these different screens to a sample of securities to measure their impact on the *Halal* assets and portfolio construction, as in prior studies, but rather compared the users' qualitative screens and explored the different thresholds applied in their financial screens. Ho et al. (2012) pointed out that some of these users are more specific in their listing of their non-compliant business activities while others are more lenient. Similar to Derigs and Marzban (2008), they affirmed that DJIM and Azzad apply stringent *Shariah*-compliant qualitative screening, as they exclude companies who are involved in any *Shariah* non-compliant businesses. However, this does not indicate that they only invest in pure stocks

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<sup>81</sup> Amiri Capital is a *Shariah* service provider and funds manager (see: <http://www.amiricapital.com/index.php> ).

<sup>82</sup> *Shariah* Capital is a U.S.-based company that creates and customizes *Shariah* compliant financial products and platforms and provides selective *Shariah* consulting and advisory services (see: <http://www.Shariahcap.com/about.php>).

<sup>83</sup> NCB is a conventional commercial bank that opened an Islamic window in which is provided an Islamic equity investment fund that is governed by an SSB.

as that use financial screening criteria. This is a defensive measure, as screening the businesses of companies requires the inspection of the company's annual report and accounts to obtain information about the company's operations. Hence, Ho et al. (2012) suggested either rejecting companies engaged in any non-*Halal* business, as recommended by Khatkhatay and Nisar (2007) or imposing further parameters for the screening of these companies. Moreover, Pok (2012) found that Malaysia is a lot more liberal than that of the world's leading index providers.

Despite the fact that AAOIFI is a regulatory body for the Islamic finance and investment industry, the literature does not cover the AAOIFI screens that are widely adopted in GCC states and many other countries. These financial screens of AAOIFI and other screening providers will be discussed in the next section.

### **3.5.1.2 Quantitative Screening**

In order to ensure that the *Haram* element is minimal in any mixed investee company's stock, many SSBs of Islamic funds and index providers have arrived at a maximum allowable threshold level, as reflected in various quantitative or financial screening criteria (Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abul Rahman et al., 2010; Ho et al., 2012; Pok, 2012; Marzban and Asuty, 2012). Such financial screening thresholds eliminate the stocks of companies that make gross violations, while they attempt to offer investors a reasonably wide choice of *Shariah*-compliant stocks (Khatkhatay and Nisar, 2007). These *Shariah*-compliant screens are unique to Islamic investment funds, compared to ethical and SRI funds. These financial screening criteria are based on *Ijtihad* (Wilson, 2004; Derigs and Marzban, 2008) or *Qiyas* rather than the primary sources of *Shariah*, the *Qur'an* or *Sunnah*. Hence, some *Shariah* scholars criticize these financial screens, arguing that they allow a significant portion of *riba* that is strictly prohibited in *Shariah* and calling for a reduction in the financial screening

thresholds (Al-Tunaji, 2009). However, as discussed in the previous section, some opponents of financial screening disallow any thresholds for non-*Halal* earnings or activities and require instead a pure investee company (Al-Nashmi, 1998; Al-Salaami, 1998; Al-Qurdi, 2001). The majority of Islamic funds, indices and users still apply financial screens. In 2004, AAOIFI issued its *Shariah* screening criteria for securities' investments (No.21),<sup>84</sup> and then later in 2006 it revised its financial screening criteria. Table 3.5 compares the *Shariah* financial screens of various Islamic indices and AAOIFI in both 2004 and 2006. It could be argued that AAOIFI was seeking to increase Islamic investors' *Halal* asset universe by this change in the screening criteria. See Chapter 6, where these screens are applied to individual investee companies in order to measure their *Shariah*-compliance with the criteria to examine the impact of this change on the *Halal* asset universe and the creation of *Halal* investment portfolios.

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<sup>84</sup> See AAOIFI *Shariah* standards (2010, pp.294-308).



**Table 3.5: Financial *Shariah* Screens**

	DJIM (1999)	FTSE (1998)	S&P (2006)	MSCI (2007)	AAOIFI (2004)	AAOIFI (2006)
<b>Liquidity screens:</b>						
Accounts Receivables + Cash / Total Assets		50%				
Accounts Receivables / Total Assets				70%	49%	
Accounts Receivables / Market Capitalization	33%		49%			
<b>Interest Screens:</b>						
Interest Income / Total Revenue		5%				
Cash and interest bearing investments / Total Assets		33%		33%	30%	
Cash and interest bearing investments / Market Capitalization	33%		33%			30%
Interest-bearing debt / Total Assets					30%	
Interest-bearing debt / Market Capitalization						30%
<b>Debt Screens:</b>						
Total Debt / Total Assets		33%		33%		
Total Debt / Market Capitalization	33%		33%			
<b>Non-Halal screens:</b>						
Non-Halal Income (other than interest) / Total Revenue		5%	5%			
Non-Halal Income + Interest Income / Total Revenue					5%	5%

Note: This table shows the *Shariah*-compliant quantitative (financial) screens and their thresholds for the four widely used Islamic indices, namely; the Dow Jones Islamic Index Market index (DJIM) established in 1999, the Financial Times *Shariah* Index (FTSE) established in 1998, the Standard & Poor's Islamic Index launched in 2006, the Morgan Stanley Capital International Islamic Index (MSCI) established in 2007 and the financial screens of Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) in 2004 and 2006.

Table 3.5 reveals that some screening providers use total assets as a ratio denominator for the different financial screens [DJIM, S&P, and AAOIFI (2004)], while others use market capitalization instead [FTSE, MSCI, and AAOIFI (2006)]. Derigs and Marzban (2008) indicate that using market capitalization to assess the real worth of the company has several advantages, such as being more reliable, as it is determined by the market and also, by using a trailing average, any seasonality effects can be eliminated. In addition, it enables *Shariah* screening to be conducted on a continuous basis since it is not dependent on financial reports. Furthermore, any dissimilarities arising from applying different accounting principles, such as FIFO or LIFO for inventory evaluation, are not a problem. On the other hand, those who use total assets argue that accounting standards are more reliable because they are free from market influence and speculation. Khatkhatay and Nisar (2007) argue that the use of market capitalization is inappropriate and should be replaced by other relevant balance sheet items, preferably total assets. Derigs and Marzban (2008) and Ho et al. (2012) pointed out that DIB resolved this issue by using both measurements (total assets and market capitalization) as the denominator for the ratios but then follow the one that provides a larger *Halal* universe. Ho et al. (2012) noted that NBC in Saudi Arabia uses both denominators for the interest-bearing debt screen. Marzban and Asutay (2012) found that different denominators may offer different advantages across different time spans and regions. For instance, Marzban and Asutay (2012) concluded that asset-based screens resulted in a much larger asset universe in Japan while market capitalization screens yielded a larger asset universe in the US, based on a sample of the top 200 capitalization companies in each country.

Another significant difference that emerges from Table 3.5 is the range of thresholds. Although these screens are based on *Itihad*, some scholars attempt to give them some *Shariah* rationale in order to refer them back to certain texts in the Hadith (see Al-Quradaqi, 2002; Al-Shubali, 2005; Derigs and Marzban, 2008; AAOIFI, 2010). Most

providers use the third threshold (30-33%) for the interest-bearing debt or debt screens.<sup>85</sup> AAOIFI only applies interest-bearing screens because it is common in Muslim countries to take out non-interest bearing loans, such as *Sukuk*,<sup>86</sup> while the four Islamic indices screen based on total debt, as they are the global indices that are mostly used in non-Muslim countries, where debt is assumed to be non-*Halal*.

AAOIFI only allows 5% for interest income and other non-*Halal* income combined, while the FTSE index allows 5% for each. Thus, AAOIFI is more conservative. The 5% threshold has no foundation in the *Qur'an* or *Sunnah* (Derigs and Marzban, 2008) but may reflect materiality. Nevertheless, any non-*Halal* income less than 5% should be donated to charity, as noted previously because if it is more than this threshold, it renders the whole investment to be non-*Halal*.

The range in the liquidity screens is wide (33-70%), as this ratio is the most strongly debated among *Shariah* scholars. This is based on the assumption that the portion of illiquid assets must outweigh that of the liquid ones. Thus, if the latter are larger than 50% of the market capitalization value (or total assets), investment in such a company is permitted.<sup>87</sup> Otherwise, if the majority of the assets are in liquid form, some scholars argue that they cannot be traded except at par value, as it represents money to which *Suruf* (money exchange) rules should apply or that is considered *riba* (See: Al-Quradaqi, 2003; AAOIFI, 2010, Usmani, 2010). Nevertheless, AAOIFI's 2006 screens dropped this criteria and SAC (2007) in Malaysia does not apply any liquidity screens either.

Interestingly, Abdul Rahman et al. (2010) applied DJIM financial criteria, particularly the liquidity and leverage screens, to a sample of listed companies in the Kuala Lumpur Stock Exchange *Shariah* Index (KLSESI) in 2006. They found that only 17 % of the KLSESI

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<sup>85</sup> This is based on a Hadith as translated by Derigs and Marzban (2008, p.292): "The Prophet advised Abu Bakr [one of his closest companions] not to donate more than one-third of his wealth, and commented that 'One third is too much'".

<sup>86</sup> *Sukuk* are similar to conventional bonds but are asset backed and *Shariah*-compliant.

<sup>87</sup> This is based on the *fiqh* principle: "The majority deserves to be treated as the whole thing".

companies are highly liquid, with a liquidity ratio of more than 50%. They indicated that 44% of the KLSESI companies depend heavily on debt. They, however, failed to identify whether these debts are *Shariah* compliant or not, assuming that DJIM uses total debt. This means that the debt screens fails 44% of KLSESI companies that are deemed to be *Halal*. This explains why Malaysia does not use debt screens and is considered liberal by some scholars. Therefore, many recommended developing a harmonized screening framework for Islamic investment (Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abdul Rahman et al., 2010; Ho et al., 2012), but this should also take into consideration the different existing *Shariah* views (Derigs and Marzban, 2008) and the country context. Although the accounting standards established by AAOIFI are based on capitalistic accounting, they can still be used as a starting point from which to create an improved set of disclosure criteria that can be used by Islamic institutions (Harahap, 2003; Maali et al., 2006) as highlighted by Maali et al. (2006, p273):

“Islamic businesses should disclose all information necessary to advise the *Umma* (Islamic community) about their operations, even if such information would work against the firm itself. The concept of disclosure is thus related to the concept of accountability: In an Islamic context, the *Umma* has the right to know how organizations that are part of the *Umma* affect its well-being”.

Nevertheless, Islamic funds may still face challenges when seeking to screen companies to comply with the AAOIFI accounting standards. Khatkhatay and Nisar (2007) suggested that it might be difficult to obtain sufficiently detailed information about a company’s activities and its subsidiaries to conduct *Shariah* compliance screening. This is in line with Wilson (2004, p.37), who asserted that:

“Screening requires a considerable amount of information that can only be ascertained by scrutinizing the company’s annual reports and accounts”.

Thus, he further continues that “skills are also need to know what figures to use to calculate ratios that are important from Islamic perspective”. However, many firms in emerging markets make low level or incomplete financial disclosure on a quarterly and annual basis

(Salter, 1998; Al Mutawaa, 2010; Cognizant Report, 2012<sup>88</sup>). For instance, many companies fail to differentiate between cash and cash equivalents (e.g., money market instruments, Treasury bills that can be readily converted into liquid cash) in their financial reports (Cognizant Report, 2012). In addition, some companies fail to report their interest income or other *Haram* items as a separate item on their financial statements. It is also common even in Muslim countries to fail to differentiate between interest-bearing debts and total debt. These issues raise many concerns and challenges for the *Shariah* screening providers and regulatory bodies. Hence, extra caution is required when applying the financial screens, such as inspecting all detailed disclosures, notes and *Shariah* reports if available and sometimes approaching the investee companies in order to clarify certain issues. Unlike prior studies which do not rely on the manual inspection of companies' annual reports; either ready-screened lists or the dataset platforms offered by different providers such as Bloomberg, Thomson Reuters, and Ideal Ratings,<sup>89</sup> this thesis screens each company's annual report manually (see Chapters 4 and 6).

### **3.5.2 The performance**

Despite the rapid growth of the Islamic equity investment industry, the empirical evidence on the performance of such investments is relatively scarce. However, more studies have emerged during the last few years (Merdad et al., 2010; Hassan et al., 2010; Rahimie, 2010; Alam and Rajjaque, 2010; Hayat and Kraeussl, 2011; Hoepner et al., 2011; Mansor and Bhatti, 2011; BinMahfouz and Hassan, 2012; Shah et al., 2012; Lobe et al., 2012; Walkshäusl and Lobe, 2012). Appendix 3.2 provides a summary of the key features of the previous studies that have investigated the performance of Islamic investments. The

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<sup>88</sup> Cognizant is a global business and technology services consulting company that provide services related to corporate government, ethics and corporate social responsibility (see: <http://www.cognizant.com/>).

<sup>89</sup> Ideal Ratings is a recent *Shariah* screening, fund and index management services provider. They are the most specialized in *Shariah*-compliant equity screening (see: <http://www.idealratings.com/>). Derigs and Marzban (2008) used their data sets.

literature on Islamic investments' performance covers: Islamic indices, Islamic funds, and Islamic-based portfolios constructed by researchers.

Appendix 3.2 reveals that the literature does not provide any clear evidence on the performance of Islamic investment funds, as it is mixed and inconclusive, not only across different studies but also within the same study under different market conditions (bull, bear, GFC). For instance, Abdullah et al. (2007), Merdad et al. (2010), and Hayat and Kraussal (2011), find that Islamic funds underperformed conventional funds in the full sample and bullish periods, and outperformed them in the GFC and bearish periods (Ashraf, 2013). This implies that Islamic funds can be used as a hedging instrument during certain economic conditions. However, Albaity and Ahmad (2008), Hassan et al. (2010), Mansor and Bhatti (2011), and BinMahfouz and Hassan (2012) did not find any significant difference between the return performance of *Shariah*-compliant and non-compliant investments.

The most common performance measures used in the literature are the three traditional portfolio evaluation methods (Jensen alpha derived from the CAPM, Sharpe, Treynor). Although, concerns have been raised regarding the use of interest-based instrument (e.g. T-bills) as a proxy for a risk-free rate for calculating the risk-adjusted performance of Islamic portfolios (Abderrezak, 2008; Salim, 2008; Rahimie, 2010), only Rahimie (2010) employed a *Shariah*-compliant alternative (*Mudarabah* investment account rate)<sup>90</sup> to the conventional one, finding that the performance of the *Shariah*-compliant portfolio improved accordingly. Unlike other ethical funds studies, Islamic funds studies have not employed the matched pair approach to control for the impact of size, sector, age or geographical location, apart from Abderrezak (2008)<sup>91</sup> and BinMahfouz and Hassan (2012). Nevertheless, BinMahfouz

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<sup>90</sup> *Mudarabah* is a form of partnership in which one partner finances the project (*rub al-mal*) usually the customer, while the other party (*Mudarib*), usually the IFI, manages it. The *Mudarib* would be entitled to certain amount of profit at a pre-determined rate as a reward for their contribution in managing the fund. See Hassan and Lewis (2007).

<sup>91</sup> Abderrezak (2008) is an unpublished master's dissertation.

and Hassan (2012) matched the Islamic and conventional funds based on their geographical investment focus. This is in spite of the bias towards smaller market capitalization companies reported by many studies (Hussein and Omran, 2005; Abderrezak, 2008; Girard and Hassan, 2008; Hassan et al., 2010; Rahimie, 2010; Hoepner, et al., 2011) and the sensitivity related to using inappropriate benchmarks.

The substantive literature examines the performance of Islamic investments using worldwide indices or funds in developed countries, while fewer studies explore their performance in Muslim countries (Abdullah et al., 2007; Albaity and Ahmad, 2008; Hassan et al., 2010; Rahimie, 2010; Hoepner et al., 2011; Merdad et al., 2010; BinMahfouz and Hassan, 2012; Ashraf, 2013). Most studies on Muslim countries are conducted in Malaysia; only three studies examine Islamic funds in Saudi Arabia, and one included the GCC countries (Hoepner et al., 2011). However, no studies have been conducted on Kuwait, which is the third largest Islamic funds market in the world after Malaysia and Saudi Arabia as noted in Chapter 2. Therefore, this thesis will contribute significantly to the existing literature on the performance of Islamic and conventional investments.

Studies have found that Islamic investments are better in their domestic markets rather than the global ones (Hayat and Kraeussl, 2011). In particular, they are better in Muslim countries (Hoepner et al., 2011; Walkshäusl and Lobe, 2012) as more *Shariah*-compliant stocks are available across different sectors, especially financials.

Few studies have examined the impact of using different screening criteria on portfolio performance (Derigs and Marzban, 2009; Lobe et al., 2012). None of the previous studies have rebalanced their portfolios over time, by assuming that the *Shariah*-compliant status of securities is unchanged (Lobe et al., 2012) or because they carried out the analysis at a certain point of time, such as Derigs and Marzban (2009) who chose 17 September 2007 on which to screen their sample asset universe. This assumption is not accurate in reality, as a

stock's (mostly MH and MS) *Shariah*-compliant status may vary over time based on its compliance with screening criteria (see Chapters 5 and 6).

One of the significant gaps in the literature is the exploration of the performance of pure *Halal* stocks, or even a definition of them, as these entire prior studies, even those conducted in Muslim countries, fail to distinguish between mixed and pure *Halal* securities. Therefore, they do not differentiate between Islamic funds or indices that include both PH and MH securities and Islamic funds that only invest in pure stocks which exist in the GCC stock markets. In addition, unlike the studies related to ethical investments, the Islamic investments literature fails to explore the performance of 'sin' investments from a *Shariah* perspective. Sin investments could be those securities that are incompliant with either the qualitative screens (Sin stocks) or with the different financial screening criteria (MS) (see Chapters 5 and 6). This thesis, however, seeks to address these gaps in the Islamic investment literature.

### **3.6 Summary**

This chapter has investigated the relevant literature on the screening and performance of ethical and Islamic-based investments as a subset of ethical and faith-based funds.

A number of key findings have emerged from this chapter. First, the various prior studies on the performance of ethical and Islamic investments do not provide clear evidence as to whether restricting the asset universe leads to inferior portfolio performance as suggested by MPT. Second, despite the growth of the Islamic funds industry, few empirical studies have emerged on the screening and performance of Islamic investments. As databases have become more comprehensive and available, more academic studies have been published during recent years and are expected to grow further in the future. Nevertheless, the literature does not define or measure the performance of pure *Halal* companies that are targeted by many religious-based investors, at least in GCC region. Moreover, the performance of 'sin' stocks from a *Shariah* perspective is also not explored yet. Fourth,



investing in Muslim countries, especially the GCC countries, may enhance the risk-adjusted performance of *Halal*-based investments as they would benefit from the availability of *Halal* stocks especially in the financial sector. Fifth, the different ethical and *Shariah* screens may result in discrepancies in asset universe size, asset allocation across sectors and return and risk characteristics. Sixth, as a result of the ethical and *Shariah*-based screens, empirical evidence indicates that such portfolios are biased toward the companies' size and sector. This is expected to affect the sensitivity of research findings to the benchmark index used to evaluate the performance of ethical and Islamic funds. Thus, many studies on ethical funds' performance employ the matched pair approach to overcome the benchmark problem, while only one published study on Islamic funds follows a matched pair approach but in a narrow manner. Seventh, empirical evidence documents that it is not only lack of diversification caused by screens that negatively affect the performance of ethical and Islamic funds, but also the fund manager's stock selection and market timing skills that affect their ability to beat the market consistently. Therefore, it is important to create hypothetical portfolios to control for this when measuring the impact of screening criteria on performance. Eighth, there is some evidence indicating that traditional portfolio evaluation measures that use interest-based instruments in their calculation are biased against Islamic portfolios. Hence, there is a need to incorporate *Shariah* alternatives, stimulated by the growth of Islamic finance and investment industry. Finally, prior studies use data of Islamic funds or indices, or when creating *Shariah*-compliant portfolios rely on ready-screened lists or the dataset platforms offered by *Shariah* screening providers. In addition, none of these studies update portfolios' assets and rebalance them over the sample period. This thesis, therefore, builds on the literature reviewed in this chapter and fills the gaps in the Islamic investment literature in the empirical chapters 5-8. The following chapter outlines the research methodology and methods.

## **Chapter 4: Research Methodology and Methods**

## **4.1 Introduction**

Chapter 1 discussed the research problems and outlined the main objectives of this study. Chapter 2 describes the investment environment of the *Halal* and non-*Halal* stocks in the GCC region with an emphasis on Kuwait, and a background of the Islamic funds in the GCC and Kuwait is elaborated in the chapter. Chapter 3 reviews in detail the main literature and the theoretical framework driving this study. These three chapters provide a solid background for the methodological assumptions and the research methods that will be adopted for this study. Therefore, the objective of this chapter is to determine the nature of social science research, the assumptions grounding the views about society, the research paradigm used and, finally, the methods utilized for the data collection and analysis.

The chapter begins with section 4.2 and a discussion of various philosophical assumptions underpinning the four research paradigms outlined by Burrell and Morgan (1979). Section 4.3 identifies and justifies the research paradigm and methodology chosen for this current study based on the research objectives. Section 4.4 outlines the qualitative and quantitative research methods selected for this study, namely: (i) semi-structured interviews with a number of key stakeholders in the Islamic funds industry in the gulf cooperation countries (GCC); (ii) content analysis; and (iii) an analysis of the performance of *Halal* and non-*Halal* equity portfolios of companies listed on the KSE, while section 4.5 concludes the chapter.

## **4.2 Philosophical Assumptions and Research Methodology**

Collis and Hussey (2009) argue that there is no consensus in the literature about how research is defined. Nevertheless, from the many definitions provided, there is a general agreement that research is “(i) a process of inquiry and investigation, (ii) systematic and methodological, and (iii) increases knowledge” (Collis and Hussey (2009, p.3). The most comprehensive and poignant definition of research is cited in Webster’s Dictionary of English Language (1961):

“A studious inquiry or examination, especially a critical and exhaustive investigation or experimentation having for its aim the discovery of new facts and their correct interpretation, the revision of accepted conclusions, theories, or laws in the light of newly discovered facts or the practical application of such conclusion, theories, or laws” (p.1930)

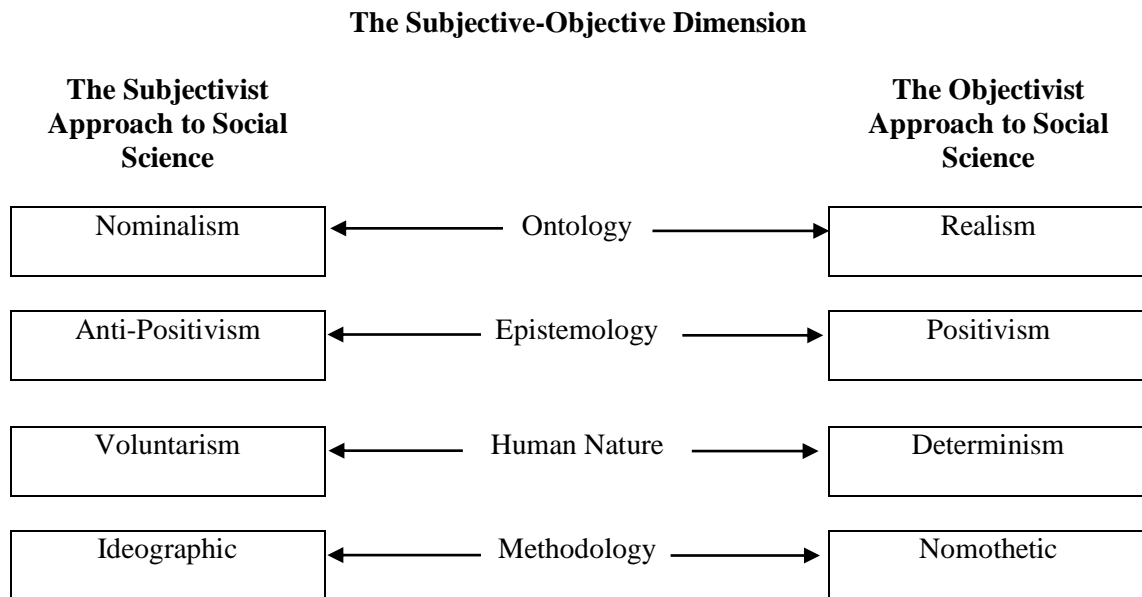
According to this definition of research, the main elements are the discovery of new facts through analysis, interpretations and the practical application of the conclusions. Saunders et al. (2009, p.5) define research as “something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge [about the phenomenon under study]”. However, most authors in the area of research methodology believe that researchers also bring their own perspectives of the world to their research that is under investigation (Sayer, 1992; Punch, 2001; Creswell, 2009; Jonker and Pennink, 2010). Collis and Hussey (2009) argue that research means different things to different people. This is because researchers approach their subject via explicit or implicit assumptions about the nature of the social world and the way to investigate it (Burrell and Morgan, 1979; Chua, 1986; Sayer, 1992). These philosophical assumptions influence the practice of research, hence leading the process of collecting data, investigation, analysis and interpretation of the findings (Ryan et al., 2002; Creswell, 2009). Burrell and Morgan (1979) built a philosophical framework for social science research based on two principal dimensions: (i) assumptions about the nature of science in terms of the subjective-objective aspect; and (ii) assumptions about the nature of society in terms of the regulation-radical change dimension.

#### **4.2.1 Assumptions about the Nature of Social Science**

Burrell and Morgan (1979) identified four separate assumptions related to the nature of social science that determine researchers’ investigation and the way in which they view the world, namely: (i) ontology; (ii) epistemology; (iii) human nature; and (iv) methodology. Each of these four elements represents two philosophical positions in terms of the

subjective-objective dimension. Figure 4.1 presents the schematic diagram of Burrell and Morgan (1979) that illustrates these four assumptions from the subjective-objective dimension.

**Figure 4.1: Assumptions about the Nature of Social Science**



Note: this figure shows Burrell and Morgan's (1979) scheme for analyzing assumptions about the nature of social science research from the subjective-objective dimension.  
 Source: Burrell and Morgan (1979, p. 3).

Figure 4.1 shows that Burrell and Morgan (1979) established that the assumptions about the nature of social science vary according to the subjective or objective approach adopted while the ontological and epistemological standpoints shape the researcher's view of human nature that, in turn, will inform the choice of methodology to be used in the research undertaken. The ontological assumption is related to how the researcher views reality and the nature of being, and whether reality exists by itself, independently of individuals, or if it is a product of individuals' consciousness (Burrell and Morgan, 1979; Chua, 1986; Sayer, 1992; Creswell, 1998; Ryan et al., 2002; Saunders et al., 2012). Thus, according to Burrell and Morgan (1979), the subjectivist approach is known as 'nominalist', perceiving the social world as not real and assuming that reality is a result of human imagination and

individual consciousness (Morgan and Smircich, 1980; Laughlin, 1995). This indicates that different individuals may arrive at different conclusions about the same phenomenon. In contrast, the objectivist approach, described as ‘realist’, assumes that the external world is structured, composed of hard, tangible facts, regardless of how they are labeled or perceived by individuals, and hence reality is waiting to be discovered. This suggests that different individuals will arrive at the same conclusion about the studied phenomenon.

Ontological assumptions are related to epistemological assumptions, which are concerned with the nature of knowledge (Chua, 1986; Ryan et al., 2002; Creswell, 1998). Burrell and Morgan (1979) indicate that epistemology addresses the question of “how one might begin to understand the world and communicate this as knowledge to fellow human beings” (p. 1). Crotty (1998, p.3) describes epistemology as “the theory of knowledge embedded in the theoretical perspective and thereby in the methodology”. Figure 4.1 shows that subjective researches follow the ‘anti-positivist’ approach, believing that knowledge about the social world is soft, subjective and intuitive, and can only be understood and obtained by individuals’ involvement and personal experience (Hopper and Powell, 1985; Crotty, 1998). On the other hand, ‘positivist’ researchers “seek to explain and predict what happens in the social world by searching for regularities and causal relationships between its constituent elements” (Burrell and Morgan, 1979, p.5).

The third research assumption about the nature of social science, presented in Figure 4.1, is the human nature assumption that is concerned with the association between human beings and their environment (Burrell and Morgan, 1979). The assumptions about human nature are influenced by the prior ontological and epistemological assumptions. Burrell and Morgan (1979) outlined two extreme positions to explain human nature: determinism; and voluntarism. Following the subjective approach, ‘voluntarists’ assume that human beings are autonomous and free-willed, and act voluntarily in creating the social world whereas, from the objectivist standpoint, ‘determinists’ view individuals and their activities as being

determined by the situation or environment in which they are located (Burrell and Morgan, 1979). Between these two extreme positions, Burrell and Morgan (1979) also argued that it is likely to “adopt an intermediate standpoint which allows for the influence of both situational and voluntary factors in accounting for activities of human beings” (p. 6).

The outlined sets of assumptions related to ontology, epistemology, and human nature have direct implications for the research methodology adopted (Burrell and Morgan, 1979; Hopper and Powell, 1985; Chua, 1986; Laughlin, 1995; Collis and Hussey, 2009). Therefore, as asserted by Ryan et al. (2002), “the selection of an appropriate research methodology cannot be done in isolation of a consideration of the ontological and epistemological assumptions which underpin the research in the question” (p. 35). Leedy (1993) describe methodology as “an operational framework that within which the facts are placed so that their meaning may be seen more clearly” (p.121). Crotty (1998) defines methodology in a more comprehensive way as “the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes” (p.3). Hence, the research methodology and research method are distinctive from each other. A methodology is an approach to the process of conducting research within the context of a particular paradigm, while a method is a technique for collecting and/or analyzing data (Cuba and Cocking, 1997; Collis and Hussey, 2009). Equally, Jonker and Pennink (2010) describe a methodology as a domain or map, whereas a method refers to a set of steps needed to travel between two places on the map. The methodological assumptions lead and justify the methods which are the techniques used in the research (Leedy, 1993; Creswell, 1998; Ryan et al., 2002; Collis and Hussey, 2009). Figure 4.1 shows that the subjectivist approach employs the ideographic methodology, believing that the social world can only be understood by “getting inside situations and involving oneself in the everyday flow of life” and focuses on “obtaining first-hand knowledge of the subject under investigation” (Burrell and Morgan, 1979 p.6),

using qualitative methods to acquire knowledge, such as interviews and case studies (Ryan et al., 2002). Alternatively, following the objective approach, Burrell and Morgan, (1979 p6-7) affirm that a ‘nomothetic’ methodology:

“focuse[s] upon process of testing hypothesis in accordance with the canons of scientific rigour. It is preoccupied with the construction of scientific tests and the use of quantitative techniques for the analysis of data. Surveys, questioners, personality tests and standardized research instruments of all kinds are prominent among the tools which comprise nomothetic methodology”.

Similarly, Cuba and Cocking (1997, p92) argue that quantitative methods “are useful when the goal of the study is to represent some phenomenon numerically.” while they highlighted that “qualitative methods are best suited to answering questions about social organization and process.” (p.93).

#### 4.2.2 Assumptions about the Nature of Society

The second principal dimension introduced by Burrell and Morgan’s (1979) framework is related to the assumptions about the nature of society which is being investigated. They suggested two distinct views regarding the structure of social society. One is ‘regulation sociology’ and the other is ‘radical change sociology’, and the difference between these two approaches is highlighted in Table 4.1.

**Table 4.1: The Regulation-Radical Change Dimension**

The Sociology of Regulation is Concerned with:	The Sociology of Radical Change is Concerned with:
(a) The status quo	(a) Radical change
(b) Social order	(b) Structural conflict
(c) Consensus	(c) Modes of domination
(d) Social integration and cohesion	(d) Contradiction
(e) Solidarity	(e) Emancipation
(f) Need satisfaction	(f) Deprivation
(g) Actuality	(g) Potentiality

Source: Burrell and Morgan (1979, p. 18)

The first approach provides an explanation of the elements of social science that regulate human activities and maintain social order. Burrell and Moran (1979) outlined that:



“A sociology which is essentially concerned with the need for regulation in human affairs; the basic questions which it asks tend to focus upon the need to understand why society is maintained as an entity. It attempts to explain why society tends to hold together rather than fall apart.” (p.17)

The sociology of radical change, by contrast, refers to sociology which is essentially concerned with finding explanations for structural conflict and contradiction, emancipation, and modes of domination, potentiality leading to radical change (Burrell and Morgan, 1979). Table 4.2 highlights the differences between the two positions of the regulation-radical change dimensions as offered by Burrell and Morgan (1979).

### **4.2.3 Research Paradigms**

Kuhn (1962) was the first to introduce the concept of research paradigms, or worldviews as described by Creswell (1998, 2009). Kuhn (1962) stated that “paradigms are universally recognized scientific achievements that for a time provided model problems and solutions to community of practitioners” (Kuhn, 1962, p. x). In addition, Kuhn (1970)<sup>92</sup> outlines that the term ‘paradigm’ is used in two different senses, first “it stands for the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (p. 175). Second, “it denotes one sort of element in that constellation, the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science.”(p.175). Kuhn’s definition, implicitly indicated that there is more than one paradigm providing a set of beliefs to understand and solve research problems. Correspondingly, but in more detail, Bryman (2008) defines the term paradigm as being used “to describe a cluster of beliefs and dictates that for scientists in a particular discipline influence what should be studied, how research should be done, and how results should be interpreted” (pp.696-697). Furthermore, Collis and Hussey (2009) offer a more specific definition of a research paradigm as

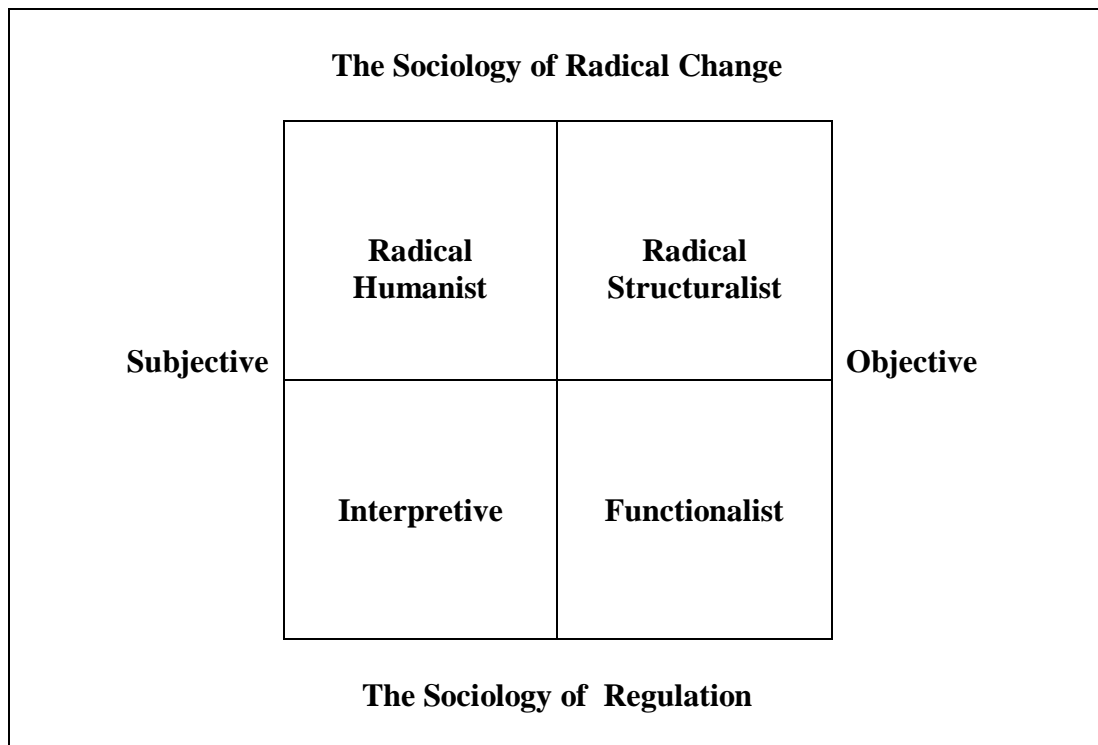
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<sup>92</sup> This is a second edition of Kuhn’s (1962) book, where he added a postscript from pages 174-210.

follows: “the process of scientific practice based on peoples’ philosophies and assumptions about the world and the nature of knowledge” (p.55). They indicate that these paradigms “offer a framework comprising an accepted set of theories, methods and ways of defining data” (p. 47) and is a way of examining the social phenomena from which a particular understanding of these phenomena can be gained and an explanation attempted (Morgan and Smirch, 1980; Saunders et al., 2012). Thus, such research paradigms “provide a tool for establishing where you are, where you have been and where it is possible to go in the future” (Burrell and Morgan, 1979 p.24).

By combining the assumptions about the nature of science in terms of the subjective-objective dimension (Figure 4.1) and the assumptions about nature of society in terms of the regulation-radical change dimension (Table 4.1), Burrell and Morgan (1979) developed four distinct research paradigms that underlie all social research. These four mutually exclusive paradigms are: (i) the functionalist, interpretive, radical humanist and radical structuralist as presented in Figure 4.2.

**Figure 4.2: Four Paradigms underlying Social Research**



Note: this figure shows Burrell and Morgan’s (1979) four paradigms for the analysis of social research. The subjective-objective dimension is shown on the horizontal axis and the sociology of regulation- radical change is shown on the vertical axis. Source: Burrell and Morgan (1979, p. 22)

Each research paradigm shown in Figure 4.2 represents a scientific practice based on the research philosophies and assumptions that guide researchers' inquiries (Creswell, 1998; Johnson and Duberley, 2000; Collis and Hussey, 2009). The functionalist paradigm located in the bottom-right quadrant of Figure 4.2 combines an objectivist view of the social world with a concern for the sociology of regulation (Johnson and Duberley, 2000; Ryan et al., 2002). Researchers located in this paradigm follow a realist ontology, a positivist epistemology, a deterministic model of human nature, and a nomothetic methodology. Furthermore, the sociology of regulation perspective is adopted, as the functionalist paradigm seeks to "provide explanations of status quo, social order, consensus, social integration, solidarity, need satisfaction, and actuality" (Burrell and Morgan, 1979, p. 26). Thus, functionalists view research as concrete real-world relations holding regularities and causal relationships that are amenable to scientific explanation and prediction (Johnson and Duberley, 2000; Ryan et al., 2002). This paradigm tends to be dominant in much of the accounting and finance research since the 1970s (Burton, 2007), for instance: Al-Abdulqader (2003), McClusky (2005), Middleton (2006), Tijjani (2008), Xu (2010), Khan (2011), Al-Mujamed (2011), and Khan (2012).

The interpretive paradigm located in the bottom-left quadrant of Figure 4.2 is similar to the functionalist paradigm in its assumptions about the sociology of regulation; however, it differs from the functionalist paradigm as it approaches its subject from a subjectivist standpoint, adopting a nominalist ontology, an anti-positivist epistemology, a voluntarist model of human nature, and an ideographic methodology, viewing the social world from the perspective of the actors involved in it (Saunders et al., 2012). The interpretive paradigm is interested in understanding the world without necessarily changing it (Burrell and Morgan, 1979).

The radical humanist paradigm, located in the top-left quadrant of Figure 4.2, is built upon the subjective dimension and sociology of radical change. Hence, this paradigm shares

subjective assumptions about social science with the interpretive paradigm. Thus, it views the world from the position of nominalist ontology, an anti-positivist epistemology, a voluntarist view of human nature, and an ideographic methodology but, as the radical humanist is located within the sociology of radical change, it stresses radical change, modes of domination, emancipation, deprivation, and potentiality (Burrell and Morgan, 1979). The radical humanist paradigm has the opposite assumptions concerning the nature of social science and society from the functionalist one. Saunders et al. (2012) assert that the radical humanist paradigm assumes a critical perspective on organizational life.

Finally, the radical structuralist paradigm, located in the top-right quadrant in Figure 4.2, is characterised by assumptions about the sociology of radical change from an objectivist standpoint. Therefore, the radical structuralist paradigm “is committed to radical change, emancipation, potentiality, structural conflict, modes of domination, contradiction, and deprivation” (Burrell and Morgan, 1979, p. 34). But, as this paradigm follows the objective dimension similar to the functionalist paradigm, it tends to adopt a realist ontology, a positivist epistemology, a deterministic view of human nature, and a nomothetic methodology.

Indeed, Burrell and Morgan’s (1979) framework has underpinned much accounting and finance research (Hopper and Powell, 1985; Chua, 1986; Laughlin, 1995; Holland, 2001; Ryan et al., 2002; Saunders et al., 2012). Nevertheless, the widespread use of Burrell and Morgan’s (1979) paradigms has not been without criticism (Hopper and Powell, 1985; Chua, 1986; Boland, 1989; Laughlin; 1995; Deetz, 1996; Tashakkori and Teddlie, 1998; Modell, 2010). Deetz (1996) argued that Burrell and Morgan’s paradigms have obscured the crucial differences in research orientations which may lead to poorly formed discussions about research findings. The main criticism of Burrell and Morgan (1979) framework is due to the paradigms being mutually exclusive and the constraints that this imposes on researchers (Chua, 1986). Burrell and Morgan (1979) indicate that “one cannot

operate in more than one paradigm at any given point in time, since in accepting the assumptions of one, we defy the assumptions of all the others” (p. 25). Chua (1986) described the mutually exclusive feature of Burrell and Morgan’s paradigms as “unsatisfactory dichotomies” (p. 626), arguing that their assumptions do not form mutually exclusive dichotomous paradigms. She suggested an alternative framework based on three sets of beliefs: (i) beliefs about knowledge; (ii) beliefs about the physical and social reality; and (iii) the relationship between theory and practice (Chua, 1986). Hopper and Powell (1985) and Chua (1986), therefore, merged the radical humanist and radical structuralist paradigms into one, critical paradigm, because they believed that researchers could adopt more than one paradigm at a time and could adopt an intermediate standpoint (see also: Jick, 1979; Hopper and Powell, 1985; Chua, 1986; Boland, 1989; Laughlin, 1995; Punch, 2001; Modell, 2010; Loo and Lowe, 2011). Indeed, Jick (1979) argued that the cross paradigm approach was beneficial if it worked best in addressing the research problem. In addition, Boland (1989) criticised the separation between the subjective and objective dimensions when setting assumptions about the nature of social science. Thus, instead of starting with ontological and epistemological assumptions, many authors start off with the research question and what they are trying to find out in order to define their research framework (Jick, 1979; Leedy, 1993; Tashakkori and Teddlie, 1998; Punch, 2001; Bryman, 2006; Loo and Lowe, 2011). This approach follows a pragmatic paradigm that advocates employing “whatever philosophical and/or methodological approach works for the particular research problem under study” (Tashakkori and Teddlie, 1998, p. 5). Pragmatists focus on the research problem and use all available methods to understand it (Puchn, 2001; Rocco et al., 2003). Burton (2007) asserts that “qualitative research methods have played an important role in investigations of issues that do not fall under any common understanding of the behaviour notion” (p.8). Hence, many authors favour mixing quantitative and

qualitative methods to achieve the benefit of triangulation<sup>93</sup> and enable them better to understand the social reality and contribute towards validating the research findings (Jick, 1979; Eisenhart, 1989; Smith, 1991; Rocco et al., 2003; Modell, 2005, 2010; Loo and Lowe, 2011). Eisenhart (1989) asserted that ‘triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses’ and “the combination of data types can be highly synergistic” (p.538). This is because, he argued, “overlapping data analysis with data collection not only gives the researcher a head start in analysis but, more importantly, allows researchers to take advantage of flexible data collection” (p.539). Triangulation evolved to comprise using multiple data collection and analysis methods, and multiple data sources (Denzin, 1978; Jick, 1979) in order to overcome the intrinsic bias that emerges from adopting single-methods, single-observer, and single theory studies (Eisenhart, 1989). As stated by Smith (1991, p.482):

“We must use all available data weapons of attack, face our problems realistically and not retreat to the land of fashionable sterility, learn to sweat over our data with an admixture of judgment and intuitive rumination, and accept the usefulness of particular data even when the level of analysis available for them is markedly below that available for other data in the empirical area.”

In contrast to Burrell and Morgan (1979), who believed that quantitative and qualitative methods stem from different ontological and epistemological assumptions, it is argued that mixed methods could be used in the same research or across paradigms (Collis and Hussey, 2009). For example, although quantitative studies in the field of finance are located in the functionalist paradigm, this does not mean that qualitative methods are restricted to the interpretive paradigm or cannot be located in the functionalist paradigm (Burton, 2007; Collis and Hussey, 2009; Modell, 2010). Mixed methods are widely discussed and used in the social sciences (Denzin, 1978; Jick, 1979; Eisenhart, 1989; Smith, 1991; Leedy, 1993; Laughlin; 1995; Deetz, 1996; Tashakkori and Teddlie, 1998; Rocco et al., 2003; Creswell,

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<sup>93</sup> Triangulation is defined by Denzin (1978) as "the combination of methodologies in the study of the same phenomenon" (p.291).

2009; Modell, 2010; Grafton et al., 2011).<sup>94</sup> In particular, qualitative methods are employed in several finance studies, such as Mallin (1995), Helliard et al., (2000), Holland (2001), Kreander (2002), Al-Abdulqader (2003), McClusky (2005), Middleton (2006), Burton (2007), Tijjani (2008), Xu (2010), Khan (2011), Al-Mujamed (2011). The next section outlines the philosophical assumptions underpinning the current research and section 4.4 then discusses the research methods in this thesis.

### **4.3 The Research Objectives and Philosophical Assumptions Underpinning the Present Study**

As outlined in Chapter 1, the primary purpose of this study is to increase our knowledge and understanding of the issues associated with the creation and performance assessment of the *Halal* and non-*Halal* portfolios of securities listed on the KSE in order to investigate whether Islamic funds, and religious and ethically driven investors bear any financial penalty in order to comply with their values. This study examines the impact of using different screening methods on the creation and hence performance of *Halal* portfolios. Furthermore, the thesis explores the impact of making the screening ‘tighter’ and ‘stricter’ on the choice of securities in *Halal* portfolios, to investigate whether it is possible to move towards pure *Halal* investments without compromising performance. Finally, this thesis seeks to discover whether the *Shariah*-compliant classification of stocks, firm size, sector or global financial crisis (GFC) period affect performance. Therefore, if there is no significant penalty for PH investments, having ‘stricter’ *Shariah*-compliant portfolio, and the *Shariah* classification of stocks does not affect performance, then there is a valid reason for *Shariah* scholars to justify banning investment in MH stocks based on current screens (see Chapters 1 and 5).

In light of the above mentioned research objectives and the discussion in section 4.2 regarding Burrell and Morgan’s (1979) framework, the current investigation does not seek

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<sup>94</sup> See Grafton et al. (2011) and Malina et al., (2011) for more details about the the opportunities, challenges advantages, and disadvantages of mixed methods research.

to change the status quo, as it is interested in studying the impact, rather than trying to change, the current situation regarding *Halal* investments. Hence, the radical humanist and radical structuralist paradigms are eliminated as they are located within the sociology of radical change. Johnson and Duberley (2000) affirm that “by accepting the assumptions that underpin the sociology of regulation, that assumption that constitutes the sociology of radical change is denied and vice versa” (p. 79). However, the research may provide some insights that could have policy implications for changing the current practice of Islamic funds management, but such implications are as a result of the research rather than a targeted objective. Therefore, by denying the underlying assumptions of the radical humanist and radical structuralist paradigms, the researcher accepts the assumptions of the functionalist and the interpretive paradigms. In addition, the researcher assumes that there is a concrete reality; knowledge is gained through the study of tangible ‘real’ information, as accounting and stock prices data are real hard data. Further, listed securities are real, hard, factual investments for investors who are social human beings; hence, the realist ontology and a positivist epistemology are followed.

Islamic investment principles are derived from the *Qur’an* and *Sunnah* which are available in hard copy, and are read by millions of people. This presents an objectivist ontology and epistemology standpoint followed by Muslims, and as the sources of *Shariah* that regulates all matters related to the lives of Muslims, including economic and investment issues (Chapra, 2000; Al-Qaradawi, 2005; Kamil, 2011). Therefore, these religious and ethical guidelines are assumed to be deterministic as humans that are Muslims are not completely free-willed and independent to do as they like. Further, Islamic funds (and Islamic companies) are governed and guided by *Shariah* principles in setting up their investment decisions; hence, they appoint *Shariah* scholars to SSBs (Delorenzo, 2007; Karim, 2001). SSBs play a vital role in this context in clarifying and explaining the guidelines, and work with investment decision makers in Islamic funds or investment companies to ensure



adherence to *Shariah* guidelines (Delorenzo, 2007). Similarly, Muslim investors should follow such *Shariah* guidelines and are not free to invest in any stock in the market, and avoid investing in ‘sin’ stocks, as defined by *Shariah*. In addition, Muslim investors are not allowed to short sell stocks because, in *Shariah*, the commodity must be owned by the seller at the time of sale (Usmani, 2005). Nevertheless, at the same time, *Shariah* does not reject the subjectivist ontology and epistemology standpoint, because there is also evidence in the *Qur’an* that everything we perceive as being real is as a result of our own experiences (Kamil, 2011). For instance, Allah noted in the *Qur’an*, as translated by Assad (2008, p.383):

“And God has brought you forth from your mothers’ wombs knowing nothing - but He has endowed you with hearing, and sight, and minds, so that you might have cause to be grateful” (16:79).

Thus, this verse shows that humans come into the world without any knowledge but, over time, they acquire knowledge from experience through the sense of hearing, seeing and feeling. Kamil (2011) argues that:

“Islam [is] between the two extremes of both objectivist-subjectivist epistemology, and realist-subjectivist ontology. It is worth noting that Muslims use the epistemology of Allah to know His ontology. The main source of knowledge is the *Qur’an* and the *Sunnah* through which we get to acquire the knowledge of Allah (epistemology) which will in turn, lead us to know His existence (ontology) as the sole Creator via His Creation” (p.72).

This highlights the importance of legal reasoning or providing *Shariah* rulings on issues that are not categorically mentioned in the *Qur’an* and the *Sunnah* text, called the *Ijtihad* (see Chapter 1) because the *Qur’an* and *Sunnah* texts are limited and cannot cover all and the daily issues unlimited (Al-Qaradawi, 2005; Bakar, 2008).<sup>95</sup> Therefore, the *Shariah* jurists developed an elaborate methodology within *Shariah* jurisprudence or *Fiqh*, which refers to the science of Islamic law extracted from detailed Islamic sources and the process of gaining knowledge of Islam through jurisprudence (*Fiqh* Encyclopedia, 1995, vol. 32,

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<sup>95</sup> See Chapter 3 for more details.

p.193). Hence, four schools of thought emerged in the early history of Islam, as discussed in the chapter 1. Furthermore, Delorenzo (2007) highlights that the dynamic of *ijtihad* inherent to *fiqh* helps *Shariah* scholars to build upon the theoretical constructs. Indeed, the main guidelines for Islamic investment are mentioned in the *Qur'an* and *Sunnah* (see Chapter1). However, there are other *Shariah* issues related to investing in the stock market that are not covered by either the *Qur'an* or *Sunnah*, such as: investing in mixed companies<sup>96</sup>; how to define the non-compliant screening threshold level if such mixed investment is perceived to be *Halal*; how to purify non-compliant earnings; and the use of interest-based instruments (T-bonds) in measuring the performance of *Halal* portfolios. Despite this, the current thesis does not examine these *Shariah* issues in depth, but accept them and investigates their impact on the performance of *Halal* portfolios in Kuwait.

Therefore, in order to undertake this research and achieve its aims, this thesis adopts the realist ontology, a positivistic epistemology, a deterministic view of human nature, and a nomothetic methodology. Hence, it is rooted in the functionalist paradigm of Burrell and Morgan's (1979) matrix. Moreover, modern portfolio theory seems to be appropriate for the research objectives and the functionalist paradigm as this theory accepts the status quo and the objectivist approach for understanding the assumptions about the nature of social science and provides a framework for understanding and evaluating the return and risk characteristics of both *Halal* and non-*Halal* portfolios.

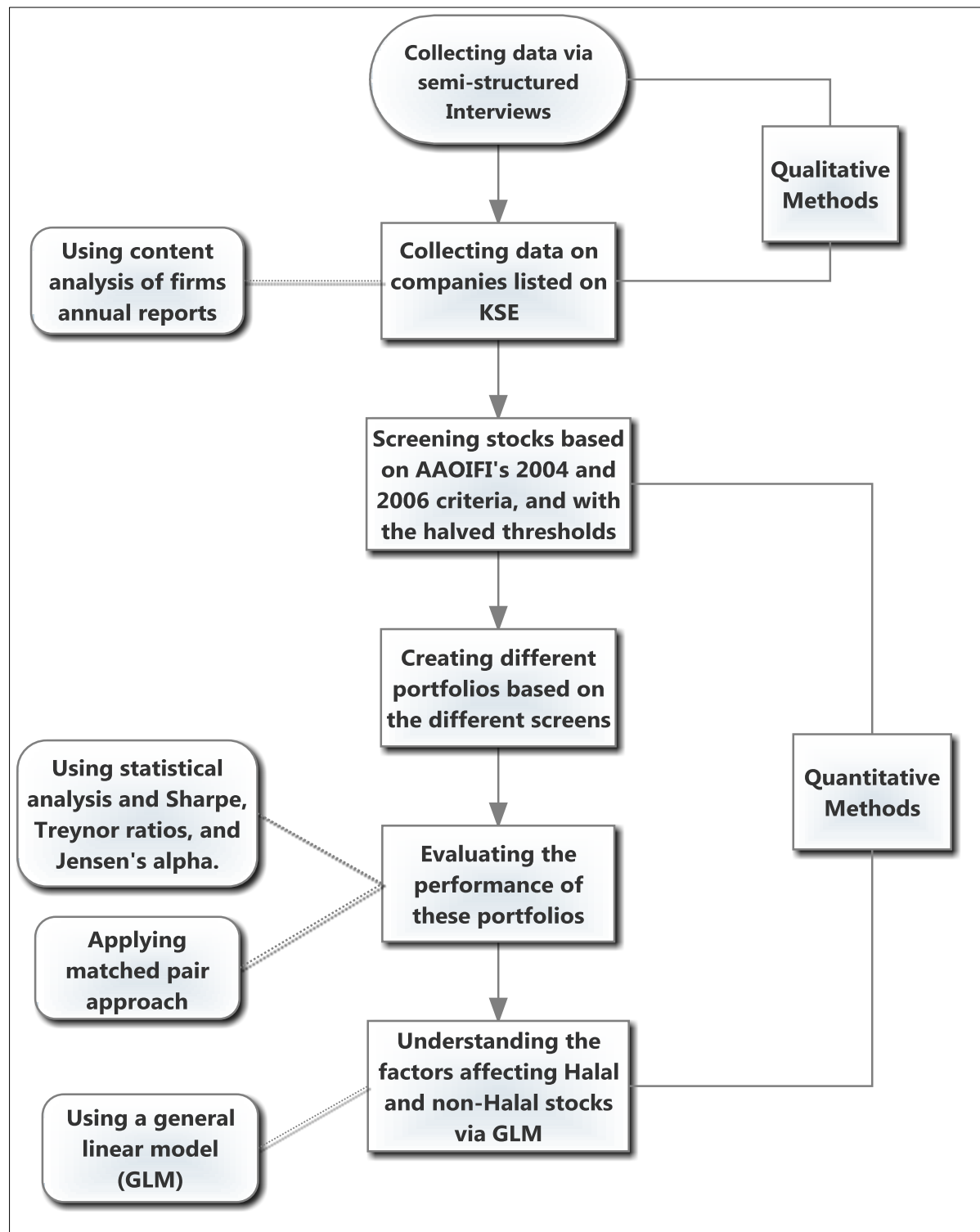
Unlike the mainstream literature that studies the performance of Islamic funds using readily available data, as reviewed in the previous chapter, this study creates its own *Halal* and non-*Halal* portfolios based on different screening criteria that are currently used in the Islamic funds industry in the GCC, and in Kuwait in particular. It then examines the impact of using different screening criteria on the performance of *Halal* portfolios and the

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<sup>96</sup> Mixed companies are those whose core activities are permitted by *Shariah*, but there are other activities that may contain a small extent of prohibited elements (AAOIFI *Shariah* standard, 2004, 2006; Al-Shubali, 2005).

reduction in the screening tolerance thresholds in order to come closer to ‘sin’ free investments. In order to meet these above objectives, the research is divided into six strands of empirical work that are arranged in chronological order as shown in Figure 4.3.

**Figure 4.3: The Chronological Order the Empirical Work**



Note: This figure shows the steps and methods followed by the researcher in a chronological order to achieve the research objectives.

Figure 4.3 outlines the sequence of the empirical work with the methods used to achieve the research objectives as follows. First, due to the dearth of literature on this relatively new discussed issues, information was gathered via a series of interviews with 58 key figures in the Islamic investment funds industry in the GCC, particularly Kuwait (Chapter 5). These interviews took place over the period January to March 2011. They were essential to pilot, define the scope, and design the quantitative empirical work. This is accordingly to Borg and Gall (1986) who highlighted that qualitative methods such as interviews are suitable for studying new phenomena and generating hypotheses which is applicable to the current study. The second piece of empirical work (Chapter 6) involves a content analysis to collect the necessary data, based on the feedback obtained from the interviews, to create 19 hypothetical portfolios based on different screening strategies. Specifically, a content analysis of the annual reports of companies listed on KSE and the companies' websites is used to collect the data required for the *Shariah* screening; this is then used to create the different hypothetical portfolios. The process of collecting and preparing the data to conduct the screening consumed two months from December 2011 to January 2012 and the screening process and creating the portfolios took another three months from February to April 2012. The third part of the study (Chapter 7) undertakes portfolio performance evaluation measures to determine the return and risk characteristics of the portfolios created in Chapter 6 to examine whether their performance is significantly different between the *Halal* and non-*Halal* portfolios. Chapter 7 also examines the impact of using an appropriate *Shariah*-compliant alternative to the risk-free rate when measuring the risk-adjusted performance of *Halal* portfolios. To measure portfolios performance, the chapter uses statistical tests and risk-adjusted performance measures, namely Treynor ratio (Treynor, 1965), the Sharpe ratio (Sharpe, 1966) and the Jensen-alpha (Jensen, 1968). The final empirical chapter in this study (Chapter 8), involves: (i) a matched pair approach to the portfolio creation to control for the size and sector of securities (creates additional 10

hypothetical portfolios); and (ii) a general linear model (GLM), fitted to the data to investigate the sources of variation in the return of *Halal* and non-*Halal* stocks in Kuwait, particularly to examine whether the *Shariah* classification of stocks, firm size, sector, and GFC period affect performance. Chapter 8 also uses Sharpe, Treynor ratios and Jensen's alpha to measure the matched pair portfolios.

The next section elaborates on the qualitative and quantitative research methods used in this study.

#### **4.4 Research Methods**

Although a mixed-methods approach is adopted, this thesis is primarily located in the functionalist paradigm, as is most finance research (Chua, 1986; Burton, 2007; Saunders et al., 2012; Modell, 2010). The functionalist assumptions underpin the quantitative methods that are used in conducting the empirical work. The use of semi-structured interviews is less functionalist oriented, adding an interpretative dimension to the analysis when evaluating the participants' views of the issues that arose during the interviews.<sup>97</sup> Hence, as affirmed by Bryman (2008), "The research interview is a prominent data-collection strategy in both quantitative and qualitative research" (p.193), and the vast majority of the questions were objective about what the interviewees' knew and how, why they did things and hence falls within the functionalist paradigm. For instance, the interviewees were asked about their practices regarding Islamic funds screening criteria and process, the types of *Halal* equity investments they included, the need to include mixed *Halal* stocks in Islamic funds, the sources of information they used for screening, Islamic funds' performance measures they employed, and other practical issues related to the performance of *Halal* investment, such as *Shariah*-compliant alternatives for calculating the performance of *Halal* portfolios.<sup>98</sup>

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<sup>97</sup> Such as asking the participants about aspects they undertake themselves such as their motives to invest in or offer Islamic funds, the need to include mixed Halal stocks, and *Shariah* alternatives for the risk-free rate.

<sup>98</sup> This strategy of using semi-structured interviews within the functionalist paradigm was followed by many researchers in the field of accounting and finance, such as Al-Abdulqader (2003), McCluskey (2005), Middleton (2006), Tijjani (2008), Khan (2011), AlMujamed (2011), and Khan (2012).

Although many authors have justified using different paradigms at the same time, as discussed in the previous section, this thesis finds Burrell and Morgan's (1979) assumptions regarding the nature of society and the social sciences useful in underpinning the philosophical assumptions, but since it uses both qualitative and quantitative methods, the researcher does not adopt extreme standpoints on the ontological and epistemological assumptions. Adopting a mixed method approach adds a triangulation element that is useful for the research, as the findings of one research method can confirm or contradict the results of another (Denzin, 1978; Jick, 1979; Leedy, 1993), as discussed above.

Having highlighted the philosophical assumptions of the current study in the previous section, this section details the qualitative and quantitative research methods. In particular, the main methods used include semi-structured interviews, content analysis, portfolio construction, statistical analysis, portfolio traditional performance measures, matched pair approach, and a General Linear Model (GLM). The following sub-sections describe each method, while more details, especially the quantitative methods, are provided in the related empirical chapters.

#### **4.4.1 Semi-Structured Interviews**

Denzin and Lincoln (2003) describe qualitative research broadly as “qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (p.5).

There are several ways to obtain qualitative data, including interviews, focus groups, ethnography, observation, and case studies (Borg and Gall, 1986; Denzin and Lincoln, 2003; Bryman, 2008; Berg, 2007).<sup>99</sup> Interviews are one of the most beneficial methods of data collection, as they help to generate rich insights into the interviewees' experiences,

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<sup>99</sup> Berg (2007, p.1) defines Ethnography as “the art and science of describing a group or culture”, while focus groups is a type of interview that involves more than one interviewee in the discussion to allow the researcher to explore many views at once, and measure the extent of agreement about topics among the interviewees (Bryman, 2008). See Bryman (2008, pp391-392) for details on the critique of qualitative research methods.

values, attitudes and feelings (Borg and Gall, 1986; Punch, 2001; May, 2011). Collis and Hussey (2009, p.144) define interviews as “a method for collecting primary data in which a sample of interviewees are asked questions to find out what they think, do or feel”. Primary data refers to sources of information gathered first hand by the researcher for the specific interest of the study, while secondary data refers to information collected from sources that already exist (Sekaran, 2003). Interviews are usually conducted through face-to-face interaction; however, telephone, email and video conferencing methods are also used (Sekaran, 2003; Denzin and Lincoln, 2003; Collis and Hussey, 2009). Interviews can be structured, semi-structured or unstructured (Denzin and Lincoln, 2003; Sekaran, 2003; May, 2011). Structured interviews are commonly used in surveys and opinion polls to facilitate the quantitative analysis of the responses; hence, the tone of this type of interview is not conversational but rather consists of questions requiring particular responses (Saunders et al., 2012). In this type of interview, the interviewer asks each question and then records the response based on a standardized schedule; hence, it does not allow any modification of, or flexibility within, the questions asked (Sekaran, 2003; Saunders et al., 2012). On the other hand, unstructured interviews are non-standardized, open-ended, do not require a predetermined list of questions; and provide the interviewee with an opportunity to talk freely about events and beliefs related to the research topic in more depth (Punch, 2001; Denzin and Lincoln, 2003; Saunders et al., 2012). This type of interview is valuable when a researcher seeks to understand complex behaviour or elicit the details of an individual’s life history (Punch, 2001; Denzin and Lincoln, 2003). The disadvantages of unstructured interviews are that they can be time consuming; it is difficult to control the range of topics and is hard to analyze the data (Collis and Hussey, 2009). Semi-structured interviews are located between these two types of interview, and are described by Bryman and Bell (2007) as follows:

“The researcher has a list of questions on fairly specific topics to be covered, often referred to as an interview guide, but the interviewee has a great deal of leeway in how to

reply. Questions may not follow on exactly in the way outlined on the schedule. Questions that are not included in the guide may be asked as the interviewer picks up on things said by interviewees. But, by and large, all of the questions will be asked and a similar wording will be used from interviewee to interviewee” (p. 474).

Semi-structured interviews were chosen for this research since the main objective in conducting interviews was to help define the scope of the empirical work to create and evaluate *Halal*-based portfolios. In addition, it was also hoped that they might provide some insights into practical *Shariah* issues underpinning *Halal* investment in GCC countries in general and in Kuwait in particular. Hence, semi-structured interviews were preferred over structured ones or a questionnaire survey because they could provide the interviewer with an opportunity to be flexible and adaptable, as he could alter the questions and vary them immediately (Borg and Gall, 1986). Moreover, semi-structured interviews consist of closed and open-ended questions, therefore eliciting reflective discussion rather than specific answers to structured questions (Punch, 2001; May, 2011). In addition, oral responses provide much more information than written ones, and they also allow follow-up questions or elaboration on certain responses made during the interview (Borg and Gall, 1986). Thus, semi-structured interviews were more suitable than unstructured ones for obtaining the required data, gaining sufficient insights into the particular topics under investigation, and ensuring that all of the questions were covered within the time constraints (Borg and Gall, 1986; Collis and Hussey, 2009). Furthermore, interviews help to reduce the potential errors arising from misunderstandings or confusion, as they allow the interviewer to repeat, rephrase or clarify any interview question to ensure that the interviewees fully understand it (Bryman, 2008), which is a significant advantage of interviews over other data gathering methods, such as questionnaires. However, interviews are time consuming and expensive to conduct and analyze, and it may be difficult to gain access to the appropriate interviewees (Collis and Hussey, 2009). Nevertheless, semi-structured interviews offer the best available method for collecting in-depth, focused information about the topics under investigation



(May, 2011; Saunders et al., 2012). Therefore, the first empirical work in this research (Chapter 5) involved undertaking semi-structured interviews with 58 key stakeholders in the Islamic funds industry in the GCC, mainly Kuwait. The researcher had no difficulty in arranging a large number of interviews, compared to other studies that use semi-structured interviews<sup>100</sup>, since the researcher works in the industry and had easy access to participants. This adds to the significance of this study, as it contributes to the lack of comprehensive investigation with this wide range of practitioners in the field of the Islamic funds industry. Being at the forefront of the Islamic fund industry is highly valuable for a thorough understanding of the examined issues, where some of them are investigated for the first time, contributing to our knowledge.

Many of the interviews were arranged prior to the research field trip to Kuwait. The interviews were conducted between January and March 2011. Fifty one of them were face-to-face interviews, conducted in Kuwait, while seven involved conference calls with interviewees in Egypt, Saudi Arabia, Bahrain, Qatar, and UAE. See Table 5.1 in the following chapter that summarizes the background details of the interviewees.

The interviewed stakeholders are categorized into three main groups, namely: (i) fund managers (FM); (ii) *Shariah* Scholars (SS), including SSB members and *Shariah* auditors; and (iii) others, comprising investors, index providers, and regulators.

The majority of interviewees have a higher education (either a Master's or PhD degree). For instance, 20 of the interviewees (34.4%) had a PhD degree, most of whom were in the SS group, and 26 (44.8%) had a Master's degree. The bulk of the interviews were conducted in Kuwait city, where most Kuwaiti corporate and financial activities are located.

The interview process began with the selection of available key figures in the Islamic funds industry in Kuwait and from few countries in the region. FMs interviewees represented

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<sup>100</sup> The similar study had only interviewed 7 Islamic fund managers.

85% of the Islamic equity fund managers in Kuwait (22 out of 26) including fund managers of all (100%) six pure Islamic equity funds offered by the largest Islamic and conventional investment companies in Kuwait. In addition, the interviewees cover all five Islamic index providers in Kuwait and the largest Islamic index and screening provider in the Middle East. They also cover all (100%) four *Shariah* list providers in Kuwait, including the two largest *Shariah* consulting companies in Kuwait, thus capturing 100% of the Islamic indices and list providers. Additionally, interviews were conducted with the twelve most active *Shariah* scholars in the GCC, who are also *Shariah* board members across the globe. Three of these are ranked among the top ten scholars in the world; these top ten scholars hold 450 out of the 1141 SSB positions available, representing 40% of the Islamic finance industry worldwide (Zawya report, 2011). These twelve *Shariah* board members are also members of the Higher Consultant Committee for the Application of *Shariah* law in Kuwait (HCCAS), the AAOIFI in Bahrain, the S&P global Islamic index, the Islamic Development Bank in Saudi Arabia, and the International Islamic *fiqh* Academy. Overall, they represent the bulk of the *Shariah* scholars' population in both Kuwait and the GCC. The same applies to the ten *Shariah* auditors working in six Islamic institutions in Kuwait, and the other four *Shariah* auditors spread over the UAE, Qatar, Bahrain, and Saudi Arabia. Furthermore, interviews were conducted with representatives of three regulatory bodies in Kuwait, the CBK, the KSE, and the CMA. Thus, the interviewees represent nearly all of the institutions, *Shariah* scholars involved in the *Halal* investment industry in Kuwait and, hence, to some extent, the findings of these interviews are generalizable, and fit with the functionalist paradigm of this research.

To prepare for the interviews, a set of questions were written in English and then translated into Arabic after consulting with three academics from Kuwait University, to stimulate discussion and ensure that the interview process would collect all of the information required. A mixture of both closed and open ended questions were used; however,

following a functionalist model, the majority of the questions were close ended, requiring short answers in order to explore the research questions and increase the comparability of responses, thus allowing statistical summarization. Nevertheless, the open ended nature of some of the interview questions grants some flexibility in the responses and between the different participant groups. The interview questions were established based on the available literature,<sup>101</sup> modern portfolio theory, and from the prior discussions with few practitioners in the Islamic funds industry before conducting the interviews in January 2011.

The question guide targeted all participant groups, but a few alterations were made to certain questions, to suit each group, although the majority of questions were common for all three stakeholders groups (see Appendix 5.1 for the interview questions). In brief, the participants were asked specific questions revolving around the following issues: (i) the growth of Islamic funds, the motivation to offer or invest in Islamic funds; (ii) the concept and definition of *Halal* investment; (iii) the screening criteria and process, and the sources of information used for screening; (iv) factors contributing to the performance of Islamic funds; (v) the performance evaluation of *Halal* portfolios; and (vi) the need to establish a new *Halal* alternative for risk-adjusted measurements and to include mixed *Halal* investments.

Prior to conducting the interviews, the participants were told the purpose of the interview and given a briefing on the overall research objectives without attempting to influence their views. The invitation official letter from the University of Dundee was also provided before each interview began (see Appendix 4.1).As Arabic is the formal language of business, the interviews were conducted in Arabic, apart from three (FM10, FM14, and Other2), which

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<sup>101</sup> The researcher relied more on the *Shariah* jurisprudence literature in Arabic, as the literature on the performance of Islamic funds did not distinguish between Islamic funds that invest in pure Halal stocks (PH) and those that invest in mixed Halal stocks (MH) stocks.

were conducted in English, as the participants were non-Arab speakers.<sup>102</sup> Each interview session lasted 45-90 minutes, and all interviews were recorded with the permission of the interviewee before being transcribed.<sup>103</sup> In particular, in order to analyze the large number of interviews, the original data were transcribed into written format which was then categorized and coded for analysis to identify and explore the themes, patterns and relationships. Excel spreadsheets were used to facilitate the analysis.<sup>104</sup> The next chapter discusses the findings of the interviews in detail, while the next sections discuss the quantitative research methods used in this study.

#### **4.4.2 Content Analysis**

After obtaining information from the semi-structured interviews regarding the *Shariah*-compliance screening criteria used in Kuwait, the screening process, and the sources of information to perform it, a simple form of content analysis was used to gather data that was then used to apply the screens to create the *Halal* portfolios.<sup>105</sup> This is because, unlike prior research on Islamic funds, the second empirical task in this thesis (Chapter 6) screens each company in the KSE and creates different *Halal* and non-*Halal* portfolios that are used for the purpose of this study. Only Derigs and Marzban (2008) conducted *Shariah* screening using a special software package, however, this study uses manually collected data which is arguably more accurate than software packages which may not capture all non-*Halal* disclosures, as revealed in the interview analysis in Chapter 5. Content analysis has already been used by Maali et al. (2006), Haniffa and Hudaib (2007), Aribi and Gao (2010), Paino et al., (2011), Zubairu et al. (2011), Abbasi et al. (2012), Ameer et al. (2012),

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<sup>102</sup> FM10 and FM14 are from the US and Other 2 (index provider) is from India.

<sup>103</sup> The researcher lost 11 recorded interviews from the tape recorder (iPhone) before they were transcribed; however, 8 of them were repeated. Hence, later notes were taken during each interview as a backup to the recorded tapes.

<sup>104</sup> The process of transcribing, summarizing, and analyzing the 58 interviews took 4 months (from April-July 2011) before the findings could be written up (Chapter 5).

<sup>105</sup> It is worth noting that content analysis is a method that may be used either qualitatively or quantitatively (Elo and Kyngas, 2007; Krippendorff, 2013), although others such as Bryman (2008) argue that it is firmly rooted in the quantitative research strategy.

and El Mosaid and Botti (2012) to measure the disclosure of ethical identity, *Shariah*, and the social responsibilities of IFIs. However, this study uses content analysis to extract information from companies' annual reports related to the *Shariah* screening criteria items that will help in facilitating the screening of listed companies on the KSE.

Krippendorff (2013, p.24) states that “content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use”. Thus, is also known as a method of analyzing documents and texts (Weber, 1990; Neuendorf, 2002), hence, can be used for many purposes (Weber, 1990). Thus, Researchers must judge what variations are most appropriate for their particular investigation (Weber 1990), which makes the analysis process most challenging and interesting (Elo and Kyngas, 2007). Elo and Kyngas (2007) outline that “one challenge of content analysis is the fact that it is very flexible and there is no simple, ‘right’ way of doing it (p.113).

Therefore, this study performs a simple form of content analysis of every section of each company's annual report (e.g. financial statements, notes to accounts, directors' report, chairman's report, auditor's report, and any sections related to *Shariah* reporting), the annual *Shariah* report if available, articles of association for newly listed companies, newspaper articles, company websites and the KSE website.

The content of the companies' annual reports was analyzed in relation to the screening items discussed in Chapter 6. Thus, a checklist of these screening items was created as a guide for extracting information about these screened items, discussed earlier. The sample companies in this empirical study were all listed companies of the KSE, covering all sectors including both financial and non-financial firms, namely: banking, investment, insurance, real estate, industrial, service, food, and the non-Kuwaiti sector. The annual reports from

the period 31/12/2005-31/12/2010 were examined.<sup>106</sup> The data were obtained from the hard copies of annual reports collected by hand as such data were unavailable in electronic format from any source. Since detailed financial statements for KSE-listed companies are only published annually, the screening process is based on the six annual financial statements published by each of the sample companies for 2005-2010. The gathered data were transferred to Excel spreadsheets to facilitate the application of the screening.

Having collected the data, the next step was to use the data to apply different AAOIFI screening criteria to assess each company in terms of their *Shariah*-compliance level and classify them to either: PH, Sin, MH, or MS stocks as elaborated in Chapter 6 (see Figure 6.1). These were then used to create different value-weighted portfolios. The screening at the end of each calendar year was used to create the portfolios for the following year. For example, data from the companies' annual reports as of 31/12/2005 were used to construct portfolios for 2006. This process was repeated for each year, and each portfolio was rebalanced annually. The process of collecting and preparing the data to conduct the screening took place during the second field trip to Kuwait, from December 2011 to January 2012 and the screening process and creating the portfolios took another three months from February to April 2012. The reliability of the content analysis was verified through a test-retest method to assess the stability<sup>107</sup> of the results over time (Hassan and Marston, 2010; Krippendorff, 2013). Thus, the content analysis and screening process was repeated three times in different time periods. Furthermore, the final screening results were also compared with the available screened lists produced by three screening providers in

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<sup>106</sup> The non-Kuwaiti sector, however, was later excluded from the sample because the prices of companies listed in this sector were not available in DataStream to measure their performance.

<sup>107</sup> Krippendorff (2013, p.270) describes stability as "the degree to which a process is unchanged over time. It is measured as the extent to which a measuring or coding procedure yields the same results on repeated trials."

Kuwait (AL-Aman, Al-Raya and Mashora, and Al-Muthana).<sup>108</sup> The next sections summarize the quantitative methods used in this study.

#### **4.4.3 The Quantitative Methods**

The purpose of the quantitative methods chapters are to analyze the return and risk characteristics of the created *Halal* portfolios and examine whether they are significantly different from non-*Halal* portfolios. In particular, the quantitative analysis includes: (i) descriptive statistics of each portfolio's risk and raw return characteristics; (ii) the mean difference of the portfolios' returns; (iii) correlation analysis; (iv) the portfolio's risk-adjusted performance evaluations based on traditional risk-adjusted valuation measurements using the risk-free rate; and then with a *Shariah*-compliant alternative, (v) the matched pair approach, and (vi) the GLM. The following section will only elaborate on the risk-adjusted performance measures as they will be used in both Chapters 7 and 8 while the other quantitative methods are detailed in the related empirical chapters.

##### **4.4.3.1 The Risk-Adjusted Performance Measures**

This section shows the portfolios' performance evaluations measures considering both risk and return, using the three widely used portfolio risk-adjusted performance measures; namely, the Treynor ratio (Treynor, 1965), the Sharpe ratio (Sharpe, 1966) and the Jensen-alpha (Jensen, 1968). These three risk-adjusted traditional measures were selected because they are well established and have been used in many prior studies of funds' performance, including ethical and social responsible funds' performance (Luther et al., 1992; Mallin et al., 1995; Bal and Leger, 1996; Sauer, 1997; Bello, 2005; Kreander et al., 2005; Chong et al., 2006; Statman, 2006; Schröder, 2007; Lyn and Zychowicz, 2010; Carosella et al., 2012) as well as in Islamic funds' performance (Hakim and Rashidian, 2004; Hussein, 2004;

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<sup>108</sup> The Kuwait screened companies lists were available for only certain sample years provided by Al-aman (using AAOIFI 2004), Al-Raya & Mashora (using AAOIFI 2006), and Al-Muthana (for pure Halal companies). It is worth noting that Al-Raya & Mashora changed to AAOIFI 2004 after the GFC, as revealed by the interviews.

Hussein and Omran, 2005; Abdullah et al., 2007; Elfakhani et al., 2007; Abderrezak, 2008; Girard and Hassan, 2008; Albaity and Ahmad, 2008; Alam and Rajjaque, 2010; Rahimie,, 2010; Merdad et al., 2010; Hayat and Kraeussl, 2011; Shah et al., 2012; Walkshäusl and Lobe, 2012). Hence, by using the same performance measures, the results of this research can be compared with the findings of similar previous research in a more meaningful manner. The remainder of this section presents the traditional risk-adjusted portfolios measures, starting with the Sharpe measure.

The traditional Sharpe performance ratio measures the portfolio's equity risk-adjusted premium per unit of total risk, which estimates the ratio of average return to the standard deviation of the portfolio return, as shown in equation 4.1:

$$\text{Sharpe Ratio} = \frac{R_i - R_f}{\sigma_i} \quad [4.1]$$

where  $R_i$  is the average weekly return gained by portfolio  $i$ ,  $R_f$  the weekly return of a risk-free rate asset and  $\sigma_i$  the standard deviation of the weekly returns of portfolio  $i$ . In this study, the CBK's one year T-bond, derived from its official website, was used as a proxy for the risk free rate. In addition, the one year *Murabahah* return rate is also used as a *Shariah*-compliant proxy for the interest-based risk free rate.<sup>109</sup> The *Murabahah* rate was chosen because it was the one that was most frequently recommended by the interviewees. Data on the *Murabahah* rate were downloaded from the Thomson Reuters Knowledge database. However, since data on the *Murabahah* rate were available only since September 2009, the *Shariah*-compliant performance ratio is only calculated for the bearish period (2010-2011). The denominator of the Sharpe ratio is the standard deviation of the portfolio return  $\sigma_i$  that measures how widely the returns are dispersed from the mean returns, calculated based on the following equation 4.2:

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<sup>109</sup> Appendix 7.12 plots the performance of the T-bond rate (Conventional risk-free rate) and the *Murabahah* rate.



$$\sigma_i = \frac{\sqrt{\sum(x-\bar{x})^2}}{n} \quad [4.2]$$

Where  $n$  is the number of observations calculated over the full and sub sample periods,  $x$  is the return on the portfolio and the  $\bar{x}$  is the mean return on the portfolio.

The lower the standard deviation, the higher the ratio or the excess return to variability, the higher the Sharpe ratio, and the better the portfolio's performance. The Sharpe measure is the most relevant for investors for whom the portfolio constitutes a substantial part of their overall assets (Reilly and Brown, 2006). It is also argued that the Sharpe ratio provides a more satisfactory and better statistical measure than that of Treynor (Jobson and Korkie, 1981). The Sharpe ratio is not dependent on the assumptions of the CAPM compared to the Treynor and Jensen-alpha performance measures that rely on the CAPM regression, as shown in the following equation 4.3:

$$E(R_i) = R_f + \beta_i[E(R_m) - R_f] \quad [4.3]$$

where  $R_i$  is the expected return on the portfolios  $i$ ,  $R_m$  is the expected return on the market benchmark, and  $R_f$  is the return on a risk-free asset (which in this study is CBK's one year T-bond and the one year *Murabahah* return rate is also used as a *Shariah*-compliant proxy for the interest-based risk free rate), and  $\beta_i$ , is the slope of the SML that draws the relationship between the portfolio's return and risk as measured by the portfolio's systematic risk.<sup>110</sup>

Both Treynor and Jensen-alpha use  $\beta_i$ , which is sensitive to the choice of market benchmark. Consequently, different market benchmarks will result in different portfolio alphas and betas and hence different rankings for the same portfolios. However, the Sharpe ratio has been criticized for concentrating on total risk, measured by the standard deviation, instead of the market risk or systematic risk, measured by the beta. Portfolio theory

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<sup>110</sup> The beta can also be estimated by the following equation:

$$\beta_i = \frac{Cov(\tilde{R}_i, \tilde{R}_m)}{\sigma_m^2}$$

where cov represents the covariance that exists between the return on the asset and that on the market and  $\sigma_m^2$  is the variance of the market returns.

suggests that the unique risk of a security should be diversified away in a large portfolio and only the remaining, undiversified risk should be priced by the market. Hence, the Treynor (1965) performance measure overcomes this shortcoming, as it uses the market risk or beta of the portfolio as the denominator rather than the standard deviation that is used in the Sharpe ratio and measures a portfolio's equity risk premium per unit of systematic risk, as in equation 4.4:

$$\text{Treynor Ratio} = \frac{R_i - R_f}{\beta_i} \quad [4.4]$$

Where  $R_i$  is the average weekly returns gained by portfolio  $i$ ,  $R_f$  is the weekly return of a risk-free rate asset, and  $\beta_i$  is portfolio  $i$  systematic risk, estimated according to equation 4.3 above. A higher Treynor ratio is better than a lower one, implying a better performance. The Treynor ratio is more appropriate for investors who wish to know what the increment in the expected return due to security selection will be, after the systematic risks have been equalized (Treynor, 1965).

Therefore, by using both the Sharpe and Treynor measures, the systematic and unsystematic risks are incorporated in the portfolios' performance evaluation. Hence, a portfolio with a superior Treynor ratio may have a lower Sharpe ratio. This is because the portfolio may have considerable non-market risk that is not considered by the Treynor ratio. Thus, the ranking of the portfolios based on these measures may vary. Nevertheless, various studies have found that there is a high correlation between them (Mallin et al., 1995; Bal and Leger, 1996; Kreander, 2005). However, neither of the two measures indicates by how much (in terms of percentage return) a portfolio has out- or underperformed the market. Consequently, the other common traditional performance measure that addresses this is the Jensen-alpha (1968) based on the CAPM regression, as estimated in equation 4.5 as follows:

$$R_i - R_f = \alpha_i + \beta_i(R_m - R_f) + \varepsilon_i \quad [4.5]$$

The term  $\alpha_i$  is the alpha of portfolio  $i$ , that indicates that the difference in the return of the portfolio compared to the expected return from the SML,  $\beta_i$  is the beta of portfolio  $i$ , which is the slope of the SML that draws the relationship between the portfolio's return and risk as measured by the portfolio's systematic risk, and  $\varepsilon_i$  is a random error term. According to Treynor (1965), the Jensen measure is more appropriate for assessing a group of portfolios against a market benchmark. It evaluates whether a portfolio has out- or underperformed a market portfolio by testing whether the constant  $\alpha_i$  in equation 4.8 is significantly different from zero. Hence, the constant term  $\alpha_i$  in the equation can be used to measure a portfolio's performance, as a portfolio manager who possesses better stock selection skills will be able to select undervalued securities, and therefore would be able to generate returns that are consistently higher than those predicted by the beta (Jensen, 1968). Thus, if the Jensen alpha is positive, then the portfolio is outperforming; it is underperforming if the Jensen alpha is negative. The higher the Jensen alpha, the better the performance.

#### **4.5 Summary**

This chapter has outlined the research methodology and methods employed in the present thesis. In particular, the research's philosophical assumptions and the paradigm underpinning the study were detailed in the light of Burrell and Morgan's (1979) framework. As the research is a combination of a realist ontology, a positivist epistemology, a deterministic standpoint on human nature and a nomothetic methodology, the functionalist paradigm was adopted. The chapter justified the use of mixed methods for the data collection and analysis within the functionalist paradigm (Burton, 2007; Collis and Hussey, 2009; Modell, 2010). The data and methods employed are presented and discussed. The semi-structured interviews, content analysis for conducting the screening, statistical test, portfolio performance measures, matched pairings, and the GLM were highlighted. The next four chapters will discuss the empirical stands of the research in greater detail, using the methods outlined in this chapter.

## **Chapter 5: Practitioners' Perspectives of *Halal* Investments**

## 5.1 Introduction

As established in the previous chapter, the first research method employed in this study is semi-structured interviews. This chapter reports the findings of interviews with 58 stakeholders from a wide variety of groups in the Islamic investment funds industry in Kuwait and the GCC countries. The literature review in Chapter 3 revealed that most previous studies on Islamic investment use quantitative techniques to understand their return and risk behavior. This research, however, adds to the extant body of knowledge by also exploring the practical issues surrounding the *Halal* equity investments industry via qualitative techniques. This is due to the fact that there is a scarcity of data and literature about *Shariah*-compliant screening in Kuwait and GCC, and the difficulty in quantifying some of the *Shariah* issues related to the *Halal* investment industry. The interviews are used to examine the relatively ‘new’ phenomena and insights of Islamic funds practices in emerging markets (see Borg and Gall, 1986). The chapter investigates interviewees’ perceptions regarding the concept of *Halal* investments, the motivations and drivers for the industry’s growth, and *Shariah* issues underpinning Islamic funds’ practices related to screening, asset allocation, performance evaluation, and benchmarking. The outcome from the analysis is intended to provide the basis for the quantitative analysis discussed in the proceeding quantitative empirical chapters.

The organization of the remainder of this paper is as follows. Section 5.2 provides background information about the interviews and sample method. Sections 5.3-5.7 discuss interviewees’ responses to the questions shown in Appendix 5.1. More specifically, section 5.3 examines the growth of Islamic funds, section 5.4 examines the concept and definition of *Halal* investments and section 5.5 discusses the screening criteria and process. Section 5.6 investigates the factors that contribute to the performance of Islamic funds. Section 5.7 explores the portfolio performance evaluation and the need to establish new alternative risk-adjusted measures and finally section 5.8 concludes.

## 5.2 Sample and Research Method

The 58 semi-structured interviews took place over the period January to March 2011 and were based mainly in Kuwait city in the state of Kuwait. Kuwait city was selected because it is the capital and commercial city where all financial institutions are located, including the central bank, Stock Exchange, investment fund companies and *Shariah* consulting companies. The interviews were conducted face-to-face, although six phone interviews out of the 58 were conducted in other GCC countries, namely in Saudi Arabia, Qatar, Bahrain and UAE. One interviewee was from the largest Islamic index provider in the Middle East, based in Egypt but whose head office is in the USA. Working in the industry and maintaining good relationships facilitated the conduction of the interviews.

The broad themes were highlighted at the beginning of each interview and interviewees were asked to talk freely about the issues to establish a relaxed atmosphere and build trust (see Borg and Gall, 1986). Interviews were recorded with the permission of the interviewees and were then transcribed in Arabic, relevant parts also being translated into English. Since the number of interviews was large, Excel templates were used to summarize and analyze interviewees' responses.

Table 5.1 provides background information about the fund managers (FM), *Shariah* Supervisory board members (SSB) and *Shariah* auditors, and (Others) that includes investors, index providers, and regulators. The interviewees were assigned codes so that their identity would remain anonymous.

**Table 5.1: Interviewees' Summary Details**

No.	Interviewee	Gender	Qualification	Invest in GCC	Organization	Location	No.	Interviewee	Gender	Qualification	Position	Organization	Location
1	FM1	Male	Master	Yes	Con. Inv. Comp.	Kuwait	24	SS1	Male	PhD	SSB	AAOIFI	Kuwait
2	FM2	Male	Bachelor	No	Con. Inv. Comp.	Kuwait	25	SS2	Male	PhD	SSB	Kuwait University	Kuwait
3	FM3	Male	Master	Yes	Con. Inv. Comp.	Kuwait	26	SS3	Male	PhD	SSB	Kuwait University	Kuwait
4	FM4	Male	Master	Yes	Con. Inv. Comp.	Kuwait	27	SS4	Male	PhD	SSB	Kuwait University	Kuwait
5	FM5	Male	Master	Yes	Con. Inv. Comp.	Kuwait	28	SS5	Male	PhD	SSB	Kuwait University	Kuwait
6	FM6	Male	Master	Yes	Con. Inv. Comp.	Kuwait	29	SS6	Male	PhD	SSB	Kuwait University	Kuwait
7	FM7	Male	Master	Yes	Islamic. Inv. Co.	Kuwait	30	SS7	Male	PhD	SSB	Kuwait University	Kuwait
8	FM8	Male	Master	Yes	Islamic. Inv. Co.	Kuwait	31	SS8	Male	PhD	SSB	Shariah Consulting	Kuwait
9	FM9	Male	Bachelor	No	Islamic. Inv. Co.	Kuwait	32	SS9	Male	PhD	SSB	HCCAS*	Kuwait
10	FM10	Male	Master	No	Islamic. Inv. Co.	Kuwait	33	SS10	Male	PhD	SSB	Shariah Consulting	Kuwait
11	FM11	Male	Master	No	Islamic. Inv. Co.	Kuwait	34	SS11	Male	PhD	SSB	Islamic Development	K.S.A
12	FM12	Male	Master	No	Islamic. Inv. Co.	Kuwait	35	SS12	Male	PhD	SSB	HCCAS*	Kuwait
13	FM13	Male	Master	Yes	Islamic. Inv. Co.	Kuwait	36	SS13	Male	Master	S.A	Islamic Inv. Co	Kuwait
14	FM14	Male	PhD	No	Islamic. Inv. Co.	Kuwait	37	SS14	Male	Bachelor	S.A	Shariah Consulting	Kuwait
15	FM15	Male	Master	No	Consulting Co.	Kuwait	38	SS15	Male	Master	S.A	Shariah Consulting	Kuwait
16	FM16	Male	Master	Yes	Islamic. Inv. Co.	Kuwait	39	SS16	Male	Master	S.A	Islamic Bank	Kuwait
17	FM17	Male	Master	No	Consulting Co.	Egypt	40	SS17	Male	PhD	S.A	Islamic Bank	Kuwait
18	FM18	Male	Bachelor	No	Institutional Inv.	Kuwait	41	SS18	Male	Bachelor	S.A	Shariah Consulting	Kuwait
19	FM19	Male	Master	No	Institutional Inv.	Kuwait	42	SS19	Male	Master	S.A	Islamic Inv. Co.	Bahrain
20	FM20	Male	Bachelor	Yes	Institutional Inv.	Kuwait	43	SS20	Male	PhD	S.A	Islamic Inv. Co.	Qatar
21	FM21	Male	Master	Yes	Institutional Inv.	Kuwait	44	SS21	Male	Bachelor	S.A	Islamic Bank	UAE
22	FM22	Male	Bachelor	No	Institutional Inv.	Kuwait	45	SS22	Male	Master	S.A	Islamic Inv. Co.	KSA
23	FM23	Male	PhD	No	Institutional Inv.	K.S.A	46	Other1	Male	Master	Index	Islamic Inv. Co	Kuwait
							47	Other2	Male	Master	Index	Islamic Inv. Co	Kuwait
							48	Other3	Female	Master	Index	Islamic Inv. Co	Kuwait
							49	Other4	Female	Master	Index	Conventional Inv. Co.	Kuwait
							50	Other5	Male	PhD	Index	Consulting Co	Egypt
							51	Other6	Male	PhD	Investor	Kuwait University	Kuwait
							52	Other7	Male	Master	Investor	Islamic Inv. Co	Kuwait
							53	Other8	Male	PhD	Investor	Kuwait University	Kuwait
							54	Other9	Male	Bachelor	Investor	Ministry of Education	Kuwait
							55	Other10	Male	Bachelor	Investor	Ministry of Islamic	Kuwait
							56	Other11	Male	Bachelor	Regulator	KCB	Kuwait
							57	Other12	Male	PhD	Regulator	CMA	Kuwait
							58	Other13	Female	Bachelor	Regulator	KSE	Kuwait

Note: This table displays summary background information about the interviewees. The interviewees were assigned codes in order that their identities remain anonymous; these codes are reported in the interviewee column. The codes used express the category of the participant. FM represents fund manager or an institutional investor. SS is used to describe *Shariah* Supervisory board member (SSB) or *Shariah* Auditors, while Other is used to describe Index providers, investors, and regulators. An \* HCCAS is the abbreviation of Higher Consultant Committee for Application of *Shariah* law in Kuwait.

An inspection of Table 5.1 reveals that only 3 interviewees were females, because most fund managers, investors, and *Shariah* scholars are men; however, more women are getting involved in the industry as noted by some of the interviewees. The vast majority of interviewees had a higher education (either Masters or PhD degrees) and are located in Kuwait. Although the findings of the interviews cannot usually be generalized, the interviews of this study reflect a high proportion of the Islamic equity industry population in Kuwait, and thus the findings can, to some extent, be generalized. For instance, the fund managers interviewed represent 85% of the Islamic equity fund managers in Kuwait (22 out of 26) including all (100%) of the six pure Islamic equity funds offered by the largest Islamic and conventional investment companies in Kuwait. In addition, the interviews cover all five Islamic index providers in Kuwait and the largest Islamic index and screening provider in the Middle East. The interviews also cover all (100%) four *Shariah* list providers in Kuwait, including the largest two *Shariah* consulting companies in Kuwait. This captures 100% of Islamic indices and list providers. Furthermore, interviews were conducted with the twelve most active *Shariah* scholars in the GCC who are also *Shariah* board members across the globe.<sup>111</sup> Three of them are ranked among the top ten scholars in the world; these top ten scholars hold 450 out of 1141 SSB positions and represent 40% of the Islamic finance industry worldwide (Zawya report, 2011). These twelve *Shariah* board members are also members in the Higher Consultant Committee for Application of *Shariah* law in Kuwait (HCCAS)<sup>112</sup>, the AAOIFI in Bahrain, the S&P global Islamic index, the Islamic development bank in Saudi Arabia, and the international Islamic *fiqh* academy. Indeed they represent the bulk of the *Shariah* scholars' population in Kuwait and the GCC. The same applies to the ten *Shariah* auditors working in six Islamic institutions in Kuwait, and the other

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<sup>111</sup> Although Table 5.1 shows that the SSB members are Professors in the *Shariah* collage at Kuwait University, they are SSB members in many Islamic funds on a part time basis.

<sup>112</sup> A government organization established in 1991, as its responsibility is to prepare the circumstances in Kuwait to complete the application of *Shariah* law, where the study the governing laws and regulations and propose adjustments to assure their compliance with *Shariah*. See: <http://www.sharea.gov.kw/>



four *Shariah* auditors are in UAE, Qatar, Bahrain, and Saudi Arabia. Furthermore, interviews were conducted with representatives from the three regulatory bodies in Kuwait, the CBK, KSE, and the CMA<sup>113</sup> which started to operate in March 2011. Therefore the interviews reflect nearly all the institutions involved in *Halal* investing in Kuwait and to some extent these findings are generalizable.

### **5.3 Growth of Islamic funds in the GCC**

All the participants agreed that the Islamic equity fund industry had witnessed a remarkable increase, after the boom of GCC stock markets in 2004. There was a growing interest and awareness in the field of Islamic investment funds by professionals, academics and investors including conventional investment companies and conventional banks. Twenty-three of the interviewees, mainly SSB and regulators, saw the growth in *Halal* stocks concentrated mainly in Islamic or so-called pure *Halal* stocks (PH) while the other 35 interviewees observed the growth in both PH and *Shariah*-compliant or so-called Mixed *Halal* stocks (MH). Both types of stocks will be defined in the next section. Many interviewees indicated that investee companies attempt to meet *Shariah* screening criteria to make their stocks verified as *Halal* stocks which are of Islamic fund managers and religious-driven investors' interest. According to the interviewees, the core factors, driving the growth of the Islamic investment funds industry and *Halal* stocks in the GCC financial markets are as follows: (i) investment demand from Muslim and non-Muslim investors for *Halal* stocks;(ii) an increase in the level of awareness of the *Shariah* compliant products and services; (iii) excess liquidity in the GCC economies and available with investors ; (iv) the profitability and competitiveness of Islamic funds and investee companies compared to their conventional counterparts; and (v) simplicity

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<sup>113</sup>The authority's responsibilities include regulating Stock market activities, supervise public and private subscriptions, and regulate and oversee acquisitions and mergers.

of products to be understood by conventional and global investors. Table 5.2 reports all the factors according to the number of times they were mentioned by the participants.

**Table 5.2: Growth Drivers of the *Halal* Equity Investment in the GCC**

	FM	SS	Other	Total
<b>Demand</b>	23	21	13	57
<b>Increase in awareness level</b>	14	17	12	43
<b>liquidity in the GCC</b>	18	9	8	35
<b>Profitable and competitive alternative</b>	3	9	3	15
<b>Simplicity of products understood by global investors</b>	1	5	2	8
<b>Progress in regulatory framework</b>	0	3	0	3
<b>Growth in Muslim population</b>	0	2	1	3

Note: This table represents the overall interviewees' views on the factors that contributed to the growth of the *Halal* equity investments funds industry according to the number of times they were mentioned by the participants.

In addition to the factors summarized in Table 5.2, FM 22 noted that:

“The removal of Saddam Husain’s regime has helped improve the investment environment in GCC markets and in Kuwait particularly, creating more investment opportunities. Since this event the number of listed companies at the Kuwait Stock Market has increased, most of which are Islamic companies.”

The most important growth factor of the industry is the strong demand for *Halal* investments from both local investors in the GCC countries and big international investors such as Citibank and HSBC. As a response to this growing demand, the supply side has increased with the number of financial services institutions offering Islamic investment funds including conventional financial institutions. A number of interviewees asserted that the demand had caused many conventional financial institutions around the world, and within the GCC countries, to convert to IFIs either totally or partially by providing Islamic windows.

The strong demand on *Halal* investment has enhanced the level of the awareness of *Shariah*-compliant products and services, and *Shariah* scholars are now more involved in the industry.

However, six interviewees (FM 8, FM 9, Other 3, FM 21, SS1, and SS6) argued that there was still a lack of awareness of the *Halal* investment industry and, like any other new concept or product introduced for the first time, it had to go through a natural process to be well understood and become popular.

This strong demand and awareness by fund managers and investors has created profitable opportunities for Islamic investment funds to challenge and compete with conventional funds, especially during the market boom in 2004 and 2005 when a large number of IFIs listed in KSE. Many interviewees agreed that during that period Islamic investment funds and *Halal* investee companies has been competing successfully compared to their conventional counterparts. The interviewees' inputs regarding the factors that contributed to the growth of the *Halal* equity investment in the GCC are very similar to that found in the literature (El-Qorchi, 2005; Al-Jbsheh et al., 2007; Hasan and Dridi, 2010; Rahimie, 2010; Kpodar, 2010; Ali and Syed, 2010). However, as noted by the vast majority of interviewees this demand slowed down during the GFC in 2008 and during the recession period afterwards.

### **5.3.1 Motivations to Invest and offer *Halal* investments**

This section sheds light on the intentions behind the investment decisions made by those who invest in Islamic funds and *Halal* stocks (PH and MH) and those who have established and manage Islamic funds; the research participants were asked about their motivation to invest or offer such investments outlined in the following two sections.

#### **5.3.1.1 Investors' Motivations**

Interviewees named four factors that motivated investors to invest in *Halal* equity investments: (i) religious values (53%); (ii) profit (36%); (iii) diversification (8%); and (iv) ethical values (3%), with religious and profit motives being the two main factors. This result is consistent

with results in Malaysia (Rahimie, 2010; Louche et al., 2012). According to many interviewees, earning only *Halal* money is itself a religious obligation in accordance with the prophet who said:

“Verily Allah is pure and he accepts only what is pure and indeed Allah has given those orders to the believers, which he has given to the Messengers. He has said, ‘ O Messenger, eat from the pure foods and work righteous’.”

Then the Prophet mentioned a man who undergoes a lengthy journey in a state that he is disheveled and dusty .He spreads his hands towards the sky (calling), “ O my lord, O my lord”, however his food is *Haram*; So how will his call be answered!” [reported by Ahmad 2/328,Muslim 2/703]

The second most important motivation was profit maximization, as Other 5 pointed out:

“Of course investors seek a *Shariah*-compliant investment focus that it is Islamic but they also are keen on the returns.”

This finding is also consistent with Henry and Wilson (2004) and Rahimie (2010) who documented that Islamic investment funds satisfy the religious requirements for Muslim investors, and at the same time pursue a value maximizing approach.

Hardly any interviewees mentioned explicitly ethical motives (3%) as a reason for their investment in Islamic funds; some of them implicitly thought that ethical values were part of religious values. This might be interpreted that most of the interviewees did not distinguish between religious and ethical values, as in Islam ethics are incorporated in religion (Al-Jazaeri, 1995; Zaidan, 1999). Indeed, SS4 asserted that:

“Since *Shariah* is based on Allah’s law, the acceptance of what is legal and what is ethical is different from other cultures that base their laws on human philosophy. *Shariah* determines what is ethical and what is not. For instance, if something is legal, it will not be permissible if it is unethical from a *Shariah* perspective. In addition, *Shariah* attempts to maintain a balance between this life and the hereafter, so we are encouraged to work and earn *Halal* income to sustain ourselves and families and also to support the poor, needy and the whole community to get rewarded by Allah in the hereafter.”

Other 5 also pointed out that:

“Instead of focusing on the labeling we have to focus on expanding market reach through providing ethical and cross-religious products that would turn Islamic Finance to a mainstream industry. So one of the recommendations is to focus on ethical principles rather than technical requirements which will result in achieving cross-religious acceptance as well as socially responsible requirements. This will result in a broader acceptance of Islamic Finance products that can also be considered Abrahamic Finance products.”

### **5.3.1.2 Fund Managers Motivations**

By looking at the supply side, the interviewees were asked why both Islamic and conventional financial institutions offer Islamic investment funds. The interviewees noted that profit maximization and economic motivations were driving the offering of Islamic investment funds (68%) while religious values came last and counted only for 7% of the interviewees’ responses, contrary to the demand side where religion was the most important reason to invest.

The vast majority of fund managers (71%), both from IFIs and from conventional ones, did not feel concerned about stating that profit maximization was a reason for offering Islamic equity funds. Only three FMs (FM7, FM8, and FM9), all of whom worked in IFIs, mentioned religion as one of the reasons to offer Islamic funds. This is supported by SS2, SS12, and SS14. For instance, SS14 asserted that:

“If Islamic funds are offered by Islamic companies then it is expected that religious values along with economic values motivate their offerings, since Islamic companies have to satisfy their clients’ needs who are mainly motivated by religion believing that Islamic funds are an alternative investment model to conventional funds. However, when Islamic funds are offered by conventional managers then it is recognized as a profitable opportunity merely to explore a new market share that was not served before.”

This outcome is consistent with Imam and Kpodar (2010) and Rahimie (2010). Hence, the interviewees considered religious and economic motives as to why investors chose Islamic investment funds, whilst they considered only economic motives as to why Islamic funds are offered by financial institutions. This emphasizes the gap between the demand and supply of *Halal* equity investments. This challenges Islamic fund companies to distinguish themselves

from their conventional counterparties on religious, ethical and social grounds. This finding is in accordance with Kuran (2004), El-Gamal (2006), Kamla (2009) and Rahimie (2010). According to nine interviewees,<sup>114</sup> this gap has to be reduced; otherwise, Islamic funds might be exposed to reputational risks and lose customers confidence. For example, SS5 emphasized that:

“When Islamic companies were first established they did not name themselves as ‘Islamic’ because they did not want to hurt the name Islam or to be tainted by any failure, since they believed that losing confidence in their religious values would be very harmful for their shareholders, customers and the future of the industry. However, they were closer to their religious values than the Islamic companies nowadays. Thus an appropriate mechanism must be created to ensure compliance with not only *Shariah* principles in transactions but also with main purpose of *Shariah*, ethical and social values.”

#### 5.4 The Concept of *Halal* Investments

In order to establish levels of understanding of Islamic funds screening criteria, it is crucial first to identify the concept and classification of *Halal* investments in the stock markets, particularly that of the *Shariah* Scholars as they are responsible for defining such criteria. Therefore, the interviewees were asked about the concept and classification of *Halal* stocks.

In terms of *Halal* stocks, (i) Islamic stocks (IS) or pure *Halal* stocks (PH) and (ii) *Shariah*-compliant stocks (SCS)<sup>115</sup> or mixed *Halal* stocks (MH), are often used to describe similar things in the Islamic equity investment industry. This section examines the understanding of these terms and whether they mean different things to different stakeholders.

The interviewees were first asked to classify and define the term “*Halal* stocks”. Although the word *Halal* means lawful or permissible in *Shariah* law and is opposite to the word *Haram* that means unlawful or prohibited, there are different interpretations of a *Halal* equity investment and the *Shariah* classification of stocks. As noted by some interviewees, under *Shariah* only

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<sup>114</sup> Those interviewees are FM 20, Other7, Other10, SS1, SS5, SS8, SS13, SS15, and SS16.

<sup>115</sup> *Shariah*-compliant stocks are stocks that are compliant with *Shariah* screening criteria (discussed later in the next section).

Allah has the authority to legislate what is *Haram* and what is *Halal* and human beings, regardless of their religious position including the prophet, are not allowed to do so (see: Al-Qaradawi, 2005). Nevertheless, the interviewees indicated that investing in the stock market is a contemporary practice that is not directly covered in the holy *Qur'an* or the *Hadith* (see Al-Shubali, 2005). Hence, the vast majority of interviewees in Kuwait classified *Halal* stocks into (i) Islamic stocks (IS) and (ii) *Shariah*-compliant stocks (SCS). Some interviewees described *Halal* stocks as (i) PH stocks and (ii) MH stocks to clearly differentiate between mixed *Halal* stocks (MH) from mixed sin (MS) stocks that are not permissible. Thus, MH and SCS denote the same thing, but interviewees from Saudi Arabia, Qatar, and Bahrain call them MH while those in UAE and most of the interviewees in Kuwait describe them as SCS.

More strictly, 8 interviewees classified *Halal* stocks to be only PH, not mixed with any *Haram* proportion, even when the *Haram* proportion was minimal. This strict definition of *Halal* equity investment is only adopted by a minority of Islamic funds in the GCC. Yet many interviewees indicated that a growing number of individual investors also consider only PH as *Halal* stocks.

These classifications of *Halal* stocks are close to the *fiqh* literature such as Al Manea (1998), Al-Quradaqi (2002), Al-Shubali (2005), Al-Khalel (2005), however, they don not breakdown the non-*Halal* stocks to sin and MS while this thesis does.<sup>116</sup>

The classification of *Halal* stocks that will be used throughout this chapter and the whole thesis will be the two investment classifications of PH and MH (and not IS and SCS). Although, this classification is not used widely in Kuwait, it has been chosen to be consistent with other GCC countries and is more precise from a *Shariah* perceptive, as deemed by some SS, and was

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<sup>116</sup> Only the *fiqh* literature classify stocks to three groups, PH, sin, mixed stocks as outlined in Chapter 1, indicating that MH and MS are reported under mixed stocks depending on their compliance with certain *Shariah* financial screening criteria.

understandable to most of the interviewees. For instance, IP3 rejected calling any company an “Islamic” company and stated:

“I refuse to call them Islamic companies or Islamic products just because they do not contradict *Shariah*. For example if chocolate does not contain in its ingredients any alcohol, will that make it Islamic chocolate? Certainly not! If you call it a *Halal* chocolate that means it is permissible for Muslims and anyone else to consume it, the same logic applies to equity investments, similarly to the food industry as we have for example *Halal* meat or chicken. Muslim and non-Muslim investors can invest in such stocks or products.”

This differentiation of PH and MH is not used in literature (for example Siddiqui, 2007; Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Derigs and Marzban, 2009; Abdul Rahman et al., 2010; Ho et al., 2012; Marzban and Asutay, 2012) where the two *Halal* investment groups are always combined and called *Shariah*-compliant stocks or *Shariah* approved stocks and the investment funds that invest in them are usually called Islamic funds. However, the classification to PH and MH is preferable because one of the main objectives of this thesis is to examine the performance of the two groups separately and will be a major contribution to bridge the gap in the literature. Thus, some fund managers in the GCC have: (i) Islamic funds that invest only in PH stocks; and (ii) Islamic funds that invest in both MH and PH stocks. In addition, strict religious-based investors will never include MH stocks in their portfolios, while other religious investors diversify their portfolios across PH and MH stocks. Conventional funds and investors invest in all stocks in the market regardless them being *Halal* or not.

Furthermore, unlike the relevant literature, the interviewees explicitly classified the non-*Halal* or *Haram* (sin) stocks into two groups to ‘sin’ and ‘mixed sin’ (MS), while others called them all sin stocks. This thesis will use both terms ‘sin’ and ‘MS’ to differentiate between non-*Halal* equity investment groups. This is because it is important to separately examine the screening and performance of companies that operate in sin industries and those that only fail to meet the



*Shariah* financial screening criteria as elaborated later in this Chapter. The definitions of all types of (*Halal* and non-*Halal*) stocks are elaborated in following sections.

#### 5.4.1 Definition of Pure *Halal* and Mixed *Halal* Stocks

The interviewees were asked to define each type of stocks that they perceived as *Halal* as demonstrated in Table 5.2.

**Table 5.2: Definition of PH Stock**

	FM	SS	Other	Total
<b><i>Shariah</i>-Compliant Article of Association and SSB</b>	19	16	9	<b>44</b>
<b><i>Shariah</i>-compliant Article of Association and not Sure of SSB</b>	4	2	2	<b>8</b>
<b><i>Shariah</i>-Compliant Article of Association only</b>	0	1	1	<b>2</b>
<b>Other definitions</b>	2	2	2	<b>6</b>

Note: this table presents the interviewees' definition of PH stocks.

Table 5.2 shows that the vast majority of the participants (44 or 76%) required a pure *Halal* stock (PH) to satisfy two conditions: (i) the company has an article of association that states clearly that all its transactions are governed by *Shariah* principles, or that the company's activities do not contradict *Shariah* provisions; and (ii) the company has a SSB that oversees its transactions and submits an annual *Shariah*-compliant report at the end of financial year. According to these 44 interviewees, PH stocks cover not only IFIs like Islamic banks, Islamic investment companies, and Islamic insurance companies but also non-financial investee companies such as manufacturing firms if they meet the above two conditions.

A minority of the participants (8 or 14%) defined PH stocks exclusively by having a *Shariah*-compliant article of association but were not sure whether those companies should have a SSB monitoring their activities or not, especially for non-financial companies. Many of these interviewees were fund managers and Others.<sup>117</sup>

<sup>117</sup> Five Fund Managers: FM5; FM7; FM14; FM15; and FM19, an investor (Other 8), and a regulator (Other 13).

In Kuwait, Qatar, Bahrain, and UAE, *Shariah*-compliant articles of association prevents companies from operating in sin activities by law, even when they do not have a SSB, and if they violate their articles of association, regulatory bodies can penalize them. Therefore, the article of association is a safeguard over companies adhering to *Shariah* principles. However, the interviewees admitted that there was a regulatory gap in the Islamic investments industry, where the central bank only oversaw investee IFIs and investment funds. No regulatory body oversees whether Islamic companies in non-financial sectors meet *Shariah* guidelines. Some interviewees noted that CMA in Kuwait will address this gap. Nonetheless, the interviewees assumed that such companies remained Islamic in accordance with their articles of associations.

When the interviewees were asked if they accepted the claim that a company was Islamic or whether they investigated further, most of them (43 or 74%) took it as a fact without further investigation. Nevertheless, three interviewees (FM23, SS11, and SS22) did not trust these claims and investigated further. These three interviewees, who were in Saudi Arabia, stated that there was a bigger regulatory gap in their country regarding the Islamic finance industry compared to other GCC countries. For instance, they noted that only Islamic banks and *Takaful* companies could be described as PH stocks, as only they were required to appoint SSBs. Furthermore, in Saudi Arabia, unlike other GCC countries, there are no companies with Islamic articles of association that are overseen by a regulatory body such as the central bank or the CMA. This was also confirmed by nine interviewees (FM16, Other1, FM22, Other7, SS1, SS2, SS7, SS12, and SS13). Thus, in Saudi Arabia, nothing stops a company, apart from Islamic banks and *Takaful* companies (that have SSBs), from borrowing interest based debt or earning interest based revenues. Interviewees from Saudi Arabia<sup>118</sup> viewed this as a significant

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<sup>118</sup>Interviewees: Inst. Inv.6; SS11; and SA10.

drawback, where investors have to keep an eye on their stocks as these might move from being PH to MH or even to non-*Halal* stock from one period to another. In Kuwait, it is very rare for a company to convert from PH to MH or to a non-*Halal* stock since they are governed by their Islamic articles of association. However, a MH could become a non-*Halal* stock if a fund manager's pre-determined financial screening criteria was breached.<sup>119</sup> In addition, nine of the interviewees said that they had to check if there was an active *Shariah* board governing the operations of the investee companies and ensuring it was compliant in the case of non-financial companies. However, Other5 said that:

“You still have to check their financials, especially for Islamic banks converted from conventional banking. But if their *Shariah* board is governing its operations and approves it as compliant it should be a positive indication.”

In addition, some SSs called for an active *Shariah* auditing system to support SSBs in Islamic funds and investee IFIs, for example SS5 asserted that:

“Not only *Shariah* supervisory boards are required but also regular independent *Shariah* auditors and a clear *Shariah* auditing system is needed to ensure the effectiveness of *Shariah* supervision.”

Other4, who had worked for the first Islamic index provider in the GCC region since 1999, said that:

“We do not take the existence of the *Shariah* supervisory board in consideration when screening the universe to be included in our pure GCC Islamic Index. We only base our decisions on their Articles of Association; if the company claims that it will follow *Shariah* law or will not contradict *Shariah* law, we accept that without going beyond it.”

At the other extreme, SS3, SS6, and Other 10 had a strict definition of PH stocks; an investee company that has a strict SSB which not allow them invest in any MH stocks and considered

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<sup>119</sup>This point will be addressed later in the screening criteria section.

them as sin stocks. This view is consistent with strict classification of *Halal* stocks outlined in the previous section.

Further, Interviewees FM17, Other5 and SS22 defined PH stocks as those companies that had no interest-bearing debt, interest-bearing investments or any non-*Halal* income. SS8 and SS11, however, held the strictest definition of PH stocks, for instance SS8 defined a PH stock as of:

“...a company that focuses on Islamic morals and social values, not on profit maximization, offering a sustainable and ethical alternative away from not only interest based instruments but also from mimicking existing conventional financing instruments, such as organized *Tawarruq*<sup>120</sup>, in order to provide effective solutions and added value to the economy. Because if interest is only substituted by *Tawarruq* or other weak *Shariah* backed instruments that are based on debt, not on profit and loss sharing instruments, it would represent a change just in name rather than in substance”.

Some argued that what are described as PH or ‘Islamic’ by many, do not follow the true Islamic finance model. This is supported by Al-Shalhoob (2007) and Al-Suwailem (2009) who indicated that *Tawarruq* for instance should not be used in IFIs because it creates debts far larger than the cash received, similar to interest-based instruments, and it shifts the economy from an asset market towards a debt market, and the underlying equilibrating mechanisms are no longer linked to the real market. Most interviewees, especially SSs admitted that investee IFIs should promote Islamic ethical norms and values to achieve the economic objectives as prescribed by *Shariah* rather than being solely profit driven. This finding is consistent with the literature; for example, Dusuki(2007), and the International Council of Fiqh Academy (ICFA), as the ICFA recommends that<sup>121</sup> IFIs should avoid all dubious and prohibited financial techniques in order to ensure general *Shariah* objectives(*Maqasid al-Shariah*) are achieved (see Ziqaba, 2010; Rosly, 2010).

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<sup>120</sup> Organised *Tawarruq* is a contract in which the seller, a financial institution, arranges a transaction by selling a commodity to the client for deferred payment. The institution then sells the commodity, as an agent on behalf of the client to a third party, in the market and then credits the price to the account of the client (Al-Suwailem, 2009).

<sup>121</sup> In their meeting: 26 – 30 April 2009 in their resolution 179.

However, a number of interviewees<sup>122</sup> argued that PH stocks with the narrow perspective of SS8 and SS11 rarely existed in the market, arguing that many corporate practices have deviated from the general social and moral objectives as affirmed by Kurran (2004), El-Gamal (2006), and Kamla (2009).

All 58 interviewees agreed that investing in companies that operated in ‘sin’ industries as their core businesses, such as conventional financial services that are based on interest, or companies that operate in alcohol, tobacco, gaming (gambling), pork, pornography, and weapons businesses, was strictly prohibited. This is consistent with Al quradaqi (2002), Al Manea (1998), Al-Shubali (2005) and Sultan (2007). However, there was a middle ground of the two extremes of pure *Halal* stocks (PH) and sin stocks. These are what were described by the interviewees as mixed stocks which could be mixed *Halal* (MH) or mixed sin (MS) stocks depending on the size of the sin element not related to their main operations. Examples of MH companies are those that operate in industries such as energy, technology, telecommunications, transportation, oil and gas, food, and real estate (Al-Shubali, 2005).

All the interviewees believed that *Shariah*-compliant stock screening providers used slightly different criteria to screen the sin element for MH stocks. The interviewees indicated that, if a company failed to meet certain screening criteria then it would be considered as MS and not a MH anymore. Accordingly, some investee companies may be *Shariah*-compliant (MH) at a certain time period but non-*Shariah* compliant (MS) in another time period due to the violation of the pre-determined *Shariah* screening criteria. For instance, having interest bearing debt of less than 30%, if breached, requires the stock to be removed from an Islamic fund’s investment portfolio.<sup>123</sup> This is because, as many interviewees noted, MH companies do not usually have articles of association that restrict them to following *Shariah* in their non-operational financing

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<sup>122</sup> Those interviewees are: FM15, Inst.Inv.1, Individ.Inv.5, SS5, SS8, SS11, SS13, SS16, and SS18.

<sup>123</sup>The *Shariah* screening criteria is addressed in the next section.

or operational activities. For example, MH companies can have conventional loans to finance their operations, or invest their surpluses in interest bearing accounts or have deposits in conventional banks.

Overall, two thirds of the interviewees, most of whom were FMs, accepted that Islamic funds could invest in MH stocks, while the other third, most of whom were SSs, believed that MH stocks should not be permissible in Islamic funds’ portfolios, believing that companies had to be pure *Halal* (PH) investments and not mixed or involved in any non-*Halal* activity at all. This debate is reflected in the design of the subsequent empirical chapters and is part of the contribution of this thesis, and is further explored as reported in the next section.

#### 5.4.2 The inclusion of Mixed *Halal* Stocks

This section examines whether there is a need to include MH stocks in Islamic funds’ portfolios and impacts on the diversification of Islamic funds; excluding MH stocks yields a restricted and smaller investment universe, which could have an adverse impact on their performance as suggested by MPT (see Chapter 3). This thesis contributes to knowledge as this not been addressed before in the literature and is examined further in Chapters 6-8 and may provide evidence to *Shariah* scholars and regulators to revise the previous *fatwa* issued by some *Shariah* scholars regarding the permissibility of MH stocks. Table 5.3 summarizes the respondents’ perspectives toward this crucial question.

**Table 5.3: The Need to Include MH Stocks in Islamic Portfolios**

<b>Is there a Need to include MH stocks:</b>	<b>FM</b>	<b>SS</b>	<b>Other</b>	<b>Total</b>
<b>Yes</b>	16	5	4	25
<b>No</b>	3	11	3	17
<b>Not Sure</b>	4	5	7	16
<b>Total</b>	23	21	14	58

Note: This table summarizes all the interviewee groups’ responses on whether it is necessary to include MH stocks in Islamic funds’ portfolios.

Table 5.3 reveals divergent views regarding this issue. Twenty five out of 58 interviewees (43%) agreed that there is still a need to include MH stocks. The FMs were the group most likely to agree to include MH stocks from Islamic funds, as they have an interest in including them, as indicated by FM10:

“Fund managers are not eager to talk to *Shariah* supervisory board members about this topic, because the more stocks they can play with the better for them, so why make their life miserable?!”

FMs and Index providers in the Other group argued that if they were restricted to invest in PH only, their portfolios would be exposed to concentration risks since most PH stocks are currently financial companies, hence this would not allow a well-diversified portfolios across all sectors. For example, Other 3 indicated that:

“This an embarrassing question because I personally prefer pure *Halal* stocks, however, we have to offer Islamic funds that also invest in mixed *Halal* stocks as we have a wide range of customers including: government; institutional; and individual investors, who prefer mixed *Halal* stocks. As we think that limiting ourselves to pure *Halal* stocks is not sufficient to create a well-diversified and optimal risk-adjusted return portfolios, because we are a leading Islamic company that launched the first Islamic Fund and first Islamic index in Kuwait and our *Shariah* supervisory board has the same members as the Islamic Dow Jones.”

Therefore, a number of interviewees, especially FMs, investors, and Index providers believed that banning MH stocks totally in Kuwaiti Islamic funds’ portfolios would not be a good resolution, especially after the GFC when financial companies were the most affected by the crisis. As a result, some interviewees, including some SSs, declared that investing in MH stocks was a necessity, referring to the old *fatwa* that allowed MH stocks under the *Shariah* Jurisprudence ‘the law of necessity’ or the concept of ‘*Umumbalwa*’, which refers to unfavorable widespread situations affecting most people and are difficult to avoid (SAC, 2007) (see Chapter 1). Moreover, these interviewees argued that Islam had encouraged Muslims to

invest their wealth, engage in business and share in economic prosperity, as stated in the

*Qur'an*:

"And when the prayer is finished, then may you disperse through the land, and seek the bounty of Allah (through trade, business and lawful professions) and celebrate the praises of Allah so that you may prosper" [62:10].

For example, SS11 stated that:

"According to Islam, capital has a role to play in the economy. Hence it should not be hoarded but rather circulated to allow people to benefit from it. And investing in the stock market is a venue to achieve that, especially in operational industries that benefit the economy. In addition, small investors do not have any other opportunities other than the stock market. However, if all investors invest exclusively in pure *Halal* stocks, as they are a minority in the market, then their prices will be inflated beyond their actual value causing a bubble in the market and eventually leading the market to collapse and possibly a recession in the economy. Thus, investing in mixed *Halal* stocks is necessary to maintain a balance in the market."

Furthermore, SS20 added to that:

"Investment in stocks is a contemporary issue that did not exist in the early years of Islam, and has not been stated directly in the primary sources of *Shariah* and is not like a regular partnership relationship but rather a special form of partnership. Thus, it requires a new *Ijtihad* from *Shariah* scholars to control the sin element and purify and close a wide door of *Halal* investment that is mixed with a small amount of non-*Halal*."

These two quotes are in accordance with the literature (see for example: Al Manea, 1998; Al Quradaqi, 2002; Usmani, 2010). Practically, the *Shariah* Advisory council (SAC, 2007) in Malaysia, the SSB of Al-Rajhi Islamic Bank (2001) in Saudi Arabia, and most of the SSBs of Islamic index providers and Islamic funds follow the same logic as noted by the interviewees.

On the other hand, 17 of the interviewees, notably SSs and individual investors had the opposite view as they argued that those who allowed MH stocks should do so as an exceptional case, not as a norm. This was because when the *fatwa* was released, PH stocks were very rare as only a few Islamic banks and Islamic investment companies were listed on GCC stock markets, leading *Shariah* scholars to agree on a minimum level of compliance to allow Muslim investors to invest in the stock market (see Quradaqi, 2002; Al-Shubalia, 2005; Al-Tunaji,



2009). Furthermore, some SSs indicated that a *fatwa* was different from *Shariah* law, in the way that a *fatwa* refers to how the rules of *Shariah* are to be applied from the point of view of the jurists, which can change from time to time as circumstances surrounding them change. Thus, many interviewees, including some FMs and investors, asserted that *Shariah* scholars should revisit this *fatwa*. For example, FM 20 said that:

“Unfortunately, *Shariah* supervisory board members did not have enough commitment to take the initiative to revisit this *fatwa* as they sit on multiple boards and are very busy doing that. However, things have developed and changed and thus this *fatwa* allowing mixed *Halal* stocks is 10-15 years old now, thus *Shariah* supervisory board members should not wait until they are asked to respond to it!”

Among these 17 interviewees that were against investing in MH stocks, some argued that investing in MH stocks had been strictly prohibited from the beginning and that the law of necessity was not applicable as SS16 noted:

“I do not believe that there is a necessity to include mixed *Halal* stocks because fund managers and investors seek to maximize their wealth only, not anything else! Hence, if there was a strict prohibition from the beginning, then we could have seen these companies converting to Islamic companies, like many conventional banks in the GCC that converted to fully fledged Islamic banks. Because if we want to build a real Islamic economy, we have to sacrifice some profits in the short run, as in the long run the investment environment will improve and awareness will increase.”

Other SSs supported this, such as SS4 who pointed out:

“Investors are shareholders or owners in the company, therefore if they know about any sin element in the company such as *riba*, but still decide to continue investing in their stock, then this means that they have implicitly approved the existence of that sin element, hence they would be held responsible and share the sin with them. And *riba* is one of the major sins in Islam. In addition, investing in the stock market is not a necessity that makes forbidden things, such as *riba*, permissible. Necessities should be evaluated carefully and in a proper manner”

This view is consistent with the Standing Committee for Scholarly Research and *fatwa* in Saudi Arabia, the SSB of Kuwait Finance House, the SSB of Dubai Islamic Bank, and the SSB of Sudan Islamic Bank (Al-Shubali, 2005; and Al-Khalel, 2005).

Between these two extreme views, 16 interviewees were not sure if MH stocks were necessary to be included in *Halal* equity portfolios anymore. Some of them were SSBs and acknowledged that they did not have sufficient detailed information to make such a decision or *fatwa*. For instance, SS13 stated that:

“Although pure *Halal* stocks and Islamic financial companies particularly has experienced a tremendous increase and growth, this *fatwa* has never been examined any more neither by practitioners nor by academics, and unfortunately we do not have active research centers that play this role, since it is not an easy task to make a *fatwa* that requires detailed information, especially after the global financial crisis.”

Furthermore, SS8 agreed with the above statement as he confirmed that:

“All products have an expiry date except *fatwas*! And this is wrong, why do we not always revisit previous *fatwas* and update them in the light of new reliable information. Fortunately, your PhD thesis’ results will do the job for us, as to answer the question whether there is a need to include mixed stocks in *Halal* portfolios or not, because the old *fatwa* is out of date now! We need people that understand *Shariah* and technical financial issues to study the case, in order to establish a new *fatwa* regarding this issue”

Other 6, however, was in a middle standpoint, saying that:

“I personally do not invest in mixed *Halal* stocks since they are questionable from a *Shariah* point of view, and also I believe that pure *Halal* stocks are sufficient for a well-diversified portfolio in the GCC stock markets but could be slightly difficult if limited to Kuwait only if you manage large Islamic funds, because most pure *Halal* stocks in Kuwait are financial companies and few companies work in industrial sectors such as petrochemicals or services. Therefore, combining all GCC pure *Halal* stocks will create a reasonable universe. But meanwhile, this mixed *Halal* stocks *fatwa* certainly deserves revisiting toward Islamizing those companies gradually.”

Although Other5 agreed that MH stocks were still needed for a well-diversified portfolio nowadays, he suggested that:

“Mixed *Halal* stocks should still be eligible but we should over time put more and more constraints on them, reducing the screening thresholds, handling companies in Islamic countries like the GCC states differently from global countries and so on.”

The last two quotes and other interviewees’ feedback suggest that more constraints should be placed progressively as a compromise to investing in MH stocks. As noted by some interviewees, this could be achieved by reducing the screening thresholds by 30% or 50% and keep revisiting and reducing them through time, until a time comes when Islamic funds and investors can find enough PH stocks sufficient for a well-diversified PH portfolio. This suggestion is examined in the following empirical chapters, to investigate the impact of reducing the screening criteria of MH stocks on the performance of *Halal* portfolios and portfolio diversification. The next section elaborates on the screening criteria currently adopted by Islamic funds.

## **5.5 The *Shariah* Screening Criteria Adopted By Islamic Funds**

This section analyses the research participants’ views on the screening criteria that are used to screen Islamic equity funds and discusses other technical issues related to the screening process. This section is relevant to the following empirical chapters, where the prevailing screening methodology is adopted for the analysis. Almost all participants agreed that there are two levels of screening: (i) qualitative screening, called industrial or sector compliance; and (ii) quantitative screening, or financial compliance.

### **5.5.1 The Qualitative and Quantitative Screening Process**

Table 5.5 reports the interviewees’ responses regarding the definition of each screening level, categorized in different groups, by the times there were mentioned.

**Table 5.5: Definition of Screening****Panel A: Qualitative Screening/ sector compliance**

	Number of Times mentioned by interviewees				
	FM	SS	Others	Tot.	Tot. %
1. Core Business should be <i>Halal</i> , and sin element should be minimal.	18	15	6	39	67
2. All business and operations should be <i>Halal</i>	5	8	6	19	33
<b>Total</b>	<b>23</b>	<b>23</b>	<b>12</b>	<b>58</b>	<b>100</b>

**Panel B: The Financial Screening Criteria**

	Number of Times mentioned by interviewees				
	FM	SS	Others	Tot.	Tot. %
<b>A. Debt Screens:</b>					
1. Debt / Market Cap.<30%	5	9	1	15	15
2. Debt/Total Assets <30%	2	11	1	14	14
3. Debt/ Total Assets <33%	3	0	3	6	5
<b>B. Liquidity Screens</b>					
1. Interest-bearing cash and short-term investments / Total Assets <30%	2	4	2	8	8
2. Interest-bearing cash and short-term investments / Market Cap. <30%	1	4	1	6	6
<b>C. Interest Revenue and Sin Revenues / Total revenue &lt; 5%</b>	<b>9</b>	<b>19</b>	<b>5</b>	<b>33</b>	<b>33</b>
<b>D. Not sure, only invest in PH Stocks</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>12</b>
<b>Total</b>	<b>36</b>	<b>48</b>	<b>17</b>	<b>101</b>	<b>100</b>

Note: This table summarizes the participant views on the screening criteria used by Islamic funds. Panel A reports the sector compliance definition and panel B reports the financial compliant definition responses by the times there were mentioned by the research participant groups (FM=Funds managers, SS=*Shariah* supervisors, and Others = investors, index providers, and regulators).Tot., % = the total number of times and percentage each variable was mentioned. Market Cap. =Market Capitalization. Interviews may have mentioned several criteria.

Table 5.5 Panel A reveals that interviewees identified the sector-compliant level to filter out any company that is directly involved in any prohibited or ‘sin’ industries such as alcoholic beverages, pork products, gambling and casinos, media companies distributing pornography material, hotels serving alcohol or operating casinos, and interest-based financial institutions. Stocks in such companies were classified as ‘sin’ and are excluded from Islamic funds’ asset universe straightaway without investigating any financial information; all interviewees, including FMs, affirmed that investing in such industries is strictly prohibited in *Shariah*. Interviewees noted that some sin industries are legal in the GCC states such as conventional

financial services (i.e. conventional banks and insurances), while other sin industries are illegal in Kuwait and Saudi Arabia only such as hotels serving alcohol or operating casinos. The vast majority of interviewees pointed out that, if a company passed this filter, two questions had to be asked of stocks in the sector compliance screening level: (i) whether the company stated clearly that it followed *Shariah* law in all its activities via its annual report or articles of association for new listed companies; and (ii) explore if the investee company had an active SSB overseeing all its activities. If the stocks of a company passed both screening filters, then the stock of the company is described as PH stock. Almost all interviewees accepted a company's claim that it is 'Islamic' or a PH stock based on the fulfillment of these two screens, without applying any financial screens or investigating their financial statements further. For example, FM20 stated that:

“I feel comfortable when the investee company has a *Shariah* supervisory board, because they are responsible and accountable for all the *Shariah* requirements in the company, thus investors do not have to be concerned about any of these issues. Hence, if any *Shariah* violation is detected, as they have to take actions to solve any *Shariah* issue and this therefore would not affect their *Shariah* classification from being a pure stock to be non-*Halal*, so I still can keep it in my portfolio.”

Yet, a few FMs and other interviewees were doubtful of the existence of SSBs in the non-financial sector, as non-financial companies were not overseen by a central bank or any other regulatory body to ensure the existence and efficiency of the SSB. Furthermore, three interviewees suggested that financial screens were necessary for PH stocks too, not from a *Shariah* perspective but from an investment and economic perspective, for instance, FM10 argued that:

“Financial screens should be applied on Islamic companies because, unfortunately, the majority of Islamic financial companies are heavily leveraged, indeed not through interest-bearing debts but rather *Halal*-based debts and facilities. This is because leveraged companies are risky investments especially during economic downturns and tightened

liquidity. As we saw in the recent global financial crisis many Islamic companies were financially distressed and faced bankruptcy challenges.”

However, most interviewees argued that Islamic funds’ screening should only be *Shariah*-based screens that evaluated whether a company was a *Halal* or non-*Halal* investment and should not go beyond this objective by evaluating the risk and return tradeoff of the investment itself since this was an investment decision not a *Shariah* issue. Some interviewees, however, thought that *Shariah* screening should also cover the economic impact of such investments since *Shariah* is comprehensive.

Further, if companies failed to pass the sector compliance screening and were filtered out from the PH stocks, this meant that they were a mixed stock that could be either a MH or MS stock (see section 5.4.2). Therefore, the universe is filtered again by using financial screens based on three financial criteria: (i) debt screens; (ii) liquidity screens; and (iii) interest revenues and other non-*Halal* revenues screens from non-operational activities. These financial screens have defined thresholds as determined by SSBs to quantify the tolerable non-*Halal* element that could be mixed with the *Halal* majority. Thus, the interviewees agreed that these financial screens could determine the extent to which potential investee companies are involved in non-*Halal* activities in order to decide whether to invest in them. This finding corroborates the literature such as Wilson (2004), Khatkhatay and Nisar (2007), Derigs and Marzban (2008), Abdul Rahman et al. (2010), Ho et al. (2012), Marzban and Asutay (2012). The interviewees revealed that the financial screens used did not vary significantly, which is inconsistent with Derigs and Marzban (2008) who found that *Shariah* screening criteria used by different Islamic funds and indices were significantly different creating large differences in the *Halal* asset universe. This could be due to the fact that the SSBs of GCC Islamic funds have the almost the

same group of *Shariah* scholars (see Zawya report, 2011) and further these countries share similar investment environments, economic, political, and social systems.

One third of the interviewees noted that the sector-compliance screen should be used to filter out companies with any involvement in sin activities, whereas two thirds of the interviewees accepted including the stocks of companies whose core business was *Halal* but received a small proportion of revenues from non-operational sin activities; financial screening criteria should then be applied to these mixed stocks.

Table 5.5 Panel B reveals the financial ratios that are often used for screening MH stocks. First, the most noted screening criteria was interest-based income and other non-*Halal* income; interest revenue plus any other non-*Halal* revenue divided by the total revenue should be less than 5% (mentioned by 33% of interviewees). Second were interest debt screens; (i) the ratio of total debt to total assets should be less than 30%; and (ii) the ratio of total debt to market capitalization should be less than 30%. They were mentioned by 14% and 15% of the interviewees, respectively. Third were liquidity screens. Very few interviewees mentioned the two financial ratios that could be used to measure the proportion of non-liquid assets of investee companies: (i) interest-bearing cash and short-term investments as less than 30 % of the total assets of a company; and (ii) interest-bearing cash and short-term investments of less than 30 % of the market capitalization of the company. They were mentioned by only 8% and 6% of the interviewees, respectively. The interviewees noted that the categorization of mixed stocks to MH and MS can change over time, depending on their compliance with the financial screening criteria, which could change based on the level of sin component in their activities. Thus, this screening process and *Shariah* audits are conducted on a regular basis to ensure that Islamic funds' investments are in compliance with the established *Shariah* criteria and guidelines. Three quarters of the interviewees indicated that there were carried out quarterly,

while 15% of them said that it was conducted semi-annually and 9% thought it was conducted annually. Many interviewees noted that Islamic funds or investors who invest in MH stocks should purify their earnings and pay out these amounts to charity as they are not *Halal* (elaborated in section 5.6.2).

The differences in responses to the financial screening criteria reflect the different screening criteria used by index providers around the world, such as Dow Jones Islamic Market Index (DJIMI), FTSE Global Islamic Index Series, S&P 500, MSCI (Morgan Stanley Capital International) and AAOIFI. However, the interviews revealed that AAOIFI's financial screening criteria are the most widely adopted by Islamic funds in the GCC; hence this study applies AAOIFI's financial screening criteria in the following Chapters. One major difference in the financial screens is that one use market capitalization and the other uses total assets as the dominator in the financial ratios. AAOIFI changed its financial screening criteria number 21 in 2006 to use market capitalization instead of total assets. Fifty-one percent of the participants noted that total assets is a more appropriate and reliable measure as it is based on well-known international accounting standards and 37% of them said that total assets was independent of external market influences and speculation. On the other hand, 72% of the participants said that total assets could be inconsistent depending on the accounting principles used, for example, revenue recognition and asset valuations. Overall, the participants seemed to be more pessimistic about the use of market capitalization and 37% of them noted that the recent GFC had resulted in many companies' stock prices being below par value, so the ratios increased dramatically and the interviewees decided not to use them anymore. Further, 36% of the interviewees indicated that the market capitalization of a company was severely affected by speculation and was more volatile compared to total assets, while 17% interviewees said that using market capitalization yielded different results for companies listed in different markets.



On the other hand, 44% of the participants argued that market capitalization enabled continuous *Shariah* screening, independent from financial statements that are only produced every quarter, or detailed audited financial reports published annually. In addition, market capitalization values can be calculated daily, and 40% of them asserted that this reflected the real worth of a company as determined by the market. These findings are similar to that of Derigs and Marzban (2008). It appears that the use of total assets is preferable to some extent (37% of the interviewees) compared to market capitalization; this could be due to the impact of the GFC that affected GCC stock market values negatively. Hence, many Islamic funds and indices in the GCC and globally currently use total assets instead of market capitalization, as noted by many of the interviewees. For instance FM10 stated that:

“We have not changed our methodology since the beginning as we thought that total assets is more reliable and realistic, while the majority of the list producers were using market cap. before the financial crisis because stock prices were inflated and this strategy appeared to be more liberal as it gave them a bigger *Halal* universe to invest in, but due to the crisis many investee companies were traded below their par value. Hence, Islamic funds were getting fewer companies to invest in, so they moved towards total assets.”

However 13% said that using market capitalization was preferable. To overcome the problems of each method, 15% suggested using market capitalization only for service and technology companies because they were not tangible-asset backed industries. Further, 10% of the interviewees suggested using both total assets and market capitalization for financial screening ratios if a company fails on one measure, it would have a chance on the other measure (based on the lowest requirement). However, this strategy was criticized by some SSs who asserted that they had to be consistent and stick to one methodology and not change from time to time, although some of these SSs had given permission to screening providers to move from using market capitalization to total assets after the dramatic drop in the market prices in 2008. In addition, a few SSs pointed out that these financial screens are *Ijtihad* that should be flexible

and subject to change if necessary. Interviewee SS1 for instance, explained this standpoint as follows:

“The *Shariah* scholars’ behaviour should tend to aim at removing the hardship caused to investors. Thus, if we accept investing in mixed *Halal* stocks then the use of any divisor is not a big deal from a *Shariah* perspective, therefore we can use market capitalization for service and technology sectors or total assets for industrial sectors”

This is also consistent with the strategy undertaken by Dubai Islamic Bank that uses both measures as divisors for its screening ratios (Derigs and Marzban, 2008). Therefore, for the purpose of this study, AAOIFI’s (2004) and (2006) screening criteria are used in the following chapters. With the exception of the use of total assets and market capitalization, there is a little variety of the financial screening thresholds. This finding is not in agreement with Derigs and Marzban (2008) and Abdul Rahman et al. (2010) and could be due to the fact that they compared screening criteria across different countries (Islamic Indices in USA, UK, and Pakistan), while this research was conducted mainly in Kuwait and other GCC countries that share similar investment environments, economic, political, and social systems. Indeed, almost all SSs and the other interviewees agreed that the financial screening criteria should be re-evaluated, and that companies in Islamic countries should be different from western countries. It was mainly the SSs group that knew the rationale of such financial screening ratios; for instance, the SSs indicated that if the assets of a company were highly liquid it would be not permissible to invest as *riba* would occur.<sup>124</sup> A significant minority of interviewees (26%) including FMs, investors, and regulators were not aware of the rationale whatsoever of the screening criteria. This is because almost all FMs and investors depended either on a publicly

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<sup>124</sup> According to jurisprudence principles, money cannot be sold for money as exchange should be for exact value in cash otherwise it would be *riba* (Usmani, 2002; AAIFIO *Shariah* standards, Alquradaqi, 2004; Alquradaqi, 2005). There is a consensus among *Shariah* scholars regarding this rule, however applying it in the case of trading stocks remains debatable (Abdul Rahman, 2010). This screening ratio is mostly used in Pakistan and India as they follow the Hanafi jurisprudence school.

available list or on one provided by the Islamic funds' SSB; hence, they were not engaged in any screening process. Seven percent of the interviewees were not aware of such criteria because they only invested in PH stocks. The majority (61%) said that such financial screens are a respectable *Ijtihad* conducted by *Shariah* scholars. For instance, interviewee SS11 highlighted that:

“No one dare to say that receiving or giving *riba* is *Halal*, the screening criteria are *Ijtihad* to limit *riba* and other impermissible activities, not to make it legitimate. For example, does constricting smoking rooms in public places make smoking permissible in *Shariah* or in law?! Certainly not! It is only to limit the harm of smoking in society and the environment and to control it as much as possible. The same concept applies to investing in mixed companies.”

Nevertheless, 13% criticized the above argument determining financial ratios, indicating that there was no evidence from the *Qur'an* or the *Hadith* to back this *Ijtihad* which they deemed as weak and not convincing. For example, interviewee SS16 said that:

“Indeed *Ijtihad* is a secondary source of *Shariah* and gives the *fiqh* flexibility; however it should be based on strong evidence based on divine guidance and other secondary sources where I do not think so it is the case here. I might have accepted it 15 years ago as it was a necessity at that time and we are required to apply the *Shariah* law gradually, but it should not be accepted anymore as the number of Islamic stocks has increased dramatically in most GCC stock markets, thus using those financial ratios is not justified anymore.”

From this quote, it seems that not all practitioners in the industry are convinced of investing in MH stocks or the *Shariah* rationale underpinning financial screening. In fact, some voices are calling for intervention to control such investments; consistent with Rahimie (2010), different responses between different stakeholders suggest that there is a gap between FMs, investors, and regulators who know little about *Shariah* issues while SSs know little about the technical issues but know lot about *Shariah*.

### 5.5.2 Positive Screening

The above qualitative and quantitative screening criteria are considered as negative screening criteria in the literature, and during the interviews there was hardly mention of the use of positive screening criteria such as those applied by socially responsible investment funds. When positive criteria were explained, the majority (65%) replied that they did not use such criteria, but a third of them asserted that Islamic fund managers should include them in the screening process since *Shariah* promotes these issues and it is part of the *Shariah* objectives.

For example, interviewee SS8 highlighted that:

“Social justice, economic development and environmental ethics are core values and part of *Shariah*’s broad objectives. Thus, fund managers should factor this in their investment decisions and priority should be given to invest in companies that are engaged in promoting such values in society and avoid investing in companies that damage the natural environment for instance.”

Interviewee Other7 clarified that:

“Islamic fund managers need to reflect more social, ethical and environmental issues in their investment strategy in order to make a positive social and economic contribution to the societies that they operate in, where at the end of the day, they would boost their image and reputation.”

This finding is consistent with that of Kamla et al. (2006), Maali et al. (2006), Dusuki (2007), Hasan (2009), Visser (2009), Kasim et al. (2009), and Marzban and Asuty (2012), as they highlight the importance of such values in the practices of Islamic funds, but most of them report that there is a gap between the theory and practice of such funds.

Therefore, when the interviewees were asked what prevented investors and FMs from employing positive screening criteria, 42% of them noted that the number of total listed companies (including *Halal* and non-*Halal* stocks) in GCC stock markets was limited compared to developed stock markets such as the USA or UK stock markets and that there were not enough to be able to have more investment constraints that would affect a portfolio’s

diversification adversely. Thirty-nine percent of the interviewees attributed this to the low level of awareness among investors regarding the importance of such criteria and 19% of the interviewees argued that negative screening was straightforward compared to positive screening that requires more complex investigations because of the poor level of disclosure in annual financial reports and other publicly available information. For instance, FM17 reported that:

“We do not use positive screening because there is no corporate governance reporting codes and even where there is in some GCC countries the disclosure level in companies’ annual reports is very weak and not designed for Islamic companies. Therefore how can we claim use positive screening while we struggle to find the required information to judge that!?! However, government authorities should play a role in that, as this will also promote ethical investors across the world.”

This supports Saidi (2006) who asserts that improving corporate governance standards will help improving transparency and disclosure, tighten listing requirements, and restore investor confident.

### **5.5.3 Harmonization Screening Criteria**

Although 71% of the participants thought that Islamic funds and Islamic Indices used similar screening criteria, they were asked if there was a need to harmonize *Shariah* screening criteria to produce just one unique list of *Shariah*-compliant stocks for all Islamic funds and for individual investors in the market. The majority agreed to such harmonizing of screening criteria. For example, interviewee FM14 highlighted that:

“At some point of time, it will be healthier and beneficial to harmonize the various screening criteria because you do not want to have unfair competition where you are arbitraging *Shariah* rules, secondly it is inexpensive in terms of cost and effort in duplicating the screening process and finally it would not confuse individual investors”

Furthermore, interviewee SS9 added the following to support the above argument:

“*Shariah* encourages unity among Muslim nations and harmonizing the screening criteria across Muslim countries and globally would accelerate and strengthen investment and

economic cooperation among Muslim communities and this will also attract foreign investors to invest in our countries as it will not create confusion for them”

This outcome seems to be consistent with other studies such as Karim (2001), El-Hawary et al. (2006), Derigs and Marzban (2008), Abdul Rahman et al. (2010), Ghoul (2012), and Marzban and Asuty (2012). However, 26% of the interviewees argued that there were valid reasons why diverse screening criteria were used. For instance interviewee Other12, a regulator in CBK, noted that:

“Harmonization is difficult and Islam is diversified in the sense that we have four different respectable schools of thoughts, where this should enhance the creativity and competition between different *Halal* service providers and funds. Furthermore, it allows for more flexibility to adjust for specific conditions faced by some countries or industries in different environments. And even if we, as a central bank, intervene to harmonize the screening criteria in Kuwait, we cannot do so in other countries such as Malaysia, Pakistan or Sudan. Therefore, we would rather let people and the market decides.”

Different schools of thoughts did not seem to have much role to play in defining screening criteria as they are based on contemporary *ijtihad* or *fatwa* that did not exist before. However, many interviewees noted that Islamic funds’ SSBs came from the different schools of thoughts including Shia. Some SSBs outlined that harmonizing *Shariah* standards in general may contradict the fundamental premise of *Ijtihad* that provides *Shariah* a dynamic ability to be applied in different circumstances over time.

Some interviewees, including SSBs and FMs disagreed with the idea of harmonizing the screening criteria simply because they thought that Islamic indexes and list providers did this screening service already as a marketing strategy which was well known in the market to promote such services. Therefore if there was one unique list in the market, such opportunities would be lost. Furthermore, 26% of the interviewees refuted the idea of harmonization because they argued that harmonizing accounting information should come first and it was more important and challenging than harmonizing the screening criteria. They pointed out that the

annual financial disclosure practices of Islamic companies within the same country and among other GCC countries were inconsistent and incomparable in some cases. For example the degree of details provided, the terminology used, the explanatory notes and accounting policies used were different. Most interviewees pointed out that PH and MH investee companies' annual reports were similar to conventional annual reports, and they were not regulated or prepared for *Halal* seeking investors.<sup>125</sup> For instance, interviewee SS16 reported that:

“When we screen the annual and financial reports, it is our job for example to find out whether the item debt in the balance sheet refers to an interest based debt or a *Halal* based debt! Hence, there is a need for accounting information and terminology to be regulated in order to enhance the credibility and comparability of the annual reports and the screening process for *Halal* seeking investors, why not follow central banks that have adopted AAOIFI's Islamic accounting standards for Islamic companies?”

Seven interviewees<sup>126</sup> acknowledged that AAOIFI was an appropriate body for harmonizing financial and accounting reporting, for Islamic financial companies, in order to harmonize the financial reporting for at least all PH companies. Many interviewees believed that AAOIFI carried significant weight in Muslim countries, especially in the Middle East, enabling it to create a harmonized framework to encourage Islamic investments in the region. This harmonization would improve the usefulness of accounting information for those who prepare *Halal* screened lists and *Halal* seeking investors. This study attempts to empirically examine whether there is a need to harmonize the screening criteria by studying the impact of using different AAOIFI' financial screening criteria 2004 and 2006 on the *Halal* asset universe and the impact on portfolios' performance. Thus, if the results indicate that there are significant differences on portfolio returns between using these different criteria, then harmonizing the criteria may be needed.

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<sup>125</sup> Halal seeking investors are those who screen themselves their own universe without depending on any screened lists.

<sup>126</sup> Interviewees FM21, SS1, SS2, SS3, SS6, SS16, and Other6.

#### 5.5.4 The Source of Information Used in Screening

According to the interviewees, there are lists of PH and MH stocks available in the market. These lists are issued every quarter as mentioned by 94% of the interviewees. *Shariah* consulting companies and Islamic investment companies have research departments that carry out such *Shariah* screening services and publish such lists. Three list providers in Kuwait, namely Al-Rayah and Mashura, Al-Madar, and AL-Aman were mentioned respectively by 48%, 14%, and 5% of the interviewees. The interviewees noted only two private list providers in Saudi Arabia, one in Qatar, none in Bahrain, and one official list provider in the two stock markets in U.A.E (in Dubai and Abu Dhabi financial markets). Thirty four of the interviewees depended either on a list approved by their own SSBs (18%) or did not use any *Shariah* lists at all and only invested in PH stocks already well known to them (16%).

The interviewees were asked about the sources of information employed when evaluating investee companies from a *Shariah* perspective to classify them in to PH, MH, MS and Sin. About 27% of the interviewees only examined the Articles of association to confirm if they had a SSB and looked at their annual report to see the names of the SSB members as well as their *Shariah* report, but not the financial statements. However, 38% of the interviewees, who invested in MH stocks, indicated that they used the financial statements and attached notes. One quarter of the interviewees noted that list providers used financial reports and also obtained information directly from the investee companies themselves, in some cases by speaking directly to them because they believed that published available information was not sufficient to be able to decide if certain stocks were *Halal* or not. The interviewees agreed that the financial reports with their notes were the most important source of information for evaluating MH stocks, while the Articles of association and the existence of SSBs was the most important source of information for evaluating PH stocks. Sixty-one percent of the



interviewees felt that the level of disclosure in the annual reports was sufficient or at least sufficient to some extent to determine *Halal* investments; however, 34% of them highlighted that the level of disclosure was low because the annual reports and financial statements were not prepared for *Halal* seeking investors as they are based on western accounting standards.

Other 3 argued that:

“We as an Islamic investment company and an Islamic Index and list provider, maintain good relationships with most investee companies to facilitate any information required for screening but this consumes time and effort. Thus, it is essential that the regulatory bodies intervene in this regard compelling all listed companies to report certain accounting items to facilitate *Shariah* screening. I expect companies would respond positively because many investee companies are interested in being targeted by Islamic funds and investors as they think that this will raise their stock price in the market.”

Further, some interviewees called for a comprehensive Islamic accounting and auditing framework and disclosure system that underpinned Islamic values. For instance, interviewee

SS13 noted that:

“Islamic companies in different countries use disclosure systems that are based on the western capitalistic accounting standards. Indeed, such disclosure systems do not reveal full compliance with *Shariah*. Therefore, it is hard to claim that such a company is 100% purely Islamic. Hence, there is a need to develop accounting standards and a disclosure system [framework] based on Islamic values, in order to cater for the unique characteristics of Islamic companies’ products (e.g. *Musharakah*, *Mudarabah*, *Murabahah*) and social values (e.g. *Zakat*) or at least Islamic companies should offer additional disclosure that address these *Shariah* concerns. However, since Mixed companies are not governed by *Shariah*, they are not obliged to disclose such additional information which again is challenging for *Shariah* list providers”<sup>127</sup>

This view is consistent with that of Karim (2001), Lewis (2001), Harahap (2003), Kamla et al.(2006), Maali et al.(2006), Haniffa and Hudaib(2007), Kamla (2009), Yaacob and Donglah (2012), Kasim and Sanusi (2013), and Sarea and Hanefah (2013). Some interviewees argued that AAOIFI Islamic accounting standards offer a good model to be adopted, which is inconsistent with Kamla (2009) who criticized AAOIFI’s role by imitating western capitalistic

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<sup>127</sup> *Musharakah* (partnership) is a partnership contract in which both parties contribute capital and may form a joint Management, while a *Mudarabah* is a partnership contract in which one partner contributes capital and the other partner invests time and effort (see Mirakhor and Zaidi, 2007).

driven accounting bodies. Kamla (2009) indicates that AAOIFI's accounting standards draw on the most dominant accounting and auditing practices, with emphasis on technical issues related to interest prohibition and Zakat calculation rather than holistic Islamic and social values. Lewis (2001), El-Gamal (2006), and Kamla (2009) argue that Islamic accounting standards should be based first on Islamic values and teachings and then consider western accounting standards. However, the interviewees pointed out that such an approach is difficult to be implemented due to western influences on business and culture in Islamic countries (see also Maali et al., 2006). The interviewees revealed that regulators are not interested in playing an active role in this regard. For example, Other 12 (a KCB officer) provided the following argument:

“I have to confess that the Islamic fund industry in Kuwait is self-regulated; we left it in the hands of the *Shariah* boards who are qualified and trustworthy people, because we are not experts in this field and there was a sudden rapid growth in this industry and we had to respond to the strong demand. Thus, the market itself is capable of producing sound and qualified individual and institutional *Shariah* experts, because our intervention could deprive the market from good brains, and limit the flexibility and innovation of the industry if we have one unique *Shariah* authority here at the central bank.”

On the other hand, many interviewees blamed the regulatory authorities for being ineffective and passive, compared to their role towards conventional counterparties. The interviewees affirmed that in Kuwait, Qatar and Saudi Arabia, the Islamic fund industry is self-regulated with no central *Shariah* authority at the central bank or any other regulatory body. Nevertheless, in Bahrain and UAE there is *Shariah* authority as a reference. The interviewees noted that the CMA in Kuwait has started to fill this gap by constructing a regulatory *Shariah* governance system for the Islamic finance industry. For instance, interviewee Other11 stated that:

“... The good news is that the awareness in the regulatory level of the importance to develop better regulations for the Islamic finance and investment industry has improved. For example, the newly emerged regulatory body in Kuwait, the Capital Market Authority, has established recently a fully independent central *Shariah* Council that will work on a

full time basis to address all these issues you have just presented and is expected to publish detailed codes in this regard"

After discussing the screening criteria adopted by Islamic funds in the GCC and the source of information used to conduct that screening, the next section moves to investigate the factors that affect the performance of Islamic funds.

## **5.6 Factors Affecting the Performance of Islamic Funds**

The interviewees mentioned several factors that influence the performance of Islamic funds. Fifty-five of the interviewees mentioned: (i) the fund managers' investment skills in terms of asset allocation and stock selection; (ii) the economic cycle, including the GFC; and (iii) the impact of the *Shariah* classification to PH, MH, MS and Sin stocks, which was mentioned by 38%. All these factors were reported by Rahimie (2010).<sup>128</sup> In addition, only a few interviewees (5%) mentioned the need for earnings purification of MH stocks as a factor affecting *Halal* portfolios. Sections 5.6.1 and 5.6.2 elaborate on these factors. The impact of such factors on Islamic funds' performance is examined quantitatively in Chapter 8.

### **5.6.1 Asset allocation of PH and MH stocks**

The most important fund managers' skills mentioned by the interviewees are stock selection and asset allocation across different sectors. It is argued in the literature that the stricter the adherence to screening requirements, the more restrictions there are on stock selection and less diversification is expected (see Chapter 3). Therefore, interviewees were asked about their perceptions regarding Islamic funds' investment allocation and selection in case of PH investment alone or both PH and MH investments; however, only the response of FMs is

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<sup>128</sup> Rahimie (2010), however, classified stocks in terms of *Shariah*-compliance to two groups: either to *Shariah* compliant stocks or non-*Shariah* compliant stocks while this study classifies stocks to four groups; PH, MH, MS, and Sin.

detailed in Table 5.4 as they are those who set a fund's allocation strategy and make the investment decisions.

**Table 5.4: Fund Managers' Asset Allocation of *Halal*-Based Stocks across Different Sectors**

	PH portfolio							PH and MH Portfolio						
	B.	Inv.	Ins.	R.E	Ind.	Ser.	F.	B.	Inv.	Ins.	R.E	Ind.	Ser.	F.
FM 1	*	*				*		*	*			*	*	
FM 2	*	*		*										
FM 3								*				*	*	
FM 4								*			*	*	*	
FM 5								*	*	*	*	*	*	*
FM 6								*	*	*	*	*	*	*
FM 7	*	*	*	*				*	*	*	*	*	*	*
FM 8	*		*	*				*	*	*	*	*	*	*
FM 9	*	*	*	*		*		*	*			*	*	
FM 10	*	*		*	*			*	*	*	*	*	*	*
FM 11	*			*				*			*	*	*	
FM 12	*			*				*			*	*	*	
FM 13	*	*		*				*	*	*	*	*	*	*
FM 14								*	*	*	*	*	*	*
FM 15	*	*							*	*		*	*	
FM 16	*	*				*		*			*	*	*	
FM 17								*	*	*	*	*	*	*
FM 18	*	*		*				*			*	*	*	
FM 19	*	*			*			*	*		*	*	*	
FM 20	*			*	*			*	*		*	*	*	
FM 21	*			*	*			*	*	*	*	*	*	*
FM 22	*			*	*			*			*	*	*	
FM 23	*	*						*	*	*	*	*	*	*
<b>Total</b>	<b>17</b>	<b>11</b>	<b>3</b>	<b>12</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>21</b>	<b>15</b>	<b>11</b>	<b>18</b>	<b>22</b>	<b>22</b>	<b>10</b>

Note: This table shows which sector the interviewed fund managers allocate their *Halal* stocks: B=banking, Inv. = investment, Ins. = insurance, R.E= real estate, Ind. = industrial, Ser. =services, and F= food. The last row provides the total of each column. The shaded rows indicate that the fund manager does not manage that type of portfolio.

Table 5.4 shows that Islamic fund managers who invest only in PH stocks are concentrated in the stocks of Islamic banks, investment and real estate companies. This is because the majority of PH stocks operate in such industries, and few in other non-financial sectors. For instance, these Islamic fund managers could not find any PH stocks in the food sector.<sup>129</sup> Those who

<sup>129</sup> PH are not found in the food industry because these companies have interest bearing debts, thus they are classified as MH or MS depending on their compliance with the financial screening criteria, not because they sell

were allowed to invest in both PH and MH stocks were more diversified across financial and non-financial sectors. Some interviewees, especially FMs, argued that it is hard to find 7-10 strong PH stocks, especially after the GFC. However, individual investors, SSs and regulators believed that investors were able to pick up fundamentally good PH stocks from different sectors and obtain reasonable returns. This could be due to the fact that FMs manage large capitalized portfolios and need to allocate across a wider range of stocks to avoid concentration in certain sectors. Thirty-two percent of the interviewees indicated that they only needed 10-15 stocks to diversify away the systematic risk of their portfolios whereas, 14% said that they needed 15-20 stocks, 12% mentioned 20-30 stocks. All of the SSs did not know how many stocks were required to diversify the market risk away, indicating that they are not involved in the technical aspects of fund management. This may suggest that there is a separation between *Shariah* experts and FMs as noted earlier. Furthermore, all the research participants agreed that there were diversification benefits by investing in more than one GCC stock market to enhance the performance of Islamic funds, especially those that only invested in PH stocks. This is similar to the findings of Balli et al. (2013) who find that portfolios (conventional) diversified across GCC stock markets perform better than those within local markets. The participants believed that it would be a diversification advantage if *Halal* portfolios were constructed across the GCC markets; they mentioned (i) Kuwait stock market (35%), (ii) Saudi Stock Market (27%), (iii) Qatar Stock Market (22%), and (v) UAE (11%). In addition, the vast majority of interviewees also confirmed that there were diversification benefits for global ethical investors to invest in *Halal* equity stocks since they could be added to ethical equity portfolios.

In order to examine the impact of the screening classification of *Halal* stocks on portfolio's diversification and performance, the research participants were asked whether there was a

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or produce non-Halal food. They would be classified as Sin stocks if it related to their core business (see chapter 6).

penalty or cost for investing in only PH compared to investing in both PH and MH stocks. It was surprising that only 13% of the research participants agreed that being limited to PH had a significant negative impact on portfolio performance, 48% said that there was no significant cost, and surprisingly 39% believed that PH-only portfolios could outperform PH-and-MH portfolios as well as the general market index in some periods of the year but underperform in other periods. This finding adds to the existing literature, which only examines the performance of portfolios which contain a mix of PH and MH.<sup>130</sup> However, the interviewees were optimistic about the performance of Islamic funds when they included MH stocks; the vast majority (86%) of them commented that there was no significant negative impact of including MH stocks on performance although 14% indicated that such Islamic funds could also underperform the market index and conventional funds in certain periods.<sup>131</sup> Nevertheless, the participants' input was not too different from the literature which examines the performance of Islamic funds, and Islamic indices<sup>132</sup> against their conventional counterparts or similar Islamic funds or indices (for example Hakim and Rashidian, 2004; Elfakhani et al., 2007; Abdullah et al., 2007; and Hoepner et al., 2011; BinMahfous and Hassan, 2012; Asharaf, 2013). This section can be summarized by the following quote from FM11 who stated that:

“Although we are limited to a smaller asset universe compared to conventional fund managers, we are able to find a sufficient number of leading, large cap. and fundamentally strong mixed *Halal* stocks to diversify the market risks away, as our *Halal* portfolio outperformed the market index and our targeted Islamic index in most of the periods including the financial crisis period.”

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<sup>130</sup> Chapters 7 and 8 will examine this research question using quantitative methods over different sample periods to fill this gap.

<sup>131</sup> This outcome will also be examined in the next empirical chapter and compared with the performance of PH portfolios.

<sup>132</sup> The term Islamic equity funds and Islamic equity is used in the literature refer to what is described in this thesis as Mixed halal equity portfolios or what is also called *Shariah*-compliant equity portfolios, which includes PH too, but not PH stocks only.

Regarding stock selection, interviewees noted that Islamic fund managers use: (i) fundamental analysis with news and recommendations (mentioned by 31%); (ii) fundamental analysis exclusively (24%); (iii) both fundamental analysis and technical analysis (17%). This finding is consistent with conventional studies on emerging markets such as Al-Abdulqader et al. (2007), Tijjani, et al.(2009), Al-Mujmed (2011) that conclude that fundamental analysis is the most widely adopted approach to a stock's valuation, For instance, FM 11 who used technical analysis in KSE highlighted that:

“I have been using technical analysis for the last 10 years; however I cannot depend on it exclusively, but rather use it with the market news and other possible information, because certain news and signals could result in different reactions in the market that could spoil all your technical analysis approach. This approach helps me understand the behaviour and psychology of both investors and speculators in the stock market and anticipate the coming movement in the market. For example, I liquidated our portfolios in 9/7/2008 and achieved 27% returns in a few days before the whole market collapsed, however I faced strong resistance by the CEO, but because I had the power to make that decision, I made it, since all the indications were worrying, and I knew that there was a crisis coming as I monitor the US markets and when the market crashed a few days later, the CEO and management appreciated my decision.”

This also shows the impact of different market conditions, such as the GFC that led the whole market to crash.<sup>133</sup> In addition, some fund managers highlighted the importance of the experience and the track record of the board of directors and management of investee companies as well as the performance of the overall sector which could impact on their stock performance. For example Interviewee FM1 noted that:

“We trust fundamental analysis more than technical analysis. For that, we first start with industry analysis across all sectors in the market, because the performance of different industries varies, as well as some industries are more sensitive to the change in the overall market index or economic downturns. This is why we diversify our Islamic local funds across different sectors but we also created sector based funds across different GCC and MENA countries. Second, we examine the business model of the company, major owners, its management reputation and experience, and past 3 to 5 years performance.”

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<sup>133</sup> Islamic fund managers' timing ability, however, is not assessed in this study because it does not use Islamic funds data, the current study create different portfolios based on the different screening criteria as elaborated in Chapter 6 and their performance is discussed in Chapters 7 and 8.

Nevertheless, other fund managers and investors argued that there were other factors that affected the stock performance, such as insider trading. Although they admitted that insider trading is generally not lawful, they excused such practice by saying that it had a cultural background that pushed FMs and some investors to employ such sources of information, arguing that Kuwait was a socially intensive culture where, with informal relationships and contacts, FMs can get access to information before it is released to the market. For instance

Interviewee FM15 declared that:

“Unfortunately, we do not have strict legislations in Kuwait punishing insiders to refrain from trading on confidential information, compared to Saudi Arabia. For instance, the same Kuwaiti CEO who was working for the largest telecommunication company in Kuwait was never punished for revealing insider information during his social informal meetings; however he was strictly penalized for the same practice in Saudi Arabia where he is currently working.”

This finding is no different from that of Al-Mujmed (2011) about the Kuwaiti stock market which shows that insider trading is a wide spread practice affecting stock price movements. Furthermore, some interviewees believed that rumors had a significant impact on stock prices.

Interviewee FM16 touched upon this issue and stated that:

“The common saying states: ‘Buy the stock based on rumors and sell it when the news is confirmed’. They mean positive rumors about the company that lead to an increase in its stock price. This is for several reasons; first the investment awareness level is generally not mature enough among investors, as many of them could not analyze or deeply understand companies’ financial statements. Second, we are not an efficient market and do not have a large number of companies compared to developed markets. Third, we are a speculative market, where most investors seek short term returns and run away.”

The media is another source of information that affects stock prices. For example, FM12 asserted that:

“I always start my investment day, first thing in the morning, by scanning all newspapers and consider the first impression, if the political and economic news are negative; this will have a negative reaction on my physiology and investment behaviour for the whole day and vice versa. Because media is an important vehicle through which information is widely spread to all market participants such as investors, analysts, managers, and regulators. Hence, such information and news will indeed have a direct or indirect impact in forming their decisions.”



Moreover, some interviewees noted that many investee companies invested in each other. Thus, many of them were correlated and tied together, because they held significant ownerships or informal and social relationships or because many of them are owned by merchant families. This facilitates the flow of information and recommendations between them, regarding takeovers, dividends and profit announcements, or other important news that affects the stock price. Therefore, many interviewees argued that there were many variations in stock prices that could not be explained, emphasizing the need to apply corporate governance in KSE, as CMA in Saudi Arabia. Many interviewees thought that Kuwaiti Islamic funds were more mature than in other markets. Indeed, a few regulators affirmed that the new Kuwaiti CMA legislations would address the previous practical issues. Many interviewees argued that the performance of the KSE market had been negatively affected by the GFC, the political crisis caused by the Arab spring that started at the end of 2010, local political disputes especially from 2009-2011 and instability in Kuwait between the parliament and previous the prime minister (see Chapters 2 and 8). Thirty-nine percent of the interviewees indicated that the GFC affected the performance of all firms in GCC stock markets; 26% argued that Islamic companies (PH) were affected more than non-Islamic ones, while 35% thought that conventional companies were affected more. Interviewee SS11 affirmed that:

“The global financial crisis caused many companies in the GCC stocks markets to default, as many companies in the GCC were tied with US and European banks and financial institutions that were severely affected by the crisis. The Dubai debt crisis had huge impact on the GCC region, I guess Islamic companies were affected more because many Islamic investment companies invested there and were involved in more long term debt. Furthermore, the dramatic political change in the Arab spring countries that started in Tunisia, Egypt, and Libya, Yemen had a huge impact on all GCC stock markets. These economic and political factors made the recovery after the global crisis difficult and slow.”

Therefore, political events, economic market cycles, a financial crisis or worldwide recessions are systematic risks that affect the performance of both Islamic funds and conventional funds.<sup>134</sup>

The other factor that a few interviewees thought might affect Islamic funds' performance was earnings purification which is discussed next.

### **5.6.2 The Purification of Islamic Funds**

The vast majority of interviewees agreed that fund managers and investors should 'purify' or 'cleanse' their MH stocks' earnings from non-*Halal* sources, in order to be *Shariah*-compliant earnings.

Interviewees noted that the concept of 'purification' was applicable when the non-*Halal* revenues of a stock was 5% or less of the total revenues or total income; if the non-*Halal* revenues exceeded the 5%, then the stock was considered to be non-*Halal* and should be filtered out and removed from the portfolio if it was part of it, even though it was compatible before that as noted earlier. These findings are supported by the literature (See: Elgari, 2002; Ayube, 2007; Girard and Hassan, 2008; Derigs and Marzban, 2008; Usmani, 2010).

FMs asserted that the SSBs did not allow them to use purified amounts for tax or Zakat but rather they to be given away to given for charitable purposes. Interviewees stated that the non-*Halal* earnings purification of funds was calculated annually when the audited financial information of the investee companies became available and the purification amount was

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<sup>134</sup> Chapters 7 and 8 capture the impact of different market conditions on the performance of different *Shariah* classified stocks by dividing the sample period to the full sample period (2006-2011) and three sub periods; bullish period before the GFC (2006-2007), the GFC (2008-2009), and the bearish period (2010-2011) to capture the Arab spring regional crisis and the Kuwait local political instability. Chapter 8 for instance, introduces a dummy variable to examine the impact of the GFC. In addition Chapter 8 introduces dummies for each sector in the market, and firm's size, to study their impact on different *Halal* and non-*Halal* investee companies.

deducted prior to the Islamic funds' profit distributions. The interviewees highlighted that the purification process was conducted on a stock by stock basis.<sup>135</sup>

## 5.7 Portfolio Performance Evaluation

The interviewees revealed that in GCC countries Islamic fund managers used non risk-adjusted measures to evaluate their investment funds' performance such as raw returns or net asset values (mentioned by 63% of the interviewees). In addition, some interviewees also mentioned the Sharpe and Treynor measures (14%), Jensen's alpha (5%), the Information ratio (5%) and the Mean-Variance optimization model (5%). However, some interviewees criticized FMs investment decision making for being naïve and not using MPT. For example, Other 7 (an individual investor) argued that:

“I prefer investing through my own equity portfolio, because Islamic funds do not really add value to my investments, as they usually do not provide superior returns above the market index, but charge my fees for that?! I believe that fund managers generally in Kuwait and GCC, do not follow professional and sophisticated portfolio risk-adjusted analysis models, unlike other fund managers in developed markets, as most of them simply follow insider information, general market trends and apply few financial ratios on certain stocks. I blame the regulators that do not require high qualifications or standards to employ fund managers.”

The interviewees demonstrated that fund managers in the GCC do not use sophisticated investment techniques, but argued that simple measures were more applicable. Some interviewees noted that FMs use only one performance measure, while others mentioned using multiple measures. The only group of interviewees who were not aware of Islamic funds' performance measurements was SSs, and the majority of them believed that Islamic fund managers used raw returns. Indeed, many SSs were not familiar with the difference between risk-adjusted and non-risk-adjusted performance measures. Most of the SSs justified their lack of knowledge in such issues by declaring that these issues were not directly related to *Shariah*,

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<sup>135</sup> Since few interviewees believed that income purification affected stocks performance and because many Islamic funds only declare the amount of non-Halal purification that needs to be paid out from earnings, this study does not adjust for such purification in later chapters.

but were financial and investment decisions. However, when risk-adjusted returns were explained to some of the SSBs, and that interest was a component of their calculation, many of them were unhappy that fund managers were using such performance evaluation techniques.

A number of interviewees, including SSBs themselves, highlighted that SSBs should have sufficient financial knowledge, or at least have a financial expert on the SSB, to effectively monitor funds. For instance SS12 reported that:

“Disappointingly many *Shariah* board members and *Shariah* auditors are not involved in the financial details, as they believe that they do not contradict *Shariah* guidelines, however this is essentially because many of them lack strong financial, accounting and economic backgrounds. Thus, I suggest training them on such disciplines or including members with other than those specialized in *Shariah*, who are experts in such disciplines to bridge this gap.”

This reveals the need to promote the *Shariah* audit function in IFIs and funds, as supported by Kasim et al. (2009), Yaacob and Donglah (2012), who also indicated that few are expertise in the industry that have both *Shariah* and accounting qualifications. Hence, *Shariah* auditors should be trained in accounting with a specialized certification in *Shariah* (Yaacob and Donglah, 2012; Kasim and Sanusi (2013).

The majority of FMs who used conventional performance measures argued that Islamic equity funds were similar to conventional equity funds, except that their universe was more restricted as defined by their SSB. Therefore, they argued that it was rational for them to use the same conventional models and many explained why most empirical studies on Islamic funds use conventional portfolio measures without even considering this as a limitation in their work, such as Hussein and Omran (2005), Abdullah et al. (2007), Elfakhani et al. (2007), Abderrezak (2008), Girard and Hassan (2008), Derigs and Marzban (2009), Merdad et al. (2010) and Hoepner et al. (2011). Contrary to most studies, Rahimie (2010) uses the *Mudarabah* investment account return rate as an alternative proxy of the risk-free rate in the Sharpe and Treynor ratios to evaluate his *Halal* approved stocks in the Malaysian stock market. This has

not yet been addressed either in academic research or in the professional literature and this thesis fills this gap and examines whether there is a *Shariah*-compliant alternative to interest-based benchmarks, particularly the risk-free rate. This would then reflect the objectives of Islamic fund studies and hence this contributes to our knowledge.

Hence, all the interviewees were asked whether there was a need to construct new alternative performance measures that aligned with Islamic investment principles. Twenty-one percent of the interviewees said there was a need to construct alternative performance measurements for Islamic funds, and 20% said that they were not comfortable with using current conventional models as they felt that they were not consistent with Islamic investment principles. Forty-one percent of the interviewees, however, declared that there was no need to develop new performance models to measure Islamic funds or *Halal* portfolios, most of these were FMs who had, in practice, never used *Shariah* oriented risk-adjusted performance measures. Indeed, only a few FMs had even thought about this.

The interviewees provided several reasons justifying why they thought that there was no need to develop a new alternative to interest-based performance measures as follows. First, 34% of them believed that it was only a benchmark, arguing that Islamic funds do not invest in interest rate securities and the risk-free interest rate was a proxy derived from the market to measure risk and return, compared to sellers of products who based prices on supply and demand.

Interviewee SS6 illustrated this argument by saying that:

“Consider two friends X and Y, where X is a non-Muslim who sells Alcohol, and Y is a Muslim who decides to start his own *Halal* business of soft drinks because the Alcohol business is non-*Halal* in *Shariah*. But Y wants to earn as much profits as his friend X, so he decided to charge his customers the same price as X who sells Alcohol. Thus, Y has determined the profit of his soft drinks business using the same rate of return that is used by X for his *Haram* Alcohol business as a benchmark. We cannot say to Y that his profits are non-*Halal* simply because he uses the price of Alcohol as a reference in the return calculations. The same logic applies for pricing and measuring the performance of Islamic funds, using such a reference does not render their returns non-*Halal* because the number itself does not mean that they are dealing with interest if it is used as a benchmark only.

However, it is still preferable to have an independent benchmark for the Islamic finance industry.”

This is consistent with that of Usmani (2010) and the AAOIFI standard (2004). Subsequently, they argued that if they used something other than what was popular in the market, this might lead Islamic funds to have inaccurate evaluations as it would not reflect reality against the market competition. Second, 29% of the interviewees thought that the risk-free rate was the only available option to measure risk and return in a suitable and economically wise manner.

For instance, interviewee FM6 demonstrated that:

“For any investment, the required rate of return depends on two components, the risk-free rate of return earned on government short term bills such as LIBOR or T-bills that are interest based, and the second is a risk premium determined on the riskiness of that investment compared to other available opportunities. Therefore, moving away from LIBOR or T-bills is difficult, even with our Islamic investments, because there is a correlation between interest rates and returns on investments and Islamic funds have to be affected since they operate within the same conventional financial system.”

This view accords with Chong and Liu (2009), Zainol and Kassim (2010), and with Cevik and Charap (2011) who highlighted a significant correlation between the Islamic and conventional financial system, whereby changes in interest rates put pressure on Islamic deposit rates to change due to competition.

Third, 13% of the interviewees noted that an alternative model was not needed because Islamic funds currently used raw returns that are believed to be sufficient. Interviewee Other1 supported the above argument as he stated that:

“The risk profile for the GCC states should be seen differently, as they are not a pure capitalist financial system, because the governments support the banking system and hold large portfolios of funds in the stock market, most of which are conventional, and they own shares of the big listed companies in the market. In addition, GCC states do not have active bond or money markets. Finally the GCC economies rely heavily on petroleum exports. Therefore, these factors make the use of raw returns reasonable for evaluating Islamic and conventional investment funds.”

On the other hand, twenty one percent of the interviewees criticized the use of these interest-based measures when evaluating Islamic funds, affirming that there was a need to develop a *Shariah*-compliant alternative for risk-adjusted performance methods that replaced the interest based component in them. These interviewees supported their views by noting the need to have a unique identity for the *Halal* finance industry (mentioned by 42% of the interviewees). For instance, interviewee SS5 asserted that:

“The Islamic funds industry has to have a unique identity that distinguishes it from mainstream conventional funds. Thus, developing an alternative evaluation performance model that avoids the interest-based benchmark will demonstrate the ideal and independent image of the Islamic financial system and would be a step forward for a pure Islamic capital market among Muslim countries. Therefore, creating an Islamic alternative would be a breakthrough in the industry. However, this requires collaborative efforts between academics and practitioners from the central banks and Islamic financial companies, and I expect that your thesis could contribute to this.”

Some reasons for the absence of such *Shariah*-compliant alternatives were provided, but interestingly, interviewee FM14 raised the following point:

“In order to have a viable Islamic alternative to the interest rate, you have to have a pure Islamic capital market, that is not dominated by the conventional system. However, it would be very difficult within a dual financial system to use Islamic and conventional rates efficiently because many investors would arbitrage or force the new one to converge.”

Further, using conventional models that incorporate risk-free rate is against the idea of Islamic investment, and acknowledges the interest-based financial system (mentioned by 30%).

Interviewee SS12 highlighted that:

“Since the conventional models are designed for conventional investment funds that are based on an interest based financial system, they fail to consider the constraints imposed by the Islamic funds. Therefore, including the risk-free rate in computing estimated returns should not be justified for Islamic funds as they are likely to be biased against them. The conventional system relies on debt and risk transfer, while in an Islamic financial system, returns should not be predetermined or guaranteed and instead of direct money transfer from parties who have surplus to parties who need them based on interest, Islamic finance requires a sharing of risk and return between parties in the economy.”

This standpoint is similar to that in Kuran (2004); El-Gamal (2007); Kamla (2009). In addition, as the Islamic investment funds industry had grown rapidly (mentioned by 18% of the interviewees). Hence, it is now a time to develop a measure, as interviewee SS21 asserted that:

“Islamic investment funds have grown not only in GCC states but also in the world and have competed effectively with the market leaders. Thus, the time has come to have a reliable and well-designed *Shariah* compliant model that works independently from the existing interest based ones. I know it is not easy to construct one but it is not impossible either and someone has to take the initiative.”

A few of the interviewees pointed out that if an alternative evaluation strategy was independent from interest rates, this would mitigate any exposure to interest rate. As noted by Kader and Leong (2009), using interest based benchmarks could expose Islamic investment products (i.e. Islamic funds) to interest rate risks even though they are themselves interest free.

Forty-four percent of the interviewees, most of whom were FMs, did not know what could be a *Shariah*-compliant alternative for the risk-free rate. Therefore, only a few suggestions were made by the interviewees as an alternative to the interest based ones, such as gold, something similar to the old Islamic golden currency, the Islamic banks investment deposit rate, the *Murabahah* return rate, a profitability index based on *Murabahah* or *Musharakah* rate of returns, Islamic *Mudarabah* investment accounts, government *Sukuk* or leasing *Sukuk* (because they are the least risky type of *Sukuk*), the inflation rate, the *Zakat* rate that is fixed to 2.5%, or the inflation rate plus *zakat* rate. Some interviewees, however, thought that gold was not suitable as a proxy for the risk-free rate arguing that it was currently a risky and speculative asset.<sup>136</sup>

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<sup>136</sup> This study extends the risk-adjusted performance evaluation analysis by using a Halal alternative risk-free rate asset, *Murabahah* return rate in calculating the Jensen alpha, Sharpe and Treynor performance measures in Chapter 7. This is to overcome the limitation in the vast majority of Islamic funds literature which use conventional risk-free rates (see also: Rahimie, 2010; Kantakji and Omar, 2010; Selim, 2008; Mirakhor, 1996). The *Murabahah* instrument was chosen as a proxy for the *Shariah*-compliant risk-free rate because it is the least risky *Shariah*-compliant asset and is commonly used by most IFIs (El-Gamal, 2006).



Finally, the interviewees were asked about the Indexes that Islamic funds use to benchmark against. The majority of interviewees believed that there were very few Islamic index providers and most of them were local to each GCC country and were only used in house such that they were not available to the public. For example, FM12 asserted that:

“There are few Islamic indices available in the market, but these are mostly used in house. So, it is difficult sometimes for investors to get access to them, in order to track them. But even if you get access to them, some investors will get confused to decide which to follow. Hence, there is a real need for the stock market to adopt an existing Islamic index or create and launch a new Pure Islamic index and another *Shariah* compliant index, as this would standardize the benchmark for all Islamic funds in the market, in order to have a valid comparison because the performance of Islamic funds is sensitive to the chosen index. Finally, these two indices’ methodology should be based on professional characteristics and disclosed criteria.”

Two interviewees (Other11 and Other13) pointed out that constructing an Islamic benchmark index was a potential project for the CMA in Kuwait and use a *Halal*-based equity index such as AL-Aman Islamic index or Global Islamic index that are more related to PH investments. Nevertheless, most interviewees noted that using the KSE index was preferable because it was widely accepted. This is similar to the findings of Bauer et al. (2005) and Cortez et al. (2009) who suggest that conventional benchmarks are better able to explain SRI fund returns than SRI benchmarks.

## **5.8 Summary**

This chapter analyses and reports the findings obtained from 58 interviewees who are key participants in the Islamic funds industry in Kuwait and other GCC countries and provides primary data from industry practitioners about issues related to *Shariah* screening and performance as a basis and design for the following chapters.

A number of key findings emerged from these interviews. First, the Islamic investment industry has grown rapidly in the last decade especially after the boom of GCC stock markets in 2004 onwards. This growth could be attributed to a number of reasons, including: (i)

demand from Muslim and non-Muslim investors;(ii) increase in the level of awareness of the *Shariah*-compliant products and services; (iii) the profitability and competitiveness of Islamic funds; (iv) excess liquidity in the GCC economies; and (v) improvement in the regulatory framework for Islamic finance. Second, the interviews revealed a gap between the supply and demand motivations for Islamic investment; investors are concerned about religious and economic motives while fund managers are concerned with profits. This challenges Islamic funds to distinguish themselves from their conventional counterparts on the basis of religious and ethical values. Third, all the interviewees distinguished PH stocks from MH stocks; most interviewees distinguished between sin and MS stocks, this differentiation has not been considered in the prior literature and contributes to our knowledge. However, by excluding MH stocks restricts the *Halal* investment universe which possibly reduces the diversification benefits and hence hinders Islamic funds' performance (as examined in the following chapters). Fourth, some interviewees suggested imposing "tighter" criteria for classifying MH stocks as some interviewees seriously questioned the *Shariah*-compliance of MH stocks, arguing that the current financial screening criteria do not have a strong *Shariah*-based rationale underpinning them and that the *fatwa* that they are based on should be updated. Indeed, the vast majority of interviewees agreed that the financial screening criteria needed to be re-evaluated toward being more *Shariah*-compliant and companies in Islamic countries should be different from western countries. Yet, many interviewees doubted that any changes to the financial screening criteria would occur due to the influence of the GFC. Fifth, the financial screening thresholds used are similar compared to the findings of Derigs and Marzban (2008) and Abdul Rahman et al. (2010) who found big differences between screening criteria used by different Islamic funds. This could be because the SSBs of GCC Islamic funds have the same group of *Shariah* scholars and, further, these countries share similar investment

environments, economic, political, and social systems. The majority of the interviewees asserted the importance of harmonizing *Shariah* screening criteria to produce one unique investment list for all individual investors and Islamic funds. Sixth, the current screening process involves substantial cost and time since accounting information is not prepared for *Shariah* screening purposes, as indicated by some interviewees and accounting standards based on Islamic values should be developed to cater for the unique characteristics of *Halal* investments. Seventh, the interviewees agreed that the financial reports with their notes were the most important source of information for evaluating MH stocks, while the Articles of association and the existence of SSBs was the most important source of information for evaluating PH stocks. Some interviewees however, asserted that the level of disclosure in companies' annual reports was low and were not prepared for *Halal* seeking investors.

Eighth, the factors that affect the performance of Islamic funds are similar to those that affect conventional funds; fund managers' skills in stock and sector selection and timing, and general market conditions, in addition to the *Shariah* classification of stocks to PH, MH, MS, and Sin. Ninth, Islamic funds that invest in PH stocks are concentrated more in the financial sectors while those that invest in both PH and MH stocks are more diversified across financial and non-financial sectors. Tenth, there is a knowledge gap between fund managers, SSBs, and regulators, which needs to be bridged to overcome the challenges facing the industry. Eleventh, Islamic fund managers (and conventional fund managers) in the GCC do not use any sophisticated performance measures, and only a few of them use the traditional Sharpe, Treynor and Jensen alpha measures arguing that simple measures are more applicable. Finally, some interviewees supported the idea of constructing alternative risk-adjusted performance measurements that replace the interest based component in them.

The next chapter analyzes the impact of using different *Shariah* screening criteria on the classification of the *Halal* and non-*Halal* stocks and creating different equity portfolios from KSE. It also investigates the impact of changes to the screening criteria adopted by the AAOIFI (*Shariah* standard number 21) on the MH asset universe. The *Shariah* classification of stocks in Chapter 6 will then be used for the quantitative analyses in Chapters 7 and 8.

**Chapter 6: The Impact of Different *Halal*-based Screenings on  
Investment Portfolios**

## 6.1 Introduction

This chapter analyses the impact of applying different *Shariah* screening criteria to a *Halal* asset universe and the creation of different *Halal* equity portfolios: pure *Halal* (PH) and mixed *Halal* (MH) and non-*Halal* equity portfolios of either “Sin” or Mixed “Sin” (MS). The chapter also examines the impact of changes to the screening criteria adopted by the AAOIFI (*Shariah* standard number 21) on the asset universe. The screening process is carried out during the period from the end of 2005 until the end of 2010; this time frame covers various economic market conditions and spans the years before and after the recent GFC. This allows us to examine the effect of the crisis on portfolios of equities listed on the KSE. The focus of this chapter is to create different portfolios based on various *Shariah* screening criteria that will be tested in the following two empirical chapters of the thesis. This chapter also investigates whether a reduction of 50% in the financial screening thresholds that are applied to MH equities has an impact on the asset universe and portfolios created; such an investigation will help to explore whether MH investments (MH) improve the performance of *Halal* portfolios. Therefore, unlike prior research, this chapter uses content analysis of each company’s annual report to collect the data required to conduct the *Shariah* screening; the process is performed manually and repeated annually to ensure accuracy. This chapter builds upon the interview chapter findings. Furthermore, the results of this chapter will form the basis of the next chapter, as the performance of the different portfolios identified in the current analysis will be empirically compared and tested.

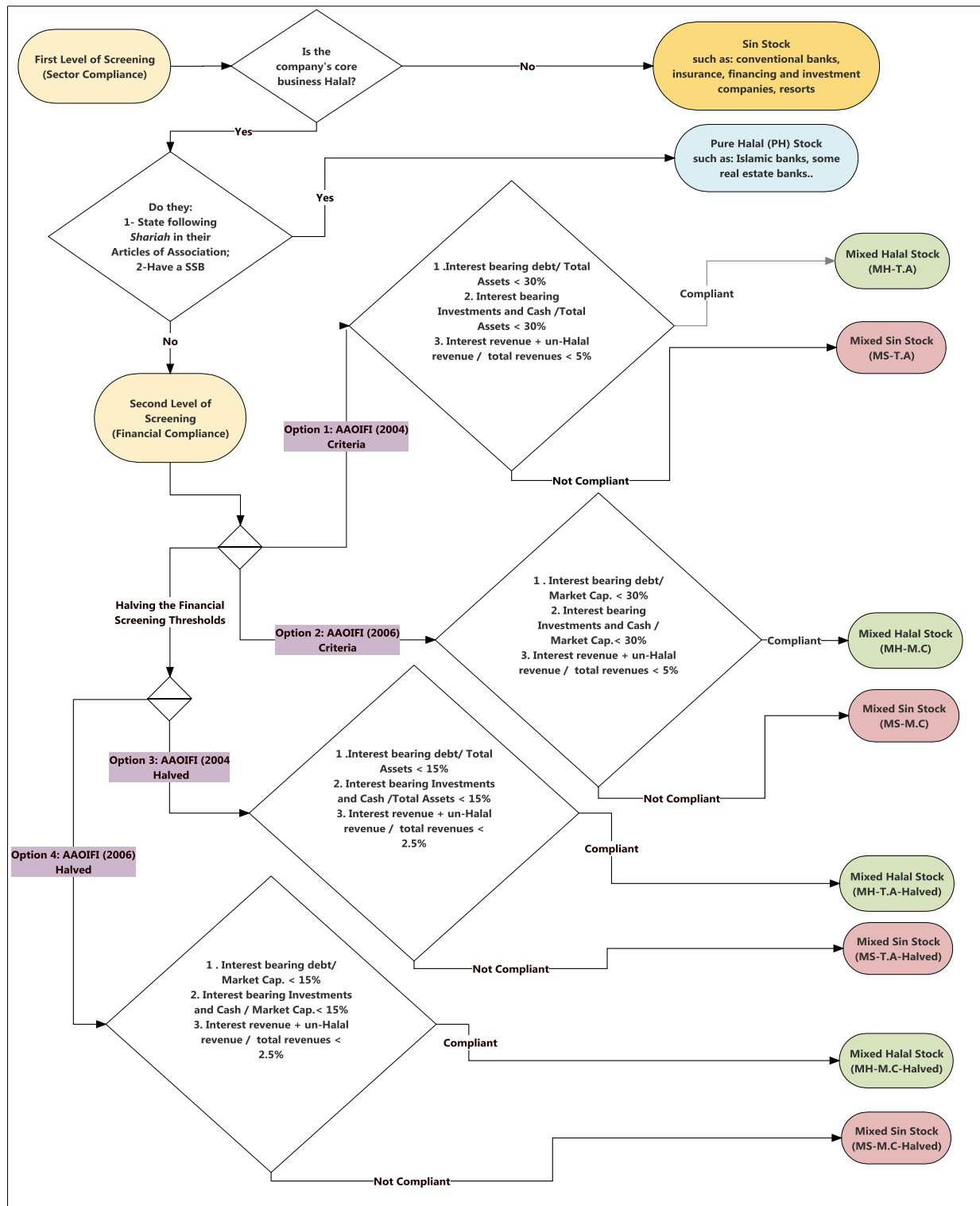
The remainder of this chapter is organized as follows: section 6.2 presents the screening process; section 6.3 outlines the data collection methods used, section 6.4 describes the screening results, while section 6.5 presents the findings when the financial screening

thresholds are halved; section 6.6 outlines the portfolio construction results followed; and section 6.7 concludes.

## **6.2 Screening criteria and process**

The detailed data required for *Shariah* screening were collected during a 6-year period from 31/12/2005 to 31/12/2010; this information included the different financial and non-financial (qualitative) screening criteria that are used by Islamic fund managers in Kuwait and GCC countries as discussed in the interview chapter. The population used in this analysis was comprised of listed companies on the KSE, covering all sectors including both financial and non-financial companies; namely, firms from the banking, investment, insurance, real estate, industrial, services, food, and non-Kuwaiti sectors. However, the non-Kuwaiti sector was excluded due to the non-availability of the data during the sample period. Figure 6.1 summarizes the portfolio creation process.

**Figure 6.1: The Portfolio Creation Process**



Note: This flow chart describes the screening process to classify stocks of investee companies to *Halal* and non-*Halal* stocks based on AAOIFI (2004 and 2006) financial screens and the proposed halved screening thresholds.



Analysis of Figure 6.1 indicates that the first screen used in this thesis is a qualitative or sector compliant one which asks whether the core business of the company is *Halal* (compliant), to filter out companies that operate in or are engaged in any of the “sin” industries as identified under Islamic law, such as: interest based financial services (conventional banks, financing and investment); conventional insurance companies; adult entertainment; and hotels or resorts which generate a sizeable proportion of their returns from serving alcohol. Shares in such companies are classified as sin stocks and pooled in the sin portfolio, without looking at any of their financial data as there was a consensus among all the *Shariah* scholars and Islamic fund managers interviewed in Chapter 5 that investment in these types of securities is strictly prohibited. If companies pass this first screen, two further filters are applied: (i) does the company state clearly in its annual report<sup>137</sup> that it follows *Shariah* law in all its activities; and (ii) does it have an active SSB overseeing all its operations and contracts. If the answer is yes to both screens, then the stock of this company is classified as a Pure *Halal* (PH) stock. However, if the result is no to either of these two screens, then the company could comprise of both *Halal* and sin elements in its activities; thus it is classified as mixed company, which could be classified as mixed *Halal* (MH) or mixed sin (MS) as seen later in the following screening level. Shares in a majority of KSE firms are mixed stocks. Examples of such stocks are: Zain, a mobile telecommunications company that is listed in the service sector; and Kuwait Pipes Industries & Oil Services, a manufacturing company listed in the Industrial sector that produces pipes and pressure vessels and provides a wide range of technical and engineering services. Neither company indicates that they follow *Shariah* law, and they do not have an SSB, but their core business is *Halal*; in addition, they have some interest-based debt in their capital structure and receive non-operating interest revenue. However, not all mixed stocks are

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<sup>137</sup> This could be mentioned in its articles of association if it is a newly listed company.

*Shariah* compliant (*Halal*); some are *Halal*, while others are non-*Halal* mixed sin (MS). This categorization can change over time, depending on the level of the sin component in their activities, and depending also on the screening criteria used. Thus, a further level of screening is imposed to determine the size of the sin element in these stocks and financial screening is used for this purpose (Hakim and Rashidian, 2004; Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008; Abul Rahman et al., 2010; Ho et al., 2012; Marzban and Asuty, 2012).<sup>138</sup>

There are a range of *Shariah* compliant financial screening methods followed by fund managers as well as indexes providers, namely Dow Jones Islamic Market Index (DJIMI), FTSE Global Islamic Index Series, S&P 500, MSCI (Morgan Stanley Capital International) and AAOIFI. The method selected for use in the current study is derived from AAOIFI's *Shariah* standards; this was chosen because it is the most widely used in Kuwait and GCC according to interviewee feedback (see Chapter 5). AAOIFI's financial screening criteria were changed in 2006, when the market capitalization was used instead of total assets as a denominator in its financial tolerance ratios. Some index screening providers and fund managers in the GCC have adopted the recent change, while others have retained the old criteria, based on total assets, believing them to be more stable. Both versions are examined in the empirical analysis for the current chapter, in order to examine the impact of screening criteria changes adopted by AAOIFI on the asset universe available for investment and the performance of different portfolios. The first version of the financial screening criteria stated in

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<sup>138</sup> One difference between PH and MH stocks is purification. The interview analysis in Chapter 5 reveals that Islamic fund managers purify the impure income received from dividends of mixed halal investee companies corresponding to the proportion of interest or other sin income and this is paid out to charity. Some *Shariah* scholar's view that purification is required even in the case of capital gains, because the market price of the share may reflect an element of the sin income as reported in the previous chapter ( also see: Elgari, 2002; Ayub, 2007; Hassan and Lewis, 2007; Usmani, 2010). On the other hand, dividends received from PH stocks do not need any purification, as they are already pure (as revealed from Chapter 5). Divided purification is not considered in this study, because in practice many SSBs allow Islamic fund managers to inform investors of the amount investors need to pay out themselves to purify their investments; hence such purification is not conducted by the fund managers themselves on behalf of investors.

AAOIFI standard number 21 (2004)<sup>139</sup> states that, to be included in a *Shariah* compliant portfolio, a stock's company must have a ratio of:

1. Interest revenue and *un-Halal* (sin) revenues to total revenues of less than 5%;
2. Interest bearing debt to total assets of less than 30% ' and
3. Interest bearing investments and cash to total assets of less than 30%.

The revised standard (AAOIFI, 2006)<sup>140</sup> changed the criteria such that a company could only be included in a Sharia-compliant portfolio if it had a ratio of:

1. Interest revenue and *un-Halal* (sin) revenues to total revenues of less than 5%;
2. Interest bearing debt to market capitalisation of less than 30%; and
3. Interest bearing investments and cash to market capitalisation of less than 30%.

### **6.3 Data Collection**

Unlike previous research on screening, the data in this study were gathered directly from hard copies of companies' financial and annual reports to ensure accuracy as indicated by Wilson (2004, p.37) who emphasized that:

“Screening requires a considerable amount of information that can only be ascertained by scrutinizing the company's annual reports and accounts”.

Companies' annual reports were obtained from the research department of the KSE; such data were unavailable in electronic format from any source. Thus, the first time consuming task involved an analysis of the annual reports for all the listed companies by hand. The findings from this analysis were then entered into Excel spreadsheets - one for each year. Based on the screening process described in Figure 6.1, together with the analysis of the annual reports, the listed stocks were classified into four different portfolio groups: PH, MH, MS, and Sin. Since detailed financial statements for KSE-listed companies are only published on a yearly basis,

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<sup>139</sup>These financial screening criteria are similar to MSCI and FTSE which use Total Assets as a denominator.

<sup>140</sup>These financial screening criteria are similar to S&P and DJ which use Market Capitalization as a denominator.

the screening process is based on the six annual financial statements published by each of the sample companies for the years 2005-2010.<sup>141</sup> The screening at the end of each year was then used to create portfolios for the following year. For example, data from companies' annual reports as of 31/12/2005 were used to construct the different portfolios for 2006. This process was repeated each year, so that each portfolio was rebalanced annually over the sample period. The process of collecting and preparing the data to conduct the screening consumed two months and the screening process took another two months.

Information for the qualitative screening was also gathered from the annual reports of Kuwait listed firms; the articles of association for new listed companies, newspaper articles, company websites and the KSE website; in addition, the annual *Shariah* report (if applicable) attached with company's annual report was reviewed. This review was designed to investigate if all of the company's transactions were fully *Shariah* compliant or whether the core business of the company was *Halal* with some sin elements among its activities. In a number of cases, the researcher contacted a company directly if a *Shariah* report was not published or to clarify some details about items that appeared in the annual reports such as the nature of any debt or interest income.<sup>142</sup> The next stage in this process required financial screens to be applied; the data for these screens were collected solely from each company's financial statements. Items such as details about cash, interest bearing debt, and total assets were collected from the balance sheets, while items such as: interest revenue, other-sin revenues and total revenues

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<sup>141</sup> In practice, some *Shariah* screening providers in Kuwait issue a list quarterly and hence Islamic fund managers need to rebalance their portfolios accordingly. However, these *Shariah* screening providers either use an external provider specialized in such services and automated advanced screening software (i.e. Ideal Ratings) or allocate full-time employees to accomplish this process.

<sup>142</sup> Few companies in the industrial and service sectors were found to have interest income and debt in their annual reports, although they had a SSB. They justified this verbally by saying that they had converted to an Islamic company and their SSB had allowed it to clean their financials from interest-based debt and interest revenues in a few months gradually after the conversion date.

were ascertained from the income statements.<sup>143</sup> All of the companies prepared their financial statements under the International Financial Reporting Standards (IFRS). However, due to the low level of disclosure about disaggregated information, it was unclear whether or not certain items were *Halal* (e.g. other income, cash in banks, debt, other investments, investment in securities, and other liabilities); borrowings for example could be *Murabahah* debt which is *Halal* or just conventional interest bearing debt that is *sin*. To obtain more detailed information, the notes to the financial statements were examined.<sup>144</sup> This process was consistent with the analysis undertaken by the vast majority of interviewees interviewed in Chapter 5; these interviewees suggested that the whole annual report and financial statements as well as the notes must be investigated to determine the *Shariah*-compliance of companies. In addition, the inadequate level of disclosure for assessing *Sharia*-compliance found in the annual reports was in line with the views expressed by 34% of the interviewees in Chapter 5; these interviewees indicated that annual reports and financial statements are insufficiently detailed for *Halal*-orientated investors as they are based on Western standards which do not report on *Shariah*-compliant issues; indeed, some of them called for the establishment of an Islamic accounting and auditing framework underpinned by *Shariah* law, in conjunction with AAOIFI. This finding is in agreement with that suggested by Karim (2001), Harahap (2003), Maali et al.(2006), Haniffa and Hudaib(2007), Khatkhatay and Nisar (2007), Yaacob and Donglah (2012), Kasim and Sanusi (2013), and Sarea and Hanefah (2013). In addition, it is also consistent with studies that found low level or incomplete financial disclosure of firms in emerging markets (Salter, 1998; Al-Mutawaa, 2010; Cognizant Report, 2012).

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<sup>143</sup> There were no items mentioned in the financial reports like *sin* revenues or *sin* investments to describe *Shariah* non-compliant items, however a *Shariah* background is required to determine such related items, such as: revenues generated from sale of non-permissible products such as pork, alcohol, tobacco or investing in *sin* stocks, conventional bonds, and financial derivatives.

<sup>144</sup> For each individual company for every single year, annual reports and notes range from 30 to 90 pages long.

#### **6.4 Screening Results**

Table 6.1 reports the results obtained by applying financial screens to the group of mixed companies as at the end of 2005 as an example of the screening process output. These one-year financial-screening results relate to firms in non-financial sectors of the KSE (real estate, industrial, services, and food) as at the end of 2005. This is because none of the constituents for the mixed companies group were drawn from the financial sectors (banking, investments and insurance); companies in the financial sectors are either PH or Sin as their core business is financial intermediation or insurance that has to be in one of these two categories.

**Table 6.1: Results for Financial Screening as at 31/12/ 2005**

Company name	Sector	Based on AAOIFI 2004 financial screens			Screening Result portfolio	Based on AAOIFI 2006 financial screens			Screening Result portfolio
		Criteria (1)	Criteria (2)	Criteria (3)		Criteria (1)	Criteria (2)	Criteria (3)	
		Interest Rev. +Other Sin Rev./ Total Rev	Interest Bearing Liab./T.A	Cash + Interest Bearing Investments/T.A		Interest Rev. +Other Sin Rev./ Total Rev	Interest Bearing Liab./M.C	Cash + Interest Bearing Investments/M.C	
KUWAIT R.E	Real Estate	0.004	0.118	0.053	MH	0.00	0.11	0.05	MH
UNITED R.E	Real Estate	0.000	<b>0.398</b>	0.034	MS	0.00	<b>0.45</b>	0.04	MS
NATIONAL REAL ESTATE	Real Estate	0.022	0.213	0.002	MH	0.02	0.09	0.00	MH
SALHIAH	Real Estate	0.007	<b>0.476</b>	0.012	MS	0.01	<b>0.44</b>	0.01	MS
TAMDEEN	Real Estate	0.000	0.289	0.000	MH	0.00	<b>0.51</b>	0.00	MS
AJIAL	Real Estate	<b>0.161</b>	0.005	0.244	MS	<b>0.16</b>	0.01	<b>0.37</b>	MS
AL-MASSALEH	Real Estate	<b>0.080</b>	0.217	0.009	MS	<b>0.08</b>	<b>0.35</b>	0.02	MS
ARAB R.E	Real Estate	0.000	<b>0.314</b>	0.006	MS	0.00	0.23	0.00	MH
UNION R.E	Real Estate	0.001	0.047	0.002	MH	0.00	0.04	0.00	MH
MABANEE	Real Estate	0.000	0.283	0.028	MH	0.00	0.12	0.01	MH
INJAZZAT	Real Estate	0.000	0.253	0.036	MH	0.00	0.20	0.03	MH
SANAM	Real Estate	0.001	0.000	0.029	MH	0.00	0.00	0.01	MH
AQAR	Real Estate	<b>0.149</b>	0.000	0.042	MS	<b>0.15</b>	0.00	0.03	MS
AL-MAZAYA	Real Estate	0.010	0.016	0.063	MH	0.01	0.01	0.03	MH
AL-THEMAR INT.	Real Estate	0.000	0.000	0.001	MH	0.00	0.00	0.00	MH
TAAAMEER R.E	Real Estate	<b>0.066</b>	0.106	0.116	MS	<b>0.07</b>	0.10	0.11	MS
NATIONAL INDUSTRIES GROUP	Industrial	0.000	<b>0.343</b>	0.008	MS	0.00	<b>0.32</b>	0.00	MS
KUWAIT PIPES INDUSTRIES	Industrial	0.000	<b>0.396</b>	0.002	MS	0.00	<b>0.35</b>	0.00	MS
KUWAIT CEMENT	Industrial	0.000	0.159	0.026	MH	0.00	0.09	0.01	MH
REFRIGERATION INDUSTRIES	Industrial	0.006	0.002	0.018	MH	0.01	0.00	0.01	MH
GULF CABLE	Industrial	0.011	0.107	0.025	MH	0.01	0.05	0.01	MH
HEAVY ENGINEERIN.	Industrial	0.001	0.113	0.030	MH	0.00	0.11	0.03	MH
CONTRACTING & MARINE SERVICES	Industrial	0.004	<b>0.310</b>	0.160	MS	0.00	<b>0.31</b>	0.16	MS
PORTLAND CEMENT COMPANY	Industrial	0.001	0.029	0.118	MH	0.00	0.02	0.09	MH
SHUAIBA INDUSTRIAL	Industrial	0.005	0.192	0.007	MH	0.01	0.21	0.01	MH
METAL & RECYCLING	Industrial	0.000	0.056	0.016	MH	0.00	0.02	0.01	MH
KUWAIT FOUNDRY	Industrial	0.001	0.039	0.027	MH	0.00	0.02	0.02	MH

ACICO INDUSTRIES	Industrial	0.000	<b>0.367</b>	0.006	MS	0.00	<b>0.35</b>	0.01	MS
UNITED INDUSTRIES	Industrial	0.004	<b>0.301</b>	0.226	MS	0.00	<b>0.37</b>	0.27	MS
BOUBYAN PETROCHEMICALS	Industrial	0.002	0.268	0.066	MH	0.00	0.18	0.04	MH
GULF GLASS MANUFACTURING	Industrial	0.000	<b>0.416</b>	0.072	MS	0.00	0.28	0.05	MH
HILAL CEMENT	Industrial	0.000	<b>0.408</b>	0.062	MS	0.00	0.27	0.04	MH
ALKOUT INDUSTRIAL	Industrial	0.000	0.191	0.058	MH	0.00	0.06	0.02	MH
KUWAIT PACKING MATERIALS	Industrial	0.000	0.036	0.211	MH	0.00	0.01	0.06	MH
KUWAIT BUILDING MATERIALS	Industrial	0.013	0.000	0.025	MH	0.01	0.00	0.01	MH
NATIONAL INDUSTRIES	Industrial	0.000	0.000	0.016	MH	0.00	0.00	0.01	MH
EQUIPMENT	Industrial	0.001	0.011	0.107	MH	0.00	0.01	0.07	MH
MENA HOLDING	Industrial	0.000	0.076	0.015	MH	0.00	0.05	0.01	MH
AGILITY PUBLIC WAREHOUSING	Services	0.000	0.241	0.193	MH	0.00	0.13	0.11	MH
KUWAIT COMMERCIAL	Services	0.000	<b>0.384</b>	0.017	MS	0.00	<b>0.44</b>	0.02	MS
MOBILE TEL.	Services	0.015	0.214	0.143	MH	0.02	0.15	0.10	MH
AL SAFAT ENERGY	Services	0.002	0.141	0.024	MH	0.00	0.12	0.02	MH
INDEPENDENT PETROLEUM GROUP	Services	0.000	0.289	0.098	MH	0.00	<b>0.47</b>	0.16	MS
NATIONAL CLEANING	Services	0.000	0.176	0.085	MH	0.00	0.13	0.06	MH
SULTAN CENTER	Services	0.000	0.192	0.023	MH	0.00	0.08	0.01	MH
AL-ARABI GROUP	Services	0.019	<b>0.474</b>	0.024	MS	0.02	<b>0.93</b>	0.05	MS
CITY GROUP	Services	0.000	0.049	0.059	MH	0.00	0.03	0.03	MH
NATIONAL MOBILE TEL.	Services	0.007	0.272	0.063	MH	0.01	0.19	0.05	MH
KUWAIT & GULF LINK TRANSPORT	Services	0.000	<b>0.344</b>	0.034	MS	0.00	<b>0.32</b>	0.03	MS
AUTOMATED SYSTEMS	Services	0.007	0.000	<b>0.408</b>	MS	0.01	0.00	0.13	MH
NATIONAL PETROLEUM	Services	0.000	0.114	0.072	MH	0.00	0.04	0.03	MH
KUWAIT CO. FOR PROCESS PLANT	Services	0.002	0.254	0.148	MH	0.00	<b>0.45</b>	0.26	MS
KUWAIT SLAUGHTER HOUSE	Services	0.000	0.000	0.169	MH	0.00	0.00	0.05	MH
HITS TELECOM	Services	0.000	0.000	0.000	MH	0.00	0.00	0.00	MH



HUMAN SOFT	Services	0.000	0.067	0.132	MH	0.00	0.04	0.08	MH
PRIVATIZATION	Services	0.031	0.000	0.010	MH	0.03	0.00	0.01	MH
NAFAIS HOLDING	Services	0.000	0.000	0.109	MH	0.00	0.00	0.10	MH
NATIONAL SLAUGHTER HOUSE	Services	0.024	0.000	0.143	MH	0.02	0.00	0.08	MH
SAFWAN TRADING	Services	0.003	0.000	0.072	MH	0.00	0.00	0.05	MH
GULF FRANCHISING	Services	0.007	0.015	0.028	MH	0.01	0.01	0.02	MH
NATIONAL RANGES	Services	0.000	0.000	0.196	MH	0.00	0.00	0.13	MH
BURGAN CO.	Services	0.000	<b>0.346</b>	0.001	MS	0.00	0.11	0.00	MH
LIVESTOCK TRANSPORT	Food	0.009	0.000	0.187	MH	0.01	0.00	0.10	MH
DANAH ALSAFAT FOODSTUFF	Food	0.001	0.278	0.191	MH	0.00	0.15	0.10	MH
KUWAIT UNITED POULTRY	Food	0.000	0.000	0.003	MH	0.00	0.00	0.00	MH
KUWAIT FOOD (AMERICANA)	Food	0.000	0.110	0.100	MH	0.00	0.11	0.10	MH
UNITED FOODSTUFF	Food	0.000	0.109	0.084	MH	0.00	0.06	0.05	MH

Note: Table 6.1 reports the results from the application of financial screening in 5 sectors (real estate, industrial, services, and food) as at 31/12/2005 using the two AAOIFI screening standards (2004) and (2006), where AAOIFI's criteria (2004) use total assets as denominator in its criteria (2) and (3) and AAOIFI's (2006) criteria use market capitalization in criteria (2) and (3). Values in **Bold** indicate the criteria failed (MS). Total number of MH= 48 and MS=19 under AAOIFI (2004) criteria, and total number of MH=50 and MS= 17 under AAOIFI (2006) criteria.

An analysis of Table 6.1 reveals that the most common reason why firms in the “mixed companies” group fail to comply with the second screening level is that their ratio of interest bearing liabilities to either total assets or market capitalization is greater than 30% and not based on the other two criteria. This is consistent with Abdul Rahman et al. (2010) and many of the interviewed fund managers and index providers’ feedback in Chapter 5. Since stocks of mixed companies do not comply fully with *Shariah* law by their articles of association and do not have an SSB, there is nothing to prevent them from financing their activities through interest-based debt as they seek the cheapest way of raising funds as indicated by some interviewees. Nonetheless, a sizeable number of mixed companies satisfied this screening threshold voluntarily by not exceeding the 30% limit during most of the sample period. Furthermore, some of them reported *Halal* debts such as *Murabahah* in their financial statements. A number of the interviewees in Chapter 5 explained why some mixed companies might satisfy two of the three screening criteria; they suggested that such companies might want to be targeted by Islamic funds and *Halal*-seeking investors. In general, however, relatively high levels of interest-based leverage was the main reason why many mixed companies were filtered out from the *Halal* stocks universe and instead included in the MS group. Since Kuwait is a Muslim majority country, many sin activities such as alcohol, pork, gambling and pornography are forbidden by law. Thus mixed companies are not expected to have high proportion of sin revenues or investments. An inspection of the Criteria (1) column in Table 6.1 would confirm this prior expectation.

Table 6.1 indicates that different financial screening criteria produce different results when classifying stocks in MH or MS portfolios. Indeed, the switch to using market capitalization as the denominator in the ratio for the second and third criteria reduces the number of MS stocks from 19 to 17. However, this aggregate analysis marks a number of changes which occurred

when the AAOIFI (2006) screening criteria were employed. In five instances, the market capitalization data were smaller than the total asset figures such that the move from AAOIFI (2004) to AAOIFI (2006) criteria caused the limit in either the second or third criteria to be breached (Tamdeen Real Estate, Ajial, Al-Massaleh, Independent Petroleum Group, Kuwait Co. for Process Plant and construction).<sup>145</sup> In another five cases, the opposite occurs; the change in the denominator measure means that criteria which had previously been violated are now satisfied; in the case of: Arab Real Estate, Gulf Glass Manufacturing, Hilala Cement, Automated Systems and Burgan Co. for Well Drilling. The market capitalizations were much higher than the total asset figures such that ratios declined when the former values were employed. Table 6.2 summarizes the impact of using the different financial screens on the stocks of mixed companies during the overall sample period.

**Table 6.2: An Analysis of Mixed *Halal* (MH) and Mixed Sin (MS) Stocks by Year**

	Based on AAOIFI 2004 screens		Total	Based on AAOIFI 2006 screens		No. of extra MH under 2006 screens
	MH	MS		MH	MS	
<b>End of 2005</b>	48	19	67	50	17	2
<b>End of 2006</b>	44	30	74	47	27	3
<b>End of 2007</b>	46	35	81	51	30	5
<b>End of 2008</b>	50	37	87	37	50	-13
<b>End of 2009</b>	52	36	88	38	50	-14
<b>End of 2010</b>	67	27	94	57	37	-10
<b>Total</b>	<b>307</b>	<b>184</b>	491	<b>280</b>	<b>211</b>	-27

Note: This table shows the financial screening impact of using the AAOIFI's (2004) and (2006) financial screening criteria on the mixed. The total column is the total number of MH and MS but excludes PH and Sin stocks. MH=mixed *Halal*, MS= mixed sin. The last column subtracts the number of MH stocks based on AAOIFI's (2006) criteria from the number of MH stocks based on AAOIFI's (2004) criteria for each year, last row totals all columns.

A visual inspection of Table 6.2 shows that the findings in Table 6.1 for 2005 are only generalizable across half of the year. For example, AAOIFI's (2004) financial screening criteria which use total assets as a denominator in the criteria ratios produce a more stable MH

<sup>145</sup> For instance, Tamdeen, a real estate company, complied with AAOIFI's (2004) screens, but failed to do so with AAOIFI's (2006) screens because its Interest bearing liabilities/Market capitalization was 51.3% which exceeded the limit set of 30%; thus, this firm was classified as an MS company based on AAOIFI's 2006 screens but as an MH stock under AAOIFI's 2004 screens.

asset classification compared with their counterpart (2006) based on market capitalization. This is especially true during the GFC periods of 2008 and 2009 where the market capitalization of all listed companies dropped severely leading to higher interest-bearing debt to market capitalization ratios and interest bearing investment and cash to market capitalization ratios; the crisis results in a sizeable number of MH equities being re-categorised as MS stocks. Table 6.2 shows that the number of MH stocks drops from 51 in 2007 to 37 in 2008 when the financial screening ratios employ market capitalization rather than total assets as the denominator value; in fact, the number of MH stocks actually rises from 46 in 2007 to 50 in 2008 when total asset data are used. Hence, Islamic fund managers who used market capitalization values when screening for mixed stocks were penalized by having 13 (14) fewer shares to invest during 2008/2009 relative to those who screened on the basis of total assets instead, and 14 stocks in 2009. This finding contradicts AAOIFI's intention that the change in its standards would expand the MH asset universe for Islamic fund managers as noted by some of the interviewees in chapter 5. Obviously, such collapse in equity values, that resulted in a reduction in the MH asset universe, was probably unanticipated by AAOIFI when the standard was updated in 2006. In fact, the last column of Table 6.2 indicates that before the financial crisis period (2005-2007) AAOIFI's (2006) screening criteria produced additional MH stocks but from 2008 onwards, this situation changed. The results from Table 6.2 are consistent to some extent with the findings of Derigs and Marzban (2008) who noted that screening guidelines that use market capitalization over total assets offer greater freedom to Islamic fund managers, as their sample period (2003-2007) did not cover the GFC. Although the numbers of stocks dropped from the available investment universe post 2007 because of the new AAOIFI standards is less than 10% of the total, losing even one company from the available set of MH stocks could have significant implications for Islamic fund managers if the omitted stock

relates to a leading company which has significant weight in the market index (such as Zain, Agility, or National mobile telecommunication). Table 6.3 highlights the final screening results of the *Shariah* classification of mixed companies as either MH or MS based on their compliance with AAOIFI's (2006) financial screening criteria over the six year sample period.<sup>146</sup> The companies in Table 6.3 are ranked according to their market value from large to small and their percentages of the capitalization of all listed stocks as well as their percentage out of the total mixed stocks are provided. This is because not only the number of *Halal* investee companies that matters Islamic funds but also their market value.

**Table 6.3: The Final Screening Results for Mixed Companies over the 2005-2010 Period, Based on AAOIFI (2006) Screens, Ranked According to their Market Value in Million (K.D)**

Company Code	Sector	MV	% of Total	% of Mixed	Compliant With AAOIFI 2006 Screening Criteria					
					2005	2006	2007	2008	2009	2010
ZAIN	Services	5377	16.24	33.83	MH	MH	MH	MH	MS	MH
AGLTY	Services	1014	3.06	6.38	MH	MH	MH	MH	MS	MH
NMTC	Services	999	3.02	6.28	MH	MH	MH	MH	MH	MH
NIND	Industrial	949	2.87	5.97	MS	MS	MS	MS	MS	MS
FOOD	Food	624	1.89	3.93	MH	MH	MH	MH	MH	MH
KCEM	Industrial	465	1.41	2.93	MH	MH	MH	MH	MH	MH
CABLE	Industrial	381	1.15	2.39	MH	MS	MH	MS	MS	MH
MABANEE	Real Estate	368	1.11	2.32	MH	MH	MH	MS	MH	MH
BPCC	Industrial	334	1.01	2.10	MH	MH	MH	MS	MS	MS
NRE	Real Estate	281	0.85	1.77	MH	MH	MS	MS	MS	MS
ALQURAIN	Industrial	278	0.84	1.75			MS	MS	MH	MH
ALNAWADI	Services	225	0.68	1.41						MS
SULTAN	Services	189	0.57	1.19	MH	MS	MS	MS	MS	MS
SRE	Real Estate	145	0.44	0.91	MS	MS	MS	MS	MS	MS
MAZAYA	Real Estate	139	0.42	0.87	MH	MH	MH	MS	MS	MS
NICBM	Industrial	134	0.41	0.85	MH	MH	MH	MH	MH	MH
TAM	Real Estate	129	0.39	0.81	MS	MS	MS	MS	MS	MH
IKARUS	Industrial	121	0.37	0.76				MS	MS	MS
THEMAR	Real Estate	118	0.36	0.74	MH	MS	MS	MS	MS	MS
CGC	Services	117	0.35	0.74		MH	MH	MS	MS	MH
KRE	Real Estate	115	0.35	0.72	MH	MH	MH	MS	MS	MH

<sup>146</sup> Appendix 6.1 shows the final screening results of the *Shariah* classification of mixed companies to MH and MS based on their compliance with AAOIFI's (2004) financial screens over the six year sample period (Similar to Table 6.3).

<b>ABAR</b>	Services	114	0.35	0.72	MH	MH	MH	MH	MH	MS
<b>OULAFUEL</b>	Services	114	0.34	0.72		MH	MH	MH	MH	MH
<b>KFOUC</b>	Industrial	111	0.34	0.70	MH	MH	MH	MH	MH	MH
<b>URC</b>	Real Estate	104	0.31	0.65	MS	MS	MS	MS	MS	MS
<b>FIRSTDUBAI</b>	Real Estate	98	0.30	0.62			MH	MH	MS	MS
<b>KGL</b>	Services	98	0.30	0.62	MS	MS	MS	MS	MS	MS
<b>SOOR</b>	Services	93	0.28	0.59				MH	MH	MH
<b>ACICO</b>	Industrial	89	0.27	0.56	MS	MS	MS	MS	MS	MS
<b>CITYGROUP</b>	Services	88	0.27	0.55	MH	MH	MS	MS	MH	MH
<b>PCEM</b>	Industrial	87	0.26	0.55	MH	MH	MH	MH	MS	MH
<b>MENA*</b>	Industrial	87	0.26	0.55	MH	MH	PH	PH	PH	PH
<b>KPPC</b>	Services	81	0.24	0.51	MH	MS	MS	MS	MS	MS
<b>MARIN</b>	Industrial	74	0.22	0.46	MS	MH	MS	MS	MS	MS
<b>PIPE</b>	Industrial	73	0.22	0.46	MS	MS	MS	MS	MS	MS
<b>INJAZZAT</b>	Real Estate	72	0.22	0.46	MH	MS	MS	MS	MS	MS
<b>CATTL</b>	Food	71	0.22	0.45	MH	MH	MH	MS	MS	MH
<b>NAFAIS</b>	Services	70	0.21	0.44	MH	MH	MH	MH	MH	MH
<b>REMAL</b>	Real Estate	69	0.21	0.44						MS
<b>ARGAN</b>	Real Estate	69	0.21	0.44			MH	MH	MH	MS
<b>ATC</b>	Services	67	0.20	0.42			MH	MH	MS	MH
<b>IPG</b>	Services	65	0.20	0.41	MS	MS	MS	MS	MS	MH
<b>LOGISTICS</b>	Services	65	0.20	0.41					MS	MH
<b>MAYADEEN</b>	Services	64	0.19	0.40	MH	MS	MS	MS	MS	MS
<b>SHIP</b>	Industrial	63	0.19	0.40	MH	MH	MH	MS	MS	MH
<b>SHOP</b>	Services	56	0.17	0.35	MS	MH	MS	MS	MS	MS
<b>JAZEERA</b>	Services	56	0.17	0.35			MH	MS	MS	MS
<b>UIC</b>	Industrial	56	0.17	0.35	MS	MS	MS	MS	MS	MS
<b>HITSTELEC</b>	Services	53	0.16	0.33	MH	MH	MH	MH	MH	MH
<b>DANAH</b>	Food	49	0.15	0.31	MH	MH	MH	MH	MH	MH
<b>ARABREC</b>	Real Estate	48	0.15	0.30	MH	MS	MS	MS	MS	MS
<b>AREEC</b>	Real Estate	46	0.14	0.29	MS	MS	MS	MS	MS	MS
<b>ALKOUT</b>	Industrial	44	0.13	0.28	MH	MH	MH	MS	MH	MH
<b>KNA</b>	Services	44	0.13	0.27				MH	MH	MS
<b>SENERGY</b>	Services	43	0.13	0.27	MH	MH	MH	MH	MH	MH
<b>YIACO</b>	Services	40	0.12	0.25			MH	MS	MS	MH
<b>KOUTFOOD</b>	Food	37	0.11	0.23			MH	MS	MS	MH
<b>KBT</b>	Real Estate	36	0.11	0.23				MS	MS	MS
<b>BIHHC</b>	Industrial	32	0.10	0.20						MH
<b>MTCC</b>	Services	31	0.09	0.20		MS	MS	MS	MS	MS
<b>JEERANH</b>	Services	31	0.09	0.20		MH	MH	MS	MS	MS
<b>UREC</b>	Real Estate	31	0.09	0.20	MH	MH	MH	MH	MH	MH
<b>MASSALEH</b>	Real Estate	31	0.09	0.19	MS	MS	MS	MS	MS	MS
<b>SAFTEC</b>	Services	30	0.09	0.19		MS	MS	MS	MS	MS
<b>REFRI</b>	Industrial	30	0.09	0.19	MH	MH	MH	MH	MH	MH

<b>UPAC</b>	Services	29	0.09	0.18		MS	MH	MH	MS	MH
<b>MRC</b>	Industrial	29	0.09	0.18	MH	MH	MH	MS	MS	MS
<b>HUMANSOFT</b>	Services	27	0.08	0.17	MH	MH	MH	MH	MH	MH
<b>FUTURE</b>	Services	27	0.08	0.17			MH	MH	MH	MH
<b>AQAR</b>	Real Estate	26	0.08	0.17	MS	MS	MS	MS	MS	MH
<b>AGHC</b>	Services	26	0.08	0.16	MS	MS	MS	MS	MS	MS
<b>GGMC</b>	Industrial	25	0.07	0.16	MH	MH	MH	MS	MH	MH
<b>KPAK</b>	Industrial	25	0.07	0.15	MH	MH	MH	MH	MH	MH
<b>TAAMEER</b>	Real Estate	24	0.07	0.15	MS	MS	MH	MS	MS	MS
<b>ALMUDON</b>	Real Estate	24	0.07	0.15					MH	MH
<b>EQUIPMENT</b>	Industrial	23	0.07	0.14	MH	MH	MH	MH	MH	MH
<b>HCC</b>	Industrial	22	0.07	0.14	MH	MH	MH	MH	MH	MH
<b>CLEANING</b>	Services	22	0.07	0.14	MH	MH	MH	MH	MH	MH
<b>ALRAI</b>	Services	22	0.06	0.14						MS
<b>SANAM</b>	Real Estate	19	0.06	0.12	MH	MS	MS	MH	MH	MH
<b>NAPESCO</b>	Services	18	0.05	0.11	MH	MH	MH	MH	MH	MH
<b>SAFWAN*</b>	Services	18	0.05	0.11	MH	MH	PH	PH	PH	PH
<b>HAYATCOMM</b>	Services	17	0.05	0.11			MH	MS	MH	MH
<b>POULT</b>	Food	16	0.05	0.10	MH	MH	MH	MS	MS	MH
<b>GFC</b>	Services	16	0.05	0.10	MH	MH	MH	MH	MH	MH
<b>KCPC</b>	Services	16	0.05	0.10	MS	MS	MS	MS	MS	MH
<b>ASC</b>	Services	16	0.05	0.10	MH	MH	MH	MS	MS	MS
<b>MARAKEZ</b>	Real Estate	14	0.04	0.09						MH
<b>PAPER</b>	Industrial	13	0.04	0.08	MH	MS	MH	MH	MH	MH
<b>FUTUREKID</b>	Services	13	0.04	0.08				MS	MH	MH
<b>UFIG</b>	Food	13	0.04	0.08	MH	MH	MH	MH	MH	MH
<b>KSH</b>	Services	10	0.03	0.07	MH	MH	MH	MH	MH	MH
<b>PAPCO</b>	Services	10	0.03	0.06		MH	MH	MH	MH	MH
<b>GYP SUM</b>	Industrial	8	0.03	0.05		MH	MS	MH	MH	MH
<b>KBMMC</b>	Industrial	8	0.02	0.05	MH	MH	MH	MH	MH	MH
<b>NSH</b>	Services	6	0.02	0.04	MH	MH	MS	MS	MS	MH

Note: This table shows the final results of financial screening results of all mixed companies based on their compliance with AAOIFI's (2006) criteria across all the sample period, ordered according to their average market value (MV) as of the average of all 6 years, from large to small, MV in millions K.D. The tables also illustrate the corresponding sector, percent out of the total market value of all stocks, percent out of the market value of mixed stocks including mixed *Halal* (MH) and mixed sin (MS). Empty cells indicate that the company was not listed then.

\*Indicates the two companies that converted from mixed stocks to pure *Halal* (PH) stocks during the sample period in 2007.

In addition to the impact of the financial screening criteria, the screening analysis in Table 6.3 reveals that different mixed companies appear to change their *Shariah* classification from MH to MS investments or vice versa due to a number of events that affected the *Shariah* status of the companies. These events are as reported by Derigs and Marzban (2008) are: (i) changes in

the business activities of the companies through mergers or acquisitions; (ii) adding a new line of business or divesting the company of sin activity segments; (iii) becoming more leveraged through the issue of interest bearing debt; or (iv) earning more interest income or other sin income from non-operating sources. Such events can have an impact on the *Shariah*-compliance status of a company, forcing Islamic fund managers to change the composition of their portfolios. For instance, Islamic fund managers may have to liquidate investments that are re-categorized as MS stocks, even if such a sale gives rise to a financial loss. For example, if fund managers had both Zain and Agility in their portfolios, these stocks had to be sold in 2009 as they no longer complied with AAOIFI's (2006) criteria; this might have had a severe impact on the portfolio as they account for 16.24% and 3.06% of the total sample of stocks respectively or 33.83% and 6.38% of the total pool of mixed companies respectively. In contrast, MS stocks may become MH or PH and fall within the investment universe of Islamic fund managers; for example, Qurain Petrochemical Industries was an MS stock when it was listed in 2007 but was re-categorized as an MH security in 2009 and 2010. Fortunately, the 5 largest mixed stock companies in the market, which account for 26% of all sample stocks and 53% of mixed companies, were complied with AAOIFI's (2006) criteria over the whole time period, apart from year 2009. This will have minimized any transaction costs associated with portfolio re-balancing over the period. Nevertheless, the costs for Islamic fund managers will be higher than for their non-Islamic counterparts. This is because they are required to screen and monitor their asset universe and hence, re-balance their portfolios periodically since they are not allowed to keep non-compliant stocks<sup>147</sup>(as revealed from Chapter 5).

Because the *Shariah*-compliant equity investment process is dynamic in nature, screening has to be undertaken frequently because new financial information becomes available and

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<sup>147</sup> Islamic funds should sell stocks that turn to be non-compliant with their screens (MS) if it breaks even, but they can keep it for certain time period if its market price is less than its cost, as reported by interviewees in Chapter 5.



corporate activities change over time. The interviewed Islamic fund managers and SSB members in Chapter 5 indicated that, in practice, Islamic funds usually screen their investments on a quarterly or semiannual basis; only a few of them screen annually, and rebalance their funds accordingly. Dynamic screening process impacts the *Shariah*-compliance status of many mixed stocks (see Table 6.3). Since dynamic screening is not an easy process, many Islamic funds in the GCC outsource this task to specialized institutions that charge fees for such a service.<sup>148</sup> For the purpose of this study, however, the screening process is conducted annually and the *Shariah*-compliance status of each stock is updated at the end of the financial year using the published financial statement, as demonstrated in Table in 6.3. Portfolios are revised and rebalanced at each year's end according to whether or not they satisfy both the activity and financial screens. Table 6.4 monitors the movements of mixed stocks from one *Shariah* class to the other (i.e., from MH to MS or vice versa), using both AAOIFI's (2004) and AAOIFI's (2006) financial standards to see the impact of those on Islamic funds.

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<sup>148</sup> Such as: *Shariah* consulting companies or index and screening providers. A well-known example of this is: Ideal Ratings institution, that carryout the *Shariah* screening, purification, fund and index management services identify and manage *Shariah* compliant equities, funds and Sukuk in 12 countries (see: <http://www.idealratings.com/>)

**Table 6.4 Changes in Mixed Stocks' *Shariah* Classification over the Sample Period****Panel A: Based on AAOIFI (2004) Financial Screens**

Sector	Screening based on AAOIFI 2004 Financial screening criteria											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
<b>Real Estate</b>	2	4	1	4	1	1	0	2	4	0	8	11
<b>Industrial</b>	1	2	2	1	3	6	5	2	3	0	14	11
<b>Services</b>	2	6	2	5	5	1	3	3	6	1	18	16
<b>Food</b>	0	0	0	1	1	2	1	0	1	1	3	4
<b>Total</b>	5	12	5	11	10	10	9	7	14	2	43	42

**Panel B: Based on AAOIFI (2006) Financial Screens**

Sector	Screening based on AAOIFI 2006 Financial screening criteria											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
<b>Real Estate</b>	0	4	1	1	1	4	1	1	3	1	6	11
<b>Industrial</b>	1	2	2	2	1	6	3	1	3	0	10	11
<b>Services</b>	1	3	1	3	0	6	2	4	10	2	14	18
<b>Food</b>	0	0	0	0	0	3	0	0	3	0	3	3
<b>Total</b>	2	9	4	6	2	19	6	6	19	3	33	43

Note: this Table summarizes the *Shariah* classification change of mixed stocks from MH to MS and vice versa using AAOIFI's (2004) financial screens in panel A and AAOIFI's (2006) financial screens in panel B. Each year is compared with the previous one. The last two columns provide the total results of the MH and MS for each sector. The Table controls for new listed companies, as only if an existing stocks change status from being *Shariah*-compliant based such criteria it is reported in MH column, while if it becomes not compliant with such criteria it is reported in the MS column, indicating that it is ejected from the MH stocks universe and is not a possible investment anymore in that particular period.

Table 6.4 highlights that stocks that were classified as MH based on AAOIFI's (2004) criteria were less affected by the GFC and remained relatively more stable in their categorizations; they did not convert to the MS group compared to stocks that were classified as MH based on changed 2006 criteria. Although the stocks of 19 companies' grouping changed from MH to MS stocks in 2008 with AAOIFI's (2006) criteria, many of them were re-categorized as MH stocks again after the crisis in 2009-2010. A visual inspection of Table 6.4 reveals that the food sector was the most stable using both financial screening standards, as few companies changed from MH to MS stocks and vice versa while the service sector was the most volatile in terms of

changing *Shariah* status.<sup>149</sup> Overall, Table 6.4 suggests that AAOIFI (2006) provide, to some extent, a less volatile asset universe compared to AAOIFI's (2004) criteria. Islamic fund managers have to consider this in mind, as volatility could adversely affect their decision making, since it may require them to liquidate their investments and change position which could increase transaction costs and reduce their diversification.

In this study, changes in sector (qualitative) screening do not usually affect the *Shariah* status of companies, causing them to move from being *Halal* to non-*Halal* (Sin), apart from the stocks of two conventional banks: Kuwait International Bank and Ahli United Bank. They changed from Sin (based on activity) to PH stocks in July 2007 and April 2010 respectively, as they became "Islamic" banks. One reason for this change may have been that IFIs were profitable entities in Kuwait before the financial crisis period, attracting many institutions to enter the sector, according to several of those interviewed in Chapter 5. In addition, the two banks in this study that changed from sin to PH were suffering financial distress at the time when they converted; thus they may have viewed this as a profitable opportunity to restructure their entire business model and enter a new market which they had not competed in before. In addition to the banks, another two companies switched permanently from MH to PH stocks: Mena Holding, which is listed in the Industrial sector; and Safwan trading & contracting, which is listed in the Service sector.<sup>150</sup> The results of the screening process using both qualitative (sector compliance) and quantitative (financial compliance) *Shariah* screening criteria during the whole sample period is reported in Table 6.5 panels A to F, year by year, after removing the non-Kuwaiti sector and companies with missing data from the beginning of the screened period.

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<sup>149</sup> The number of listed mixed companies in each sector varies over different years. For example, in 2010 there were 22 companies in real estate, 26, 42, and 6 in industrial, service, and food respectively.

<sup>150</sup> However, the status of such companies is not updated until the end of each financial year when the next screening takes place.

**Table 6.5, Panel A: Screening results as at the end of December 2005**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	1	0.13	7	0.88	0	0.00	0	0.00	8	0	0.00	0	0.00
<b>Investment</b>	17	0.46	20	0.54	0	0.00	0	0.00	37	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	7	0.29	1	0.04	9	0.38	7	0.29	24	9	0.38	7	0.29
<b>Industrial</b>	0	0.00	0	0.00	15	0.68	7	0.32	22	17	0.77	5	0.23
<b>Services</b>	4	0.13	4	0.13	19	0.59	5	0.16	32	19	0.59	5	0.16
<b>Food</b>	0	0.00	0	0.00	5	1.00	0	0.00	5	5	1.00	0	0.00
<b>Total no.</b>	31	0.23	37	0.27	48	0.36	19	0.14	135	50	0.37	17	0.13
<b>Market Value</b>	6928	0.20	14676	0.42	10721	0.31	2531	0.07	34856	10728	0.31	2524	0.07

**Table 6.5, Panel B: Screening results at the end of December 2006**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	2	0.22	7	0.78	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	18	0.44	23	0.56	0	0.00	0	0.00	41	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	8	0.32	1	0.04	7	0.28	9	0.36	25	5	0.20	11	0.44
<b>Industrial</b>	1	0.04	0	0.00	14	0.58	9	0.38	24	17	0.71	6	0.25
<b>Services</b>	7	0.17	4	0.10	18	0.44	12	0.29	41	20	0.49	10	0.24
<b>Food</b>	0	0.00	0	0.00	5	1.00	0	0.00	5	5	1.00	0	0.00
<b>Total</b>	38	0.25	40	0.26	44	0.29	30	0.20	152	47	0.31	27	0.18
<b>Market Value</b>	9693	0.21	17376	0.38	14209	0.31	4851	0.11	46129	14703	0.32	4358	0.09

**Table 6.5, Panel C: Screening results at the end of December 2007**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Banking</b>	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	10	0.34	1	0.03	7	0.24	11	0.38	29	7	0.24	11	0.38
<b>Industrial</b>	3	0.12	0	0.00	14	0.54	9	0.35	26	16	0.62	7	0.27
<b>Services</b>	11	0.22	4	0.08	20	0.41	14	0.29	49	22	0.45	12	0.24
<b>Food</b>	0	0.00	0	0.00	5	0.83	1	0.17	6	6	1.00	0	0.00
<b>Total no.</b>	48	0.29	39	0.23	46	0.27	35	0.21	168	51	0.30	30	0.18
<b>Market Value</b>	12031	0.24	18008	0.36	14599	0.29	4860	0.10	49498	14843	0.30	4618	0.09

**Table 6.5, Panel D: Screening results at the end of December 2008**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Banking</b>	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	10	0.33	1	0.03	8	0.27	11	0.37	30	4	0.13	15	0.50
<b>Industrial</b>	3	0.11	0	0.00	12	0.44	12	0.44	27	11	0.41	13	0.48
<b>Services</b>	11	0.21	4	0.08	26	0.49	12	0.23	53	19	0.36	19	0.36
<b>Food</b>	0	0.00	0	0.00	4	0.67	2	0.33	6	3	0.50	3	0.50
<b>Total</b>	48	0.28	39	0.22	50	0.29	37	0.21	174	37	0.21	50	0.29
<b>Market Value</b>	6045	0.21	10230	0.36	8529	0.30	3624	0.13	28428	8373	0.29	3779	0.13

**Table 6.5, Panel E: Screening results at the end of December 2009**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	11	0.35	1	0.03	7	0.23	12	0.39	31	4	0.13	15	0.48
<b>Industrial</b>	3	0.11	0	0.00	15	0.56	9	0.33	27	13	0.48	11	0.41
<b>Services</b>	11	0.20	4	0.07	27	0.50	12	0.22	54	18	0.33	21	0.39
<b>Food</b>	0	0.00	0	0.00	5	0.83	1	0.17	6	3	0.50	3	0.50
<b>Total no.</b>	49	0.28	39	0.22	54	0.31	34	0.19	176	38	0.22	50	0.28
<b>Market Value</b>	5871	0.20	10892	0.36	4266	0.14	8876	0.30	29905	3710	0.12	9482	0.32

**Table 6.5, Panel F: Screening results at the end of December 2010**

Sector	Sector compliance				Financial Compliance								
					(1)Based on AAOIFI 2004 financial screens				Total	(2)Based on AAOIFI 2006 financial screens			
	PH Stocks		Sin Stocks		MH stocks		MS Stocks			MH stocks		MS Stocks	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	4	0.44	5	0.56	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	13	0.36	1	0.03	9	0.25	13	0.36	36	8	0.22	14	0.39
<b>Industrial</b>	3	0.11	0	0.00	19	0.68	6	0.21	28	17	0.61	8	0.29
<b>Services</b>	11	0.20	4	0.07	34	0.61	7	0.13	56	26	0.46	15	0.27
<b>Food</b>	0	0.00	0	0.00	5	0.83	1	0.17	6	6	1.00	0	0.00
<b>Total</b>	52	0.28	38	0.21	67	0.36	27	0.15	184	57	0.31	37	0.20
<b>Market Value</b>	6594	0.22	10826	0.37	9607	0.33	2470	0.08	29498	9962	0.34	2116	0.07

Note: This table reports the results of the screening process using both qualitative (sector) and quantitative (financial) *Shariah* screening criteria during the whole sample period. Each panel represents the screening results at that year. All sample stocks are classified according to their compliance with the sector and financial

screening, reported across seven sectors. Pure *Halal* stocks (PH) are those that are compliant with sector or activity criteria, while Sin stocks are not compliant with such criteria. Mixed *Halal* (MH) are stocks that are compliant with the financial screening criteria and Mixed Sin (MS) are not compliant with such criteria. The financial compliance is divided into two parts based on AAOIFI 2004 and 2006 financial screening criteria. The (%) ratio column represents the percent of the total listed stocks in that sector, so PH and Sin combined together with MH and MS based on AAOIFI 2004 financial criteria add up to 100% or PH and Sin with MH and MS based on AAOIFI 2006 financial criteria also add up to 100%. The last two rows shows the number and ratio of total listed stocks and market value in millions K.D for each column, so similarly PH and Sin combined together with MH and MS based on AAOIFI 2004 financial criteria add up to 100% or PH and Sin with MH and MS based on AAOIFI 2006 financial criteria also add up to 100%.

Table 6.5 summarizes the overall results of the screening analysis using both qualitative (sector compliance) and quantitative (financial compliance) *Shariah* screening criteria for each of the years in the sample period. It also demonstrates the impact of using different financial screening guidelines on the definition of the MH based on AAOIFI's 2004 and 2006 guidelines. Table 6.5 shows that MH stocks only exist in the non-financial sectors such as real estate, industrial, service and food. Companies that operate in the financial sectors such as: banks, investment, and insurance firms have to be entirely pure *Halal* or sin as the core operational business of such companies is financial intermediation or insurance, based either on *Shariah* principles or conventional interest-based methods or *Gharar*<sup>151</sup>; there is no in-between situation involving a mixture of the two. Sin in this context is based on activity only; as such stocks are screened out at the first screening level, not based on their failure to comply with financial screening criteria. Hence, the vast majority of PH and sin stocks are concentrated in the financial sector. Panel A of Table 6.5 shows, at the end of 2005, 65% of PH and 86% of sin stocks are clustered in the financial sector. Most PH stocks are also found in the financial sector; the main reason for this concentration is because the sector screening criteria require companies to have both *Shariah*-compliant articles of association and an SSB; and these two conditions mostly apply to companies that operate in the financial sector, where the CBK ensures that compliance occurs. However, a number of interviewees in Chapter 5 highlighted other sectors such as the industrial, services, and food industries that are also thought to contain *Halal* businesses; these interviewees saw no need for an SSB to monitor the companies' activities, since most were assumed to be *Halal*. However, in the current analysis,

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<sup>151</sup> *Gharar* as described in the literature review chapter, as high ambiguity and excessive risk (Ayub, 2007). *Shariah* scholars prohibit conventional insurance because they believe that it is exploitative and unjust. Since the insured pays premium to insurer for something with no guarantee of benefit from it, as he may or may not need to receive compensation from the insurance. In addition, the premiums paid to the insurance company are invested in interest based financial instruments and from those funds, compensation is provided to the insured in case of contingencies. The *Shariah*-compliant alternative is the Islamic insurance (*Takaful*) provided by *Takaful* companies that was explained in the literature review chapter.



they fail to comply with these criteria by not having an SSB and are not classified as PH stocks in agreement with the majority of interviewees. Thus, such companies are rather classified as MH if they comply with the financial screening criteria or MS if they fail to comply with such criteria. This means that Islamic funds and investors, who invest only in PH stocks, may face a restrictive asset allocation strategy and be unable to exploit any diversification potential over those who invest in both PH and MH stocks, because of the limited range of securities available for investment.

Panel A of Table 6.5 shows that of the eight listed banks at the end of 2005, only one is categorized as a PH stock while the other seven are allocated to the sin stock grouping. In addition, out of 37 investment companies 17 are deemed to be PH stocks and 20 Sin stocks. However, the number of PH stocks is not constant; it increases over time. For instance, in Panel F of Table 6.5, the number of banks in the PH group has increased to 4 out of 9 by the end of 2010. In addition, out of the 42 listed investment companies in 2010, 19 are categorized as PH, while 23 are labeled as Sin. However, despite this growth in the number of PH stocks, they are still a minority; for example, in 2010, the 52 stocks which are deemed to be PH represent only 22% of the total market value of all equities available. By contrast, the 38 sin stocks in 2010 represent 37% of the capitalization of the total market. A similar pattern exists for all the years; Sin stocks are fewer in number but greater in market value terms compared to PH stocks; this is mainly due to the fact that the sin stock category includes the biggest banks, whereas the PH group contains smaller companies; an exception to this generalization is Kuwait Finance House (KFH), an Islamic bank that represents about 9% of the total market capitalization of the KSE. Despite this exception, Sin stocks typically consist of larger companies such as the Kuwait National Bank (NBK), a conventional commercial bank which accounts for about 16% of the total value of the market. This finding is consistent with the

comments expressed by the interviewees. One conclusion to emerge from these results is that the qualitative screening employed to classify stocks into PH or Sin categories may expose Islamic funds that only invest in PH stocks and not in MH stocks, to liquidity risk; their investments will be concentrated in small-capitalized equities. In addition, they will be overweight in financial companies which could lower their diversification potential and increase their risk. This conclusion is similar to the findings reported by studies of ethical funds such as Luther and Matatko (1994), Sparkes (1995), Gregory et al. (1997), Wilson (1997) and Scholtens (2005); these studies have documented that ethical funds have a higher proportion of their wealth invested in the equities of smaller companies than their “non-ethical” counterparts. They attribute this phenomenon to the fact that large-capitalized companies are usually diversified firms with a wide range of business interests and a geographically diverse set of activities carried on through their subsidiaries or associate companies which may be involved in sin or non-ethical activities; thus, they tend to be excluded from Islamic funds and ethical funds. Nevertheless, the exclusion of such stocks may deprive Islamic funds, which invest only in PH stocks, from profitable investment opportunities because larger companies often have stronger fundamentals and sustainable earnings streams; in addition, their bankruptcy risk is typically lower (Hudson, 1987). This may affect the risk and return of PH portfolios relative to their counterparts that invest in both PH and MH securities. The latter typically selects investments from a wider range of fundamentally stronger, blue chip stocks. The actual risk and return behaviour of PH, Sin, MH and MS portfolios are examined in Chapter 7 and 8 later in this thesis. The following section presents the impact of portfolio construction when the financial screening thresholds are halved.

## 6.5 Halving the Financial Screening Criteria

The previous section of this chapter applied financial screening criteria that were proposed in *Shariah* Standard no.21 by AAOIFI (2004) and AAOIFI (2006); this standard is used by the vast majority of Islamic funds in the GCC region, according to the interviewees in Chapter 5. However, many of these interviewees highlighted that such financial screening criteria do not have a strong grounding in Islamic law or a rigorous, *Shariah*-based rationale underpinning them. Indeed, the first *fatwa*, which was followed by AAOIFI (2004) outlining the screening criteria to control the sin element of the companies in which Islamic funds could invest was seen as an exception *fatwa* during that period of time as very few PH securities existed. Many interviewees, especially the *Shariah* scholars commented that investing in MH should not be the main activity for Islamic funds; Islamic funds that invest mainly in MH stocks were thought to be committing sin transactions with their investments. For this reason, many of the scholars noted that this was an outdated *fatwa* and needed to be revisited based on independent empirical and technical evidence. However, many interviewees, fund managers and institutional investors in particular, were not sure whether it was the right time to disallow investments in MH stocks or even reduce the financial screening thresholds, due to the impact of the financial crisis on market capitalization values. Thus, the current section of the chapter addresses this issue by screening mixed companies based on a halving of the thresholds for the financial screening criteria proposed by AAOIFI (2004) and (2006) as described in Figure 6.1. It investigates the impact on the investment universe of imposing “tighter” criteria for identifying stocks as MH rather than MS; as such, the analysis in this section of the chapter can be seen as a form of sensitivity analysis which examines how sensitive the security categorizations are to a reduction in the screening thresholds employed. The new criteria examined in this section are as follows:

1. A ratio of interest revenue and un-*Halal* (sin) revenues to total revenues which is less than 2.5%;
2. A ratio of interest bearing debt to total assets or market capitalization which is less than 15%; and
3. A ratio of interest bearing investments and cash to total assets or market capitalization which is less than 15%

These screens are tested using total assets (AAOIFI, 2004) and market capitalization (AAOIFI, 2006) as the divisor in the first two criteria; both screening methods estimate criteria 1 in the same way. In contrast with the analysis in Section 6.3, the thresholds in the current section are halved from 5% to 2.5% for the first criteria and from 30% to 15% for the second and third criteria.<sup>152</sup>

Table 6.6 summarizes the impact of using the new, lower thresholds of the different financial screens on the stocks of mixed companies during the overall sample period.

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<sup>152</sup> The next two chapters measures the returns of the re-created portfolios based on the halved financial screening thresholds to examine whether there is a significant performance penalty incurred relative to portfolios screened on the basis of the original financial screening criteria. PH and sin stocks are unaffected by this halving of the thresholds for the financial screening criteria because, as illustrated in Figure 6.1, financial screening is the second level of screening applied to mixed companies.

**Table 6.6: Mixed *Halal* (MH) and Mixed Sin (MS) Stocks by Year after and Before Halving the Financial Screening Thresholds**

**Panel A: MH and MS Based on the Halved Financial Screens Thresholds**

	Based on AAOIFI 2004 screens (Halved)		Total	Based on AAOIFI 2006 screens (Halved)		No. of extra MH under 2006 screens
	MH	MS		MH	MS	
<b>End of 2005</b>	27	40	67	43	24	16
<b>End of 2006</b>	24	50	74	31	43	7
<b>End of 2007</b>	20	61	81	20	61	0
<b>End of 2008</b>	31	56	87	24	63	-7
<b>End of 2009</b>	18	70	88	17	71	-1
<b>End of 2010</b>	34	60	94	29	65	-5
<b>Total</b>	<b>154</b>	<b>337</b>	<b>491</b>	<b>164</b>	<b>327</b>	<b>10</b>

**Panel B: MH and MS Based on the Original Financial Screens Thresholds**

	Based on AAOIFI 2004 screens		Total	Based on AAOIFI 2006 screens		No. of extra MH under 2006 screens
	MH	MS		MH	MS	
<b>End of 2005</b>	48	19	67	50	17	2
<b>End of 2006</b>	44	30	74	47	27	3
<b>End of 2007</b>	46	35	81	51	30	5
<b>End of 2008</b>	50	37	87	37	50	-13
<b>End of 2009</b>	52	36	88	38	50	-14
<b>End of 2010</b>	67	27	94	57	37	-10
<b>Total</b>	<b>307</b>	<b>184</b>	<b>491</b>	<b>280</b>	<b>211</b>	<b>-27</b>

Note: This table shows the financial screening impact of using the new halved thresholds of AAOIFI's 2004 and 2006 financial screening criteria on the mixed stocks during the overall sample period in panel A. Panel B, is Table 6.2, inserted for the sake of comparison. The total stocks column represents mixed stocks (MH and MS) but excludes PH and Sin stocks. The last column in panel A subtracts the number of MH stocks based on halved AAOIFI's (2006) criteria from the number of MH stocks based on halved AAOIFI's (2004) criteria for each year, while the last column in panel B subtracts the number of MH stocks based original AAOIFI's (2006) criteria from the number of MH stocks based on original AAOIFI's (2004) criteria for each year. The last row totals all columns. MH=mixed *Halal*, MS= mixed sin.

Table 6.6 indicates that Islamic funds would lose a substantial number of their *Halal* assets if applying the halved financial screens thresholds, for example the total number of MH stocks would have dropped sharply from 307 to only 154 under the AAOIFI's (2004) screens or dropped from 280 to 164 under AAOIFI'S (2006) screens. The impact varies over different years; the worst year for Islamic funds would have been 2009 (after the GFC) under the AAOIFI's (2004) screens and 2007 under AAOIFI's (2006) screens because they already lost many of MH stocks after the crisis using the original screens.

Furthermore, Table 6.6 shows that for the lower thresholds, AAOIFI's (2006) criteria produced 10 MH stocks more in total compared to that of AAOIFI's (2004) as shown in the last column of panel (A). This is the opposite result from panel (B) where AAOIFI's (2006) criteria reduced MH stocks by 27 in total. The main reason for this difference is that the halved thresholds for AAOIFI's (2006) criteria did very well in classifying MH stocks during 2005; however, this superior classificatory ability did not persist, as the difference started to dissipate almost immediately such that by 2007 the findings for the halved thresholds for AAOIFI's 2006 criteria were the same as the results with the original thresholds. The results of Table 6.6 confirm that the GFC had a sizeable impact on the AAOIFI's (2006) screenings for Islamic fund managers; whether the original criteria examined in the previous section or the halved criteria in the current section. The massive drop in market capitalization values after the GFC makes AAOIFI's (2004) criteria a better option for screening mixed stocks. The findings also highlight that the GFC caused a dramatic decline not only in companies' market capitalization values but also in their total asset figures, suggesting that some companies responded to the crisis by selling off assets or writing down values on the statement of the financial position (balance sheet) as noted by some interviewees. This write-down option may have been facilitated by the adoption of IFRS and more specifically, by the introduction of IFRS 7 in 2008 as highlighted by some interviewees.<sup>153</sup>

Table 6.7 reports the results of the financial screening analysis for every individual mixed stock company based on their market value and their compliance with the new, halved thresholds applied to AAOIFI's (2006) criteria over the six year period studied. This table is similar to Table 6.3 except that the thresholds for the financial screening criteria are half of what they were in Section 6.3.

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<sup>153</sup> Some interviewees indicated that the book value of many companies' assets were overvalued compared to the market value especially after the GFC and writing down their values was important.

**Table 6.7: The Final Screening Results for Mixed Companies over the 2005-2010 Period, Based on the Halved AAOIFI (2006) Screens Thresholds, Ranked According to their Market Value in Million (K.D)**

Company Code	Sector	MV	% of Total	% of Mixed	Mixed Stocks Based on AAOIFI 2006 Screening Criteria (Halved)					
					2005	2006	2007	2008	2009	2010
ZAIN	Services	5377	16.24	33.83	MH	MH	MH	MH	MS	MH
AGLTY	Services	1014	3.06	6.38	MH	MS	MH	MH	MS	MS
NMTC	Services	999	3.02	6.28	MS	MS	MS	MH	MS	MH
NIND	Industrial	949	2.87	5.97	MS	MS	MS	MS	MS	MS
FOOD	Food	624	1.89	3.93	MH	MS	MH	MH	MS	MH
KCEM	Industrial	465	1.41	2.93	MH	MH	MH	MS	MS	MS
CABLE	Industrial	381	1.15	2.39	MH	MS	MH	MS	MS	MS
MABANEE	Real Estate	368	1.11	2.32	MH	MS	MS	MS	MS	MS
BPCC	Industrial	334	1.01	2.10	MS	MS	MS	MS	MS	MS
NRE	Real Estate	281	0.85	1.77	MH	MS	MS	MS	MS	MS
ALQURAIN	Industrial	278	0.84	1.75			MS	MS	MH	MS
ALNAWADI	Services	225	0.68	1.41						MS
SULTAN	Services	189	0.57	1.19	MH	MS	MS	MS	MS	MS
SRE	Real Estate	145	0.44	0.91	MS	MS	MS	MS	MS	MS
MAZAYA	Real Estate	139	0.42	0.87	MH	MH	MS	MS	MS	MS
NICBM	Industrial	134	0.41	0.85	MH	MH	MH	MH	MH	MH
TAM	Real Estate	129	0.39	0.81	MS	MS	MS	MS	MS	MS
IKARUS	Industrial	121	0.37	0.76				MS	MS	MS
THEMAR	Real Estate	118	0.36	0.74	MH	MS	MS	MS	MS	MS
CGC	Services	117	0.35	0.74		MH	MS	MS	MS	MH
KRE	Real Estate	115	0.35	0.72	MH	MS	MS	MS	MS	MH
ABAR	Services	114	0.35	0.72	MH	MH	MH	MH	MS	MS
OULAFUEL	Services	114	0.34	0.72		MH	MS	MH	MH	MH
KFOUC	Industrial	111	0.34	0.70	MH	MH	MH	MH	MH	MH
URC	Real Estate	104	0.31	0.65	MS	MS	MS	MS	MS	MS
FIRSTDUBAI	Real Estate	98	0.30	0.62			MS	MH	MS	MS
KGL	Services	98	0.30	0.62	MS	MS	MS	MS	MS	MS
SOOR	Services	93	0.28	0.59				MH	MH	MH
ACICO	Industrial	89	0.27	0.56	MS	MS	MS	MS	MS	MS
CITYGROUP	Services	88	0.27	0.55	MH	MH	MS	MS	MS	MS
PCEM	Industrial	87	0.26	0.55	MH	MH	MS	MS	MS	MH
MENAHOLD	Industrial	87	0.26	0.55	MH	MH	PH	PH	PH	PH
KPPC	Services	81	0.24	0.51	MS	MS	MS	MS	MS	MS
MARIN	Industrial	74	0.22	0.46	MS	MS	MS	MS	MS	MS
PIPE	Industrial	73	0.22	0.46	MS	MS	MS	MS	MS	MS
INJAZZAT	Real Estate	72	0.22	0.46	MS	MS	MS	MS	MS	MS
CATTL	Food	71	0.22	0.45	MH	MH	MS	MS	MS	MS
NAFAIS	Services	70	0.21	0.44	MH	MH	MS	MH	MH	MH
REMAL	Real Estate	69	0.21	0.44						MS

<b>ARGAN</b>	Real Estate	69	0.21	0.44			<b>MS</b>	<b>MS</b>	MH	MS
<b>ATC</b>	Services	67	0.20	0.42			<b>MS</b>	<b>MS</b>	MS	MH
<b>IPG</b>	Services	65	0.20	0.41	MS	MS	MS	MS	MS	<b>MS</b>
<b>LOGISTICS</b>	Services	65	0.20	0.41					MS	<b>MS</b>
<b>MAYADEEN</b>	Services	64	0.19	0.40	MH	MS	MS	MS	MS	MS
<b>SHIP</b>	Industrial	63	0.19	0.40	MH	<b>MS</b>	<b>MS</b>	MS	MS	<b>MS</b>
<b>SHOP</b>	Services	56	0.17	0.35	MS	<b>MS</b>	MS	MS	MS	MS
<b>JAZEERA</b>	Services	56	0.17	0.35			MH	MS	MS	MS
<b>UIC</b>	Industrial	56	0.17	0.35	MS	MS	MS	MS	MS	MS
<b>HITSTELEC</b>	Services	53	0.16	0.33	MH	MH	<b>MS</b>	MH	MH	MH
<b>DANAH</b>	Food	49	0.15	0.31	MH	<b>MS</b>	<b>MS</b>	MH	<b>MS</b>	MH
<b>ARABREC</b>	Real Estate	48	0.15	0.30	MS	MS	MS	MS	MS	MS
<b>AREEC</b>	Real Estate	46	0.14	0.29	MS	MS	MS	MS	MS	MS
<b>ALKOUT</b>	Industrial	44	0.13	0.28	MH	MH	MH	MS	<b>MS</b>	<b>MS</b>
<b>KNA</b>	Services	44	0.13	0.27				<b>MS</b>	<b>MS</b>	MS
<b>SENERGY</b>	Services	43	0.13	0.27	MH	MH	MH	MH	MH	MH
<b>YIACO</b>	Services	40	0.12	0.25			MH	MS	MS	MH
<b>KOUTFOOD</b>	Food	37	0.11	0.23			MH	MS	MS	MH
<b>KBT</b>	Real Estate	36	0.11	0.23				MS	MS	MS
<b>BIHC</b>	Industrial	32	0.10	0.20						MH
<b>MTCC</b>	Services	31	0.09	0.20		MS	MS	MS	MS	MS
<b>JEERANH</b>	Services	31	0.09	0.20		MH	MH	MS	MS	MS
<b>UREC</b>	Real Estate	31	0.09	0.20	MH	MH	<b>MS</b>	MH	MH	MH
<b>MASSALEH</b>	Real Estate	31	0.09	0.19	MS	MS	MS	MS	MS	MS
<b>SAFTEC</b>	Services	30	0.09	0.19		MS	MS	MS	MS	MS
<b>REFRI</b>	Industrial	30	0.09	0.19	MH	MH	MH	MH	<b>MS</b>	<b>MS</b>
<b>UPAC</b>	Services	29	0.09	0.18		MS	<b>MS</b>	<b>MS</b>	MS	<b>MS</b>
<b>MRC</b>	Industrial	29	0.09	0.18	MH	MH	MS	MS	MS	MS
<b>HUMANSOFT</b>	Services	27	0.08	0.17	MH	<b>MS</b>	<b>MS</b>	MH	MH	<b>MS</b>
<b>FUTURE</b>	Services	27	0.08	0.17			<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>
<b>AQAR</b>	Real Estate	26	0.08	0.17	MS	MS	MS	MS	MS	<b>MS</b>
<b>AGHC</b>	Services	26	0.08	0.16	MS	MS	MS	MS	MS	MS
<b>GGMC</b>	Industrial	25	0.07	0.16	<b>MS</b>	<b>MS</b>	<b>MS</b>	MS	<b>MS</b>	MH
<b>KPAK</b>	Industrial	25	0.07	0.15	MH	MH	MH	<b>MS</b>	MH	MH
<b>TAAMEER</b>	Real Estate	24	0.07	0.15	MS	MS	<b>MS</b>	MS	MS	MS
<b>ALMUDON</b>	Real Estate	24	0.07	0.15					MH	MH
<b>EQUIPMENT</b>	Industrial	23	0.07	0.14	MH	MH	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>
<b>HCC</b>	Industrial	22	0.07	0.14	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>
<b>CLEANING</b>	Services	22	0.07	0.14	MH	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>	<b>MS</b>
<b>ALRAI</b>	Services	22	0.06	0.14						MS
<b>SANAM</b>	Real Estate	19	0.06	0.12	MH	MS	MS	<b>MS</b>	MH	MH
<b>NAPESCO</b>	Services	18	0.05	0.11	MH	MH	MH	MH	<b>MS</b>	MH
<b>SAFWAN</b>	Services	18	0.05	0.11	MH	MH	PH	PH	PH	PH
<b>HAYATCOMM</b>	Services	17	0.05	0.11			MH	MS	<b>MS</b>	MH



<b>POULT</b>	Food	16	0.05	0.10	MH	MH	<b>MS</b>	MS	MS	MH
<b>GFC</b>	Services	16	0.05	0.10	MH	MH	MH	MH	MH	<b>MS</b>
<b>KCPC</b>	Services	16	0.05	0.10	MS	MS	MS	MS	MS	<b>MS</b>
<b>ASC</b>	Services	16	0.05	0.10	MH	MH	MS	MS	MS	MS
<b>MARAKEZ</b>	Real Estate	14	0.04	0.09						MH
<b>PAPER</b>	Industrial	13	0.04	0.08	MS	MS	MS	MH	<b>MS</b>	<b>MS</b>
<b>FUTUREKID</b>	Services	13	0.04	0.08				MS	<b>MS</b>	<b>MS</b>
<b>UFIG</b>	Food	13	0.04	0.08	MH	MS	<b>MS</b>	MH	MH	MH
<b>KSH</b>	Services	10	0.03	0.07	MH	MH	MH	MH	MH	MH
<b>PAPCO</b>	Services	10	0.03	0.06		MH	<b>MS</b>	MH	<b>MS</b>	MH
<b>GYPSUM</b>	Industrial	8	0.03	0.05			<b>MS</b>	MS	<b>MS</b>	<b>MS</b>
<b>KBMMC</b>	Industrial	8	0.02	0.05	MH	MH	MH	MH	MH	<b>MS</b>
<b>NSH</b>	Services	6	0.02	0.04	MH	MH	MS	MS	MS	<b>MS</b>

Note: This Table shows the final financial screening results of all mixed companies after halving the thresholds of AAOIFI's (2006) financial screens. Companies are ordered according to their average market value (MV) as of the full sample period, from large to small stocks, MV in millions K.D. The Table demonstrates the corresponding sector, percent out of the total sample stocks, percent out of the total mixed stock including mixed *Halal* (MH) and mixed sin (MS). Empty cells indicate that the company was not listed then, while **bold** cells denote when it is different from Table 6.3. \*Indicates the two companies that converted from mixed stocks to pure *Halal* (PH) stocks during the sample period in 2007.

Table 6.7 shows that Islamic funds or investors who wish to select *Halal*-compliant stocks lose the chance to invest in the larger market capitalization stocks compared to Table 6.3. The new, lower financial screening thresholds appear to exclude many of the MH stocks that were included when the looser limits were applied. However, Islamic fund managers can still invest in Zain, the largest mixed company, whose weight accounts for 16% of the total market capitalization and 34% of the capitalization of mixed companies; it still remains as an MH stock, apart from 2010, when it dropped out of this categorization in both Table 6.3 and 6.7. However, apart from this exception, fewer large-sized companies are included in the MH category for most of the years screened; this result applies to the whole sample as well as to the different sectors when the findings from the stricter limits are compared to the results from the use of the original AAOIFI screening criteria; for example, Agility, National Mobile Telecommunication (NMTC), Kuwait Food (FOOD), Kuwait Cement (KCEM), Gulf Cable and Electrical Industries(CABLE), Mabanee Real Estate (MABANEE), and Boubyan

Petrochemicals (BPCC) are no longer no longer available for Islamic funds because of the lower thresholds. These companies together account for 15.5% of all companies and 32% of the mixed companies. This means that Islamic funds which invest in both PH and MH stocks may be prevented from investing in these companies if the *Shariah* scholar's wishes in Chapter 5 are adopted. This may affect the performance of such *Halal*-orientated portfolios. This issue will be examined in the following two chapters.<sup>154</sup>

Table 6.8, panels A-D summarizes the *Shariah* classification change of mixed stocks from MH to MS and vice versa before and after the halved thresholds of AAOIFI's 2004 and 2006 financial screening in sectors. It is worth noting that panels A and C are the same in Table 6.4, but reported again in this table for the sake of comparison.

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<sup>154</sup> Islamic funds which do not invest in MH stocks will not be affected by this halving of the thresholds methodology since they have already decided to avoid purchasing the MH equities.

**Table 6.8: Changes in Mixed Stocks' *Shariah* Classification over the Sample Period Before and After Halving the Financial Screening Thresholds**

**Panel A**

Sector	Screening based on AAOIFI 2004 Financial screening criteria											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
Real Estate	2	4	1	4	1	1	0	2	4	0	8	11
Industrial	1	2	2	1	3	6	5	2	3	0	14	11
Services	2	6	2	5	5	1	3	3	6	1	18	16
Food	0	0	0	1	1	2	1	0	1	1	3	4
Total	5	12	5	11	10	10	9	7	14	2	43	42

**Panel B**

Sector	Screening based on AAOIFI 2004 Financial screening criteria (Halved)											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
Real Estate	0	3	1	2	3	1	2	2	2	1	8	9
Industrial	0	2	4	3	7	5	3	6	3	4	17	20
Services	4	3	3	7	8	4	1	9	11	1	27	24
Food	0	2	0	1	3	1	0	2	3	0	6	6
Total	4	10	8	13	21	11	6	19	19	6	58	59

**Panel C**

Sector	Screening based on AAOIFI 2006 Financial screening criteria											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
Real Estate	0	4	1	1	1	4	1	1	3	1	6	11
Industrial	1	2	2	2	1	6	3	1	3	0	10	11
Services	1	3	1	3	0	6	2	4	10	2	14	18
Food	0	0	0	0	0	3	0	0	3	0	3	3
Total	2	9	4	6	2	19	6	6	19	3	33	43

**Panel D**

Sector	Screening based on AAOIFI 2006 Financial screening criteria (Halved)											
	2006 vs. 2005		2007 vs. 2006		2008 vs. 2007		2009 vs. 2008		2010 vs. 2009		Total	
	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS	MH	MS
Real Estate	0	5	0	2	2	0	2	1	1	1	5	9
Industrial	0	2	1	2	1	4	2	2	2	2	6	12
Services	0	5	1	8	6	4	0	6	8	2	15	25
Food	0	2	1	3	2	1	0	2	4	0	7	8
Total	0	14	3	15	11	9	4	11	15	5	33	54

Note: This Table summarizes the *Shariah* classification change of mixed stocks from MH to MS and vice versa before and after the halved thresholds of AAOIFI's 2004 and 2006 financial screening in sectors: real estate, industrial, service, and food. Each year is compared with the previous one. The last two columns provide the total results of the MH and MS for each sector and the total of all 4 sectors. The Table controls for new listed companies, as only if an existing stocks change status from being *Shariah* compliant based such criteria it is reported in MH column, while if it becomes not compliant with such criteria it is reported in the MS column, indicating that it is excluded from the MH stocks universe and is not a possible investment anymore in that particular period.

Table 6.8 confirms that halving the thresholds for AAOIFI's (2006) screening criteria yield a more stable investment universe for Islamic funds compared to the halved thresholds of AAOIFI's (2004) criteria. This is similar to the results of Table 6.4 (which is panels A and C in Table 6.8) that AAOIFI's (2006) produce a less volatile asset universe.

The volatility of the number of stocks moving from the MH to the MS and from the MS to the MH categories over years is higher based on the halved thresholds applied to the AAOIFI's (2004) screening criteria compared to the original AAOIFI's (2004) screenings (see panels A and B). Similar results with the halved and original screening thresholds of AAOIFI's (2006) (see panels C and D). This is explained by the fact that many companies are close to the limits based on the halved thresholds, causing them to be included in a category one year and excluded in the next.

Panels A to F of Table 6.9 report the overall results for the screening process using both sector compliance and the halved financial screening thresholds compliance over the entire sample period, by year, after removing the non-Kuwaiti sector and companies with missing data from the beginning of the screened period.

**Table 6.9, Panel A: Screening results After Halving Thresholds at the end of December 2005**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	1	0.13	7	0.88	0	0.00	0	0.00	8	0	0.00	0	0.00
<b>Investment</b>	17	0.46	20	0.54	0	0.00	0	0.00	37	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	7	0.29	1	0.04	5	0.21	11	0.46	24	8	0.33	8	0.33
<b>Industrial</b>	0	0.00	0	0.00	10	0.45	12	0.55	22	13	0.59	9	0.41
<b>Services</b>	4	0.13	4	0.13	9	0.28	15	0.47	32	17	0.53	7	0.22
<b>Food</b>	0	0.00	0	0.00	3	0.60	2	0.40	5	5	1.00	0	0.00
<b>Total no.</b>	31	0.23	37	0.27	27	0.20	40	0.30	135	43	0.32	24	0.18
<b>Market Value</b>	6928	0.20	14676	0.42	1930	0.06	11322	0.32	34856	9150	0.26	4102	0.12

**Table 6.9, Panel B: Screening results After Halving Thresholds at the end of December 2006**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	2	0.22	7	0.78	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	18	0.44	23	0.56	0	0.00	0	0.00	41	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	8	0.32	1	0.04	2	0.08	14	0.56	25	2	0.08	14	0.56
<b>Industrial</b>	1	0.04	0	0.00	8	0.33	15	0.63	24	11	0.46	12	0.50
<b>Services</b>	7	0.17	4	0.10	13	0.32	17	0.41	41	15	0.37	15	0.37
<b>Food</b>	0	0.00	0	0.00	1	0.20	4	0.80	5	3	0.60	2	0.40
<b>Total</b>	38	0.25	40	0.26	24	0.16	50	0.33	152	31	0.20	43	0.28
<b>Market Value</b>	9693	0.21	17376	0.38	8399	0.18	10661	0.23	46129	9300	0.20	9760	0.21

**Table 6.9, Panel C: Screening results After Halving Thresholds at the end of December 2007**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Banking	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
Investment	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
Insurance	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
Real Estate	10	0.34	1	0.03	1	0.03	17	0.59	29	0	0.00	18	0.62
Industrial	3	0.12	0	0.00	8	0.31	15	0.58	26	8	0.31	15	0.58
Services	11	0.22	4	0.08	10	0.20	24	0.49	49	10	0.20	24	0.49
Food	0	0.00	0	0.00	1	0.17	5	0.83	6	2	0.33	4	0.67
<b>Total no.</b>	48	0.29	39	0.23	20	0.12	61	0.36	168	20	0.12	61	0.36
<b>Market Value</b>	12031	0.24	18008	0.36	9118	0.18	10342	0.21	49499	10721	0.22	8739	0.18

**Table 6.9, Panel D: Screening results After Halving Thresholds at the end of December 2008**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Banking	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
Investment	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
Insurance	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
Real Estate	10	0.33	1	0.03	3	0.10	16	0.53	30	2	0.07	17	0.57
Industrial	3	0.11	0	0.00	10	0.37	14	0.52	27	5	0.19	19	0.70
Services	11	0.21	4	0.08	15	0.28	23	0.43	53	14	0.26	24	0.45
Food	0	0.00	0	0.00	3	0.50	3	0.50	6	3	0.50	3	0.50
<b>Total</b>	48	0.28	39	0.22	31	0.18	56	0.32	174	24	0.14	63	0.36
<b>Market Value</b>	6045	0.21	10230	0.36	7827	0.28	4326	0.15	28428	7717	0.27	4435	0.16

**Table 6.9, Panel E: Screening results After Halving Thresholds at the end of December 2009**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	3	0.33	6	0.67	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	11	0.35	1	0.03	3	0.10	16	0.52	31	3	0.10	16	0.52
<b>Industrial</b>	3	0.11	0	0.00	7	0.26	17	0.63	27	5	0.19	19	0.70
<b>Services</b>	11	0.20	4	0.07	7	0.13	32	0.59	54	8	0.15	31	0.57
<b>Food</b>	0	0.00	0	0.00	1	0.17	5	0.83	6	1	0.17	5	0.83
<b>Total no.</b>	49	0.28	39	0.22	18	0.10	70	0.40	176	17	0.10	71	0.40
<b>Market Value</b>	5871	0.20	10892	0.36	851	0.03	12341	0.41	29955	968	0.03	12224	0.41

**Table 6.9, Panel F: Screening results After Halving Thresholds at the end of December 2010**

Sector	Sector compliance				Financial Compliance								
					Based on AAOIFI 2004 Screens (Halved)				Total	Based on AAOIFI 2006 Screens (Halved)			
	PH Stocks		Sin Stocks		MH		MS			MH		MS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>Banking</b>	4	0.44	5	0.56	0	0.00	0	0.00	9	0	0.00	0	0.00
<b>Investment</b>	19	0.45	23	0.55	0	0.00	0	0.00	42	0	0.00	0	0.00
<b>Insurance</b>	2	0.29	5	0.71	0	0.00	0	0.00	7	0	0.00	0	0.00
<b>Real Estate</b>	13	0.36	1	0.03	6	0.17	16	0.44	36	5	0.14	17	0.47
<b>Industrial</b>	3	0.11	0	0.00	7	0.25	18	0.64	28	5	0.18	20	0.71
<b>Services</b>	11	0.20	4	0.07	17	0.30	24	0.43	56	14	0.25	27	0.48
<b>Food</b>	0	0.00	0	0.00	4	0.67	2	0.33	6	5	0.83	1	0.17
<b>Total</b>	52	0.28	38	0.21	34	0.18	60	0.33	184	29	0.16	65	0.35
<b>Market Value</b>	6594	0.22	10826	0.37	7266	0.25	4811	0.16	29498	7515	0.25	4562	0.15

Note: This Table reports the results of the screening process using both qualitative (sector) and quantitative (financial) *Shariah* screening criteria after having thresholds of AAOIFI's criteria, during the whole sample period. Each panel represents the screening results at that year. All sample stocks are classified according to their

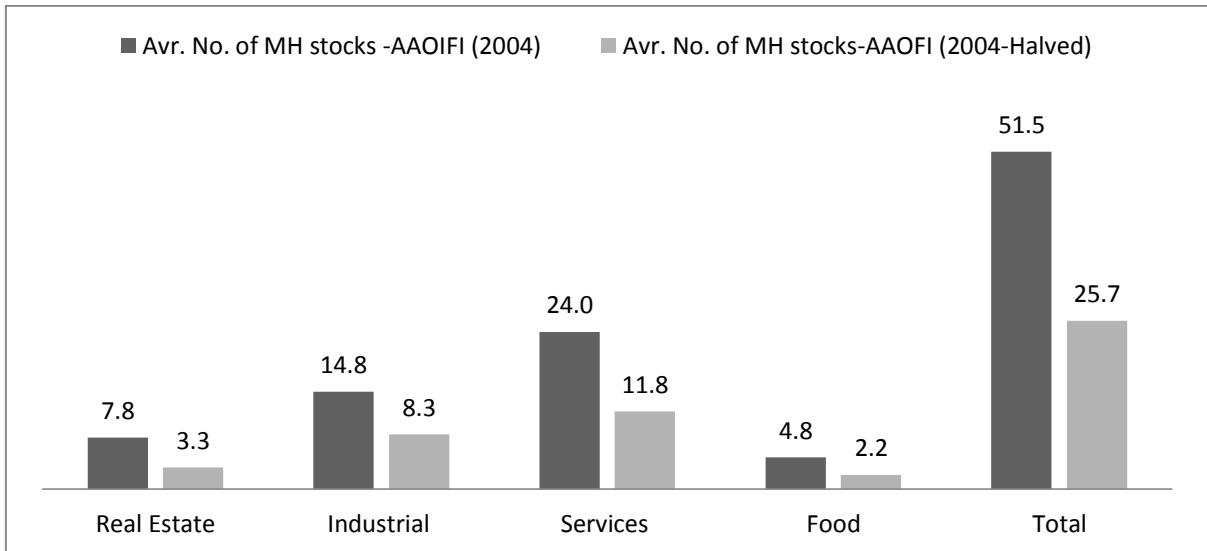
compliance with the sector and financial screening, reported across seven sectors. Pure *Halal* stocks (PH) are those that are compliant with sector or activity criteria, while Sin stocks are not compliant with such criteria. Whereas Mixed *Halal* (MH) stocks are those that are compliant with the halved financial screening criteria and Mixed Sin (MS) are not compliant with such criteria. The financial compliance is divided into two parts based on new halved AAOIFI's 2004 and 2006 financial screening criteria. The (%) ratio column represents the percent of listed stocks in that sector, so PH and Sin combined together with MH and MS based on halved AAOIFI's 2004 financial criteria add up to 100% or PH and Sin with MH and MS based on halved AAOIFI 2006 financial criteria also add up to 100%. The last two rows shows the number and ratio of total listed stocks and market value in millions K.D for each column, so similarly PH and Sin combined together with MH and MS based on halved AAOIFI's 2004 financial criteria add up to 100% or PH and Sin with MH and MS based on halved AAOIFI's 2006 financial criteria also add up to 100%.



Table 6.9 shows the impact of halving the financial screening thresholds on the *Shariah* classification of mixed companies to MH (Halved) and MS (Halved) stocks. The result of the sector screening is the same as that shown in Table 6.5. A comparison of the financial screening results of Table 6.9 with those in Table 6.5 shows that there was a dramatic drop in both the number and market value of MH stocks under the halved AAOIFI's (2004) and (2006) financial screening methods. For example, at the end of 2005, the number of MH stocks fell from 48 (see Table 6.5) to 27 (see Table 6.9) under the original and halved AAOIFI's (2004), with a great drop in the market value from 10.721 to 1.930 billion Kuwaiti Dinar (K.D) but a smaller drop from 50 (see Table 6.5) to 43 MH stocks (see Table 6.9) under the original and halved AAOIFI's (2006) with a small loss in market value from 10.728 to 9.150 billion. In fact, the 2005 screening results were extraordinary for MH under the halved AAOIFI's 2006 criteria as it experienced the least drop. The worst year for MH stocks under the halved AAOIFI's (2004) and (2006) was after the financial crisis immediately in the last quarter of 2008, but since the screening took place at the end of 2008 for 2009, hence, the impact is shown in the 2009 screening, where the number of MH stocks fell from 54 under the original criteria (see Table 6.5) to 18 (see Table 6.9) under the AAOIFI's (2004) criteria, with a dramatic loss in market value from 4.266 billion to only 851 million K.D. And a fall in the number of MH stocks under the AAOIFI's (2006) criteria from 38 under the original criteria (see Table 6.5) to 17, accompanied by a huge shrink in market value from 3.710 billion to 968 million K.D. This enormous fall in the market value of MH stocks in 2009 was because many large companies were excluded due to their failure to comply with the new halved thresholds. At the end of 2010, the number and market value of MH stocks started to increase again, but was still less than that in Table 6.5.

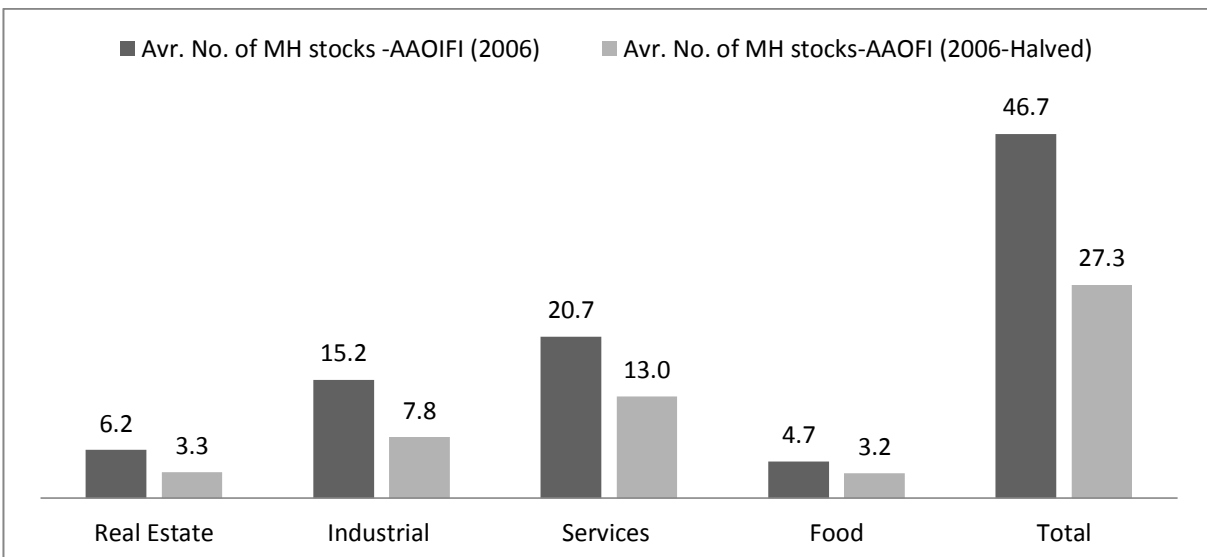
To highlight the impact of halving the financial screening thresholds on the MH stocks' diversification across sectors, Figures 6.2 and 6.3 show the number of MH stocks in each sector based on the original and halved AAOIFI's 2004 and 2006 financial screening criteria respectively.

**Figure 6.2: The Average Number of MH Stocks in Each Sector Based on the Original and Halved AAOIFI's 2004 Financial Screening Criteria**



Note: This figure shows the average number of mixed *Halal* (MH) stocks based on the original and halved AAOIFI's (2004) financial screens over the whole sample period in each sector: real estate, industrial, services, and food and the average total of all sectors.

**Figure 6.3: The Average Number of MH Stocks in Each Sector Based on the Original and Halved AAOIFI's 2006 Financial Screening Criteria**



Note: This figure shows the average number of mixed *Halal* (MH) stocks based on the original and halved AAOIFI's (2006) financial screens over the whole sample period in each sector: real estate, industrial, services, and food and the average total of all sectors.

Figures 6.2 and 6.3, demonstrates that halving the financial screening thresholds has negatively influenced MH investment diversification, as the number of MH stocks in each sector, on average, has dropped, especially when the AAOIFI's (2004) financial screening thresholds were halved. This might affect the risk tolerance level of Islamic funds, as they would have fewer stocks in each sector compared to the period when the original criteria were employed. However, the AAOIFI's (2006) criteria could be a better option as less MH stocks were lost in different sectors when the screens thresholds were halved. The risk and return behaviour of MH and MS under the halved financial screening criteria will be investigated in the two following chapters.

## **6.6 Portfolio Construction**

Based on the screening process described in Figure 6.1 and the screening results reported in Tables 6.5 and 6.9, a number of value-weighted portfolios were created for the purpose of this study to simulate the possible Islamic fund portfolios in the Kuwaiti market. The portfolio simulation technique has been adopted in prior studies such as Lehmann and Modest (1987), Grinblatt and Titman (1994), Diltz (1995), Draper and Paudyal (1997), Havemann and Webster (1999), Cowell (2002), Derwall et al., 2005, Derigs and Marzban (2009); and Rahimie (2010).<sup>155</sup> One study of interest to this thesis is Rahimie's (2010) work on the Malaysian stock market. He created three groups of simulated portfolios, namely a conventional portfolio, as the proxy for conventional or unrestricted funds investing in both *Shariah*-compliant and non-*Shariah*-compliant stocks; a *Shariah*-approved portfolio based on a ready list issued by the *Shariah* Advisory Council in the stock market as a proxy for Islamic funds; and a non-*Shariah*-approved portfolio. This study follows a similar approach, but it differentiates between

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<sup>155</sup> Diltz (1995), Havemann and Webster (1999), and Derwall et al. (2005) are on SRI, while Derigs and Marzban (2009) and Rahimie (2010) are on *Shariah*-compliant investments.

four types of stocks: PH and MH stocks, ‘Sin’ based on activity, and MS based on non-compliance with certain financial criteria, and it uses different financial screening criteria (halved financial screening thresholds). Using these different screens as described in Figure 6.1, 19 simulated value-weighted portfolios are created. The 19 portfolios are defined as follows:

P1: Pure *Halal* (PH) comprises stocks of companies that clearly follow *Shariah* law in all their activities and have an SSB. For the purpose of this study, a PH portfolio is regarded as a proxy for Islamic funds that invest only in PH stocks and do not allow any investment in MH stocks at all;

P2: Sin portfolio (Sin) includes stocks of companies that fail to comply with sector criteria (sin core business or activity), as they operate or are engaged in prohibited businesses such as interest-based financial services, alcohol, and adult entertainment;

P3: Mixed *Halal* (MH-T.A) consists of stocks of companies that comply with AAOIFI standard no.21 (2004) financial criteria using total assets in the financial screening criteria;

P4: Mixed *Halal* (MH-M.C) includes stocks of companies that comply with AAOIFI standard no.21 (2006) using market capitalization in the financial screening criteria;

P5: Mixed Sin (MS-T.A) comprises stocks of companies that fail to comply with AAOIFI standard no.21 (2004);

P6: Mixed Sin (MS-M.C) embraces stocks of companies that fail to comply with AAOIFI standard no.21 (2006);

P7: PH and Mixed *Halal*-T.A (All *Halal*-TA) is the combination of portfolios P1 and P3 above. For the purpose of this study, this combination is considered a proxy for Islamic funds that invest in stocks that are compliant with the AAOIFI’s (2004) screening criteria;

P8: PH and Mixed *Halal*-M.C (All *Halal*-M.C) is the integration of portfolios 1 and 4 above. This is a proxy for Islamic funds that invest according to AAOIFI's (2006) screening criteria;

P9: Sin and Mixed Sin-T.A (All Sin-T.A) is the grouping of portfolios P2 and P5 above; failing AAOIFI's (2004) screens;

P10: Sin and Mixed Sin-M.C (All Sin-M.C) is the mixture of portfolios P2 and P6 above; failing AAOIFI's (2006) screens;

P11: Control Portfolio (CP) comprises stocks of all listed companies in KSE, excluding the non-Kuwaiti sector and companies with missing data. For the purpose of this study, the CP could be a proxy for conventional or unrestricted funds that are free to invest in any stock in the market, regardless of its *Shariah* status;

P12: Mixed *Halal* (MH-T.A- Halved) compiles stocks of companies that comply with a halving of AAOIFI's (2004) financial criteria thresholds;

P13: Mixed *Halal* (MH-M.C- Halved) encompasses stocks of companies that comply with a halving of AAOIFI's (2006) financial criteria thresholds;

P14: Mixed Sin (MS-T.A- Halved) incorporates stocks of companies that fail to comply with a halving of AAOIFI's (2004) financial criteria thresholds;

P15: Mixed Sin (MS-M.C- Halved) includes stocks of companies that fail to comply with a halving of AAOIFI's (2006) financial criteria thresholds;

P16: PH and Mixed *Halal*-T.A (All *Halal*-TA- Halved) combines portfolios P1 and P12 above, as a proxy for Islamic funds that invest in MH under halving of AAOIFI's (2004) screening criteria thresholds;

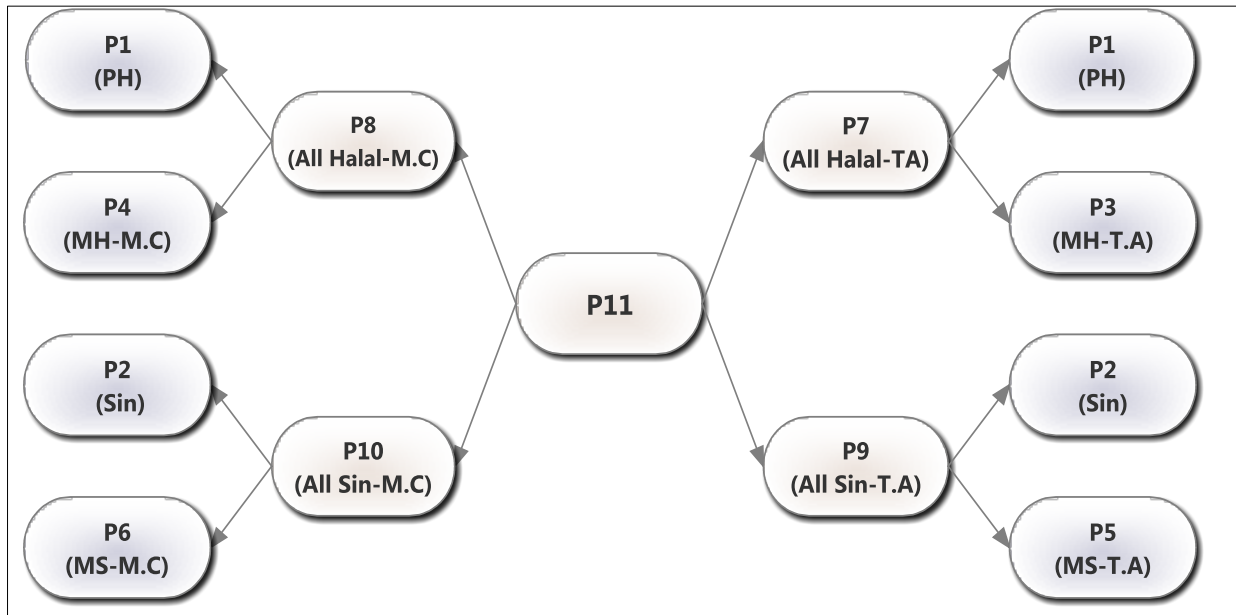
P17: PH and Mixed *Halal*-M.C (All *Halal*-M.C- Halved) conglomerates portfolios P1 and P13 above, as a proxy for Islamic funds that invest in MH under halving of AAOIFI's (2006) screening criteria thresholds;

P18: Sin and Mixed Sin-T.A (All Sin-T.A- Halved) integrates portfolios P2 and P14 above; failing a halving of AAOIFI's (2004) screening criteria thresholds;

P19: Sin and Mixed Sin-M.C (All Sin-M.C- Halved) join in portfolios P2 and P15 above; failing a halving of AAOIFI's (2006) screening criteria thresholds.

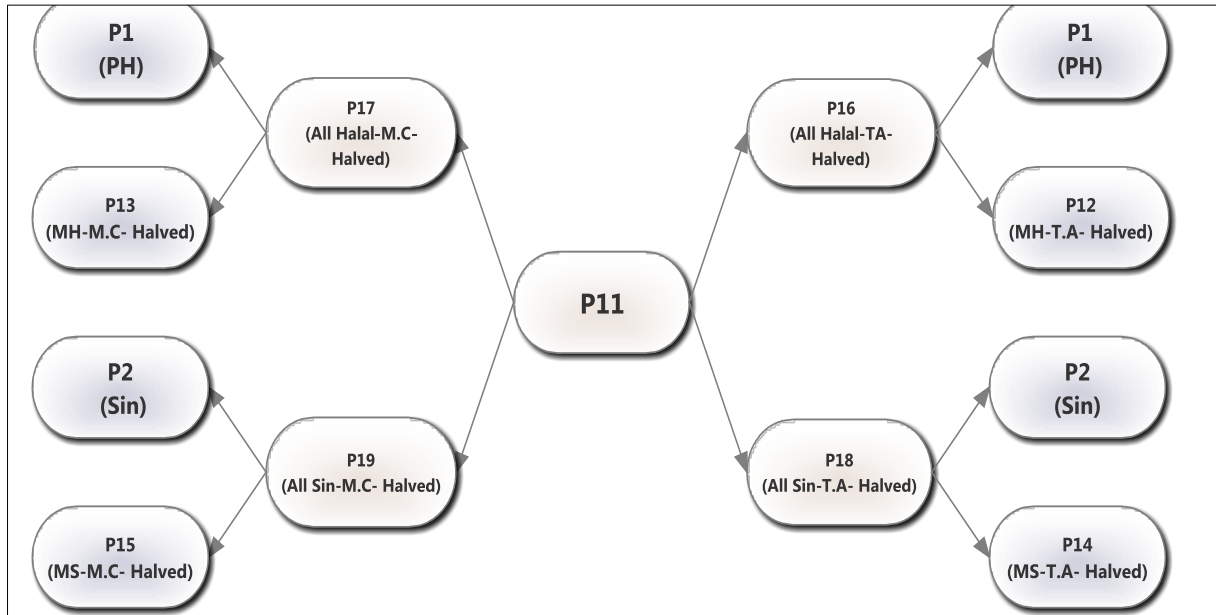
P11, the CP that contains all the stocks, can be broken down in 8 ways as shown in following two diagrams.

**Figure 6.4: Breakdown of Portfolios Using AAOIFI 2004 and 2006 Financial Screening Criteria**



Note: Figure 6.4 shows 4 ways of constructing P11, the control portfolio (CP), by using the original financial screening thresholds.

**Figure 6.5: Breakdown of Portfolios Using AAOIFI 2004 and 2006 Halved Financial Screening Criteria**



Note: Figure 6.5 shows 4 ways of constructing P11, the control portfolio (CP), by using the halved financial screening thresholds.

Figure 6.4 shows 4 ways to create P11, as follows: (i) P1+P2+P3+P5; (ii) P1+P2+P4+P6; (iii) P7+P9; and (iv) P8+P10. In addition, Figure 6.5 shows another 4 ways to create P11: (i) P1+P2+P12+P14; (ii) P1+P2+P13+P15; (iii) P16+P18 (iv) P17+P19.

Table 6.10 shows the number of stocks allocated across the KSE sectors and market value for each of the 19 portfolios in each year of the sample period. This Table is based on the screening results in Tables 6.5 and 6.9 and the portfolio definitions above of P1-P19.

**Table 6.10: The Asset Allocation for Portfolios P1-P19 over the Sample Period (2005-2010)**

**Panel A for the Years 2005-2007**

Port.	2005								2006								2007										
	No. of Stocks in Each Sector							T	MV	No. of Stocks in Each Sector							T	MV	No. of Stocks in Each Sector							T	MV
	B.	Inv.	Ins.	R.E	Ind.	Ser.	F			B.	Inv.	Ins.	R.E	Ind.	Ser.	F			B.	Inv.	Ins.	R.E	Ind.	Ser.	F		
<b>P1</b>	1	17	2	7	0	4	0	31	6928	2	18	2	8	1	7	0	38	9693	3	19	2	10	3	11	0	48	12031
<b>P2</b>	7	20	5	1	0	4	0	37	14676	7	23	5	1	0	4	0	40	17376	6	23	5	1	0	4	0	39	18008
<b>P3</b>	0	0	0	9	15	19	5	48	10721	0	0	0	7	14	18	5	44	14209	0	0	0	7	14	20	5	46	14599
<b>P4</b>	0	0	0	9	17	19	5	50	10728	0	0	0	5	17	20	5	47	14703	0	0	0	7	16	22	6	51	14843
<b>P5</b>	0	0	0	7	7	5	0	19	2531	0	0	0	9	9	12	0	30	4851	0	0	0	11	9	14	1	35	4860
<b>P6</b>	0	0	0	7	5	5	0	17	2524	0	0	0	11	6	10	0	27	4358	0	0	0	11	7	12	0	30	4618
<b>P7</b>	1	17	2	16	15	23	5	79	17649	2	18	2	15	15	25	5	82	23902	3	19	2	17	17	31	5	94	26630
<b>P8</b>	1	17	2	16	17	23	5	81	17656	2	18	2	13	18	27	5	85	24396	3	19	2	17	19	33	6	99	26874
<b>P9</b>	7	20	5	8	7	9	0	56	17207	7	23	5	10	9	16	0	70	22227	6	23	5	12	9	18	1	74	22868
<b>P10</b>	7	20	5	8	5	9	0	54	17200	7	23	5	12	6	14	0	67	21734	6	23	5	12	7	16	0	69	22626
<b>P11</b>	<b>8</b>	<b>37</b>	<b>7</b>	<b>24</b>	<b>22</b>	<b>32</b>	<b>5</b>	<b>135</b>	<b>34856</b>	<b>9</b>	<b>41</b>	<b>7</b>	<b>25</b>	<b>24</b>	<b>41</b>	<b>5</b>	<b>152</b>	<b>46129</b>	<b>9</b>	<b>42</b>	<b>7</b>	<b>29</b>	<b>26</b>	<b>49</b>	<b>6</b>	<b>168</b>	<b>49498</b>
<b>P12</b>	0	0	0	5	10	9	3	27	1930	0	0	0	2	8	13	1	24	8399	0	0	0	1	8	10	1	20	9118
<b>P13</b>	0	0	0	8	13	17	5	43	9150	0	0	0	2	11	15	3	31	9300	0	0	0	0	8	10	2	20	10721
<b>P14</b>	0	0	0	11	12	15	2	40	11322	0	0	0	14	15	17	4	50	10661	0	0	0	17	15	24	5	61	10342
<b>P15</b>	0	0	0	8	9	7	0	24	4102	0	0	0	14	12	15	2	43	9760	0	0	0	18	15	24	4	61	8739
<b>P16</b>	1	17	2	12	10	13	3	58	8858	2	18	2	10	9	20	1	62	18092	3	19	2	11	11	21	1	68	21149
<b>P17</b>	1	17	2	15	13	21	5	74	16078	2	18	2	10	12	22	3	69	18993	3	19	2	10	11	21	2	68	22752
<b>P18</b>	7	20	5	12	12	19	2	77	25998	7	23	5	15	15	21	4	90	28037	6	23	5	18	15	28	5	100	28350
<b>P19</b>	7	20	5	9	9	11	0	61	18778	7	23	5	15	12	19	2	83	27136	6	23	5	19	15	28	4	100	26747



**Panel B for the Years 2008-2010**

Port.	2008								2009								2010										
	No. of Stocks in Each Sector							T	MV	No. of Stocks in Each Sector							T	MV	No. of Stocks in Each Sector							T	MV
	B.	Inv.	Ins.	R.E	Ind.	Ser.	F			B.	Inv.	Ins.	R.E	Ind.	Ser.	F			B.	Inv.	Ins.	R.E	Ind.	Ser.	F		
<b>P1</b>	3	19	2	10	3	11	0	48	6045	3	19	2	11	3	11	0	49	5871	4	19	2	13	3	11	0	52	6594
<b>P2</b>	6	23	5	1	0	4	0	39	10230	6	23	5	1	0	4	0	39	10892	5	23	5	1	0	4	0	38	10826
<b>P3</b>	0	0	0	8	12	26	4	50	8529	0	0	0	7	15	27	5	54	4266	0	0	0	9	19	34	5	67	9607
<b>P4</b>	0	0	0	4	11	19	3	37	8373	0	0	0	4	13	18	3	38	3710	0	0	0	8	17	26	6	57	9962
<b>P5</b>	0	0	0	11	12	12	2	37	3624	0	0	0	12	9	12	1	34	8876	0	0	0	13	6	7	1	27	2470
<b>P6</b>	0	0	0	15	13	19	3	50	3779	0	0	0	15	11	21	3	50	9482	0	0	0	14	8	15	0	37	2116
<b>P7</b>	3	19	2	18	15	37	4	98	14574	3	19	2	18	18	38	5	103	10137	4	19	2	22	22	45	5	119	16201
<b>P8</b>	3	19	2	14	14	30	3	85	14418	3	19	2	15	16	29	3	87	9581	4	19	2	21	20	37	6	109	16556
<b>P9</b>	6	23	5	12	12	16	2	76	13854	6	23	5	13	9	16	1	73	19768	5	23	5	14	6	11	1	65	13296
<b>P10</b>	6	23	5	16	13	23	3	89	14009	6	23	5	16	11	25	3	89	20374	5	23	5	15	8	19	0	75	12942
<b>P11</b>	<b>9</b>	<b>42</b>	<b>7</b>	<b>30</b>	<b>27</b>	<b>53</b>	<b>6</b>	<b>174</b>	<b>28428</b>	<b>9</b>	<b>42</b>	<b>7</b>	<b>31</b>	<b>27</b>	<b>54</b>	<b>6</b>	<b>176</b>	<b>29905</b>	<b>9</b>	<b>42</b>	<b>7</b>	<b>36</b>	<b>28</b>	<b>56</b>	<b>6</b>	<b>184</b>	<b>29497</b>
<b>P12</b>	0	0	0	3	10	15	3	31	7827	0	0	0	3	7	7	1	18	851	4	19	2	13	3	11	0	52	6594
<b>P13</b>	0	0	0	2	5	14	3	24	7717	0	0	0	3	5	8	1	17	968	5	23	5	1	0	4	0	38	10826
<b>P14</b>	0	0	0	16	14	23	3	56	4326	0	0	0	16	17	32	5	70	12341	0	0	0	6	7	17	4	34	7266
<b>P15</b>	0	0	0	17	19	24	3	63	4435	0	0	0	16	19	31	5	71	12224	0	0	0	5	5	14	5	29	7515
<b>P16</b>	3	19	2	13	13	26	3	79	13872	3	19	2	14	10	18	1	67	6722	8	38	4	26	6	22	0	104	13188
<b>P17</b>	3	19	2	12	8	25	3	72	13762	3	19	2	14	8	19	1	66	6839	9	42	7	14	3	15	0	90	17420
<b>P18</b>	6	23	5	17	14	27	3	95	14556	6	23	5	17	17	36	5	109	23233	5	23	5	7	7	21	4	72	18092
<b>P19</b>	6	23	5	18	19	28	3	102	14665	6	23	5	17	19	35	5	110	23116	5	23	5	6	5	18	5	67	18341

Note: this Table shows the asset allocation across the different sectors in KSE stock market for each of the created portfolios for the years 2005-2007 (panel A) and the years 2008-2010 (panel B). The first column gives a code from 1 to 19 for each created portfolio as defined in section 6.6. The Table provide the number of stocks in sector and the total number (T) of stocks and market value (MV) in millions K.D for each portfolio. The codes B., Inv. , Ins., R.E, Ind., Ser., F are assigned for the banking, investment, insurance, real estate, industrial, service, and food sectors respectively. Portfolio number 11 in **bold** is the control portfolio (CP) that contains the total sample stocks.

The performance of all the 19 constructed portfolios (P1-P19) detailed in Table 6.10 will be empirically tested in the next chapter to examine the impact of different screening criteria on the risk and return characteristics of *Halal* and non-*Halal* portfolios and investigate whether there is a performance penalty for the proposed halving of the financial screening thresholds.

## **6.7 Summary**

This chapter analyzes the impact of using different *Shariah* screening criteria on the definition of the *Halal* asset universe and the creation of different equity portfolios, pure *Halal* (PH), sin, mixed *Halal* (MH) and, mixed (MS) for the KSE. It builds on the outcomes and findings generated from the interview analysis chapter, such as the definitions of each portfolio, the screening criteria and screening process. The screening process and results are described in Figure 6.1 over the sample period from the end of 2005 until the end of 2010.

The analysis reveals that there are some PH stocks located in the non-financial sectors, however, the majority of them are concentrated in the financial sector and tend to be smaller firms as noted by the interviewees in the previous chapter. This means that Islamic funds that only invest in PH stocks may be deprived from investing in blue chip companies that offer sound fundamentals and are heavily-weighted stocks in the market. In addition, they are exposed to concentration risk in the financial sector, and hence a lack of diversification benefits compared to Islamic funds that invest in both PH and MH stocks, and this may impact on their risk and return profile, which is investigated in the next two chapters. MH stocks only exist in the non-financial sector; real estate, industrial, service; and food industries, because companies that operate in the financial sector, such as banks, investment, and insurance companies, must be entirely *Halal* (PH) in order to be included in the *Halal* stocks universe.

The analysis shows that the use of different financial screening criteria produces slightly different results when classifying MH and MS stocks. AAOIFI's (2006) that use market

capitalization as a denominator in its ratios produced more MH stocks, compared with AAOIFI's (2004) criteria that uses total assets as a denominator, but this was just before the GFC. Further, the screening analysis found that AAOIFI's (2006) is less volatile in classifying mixed stocks from MH to MS and vice versa.

This chapter also halves the financial screening thresholds that are used to screen MH stocks, in order to be able to investigate whether it is the right time to revisit the *fatwa* that is the base of AAOIFI's investment criteria, to be more consistent with Islamic investment principles as noted by the previous chapter. The halved screening criteria show that Islamic funds are still able, to some extent, to create diversified portfolios. But diversification is negatively affected, as it causes companies, especially the larger ones to fail being classified as *Shariah*-compliant. Nevertheless, this halving screening threshold methodology could be an option for Islamic funds and *Halal*-seeking investors who are willing to be more compliant with their religious values. Nonetheless, in order to answer the research questions, the return and risk characteristics of the 19 constructed portfolios will be examined in the next chapter.

**Chapter 7: Evaluating the Performance of *Halal* and non-*Halal*  
Portfolios**

## 7.1 Introduction

Unlike the vast majority of prior studies that compare Islamic funds with conventional ones, this chapter compares the performance of the 19 different *Halal* and non-*Halal* equity portfolios of listed stocks in KSE that were created and defined in the previous chapter. These hypothetical portfolios were created using qualitative and quantitative *Shariah* screening criteria to test the performance of conventional non-*Halal* funds against that of Islamic funds created using different criteria to understand their risk and return performance. This will allow Islamic fund managers to understand the impact of the different screening strategies that are available in the market and help investors and regulators to understand Islamic funds' performance over the five year study period. This study assumes that *Halal* driven investors have the option to choose between differently-screened Islamic funds depending on the market conditions and their personal preferences. The chapter also empirically tests the impact on the portfolios' performance if halving the financial screening thresholds is adopted by Islamic funds, as described in chapter 6, and explores whether it is feasible to move towards the ideal of pure *Halal* investments that are totally sin free, as raised by many interviewees in chapter 5. This chapter applies quantitative methods to determine the risk and return characteristics of the different equity portfolios created to investigate whether there are any significant differences between the performance of *Halal* and non-*Halal* portfolios under different screening methods over the sample period from the beginning of January 2006 until the end of December 2011. Dividing the sample period into before, during and after the Global Financial Crisis (GFC), allow testing the effect of GFC, bearish and bullish markets on the portfolios' performance. There has been evidence that Islamic funds perform better in bearish markets and during financial crises (Abdullah et. al., 2007; Hayat and Kraeussl, 2008; Merdad et. al., 2010).

The analysis starts with descriptive statistics of the return and risk characteristics of the hypothetical portfolios, followed by a statistical analysis of the differences between the portfolios' returns and the correlation of these both with each other and with the control portfolio (CP)<sup>156</sup> and market index as benchmarks for understanding their behaviour. In addition, the quantitative analysis measures the performance of the hypothetical portfolios based on their risk-adjusted return using the three traditional portfolio performance evaluation measures suggested by Sharpe (1966) Treynor (1965) and Jensen (1968). Multifactor quantitative models are not used in this study because the interviews demonstrated that fund managers in Kuwait do not use any sophisticated investment techniques, so simple measures are more applicable. Furthermore, these performance measures are well established and tested, and enable comparisons to be made across the Islamic funds literature. Nevertheless, a general linear model (GLM) is fitted to the data and a matched pair approach is employed in the following chapter to control for size, sector and other factors that might impact on the portfolios' performance.

The risk-free rate that is used in the traditional performance measures in this chapter is also replaced with *Shariah*-compliant alternatives, such as the *Murabahah* rate, to see if this has any impact on the portfolios' performance, as some interviewees noted this in the interviews. This approach is more appropriate to Islamic investment principles, whereas, *riba* is banned under *Shariah* law.

The remainder of this chapter is organized as follows. Section 7.2 discusses the data collection process and the statistical hypotheses. Section 7.3 provides the descriptive statistics of the portfolios' characteristics while section 7.4 analyses statistically the return performance. Section 7.5 examines the return correlations; section 7.6 documents the risk-adjusted

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<sup>156</sup> CP is also a proxy for conventional funds, as defined in the previous chapter (section 6.5).

performance of the portfolios using the conventional and *Shariah*-compliant performance measures; and the final section provides the conclusion.

## 7.2 Data collection

The empirical data employed to measure the performance of the 19 value-weighted portfolios created in chapter 6 consist of weekly historical prices and market capitalization values for each listed company on the KSE, apart from the non-Kuwaiti sector, from DataStream.<sup>157</sup> The closing values of the general market index (KSE) were also obtained at weekly frequencies from DataStream. Companies' closing prices and market values, and the KSE index values were first downloaded on a daily basis from 1/1/2006-31/12/2011; Wednesday's values were then selected. Wednesdays were chosen to mitigate the influence of anomalies, such as any weekend effect (Kreander et al., 2005) and also because Friday is a religious holiday in Kuwait. For the analysis, each portfolio contained 313 weekly observations of the closing prices of each stock in that portfolio on each Wednesday of the year during the whole period, from the first Wednesday in January 2006 until the last Wednesday in December 2011. The portfolios were weighted by the companies' market capitalization comprising each portfolio.

Empirical studies on the performance of investment funds in general, and ethical and Islamic funds in particular, show that fund performance is sensitive to the benchmark market index (Lehmann and Modest, 1987; Grinblatt and Titman, 1994; Mallian et al., 1995; Gregory et al., 1997; Kreander et al., 2005; Rahimie, 2010). To mitigate this problem, two market benchmarks were employed to evaluate the performance of the created portfolios, namely: the general Kuwait value-weighted index (KSE) and the CP<sup>158</sup> value-weighted portfolio. A matched pair approach is also adopted, used in chapter 8, where the performance of portfolios is matched

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<sup>157</sup> A decision was made to select weekly rather than daily data to overcome the problems associated with thin trading (Al-Abdulqader, 2003).

<sup>158</sup> The CP portfolio as defined in section 6.5 of Chapter 6 as all of the listed companies in KSE apart from the non-Kuwaiti sector and companies with missing data.

with stocks of the same size and sector. The KSE index includes all of the listed companies in every sector, while the CP constitutes companies that are only used in this study, listed in all sectors,<sup>159</sup> except for the non-Kuwaiti sector and a few companies with missing data. It would have been suitable to use a *Halal*-based equity index as a benchmark, such as the AL-Aman Islamic index or Global Islamic index, that are the most common for Islamic funds in Kuwait, but the data for the AL-Aman index were missing and unavailable for all days, and the Global Islamic index<sup>160</sup> did not appear representative of the market.<sup>161</sup> The KSE follows a free float methodology and is adjusted for free float capitalization.<sup>162 163</sup>

In this study, the CBK's one year T-bonds, obtained from its official website, was used as a proxy for the risk-free rate in calculating the Jensen alpha, Sharpe and Treynor performance measures.<sup>164</sup> In addition, the one-year *Murabahah* return rate is also used in this study as a *Shariah*-compliant proxy for the interest-based risk-free rate in calculating the three performance measures. This overcomes the limitation, that exists in the vast majority of Islamic funds literature, of using the conventional risk-free rate, while conventional risk-free assets such as T-bonds should not be an option for *Shariah*-compliant investors, as these are based on interest that is forbidden in *Shariah* and is seen by many *Shariah* scholars, fund managers and the practitioners interviewed as contradicting the idea of Islamic investment (see

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<sup>159</sup> Sectors include: banking, investment, insurance, real estate, industrial, service, and food.

<sup>160</sup> The Global Islamic index is the first Islamic index in Kuwait provided by the Global investment Company, which offers Islamic and conventional funds.

<sup>161</sup> The coefficient of determination, adjusted  $R^2$  when running the regression to calculate the portfolios beta and Jensen's alpha, was very low compared with the literature and KSE index. For instance, the  $R^2$  adjusted for the MH (T.A) portfolio is 0.00297 compared to 0.3077 when using the KSE index. This suggests that that Global Islamic index is not a good proxy for the market portfolio to explain the variations of the portfolio returns.

<sup>162</sup> The free-float methodology is an index construction methodology that considers only those shares issued by companies that are readily available for trading in the market, and excludes government holdings, strategic holdings and other locked-in shares that will not come to the market for trading in the normal course. This ensures that only the investable opportunity set is included within the index.

<sup>163</sup> In emerging markets, there is insufficient disclosure to determine the free float factor, and a large portion of companies' shares are illiquid and not traded in the market, since most of them are government holdings, especially in large companies.

<sup>164</sup> T-bonds were chosen because data were available on a regular basis, as opposed to data on T-bills.



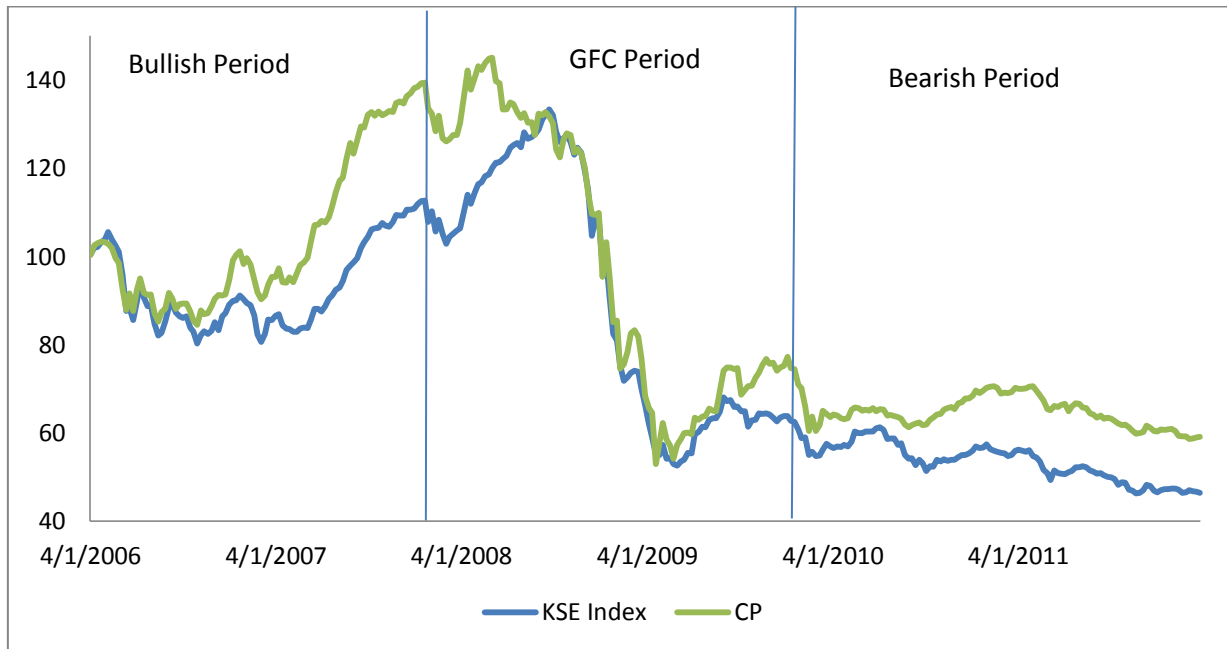
also: Mirakhor,1996; Selim, 2008; Rahimie, 2010; Kantakji and Omar, 2010). The *Murabahah* instrument was chosen as an alternative *Shariah*-compliant risk-free rate because it is the least risky *Shariah*-compliant asset and is commonly used by most IFIs (El-Gamal, 2006). Hence, it is a close substitute for the conventional risk free asset, such as T-bonds. Data on the *Murabahah* rate was downloaded from Thomson Reuter's 3000 Xtra financial database.<sup>165</sup> However, the data on the *Murabahah* rate has only been available since 2009, so the analysis only covers the bearish sample period (2010-2011).

To investigate the impact of the general economic climate on performance, the sample period was broken down into three two-year sub-periods namely: (i) the bullish period (2006-2007); (ii) the global financial crisis GFC period (GCF) (2008-2009); and (iii) the bearish period (2010-2011), in order to capture the impact of the GFC and post-GFC periods (the Arab Spring and domestic political disputes) that severely slowed every Middle Eastern economy, including the GCC states and Kuwait, as noted by the interviews in chapter 6. The sub-periods were determined based on the interviewees' feedback in chapter 5 and by examining the major structural turning points in the general KSE market index and CP performance that indicated the beginning and ending of the specific market trends. The KSE market Index and CP performance trends are shown in Figure 7.1.

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<sup>165</sup> Thomson Reuters launched what it called its Islamic Finance Gateway, which is a global platform and directory consisting of the details of rating agencies, industry standards bodies, Islamic finance hubs, index providers, consulting firms, and Islamic subsidiaries from over 25 countries ([http://thomsonreuters.com/content/press\\_room/financial/2010\\_02\\_16\\_islamic\\_finance\\_gateway](http://thomsonreuters.com/content/press_room/financial/2010_02_16_islamic_finance_gateway)). Access to Thomson Reuters 3000 Xtra financial platform was obtained from Kuwait University.

**Figure 7.1: The Performance of the KSE and the Control Portfolio (CP) that contains All Sample stocks**



Note: This figure illustrates the weekly price performance of the KSE, the control portfolio (CP) that contain all sample stocks, indexed from the 100 index points at 4/1/2006-28/12/2011 which is divided into three sub-periods, namely: the bullish period (2006-2007), GFC period (2008-2009), and bearish period (2010-2011).

As shown in Figure 7.1, the three two year sub-periods classification capture different economic climates, during the bull phase, GFC period and the bear markets, and have a consistent time length. Figure 7.1 shows that 2008-2009 captures the impact of GFC on KSE as suggested by Ellaboudy (2010) and Senbet and Gande (2009) who indicates that emerging markets seemed to be unaffected by the initial 2007 sub-prime crisis (See Buckley, 2011; Trabelsi, 2011; Bourkhis and Nabi, 2013; Örnberg et al., 2013).

For the purpose of this study, the weekly returns are calculated for each individual stock in every portfolio using the compounded return formula, as shown in equation 7.1:

$$R_{it} = Ln \left( \frac{P_{i,t}}{P_{i,t-1}} \right) \quad [7.1]$$

Where  $R_{it}$  is the return for stock  $i$  at time  $t$ ,  $Ln$  is the natural log,  $P_{it}$  is the price for stock  $i$  at time  $t$  and  $P_{i,t-1}$  is the price of stock  $i$  at time  $t-1$ . The natural log was used to mitigate any

problems with the non-normality in the data (Strong, 1992). Having computed the return of the individual stock, the returns of the portfolios were then calculated, based on the individual stocks' weighted market value, whereby each individual stock within that portfolio is weighted by its proportionate market capitalization share of the total market capitalization of the whole portfolio, as in equation 7.2:

$$R_p = \sum w_i R_i \quad [7.2]$$

Where  $R_p$  is the portfolio return,  $w_i$  the weighted average market capitalization of stock  $i$  in the portfolio, and  $R_i$  the return on stock  $i$ , where;

$$\sum_{i=1}^n w_i = 100 \quad [7.3]$$

The Market index returns ( $R_m$ ) for the KSE was estimated using the same technique, as shown in equation 7.4:

$$R_m = \text{Ln}\left(\frac{\text{Market Index}_t}{\text{Market Index}_{t-1}}\right) \quad [7.4]$$

### **7.2.1 Statistical Tests for analyzing the Portfolios' Mean Returns**

To investigate the statistical significance of the portfolio's return, the performance of the 19 portfolios were tested during the full, bullish, GFC and bearish periods, based on the following null hypotheses:

Ho 1: There is no significant difference between the mean returns of Portfolio  $i$  and that of the other 18 portfolios or KSE Index during the full sample period.

Ho 2: There is no significant difference between the mean returns of Portfolio  $i$  and that of the other 18 portfolios or KSE Index during the bullish period.

Ho 3: There is no significant difference between the mean returns of Portfolio  $i$  and that of the other 18 portfolios or KSE Index during the GFC period.

Ho 4: There is no significant difference between the mean returns of Portfolio i and that of the other 18 portfolios or KSE Index during the bearish crisis period.

Parametric and non-parametric tests are utilized to examine the above hypotheses, as the parametric analysis of variance (ANOVA) test is used to detect significant differences between the means of portfolio returns but, as a robustness check, to detect any significant differences between the median of all the portfolios returns, the non-parametric Friedman test (1937) is also adopted.<sup>166</sup> ANOVAs are used in similar finance empirical research, despite asset returns exhibiting negative skewness (Kat and Lu, 2002), excess kurtosis, heavy tails or outliers, and the normality assumption being systematically violated (Groenewold and Fraser, 2001). Further, Groenewold and Fraser (2001) find that the iid-normal assumption does matter for tests of asset-pricing models. Moreover, when non-normality is present but the sample is large,<sup>167</sup> ANOVA procedures are robust to the validations of non-normality assumptions (Boos and Brownie, 1994). Both the ANOVA and Friedman's tests can only detect significant differences over multiple comparisons, and are unable to determine which portfolio differs from the others. Therefore, a pair wise comparison test is required for this purpose, using the parametric paired sample t-test to test the null hypothesis that the mean difference within pairs

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<sup>166</sup> Friedman test is the non-parametric alternative to the analysis of variance ANOVA. The samples represent populations with different median values, in a set of  $k$  samples, Where  $k \geq 2$  (Green and Salkind, 2008). The test take into account the dependency among scores introduced by the repeated-measures or matched-subjects characteristics of the design (Green and Salkind, 2008), which is the case in this investigation, as some portfolios depend on the others in their creation. For instance, All Halal (T.A) portfolio is the combination of PH and MH (T.A) portfolios (see section 6.6). This is why Kruskal-Wallis test is not applied in this research, as it assumes independency while Friedman test does not. The values of  $k$  variables are ranked from 1 to  $k$  for each case, and the mean rank is calculated for each variable over all cases. The test statistic has an approximately chi-square distribution. A single test statistic is calculated, comparing all variables (Boos and Brownie; 1994 and Derrac et al., 2011). The null hypothesis for Friedman's test considers that there are non-significant differences between the median of populations; where Ho: all mean returns are equal, and where H1: at least two mean returns are equal (Green and Salkind, 2008).

<sup>167</sup> The sample size is considered large if the number of observations is 30 or more, yet a sample size of 50 or more is recommended if the population distribution is believed to be highly skewed or has outliers (see Anderson et al., 2009).

is equal.<sup>168</sup> The ANOVA test is conducted for the 19 created portfolios during the whole and sub sample periods. The test calculates the F-statistic to examine the null hypothesis that there is no difference in returns, which is estimated as the following equation:

$$F - \text{Statistic} = \frac{\text{Effect Mean Square Error}}{\text{Residual Mean Square Error}} \quad [7.5]$$

The effect mean square error is the average variation of observations within each group around the group mean, and the residual mean, square error average variation of the group means around the grand mean and the ANOVA F-test statistic is the ratio of the two. The test corresponding P-value is used to determine the significance of the F-statistic. A rejection of the null hypothesis implies that the performance of at least one portfolio is different.<sup>169</sup>

Moreover, a paired sample t-test is used to detect whether a *Halal* portfolio has a significantly different performance from the other non-*Halal* portfolios during all sample periods. The null hypothesis of the paired sample t-test states that the mean returns of the portfolios do not differ

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<sup>168</sup>The Paired-Samples t-test procedure compares the means of two variables for a single group. It computes the differences between the values of the two variables for each case and tests whether the average differs from 0 or not. The paired t-test also solves the multiple comparison problem that could occur due to various comparisons being made at the same time, which could result in the production of statistically significant results merely by chance (Derrac et al., 2011). The t-test was chosen over the post hoc test, such as Bonferroni or Tukey, because neither of them worked due to the large number of comparisons made but a paired t-test is undertaken manually several times to cover all possible portfolio combinations. In addition, it is argued that the t-test is valid even for very small samples if the outcome variable is normally distributed, while it is valid for any distribution if the samples are large (Anderson et al., 2009).

<sup>169</sup> The ANOVA results however, should be interpreted with caution because not all of the assumptions are met. The assumptions for the ANOVA are as follows: (1) The observations are assumed to be normally distributed within each group, however, ANOVA is still appropriate if this assumption is not met but the sample size in each group is larger than 30, which is the case as the minimum number of observations for each portfolio for any sample period is 104 (weekly returns for the two years); (2) The variances for responses variable should be the same for all populations (portfolios); (3) The observations must be independent, which is violated in this study because not all 19 portfolios are independent of each other, as stocks in some portfolios are also components of other portfolios. For example; stocks in the PH portfolio are also part of those in All Halal-T.A portfolio and also part of All Halal-M.C portfolio (see section 6.5 of Chapter 6). See Anderson et al. (2009) regarding the assumptions of the ANOVA test.

significantly. The test procedure was repeated 190 times, to cover all combinations of portfolio pairings.<sup>170</sup>

### 7.3 Descriptive Statistics

The descriptive statistics for the portfolio returns were conducted before and after halving the financial screening thresholds. First for 11 portfolios<sup>171</sup> and the KSE index in section 7.3.1. Second, for the 8 other portfolios that are created screening based on halving the financial screening methodology<sup>172</sup> with the CP portfolio and the KSE index in section 7.3.2. This is to compare the portfolios' characteristics before and after halving the financial screening thresholds is applied. The Shapiro-Wilk (1965) normality test<sup>173</sup> was also calculated to examine whether the Skewness and Kurtosis breached the normality assumption.

#### 7.3.1 Descriptive Statistics before Halving the Financial Screening Criteria

The descriptive statistics are shown in Table 7.1 for the weekly return series of each of the 11 portfolios and the KSE index; the mean, standard deviation, minimum, maximum, skewness, and kurtosis, during the full sample period (panel A) and three sub-periods (panels B-D).

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<sup>170</sup> The formula for the number of possible combinations of  $r$  objects, which is 2 as the portfolio pairs are compared, from a set of  $n$  objects, which is the 19 portfolios plus the KSE index, is computed based on the following equation:

$$nC_r = \frac{n!}{r!(n-r)!}$$

<sup>171</sup> Portfolios 1-11 are as shown in section 6.5 in the previous chapter, namely: PH, Sin portfolios and the mixed portfolios (MH and MS) that are screened based on both AAOIFIF's 2004 and 2006 financial screening criteria.

<sup>172</sup> The 8 portfolios are 12-19 as shown in section 6.5. These are the mixed portfolios (MH and MS) that are screened based on halving AAOIFIF's 2004 and 2006 financial screening criteria, namely: (1) MH-T.A-Halved; (2) MH-M.C-Halved; (3) MS-T.A-Halved; (4) MS-M.C-Halved; (5) All *Halal*-T.A-Halved; (6) All *Halal*-M.C-Halved; (7) All Sin-T.A-Halved, and (8) All Sin-M.C-Halved.

<sup>173</sup> The Shapiro and Wilk (1965) test is based on the computed  $W$  statistic, the significance is calculated by linearly interpolating within the range of simulated critical values.

**Table 7.1: Descriptive Statistics for the Weekly Data, Panel A: The Full Sample Period (2006-2011)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
KSE Index	-0.0022	0.0235	-0.0984	0.0791	-1.0430	3.0110	0.9230*
CP	-0.0012	0.0295	-0.1801	0.0951	-1.4300	7.4700	0.8720*
PH	-0.0013	0.0364	-0.2187	0.1293	-1.2120	7.5020	0.8810*
Sin	-0.0008	0.0266	-0.1393	0.0761	-0.9730	3.1740	0.9480*
MH-T.A	-0.0013	0.0408	-0.2388	0.1471	-1.0900	6.5800	0.9030*
MH M.C	-0.0012	0.0399	-0.2417	0.1425	-1.1230	7.1570	0.8950*
All Halal-T.A	-0.0013	0.0367	-0.2303	0.1395	-1.2090	7.6380	0.8880*
All Halal-M.C	-0.0012	0.0362	-0.2319	0.1368	-1.2250	7.9200	0.8850*
MS-T.A	-0.0004	0.0430	-0.1773	0.2189	-0.2070	4.8750	0.9130*
MS-M.C	-0.0007	0.0443	-0.1994	0.2160	-0.4380	5.3390	0.9090*
All Sin-T.A	-0.0006	0.0281	-0.1404	0.0794	-0.9180	3.2850	0.9430*
All Sin-M.C	-0.0007	0.0283	-0.1363	0.0794	-0.9060	3.1770	0.9450*

**Panel B: The Bullish Period (2006-2007)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
KSE Index	0.0008	0.0219	-0.0862	0.0494	-0.8902	1.8876	0.9770
CP	0.0026	0.0223	-0.0593	0.0563	-0.3501	0.2140	0.9920
PH	0.0022	0.0233	-0.0728	0.0718	-0.2674	0.6648	0.9910
Sin	0.0020	0.0184	-0.0559	0.0465	-0.4588	0.6024	0.9820
MH-T.A	0.0035	0.0305	-0.0621	0.0738	0.1531	-0.2626	0.9840
MH M.C	0.0035	0.0303	-0.0616	0.0750	0.1349	-0.2570	0.9840
All Halal-T.A	0.0030	0.0261	-0.0662	0.0644	-0.0840	-0.1352	0.9880
All Halal-M.C	0.0030	0.0260	-0.0659	0.0651	-0.0878	-0.1201	0.9890
MS-T.A	0.0026	0.0441	-0.1619	0.2189	0.4484	6.5057	0.9370*
MS-M.C	0.0024	0.0440	-0.1641	0.2160	0.3965	6.2442	0.9400**
All Sin-T.A	0.0022	0.0205	-0.0653	0.0568	-0.5788	1.0633	0.9800
All Sin-M.C	0.0021	0.0205	-0.0644	0.0560	-0.5767	0.9821	0.9800

**Panel C: The GFC Period (2008-2009)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
KSE Index	-0.0054	0.0307	-0.0984	0.0791	-0.9160	1.4690	0.9190*
CP	-0.0056	0.0444	-0.1801	0.0951	-0.9960	2.5910	0.9320*
PH	-0.0057	0.0543	-0.2187	0.1293	-0.8700	2.9740	0.9280*
Sin	-0.0061	0.0360	-0.1393	0.0596	-0.7780	1.2220	0.9620*
MH-T.A	-0.0057	0.0595	-0.2388	0.1471	-0.9090	2.9070	0.9330*
MH M.C	-0.0056	0.0588	-0.2417	0.1425	-0.9090	3.0700	0.9340*
All Halal-T.A	-0.0056	0.0545	-0.2303	0.1395	-0.9190	3.1850	0.9280*
All Halal-M.C	-0.0055	0.0539	-0.2319	0.1368	-0.9250	3.2880	0.9290*
MS-T.A	-0.0050	0.0506	-0.1773	0.1242	-0.7550	2.4820	0.9250*
MS-M.C	-0.0058	0.0536	-0.1994	0.1292	-0.9880	3.3660	0.9050*
All Sin-T.A	-0.0057	0.0375	-0.1404	0.0708	-0.8460	1.5050	0.9540*
All Sin-M.C	-0.0057	0.0377	-0.1363	0.0717	-0.8330	1.4630	0.9550*

**Panel D: The Bearish Period (2010-2011)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
KSE Index	-0.0018	0.0147	-0.0467	0.0429	-0.1210	1.3360	0.9720**
CP	-0.0006	0.0104	-0.0295	0.0300	-0.0190	0.5670	0.9910
PH	-0.0002	0.0214	-0.0793	0.0656	-0.2560	1.9510	0.9680**
Sin	0.0017	0.0213	-0.0724	0.0761	-0.2010	2.0010	0.9720**
MH-T.A	-0.0016	0.0219	-0.0766	0.0518	-0.2570	1.3440	0.9720**
MH M.C	-0.0015	0.0193	-0.0747	0.0461	-0.4370	2.4300	0.9490*

<b>All Halal-T.A</b>	-0.0011	0.0189	-0.0660	0.0508	-0.1650	1.3550	0.9770***
<b>All Halal-M.C</b>	-0.0011	0.0179	-0.0672	0.0495	-0.2230	1.9190	0.9670**
<b>MS-T.A</b>	0.0014	0.0320	-0.1039	0.1390	0.6980	4.9060	0.9130*
<b>MS-M.C</b>	0.0013	0.0325	-0.0999	0.1352	0.6410	3.8960	0.9360*
<b>All Sin-T.A</b>	0.0017	0.0227	-0.0729	0.0794	0.1640	2.1660	0.9670**
<b>All Sin-M.C</b>	0.0016	0.0231	-0.0715	0.0794	0.1350	1.8570	0.9710**

Note: This Table reports the descriptive statistics for the first 11 portfolios and the benchmark (KSE) Index for the whole sample period in panel A and the three sub-periods in panels B-D. It shows the mean of the weekly returns, standard deviation, and the minimum and maximum return value for each portfolio. A measure of skewness and kurtosis is provided in columns 5 and 6 respectively. The last column reports the results of the Shapiro-Wilk statistics, to test the normality assumption and the significance of the skewness and kurtosis measures. \*, \*\*, \*\*\* denote rejection of the normality hypothesis at 1%, 5%, and 10% significance level, respectively.

The 11 portfolios are: (1) CP = control portfolio; (2) PH = pure *Halal* portfolio; (3) Sin = sin portfolio based on their core activity; (4) MH-T.A = mixed *Halal* portfolio based on compliance with AAOIFI's 2004 financial criteria; (5) MH-M.C = mixed *Halal* portfolio based on compliance with AAOIFI's 2006 financial criteria; (6) All *Halal*-T.A = combination portfolio of PH and MH-T.A; (7) All *Halal*-M.C = combination portfolio of PH and MH-M.C; (8) MS-T.A = mixed sin portfolios based on non-compliance with AAOIFI's 2004 financial criteria; (9) MS-M.C = mixed sin portfolios based on non-compliance with AAOIFI's 2006 financial criteria; (10) All Sin-T.A = combination portfolio of Sin and MS-T.A; (11) All Sin-M.C = combination portfolio of Sin and MS-M.C.

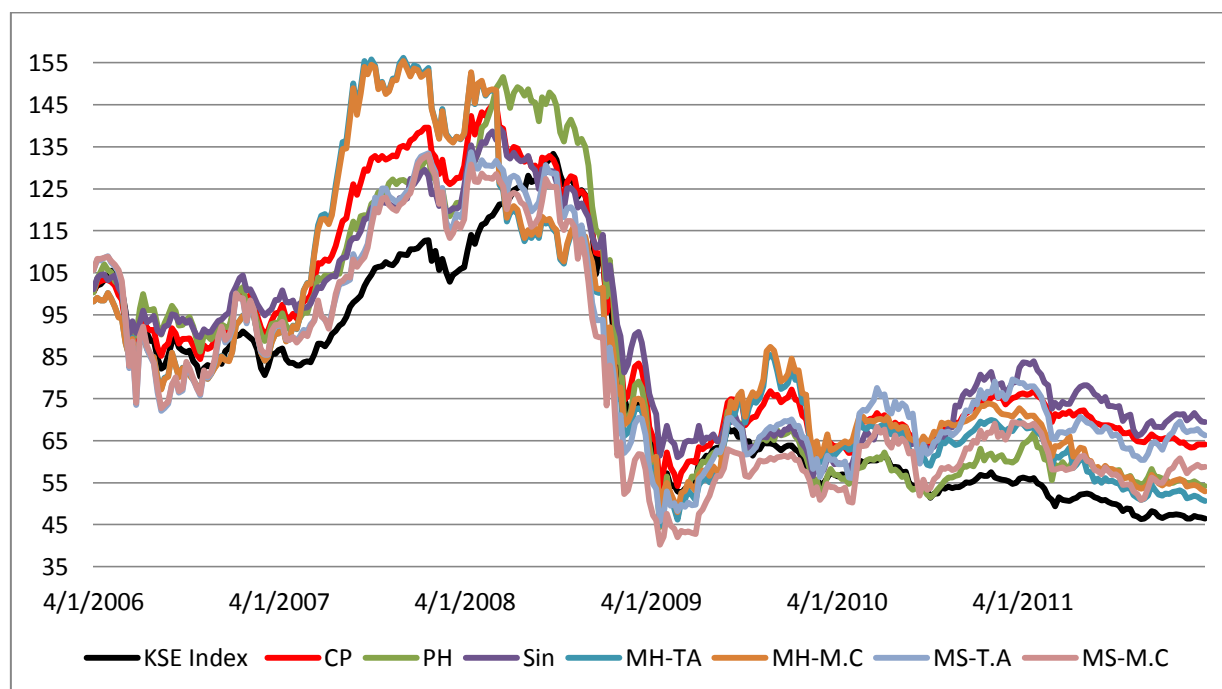
A number of interesting findings emerge from a visual inspection of Table 7.1. First, it provides strong evidence of non-normally distributed returns for the vast majority of the sample periods. Second, the portfolios' returns are negatively skewed to the left, with long tails in the full period, except in the bullish period 2006-2007, when they are positive, followed by very negative returns in the GFC period with a flattering picture thereafter. Furthermore, the kurtosis that measures the peak (leptokurtic) or flatness (platykurtic) of the distribution of the series shows that 8 portfolios in panel A for the full period have coefficients higher than 3, indicating distributions with tails thicker than normal. This finding is similar to that of Al-Bassam (2007) and AlMujamed (2011) who found that the returns of companies in KSE are not normally distributed and are skewed<sup>174</sup>. The negatively skewed returns in this study are mainly due to the impact of the GFC. The descriptive statistics also show that the performance of all of the portfolios is similar and moves in the same direction as the KSE market index. Further, the performance of all portfolios has converged during the crisis, as reported in Table 7.1 Panel D. The considerably high standard deviations in comparison with the mean returns during the GFC period show wild swings in stock prices and are reflected in the spread

<sup>174</sup> Al-Bassam (2007) sample period was from 1992 to 2005, while AlMujamed (2011) was from 1998-2008.



between the minimum and maximum values of the portfolios' returns. It is worth noting that mixed portfolios (MH-T.A, MH-M.C, MS-T.A, and MS-MC) recorded the highest standard deviations during all periods. These only include non-financial companies,<sup>175</sup> and cover fewer sectors, so were less diversified. Figure 7.2 shows the performance of the selected portfolios, with a starting index at 100 on 04/01/2006 during 2006-2011.

**Figure 7.2: The Performance of 8 selected Portfolios during the Full Sample Period (2006-2011)**



Note: This figure plots the performance of the KSE market index and 8 selected portfolios, indexed from 100 at 04/01/2006. The portfolios are CP = control portfolio, PH = pure *Halal* portfolio, Sin = sin portfolios based on their core activity (qualitative screening), MH-TA = mixed *Halal* portfolio based on compliance with AAOIFI's 2004 financial screening criteria, MH-M.C = mixed *Halal* portfolio based on compliance with AAOIFI's 2006 financial screening criteria, MS-T.A = mixed sin portfolio, based on non-compliance with AAOIFI's 2004 financial screening criteria, and MS-M.C = mixed sin portfolio, based on non-compliance with AAOIFI's 2006 financial screening criteria.

Figure 7.2 show that the portfolios moved closely each other. Prior to the GFC period, all portfolios perform well but, in the last quarter of 2008, the global financial conditions deteriorated sharply, affecting the KSE just like the other GCC stock markets (see Chapter 2).

The interview analysis in chapter 5 revealed that the crisis had a strong impact on GCC

<sup>175</sup> Financial companies cannot be mixed, because their core business is financial intermediation that is either *Halal* or *Haram* (sin), see chapter 6 for details.

countries, as their financial and banking systems are integrated with those of the USA and Europe. Figure 7.2 reveals that the performance of all portfolios converged during the two years of GFC and afterwards. This finding is consistent with the literature that finds that, in the pre-crisis period, investors benefited from diversifying their portfolios across Islamic and conventional stocks but that, during the crisis, they were more integrated; thus, there existed fewer diversification benefits (Hengchao and Hamid, 2011). The downturn of the GFC was broad, affecting the whole stock market, as demonstrated in Table 7.1. The raw returns of all the portfolios that were positive during 2006 and 2007 turned into huge negative returns in 2008 and 2009 for all portfolios until the end of the sample period, apart from some non-*Halal* portfolios, that showed better performance after the crisis compared to the *Halal* group portfolios. However, mixed *Halal* portfolios<sup>176</sup> registered the best performance before the GFC period, outperforming KSE, CP and all other portfolios.

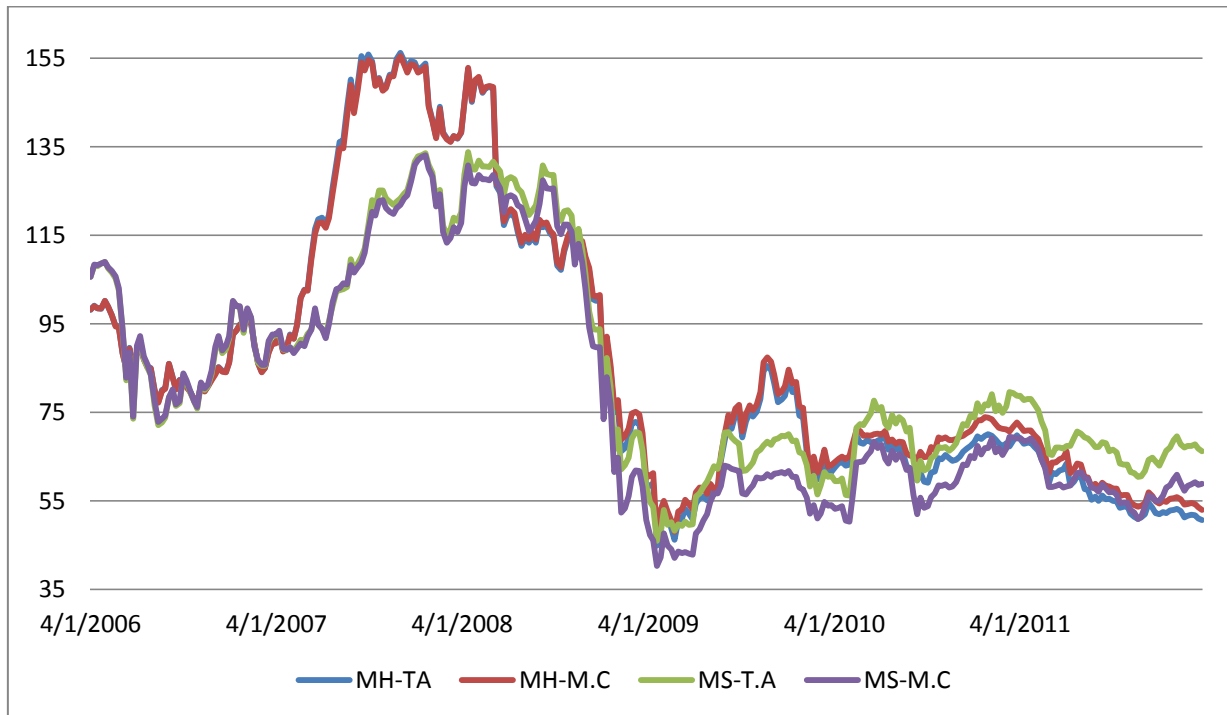
Another finding from Table 7.1 is the impact of applying different financial screening criteria in the creation of portfolios' performance. The AAOIFI's changes from the 2004 financial screening criteria to the 2006 criteria reduced the number of MH stocks, specifically after the GFC period<sup>177</sup>. However, this did not seem to have an impact on the performance of the MH (MH-TA and MH-M.C) and MS portfolios screened via these two different methods, except during the post-GFC (the bearish period). Figure 7.3 below illustrates this finding visually.

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<sup>176</sup> The Mixed *Halal* portfolios are namely the MH-T.A and MH-M.C.

<sup>177</sup> Table 6.2 reports the MH and MS under the AAOIFI's 2004 and 2006 financial criteria and shows the difference between the two classifications.

**Figure 7.3: The Performance of Mixed *Halal* and Mixed Sin Portfolios during the Full Sample Period (2006-2011)**



Note: This figure plots the performance of 4 mixed *Halal* and mixed sin portfolios, indexed at 100 from 04/01/2006-28/12/2011. The portfolios are MH-TA = mixed *Halal* portfolio based on compliance with AAOIFI's 2004 financial screening criteria, MH-M.C = mixed *Halal* portfolio based on compliance with AAOIFI's 2006 financial screening criteria, MS-T.A = mixed sin portfolio, based on non-compliance with AAOIFI's 2004 financial screening criteria, and MS-M.C = mixed sin portfolio, based on non-compliance with AAOIFI's 2006 financial screening criteria.

Figure 7.3 shows that the performance of MH portfolios is almost identical during all periods, because including or excluding a few small or medium stocks under the different financial screening criteria does not have a significant impact on their performance, as the size and number of stocks is small relative to that of those in the portfolios. The performance of the MS-T.A and MS-M.C portfolios started to diverge slightly after the crisis period, with the MS-T.A outperforming the MS-M.C portfolio. Although there are more MS stocks in the MS-MC portfolio compared to the MS-T.A one, their total market value is similar, indicating that the stocks in the MS-M.C are smaller. The performance gap between the two portfolios is mainly

due to the two large-sized stocks, namely; Agility<sup>178</sup> and the Kuwait food company Americana.<sup>179</sup> Agility, that was included only in the MH-M.C portfolio in 2010, with a weighting of 8% of the total portfolio, performed badly, pulling the overall portfolio down. Americana was only included in the MS-T.A portfolio in 2011, comprising 25% of its market value, and did well that year, pulling up the overall portfolio's performance.

Figure 7.4 below shows the performance of three *Halal* portfolios: PH, All *Halal*-T.A and All *Halal*-M.C, benchmarked against the CP and KSE. These three *Halal* portfolios were chosen because they present all types of Islamic funds in Kuwait, whereas the PH portfolio is a proxy for Islamic funds that only invest in PH stocks, the All *Halal*-T.A presents Islamic funds that invest in both PH and MH stocks that are screened based on AAOIFI's 2004 financial criteria, and the All *Halal*-M.C presents Islamic funds that invest in both PH and MH stocks that are screened based on AAOIFI's 2006 financial criteria. This was to examine whether Islamic funds that invest only in PH stocks could perform as well as those that include MH as well. Further, it was to investigate the impact of using different screening criteria on Islamic funds' performance. Portfolios are compared against each other and against CP and KSE index benchmarks as well, because the chapter also attempts to investigate whether there are penalties imposed on Islamic investments compared to conventional investments that are not restricted to any religious or ethical guidelines.<sup>180</sup>

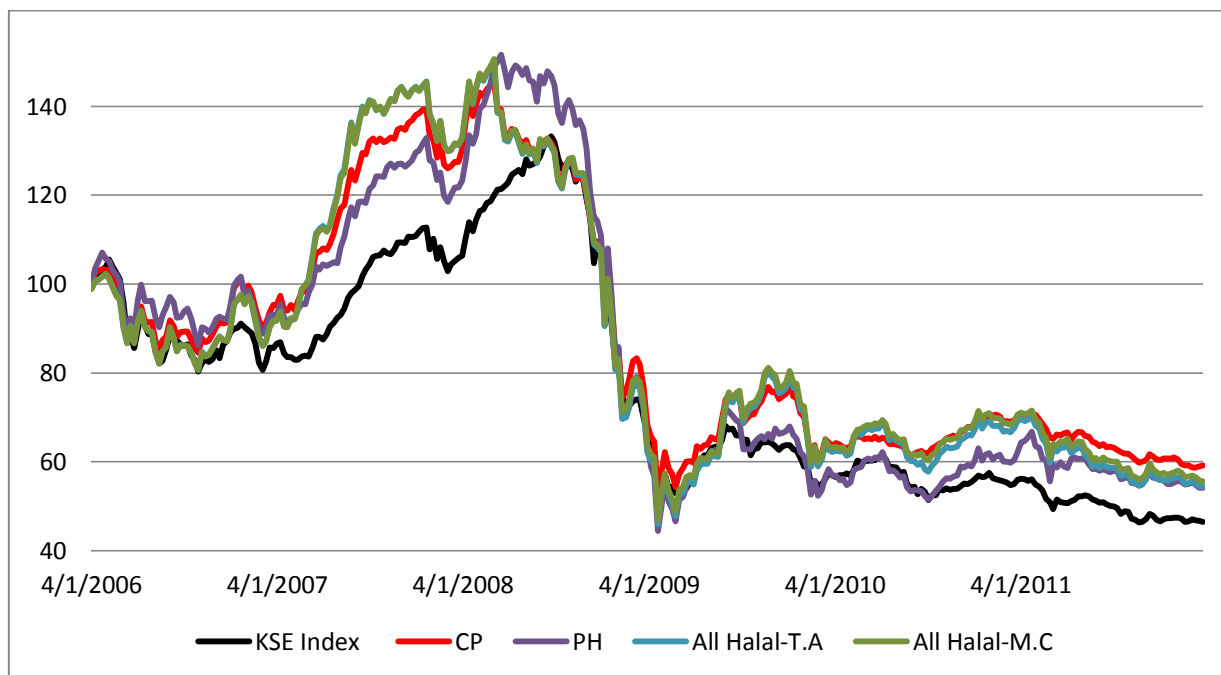
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<sup>178</sup> Agility was established in 1979 and listed on the Kuwaiti Stock Exchange in the service sector in 1984 and on the Dubai Financial Market (DFM) in 2006. In 1997, the government sold all of its shares in the company. The company provides supply chain solutions, including: logistics capabilities: warehousing and distribution, systems and technology (<http://www.agilitylogistics.com/EN/Pages/Landing.aspx>).

<sup>179</sup> The Kuwait food company (Americana) was established in 1963 and listed on the Kuwaiti Stock Exchange in the food sector in 1984. The company's main lines of business are operating food and beverage outlets, as well as manufacturing food products. It is considered the largest operator of restaurant chains and franchise operators in the MENA region (<http://www.americana-group.net/Homepage.aspx>).

<sup>180</sup> Conventional investment funds are represented in the study by CP, and KSE index is also employed because it reflects the whole market, including the non-Kuwaiti sector, that is included in the CP.

**Figure 7.4: The Performance of *Halal*-Based Portfolios during the Full Sample Period (2006-2011)**



Note: This figure plots the performance of the KSE market index and CP with 3 *Halal* portfolios, indexed at 100 from 4/1/2006-28/12/2011. The *Halal* portfolios are: PH = pure *Halal* portfolio, All *Halal*-T.A = PH stocks and mixed *Halal* stocks based on compliance with AAOIFI's 2004 financial screening criteria, and All *Halal*-M.C = PH stocks and mixed *Halal* stocks based on compliance with AAOIFI's 2006 financial screening criteria.

Figure 7.4 shows that the PH portfolio underperforms the two other *Halal* portfolios and CP, but recorded its highest returns just before the crisis and the first two quarters of 2008; these returns did not persist after the global crisis period. Nevertheless, all three *Halal* portfolios were able to beat the KSE index during the overall sample period. The All *Halal*-T.A and All *Halal*-M.C were tracking the performance of CP during the overall and GFC period, but did better during the bullish period and somewhat better during the bearish period. Figure 7.4 also confirms that the two different AAOIFI's financial criteria appeared to have an insignificant impact on the performance of Islamic funds screened under the two methods, since the performance of the All *Halal*-T.A portfolio and the All *Halal*-M.C portfolio was similar.

### 7.3.2 Descriptive Statistics after Halving the Financial Screening Criteria

The above descriptive statistics and figures analyze the portfolios and KSE index under the AAOIFI's 2004 and 2006 financial screening. This section analyzes the 8 portfolios that are screened by halving AAOIFI's financial screening thresholds. Table 7.2 reports the descriptive statistics for these new portfolios, using the CP portfolio and the KSE market index as benchmarks.

**Table 7.2: Descriptive Statistics for Portfolios after Halving AAOIFI's Financial Criteria**

<b>Panel A: The Full Period (2006-2011)</b>							
	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
<b>KSE Index</b>	-0.0022	0.0235	-0.0984	0.0791	-1.0420	3.0100	0.9230*
<b>CP</b>	-0.0012	0.0295	-0.1801	0.0951	-1.4300	7.4710	0.8720*
<b>MH.T.A (Halved)</b>	-0.0025	0.0454	-0.2557	0.1556	-1.2380	7.2090	0.8930*
<b>MH.M.C(Halved)</b>	-0.0022	0.0444	-0.2582	0.1567	-1.0550	6.9010	0.8990*
<b>All Halal-TA(Halved)</b>	-0.0016	0.0334	-0.1590	0.1121	-1.2040	5.1250	0.9120*
<b>All Halal-MC(Halved)</b>	-0.0016	0.0376	-0.2403	0.1443	-1.1720	7.8380	0.8890*
<b>MS-TA(Halved)</b>	0.0000	0.0363	-0.1568	0.1161	-0.5980	3.8310	0.9230*
<b>MS-MC(Halved)</b>	0.0001	0.0380	-0.1660	0.1605	-0.5110	4.0720	0.9260*
<b>All Sin-T.A(Halved)</b>	-0.0008	0.0262	-0.1143	0.0759	-0.9400	3.2780	0.9400*
<b>All Sin-M.C(Halved)</b>	-0.0005	0.0281	-0.1343	0.0765	-0.9980	3.4350	0.9370*
<b>Panel B: The Bullish Period (2006-2007)</b>							
	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
<b>KSE Index</b>	0.0008	0.0220	-0.0862	0.0494	-0.8900	1.8870	0.9480*
<b>CP</b>	0.0026	0.0224	-0.0593	0.0563	-0.3490	0.2130	0.9840
<b>MH.T.A (Halved)</b>	0.0036	0.0337	-0.0754	0.0852	0.1100	-0.0180	0.9880
<b>MH.M.C(Halved)</b>	0.0035	0.0340	-0.0656	0.0813	0.2870	-0.3330	0.9810
<b>All Halal-TA(Halved)</b>	0.0030	0.0255	-0.0728	0.0626	-0.1870	-0.0020	0.9920
<b>All Halal-MC(Halved)</b>	0.0028	0.0266	-0.0674	0.0677	-0.0190	-0.2040	0.9930
<b>MS-TA(Halved)</b>	0.0027	0.0305	-0.0761	0.0876	-0.0100	0.7420	0.9790***
<b>MS-MC(Halved)</b>	0.0032	0.0365	-0.1173	0.1605	0.1160	3.6770	0.9410*
<b>All Sin-T.A(Halved)</b>	0.0023	0.0220	-0.0591	0.0542	-0.4090	0.5440	0.9740**
<b>All Sin-M.C(Halved)</b>	0.0025	0.0211	-0.0649	0.0578	-0.5990	0.9370	0.9630*

**Panel C: The GFC Period (2008-2009)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
<b>KSE Index</b>	-0.0054	0.0307	-0.0984	0.0791	-0.9160	1.4680	-0.9160*
<b>CP</b>	-0.0056	0.0444	-0.1801	0.0951	-0.9960	2.5910	-0.9960*
<b>MH.T.A (Halved)</b>	-0.0075	0.0666	-0.2557	0.1556	-1.0100	3.1240	-1.0100*
<b>MH.M.C(Halved)</b>	-0.0069	0.0649	-0.2582	0.1567	-0.8890	3.0780	-0.8890*
<b>All Halal-TA(Halved)</b>	-0.0060	0.0478	-0.1590	0.1121	-1.0120	2.1870	-1.0120*
<b>All Halal-MC(Halved)</b>	-0.0060	0.0561	-0.2403	0.1443	-0.8780	3.2300	-0.8780*
<b>MS-TA(Halved)</b>	-0.0041	0.0477	-0.1568	0.1146	-0.7740	2.3040	-0.7740*
<b>MS-MC(Halved)</b>	-0.0041	0.0468	-0.1660	0.1096	-0.9160	2.7180	-0.9160*
<b>All Sin-T.A(Halved)</b>	-0.0060	0.0335	-0.1143	0.0611	-1.0740	1.9460	-1.0740*
<b>All Sin-M.C(Halved)</b>	-0.0055	0.0375	-0.1343	0.0686	-0.9210	1.6360	-0.9210*

**Panel D: The Bearish Period (2010-2011)**

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk
<b>KSE Index</b>	-0.0018	0.0147	-0.0467	0.0429	-0.1230	1.3400	0.9720**
<b>CP</b>	-0.0006	0.0104	-0.0295	0.0299	-0.0190	0.5630	0.9910
<b>MH.T.A (Halved)</b>	-0.0034	0.0237	-0.1026	0.0591	-0.6410	2.9200	0.9520*
<b>MH.M.C(Halved)</b>	-0.0032	0.0226	-0.0977	0.0526	-0.6050	2.7300	0.9520*
<b>All Halal-TA(Halved)</b>	-0.0016	0.0197	-0.0668	0.0524	-0.1440	1.0390	0.9790
<b>All Halal-MC(Halved)</b>	-0.0015	0.0190	-0.0661	0.0526	-0.1780	1.2950	0.9780***
<b>MS-TA(Halved)</b>	0.0014	0.0270	-0.0767	0.1161	0.7700	4.5950	0.9170*
<b>MS-MC(Halved)</b>	0.0012	0.0284	-0.0776	0.1176	0.6950	3.7860	0.9350*
<b>All Sin-T.A(Halved)</b>	0.0014	0.0205	-0.0588	0.0759	0.4880	2.4830	0.9590*
<b>All Sin-M.C(Halved)</b>	0.0015	0.0221	-0.0719	0.0765	0.1170	2.1510	0.9660*

Note: This Table reports the descriptive statistics for the 8 portfolios, screened using AAOIFI's halved financial criteria, with the CP and the KSE market Index as benchmarks for the full sample period in panel A and the three sub-periods in panels B-D. It shows the mean of the weekly returns for each portfolio, the standard deviation, the minimum and the maximum return values. A measure of skewness and kurtosis is provided in columns 5 and 6 respectively. The last column reports the results of the Shapiro-Wilk statistics, to test the normality assumption and the significance of the Skewness and Kurtosis measures. \*, \*\*, \*\*\* denote rejection of the normality hypothesis at 1%, 5%, and 10% significance level, respectively.

The portfolios are: (1) CP = control portfolio; (2) MH-T.A (Halved) = mixed *Halal* portfolio based on the compliance with halved AAOIFI's 2004 financial criteria; (3) MH-M.C (Halved) = mixed *Halal* portfolio based on the compliance with halved AAOIFI's 2006 financial criteria; (4) All *Halal*-T.A (Halved) = combination portfolio of PH and MH-T.A (Halved); (5) All *Halal*-M.C (Halved) = combination portfolio of PH and MH-M.C (Halved); (6) MS-T.A (Halved) = mixed sin portfolios based on non-compliance with the halved AAOIFI's 2004 financial criteria; (7) MS-M.C (Halved) = mixed sin portfolios based on non-compliance with the halved AAOIFI's 2006 financial criteria; (8) All Sin-T.A = combination portfolio of Sin and MS-T.A (Halved); and (9) All Sin-T.A (Halved) = combination portfolio of Sin and MS-M.C (Halved).

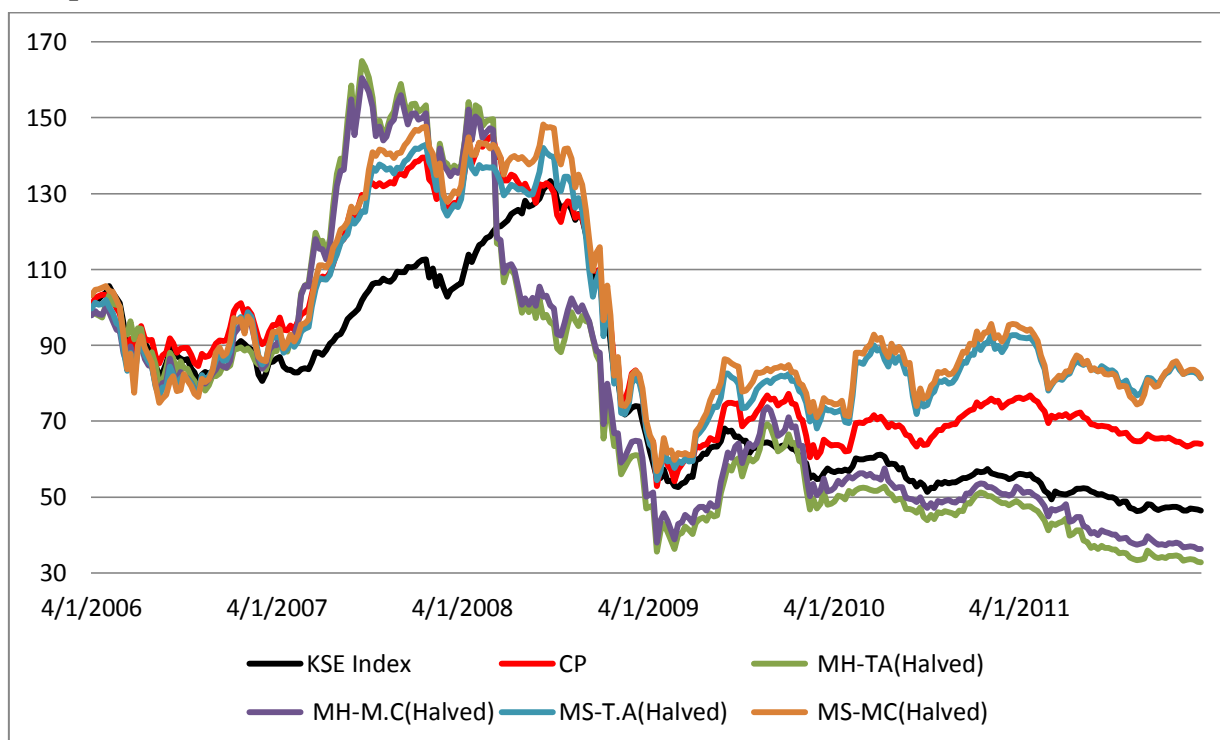
Similarly to Table 7.1, Table 7.2 shows that the portfolios' returns are not normally distributed, but negatively skewed. The returns of all portfolios are moving with the KSE market index and the CP portfolio. However, the greatest deviations among the portfolios' returns is seen after the GFC period, as revealed in panel D. Table 7.2 shows that halving the financial screening methodology favors MS-T.A and MS-M.C but not MH-T.A and MH-M.C. For instance, for

the whole sample period, the mean returns for the MS-T.A and MS-M.C improve, from -0.04 percent and -0.07 respectively in Table 7.1 to 0.00 percent and 0.01 percent respectively in Table 7.2, and the risk level decreases from 4.29 percent and 4.43 percent in Table 7.1 to 3.63 percent and 3.8 percent respectively in Table 7.2. Under this halving methodology, more stocks from different, non-financial sectors became non-compliant and moved from being in the MH-T.A and MH-M.C portfolios to the MS-T.A and MS-M.C portfolios, which improves the MS diversification as reflected by their standard deviations. For instance, the stocks of companies like Agility, National Mobile Telecommunication, Kuwait Food, Kuwait Cement, Gulf Cable and Electrical Industries, Mabanee Real Estate, and Boubyan Petrochemicals are often unavailable to *Halal* investors (see Table 6.7 in the previous chapter).

Table 7.2 affirms that the halving the AAOIFI's financial screening criteria did not create a significant difference between using AAOIFI's 2004 and 2006 criteria during the bullish and crisis periods, similar to Table 7.1. Figures 7.4 below demonstrates some of these findings visually.



**Figure 7.5: The Performance of 5 Selected Portfolios and the KSE Index during the Full Sample Period (2006-2011)**



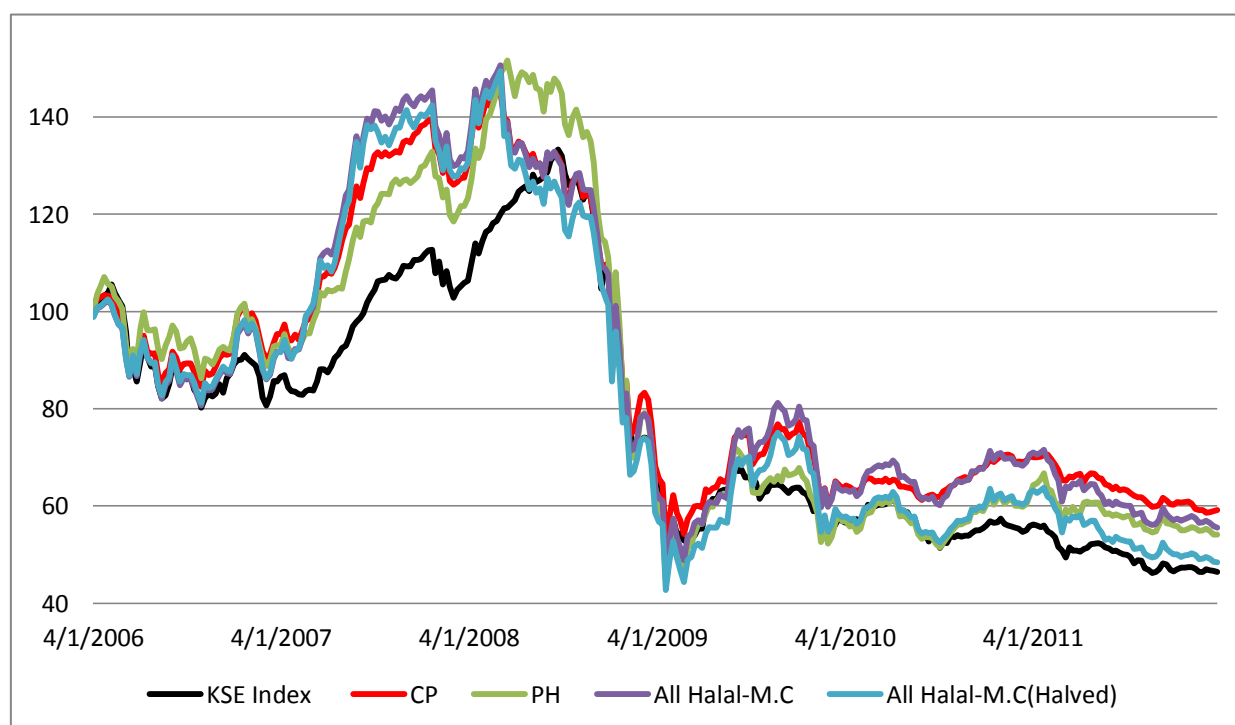
Note: This figure plots the performance of 4 selected portfolios after halving the AAOIFI's 2004 and 2006 financial screening criteria and CP and KSE index as benchmarks, indexed at 100 from 4/1/2006-28/12/2011. The portfolios are as follows: (1) CP = control portfolio; (2) MH-TA = mixed *Halal* stocks based on compliance with the halved AAOIFI's 2004 financial screening criteria; (3) MH-M.C = mixed *Halal* stocks based on compliance with the halved AAOIFI's 2006 financial screening criteria; (4) MS-M.C = mixed sin stocks that are non-compliant with the halved AAOIFI's 2004 financial screening criteria; and (5) MS-M.C = mixed sin stocks that are non-compliant with the halved AAOIFI's 2006 financial screening criteria.

Figure 7.5 reveals that MH-T.A (Halved) and MH-M.C (Halved) outperformed the KSE index, CP, MS-T.A (Halved) and the MS-M.C (Halved) in the bullish period, but this trend did not persist, as the bigger, more profitable companies changed into MS stocks. It also shows the change in the performance between the MH and MS portfolios during the crisis and bearish periods. The gap in performance during the bearish period shows that halving the financial screening methodology has penalized the MH portfolios compared to MS ones. The situation was worse due to the impact of the GFC.<sup>181</sup>

<sup>181</sup> For example, the number of MH stocks compliant with the halved AAOIFI's 2004 criteria dropped down from 54, under the original criteria, to 18 with a dramatic loss in market value from 4.266 billion to 851 million K.D (See Tables 6.5 and 6.9).

Figure 7.6 below visualizes the performance of 3 selected *Halal*-based portfolios, namely: PH, All *Halal*-M.C; All *Halal*-M.C (Halved); with the CP and the KSE index as a benchmark, to examine the impact of the halved financial screening criteria on Islamic funds<sup>182</sup> that invest in MH investments<sup>183</sup> and investors who wish to follow the stricter *Shariah*-compliant screening. The performance of MH-T.A and MH-M.C, and the performance of MH-T.A (Halved) and MH-M.C (Halved) were almost identical during all sample periods, as shown in Figures 7.4 and 7.5 respectively. AAOIFI's 2006 criteria were chosen to be applied to MH portfolios in Figure 7.6 for simplicity.

**Figure 7.6: The Performance of *Halal*-Based Portfolios after Halving the AAOIFI's 2006 Financial Screening Criteria during the Full Sample Period (2006-2011)**



Note: This figure plots the performance of 3 selected *Halal* portfolios, with KSE and CP as benchmarks, indexed at 100 from 4/1/2006 – 28/12/2011. The *Halal* portfolios are PH = pure *Halal* portfolio, All *Halal*-M.C = PH stocks and mixed *Halal* stocks based on compliance with the AAOIFI's 2006 financial screening criteria, All *Halal*-M.C (Halved) = PH stocks and mixed *Halal* stocks based on compliance with the halved AAOIFI's 2006 financial screening criteria, and CP = control portfolio.

<sup>182</sup> The All *Halal*-M.C portfolio is the proxy for Islamic funds that allow investment in PH stocks and MH stocks that are screened based on AAOIFI's 2006 financial screening criteria, and the All *Halal*-M.C (Halved) is the proxy for Islamic funds that allow investing in PH stocks and MH stocks that are screened based on the halved AAOIFI's 2006 financial screening criteria, as defined in section 6.5 in the previous chapter.

<sup>183</sup> Islamic funds that invest only in PH stocks will not be affected by halving the financial screening thresholds.

Figure 7.6 shows that Islamic funds and investors who wish to follow the proposed tightened *Shariah*-compliant screening guidelines do not have to sacrifice returns during bullish and crisis periods, as the performance of the All *Halal*-M.C (Halved) portfolio is similar to that of the All *Halal*-M.C and CP portfolios. However, their performance started to diverge to some extent during the bearish period. This suggests that the halved screening thresholds might not have a significant impact on the performance of Islamic funds if they apply the new screening guidelines before the crisis period, contrary to the expectations of many of the interviewees in Chapter 5. In fact, the All *Halal*-M.C (Halved) portfolio outperformed the KSE index during the whole and sub periods, apart from the crisis period. This supports the idea proposed by the interviewees, especially the *Shariah* scholars in chapter 5, of reducing the financial screening thresholds in order to take a step closer to an ideal Islamic investment principle and, without the occurrence of the GFC, the results may have been even better. This also confirms the interviewed Islamic fund managers' concerns regarding the timing of such a decision due to the impact of the GFC. The chapter continues with the statistical analysis examining the difference in the portfolios' returns.

#### **7.4 Analysis of the Portfolios' Return Performance**

This section further investigates whether differences in portfolio performance are statistically significant. From the Shapiro-Wilk statistics reported in Tables 7.1 and 7.2, many of the portfolios' returns appeared to be not normally distributed over the full, crisis, and bearish periods, although the bullish period was normally distributed. As a result, the parametric analysis of variance (ANOVA) test is used to detect significant differences between the means of the portfolio returns but, as a robustness check, to detect any significant differences between the median of all the portfolios returns, the non-parametric Friedman test (1937) is also adopted. The ANOVA test is conducted for the 19 created portfolios during the whole and the

sub sample periods. The test's corresponding P-value is used to determine the significance of the F-statistic. Table 7.3 provides the results of the ANOVA test for all 19 portfolios and the KSE market index (20 in total).

**Table 7.3: The Analysis of Variance (ANOVA) Results for all 19 portfolios**

**Panel A: The Whole Sample Period (2006-2011)**

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F- Statistic	P-value
<b>Factor</b>	19.000	0.003	0.000	0.120	1.000
<b>Error</b>	6240.000	7.982	0.001	---	---
<b>Total</b>	6259.000	7.985	---	---	---

**Panel B: The Bullish Period (2006-2007)**

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F- Statistic	P-value
<b>Factor</b>	19.000	0.001	0.000	0.050	1.000
<b>Error</b>	2060.000	1.723	0.001	---	---
<b>Total</b>	2079.000	1.724	---	---	---

**Panel C: The GFC Period (2008-2009)**

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F- Statistic	P-value
<b>Factor</b>	19.000	0.001	0.000	0.020	1.000
<b>Error</b>	2080.000	5.133	0.002	---	---
<b>Total</b>	2099.000	5.134	---	---	---

**Panel D: The Bearish Period (2010-2011)**

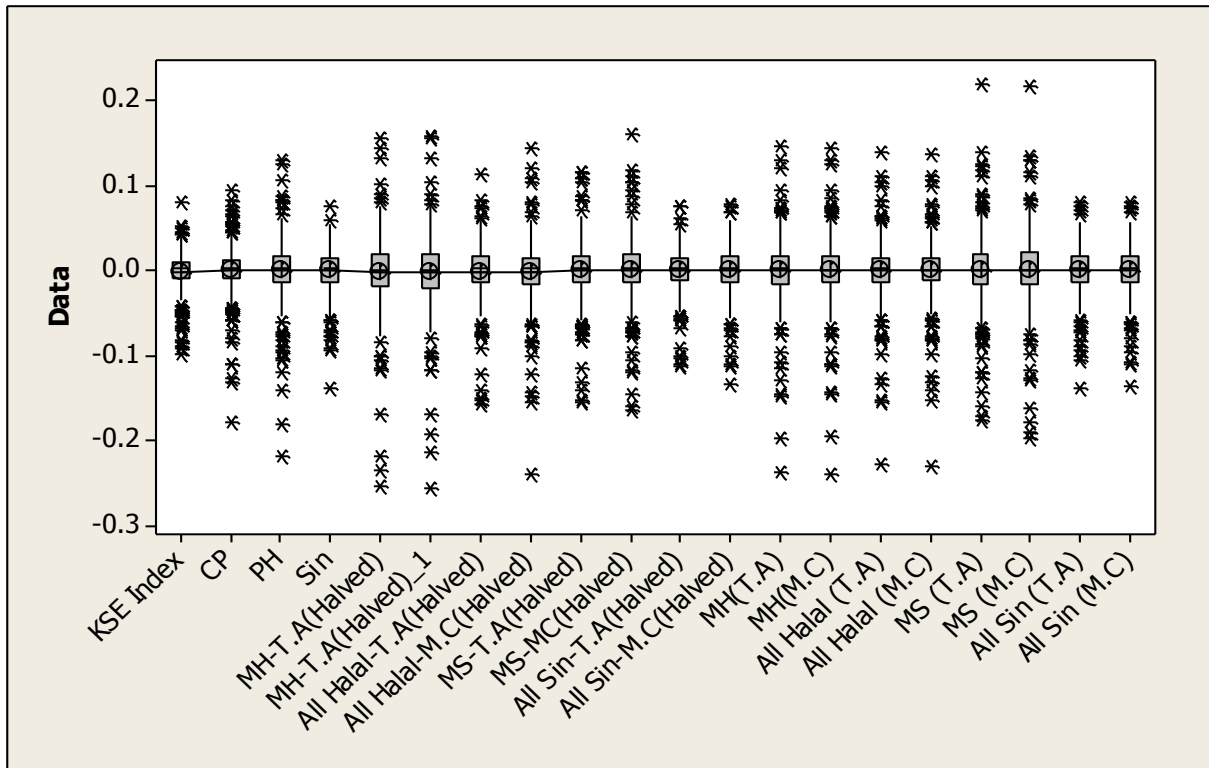
Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F- Statistic	P-value
<b>Factor</b>	19.000	0.006	0.000	0.610	0.904
<b>Error</b>	2060.000	1.047	0.001	---	---
<b>Total</b>	2079.000	1.052	---	---	---

Note: This Table reports the analysis of variance ANOVA's results for the 19 portfolios and the KSE index during the whole period in panel A, and the three sub periods in panels B-D. The test investigates the difference between the mean returns of the portfolios.

Table 7.3 shows that there is no evidence for rejecting the null hypothesis, as the P-values provided for the F-statistic were very high, indicating that the performance of all 19 portfolios during all sample periods were not significantly different from each other or from the KSE

index. Figure 7.7 compares all of the mean returns of the 19 portfolios during the bearish period through a box plot.<sup>184</sup>

**Figure 7.7: Box Plot of the 19 Portfolios for the Full Sample Period (2006-2011)**



Note: This Figure shows a box plot that graphically summarizes the weekly returns data for the 19 portfolios and the KSE index for the whole sample period. Each box shows the median, quartiles, and extreme values within that portfolio. The line between the boxes links the groups (portfolios and KSE index) means.

Figure 7.7 confirms Table's 7.3 results that there are no significant differences between the portfolios or the KSE index. The alternative non-parametric Friedman test is shown in Table 7.4.

<sup>184</sup> A box plot was created for all sub periods but, because the results were almost identical, they are not displayed.

**Table 7.4: The Friedman's Test Results for the 19 Portfolios**

Portfolios	The Whole Period	The Bullish Period	The GFC Period	The Bearish Period
	2006-2011	2006-2007	2008-2009	2010-2011
	Mean Rank	Mean Rank	Mean Rank	Mean Rank
<b>KSE Index</b>	10.07	10.21	10.75	9.25
<b>CP</b>	10.53	10.78	10.60	10.19
<b>PH</b>	10.47	10.36	9.93	11.14
<b>Sin</b>	10.97	11.03	10.37	11.50
<b>MH-TA</b>	10.32	10.65	10.60	9.70
<b>MH-MC</b>	10.38	10.59	10.70	9.85
<b>All Halal(T.A)</b>	10.40	10.58	10.35	10.26
<b>All Halal-M.C</b>	10.41	10.52	10.44	10.25
<b>MS-T.A</b>	10.29	9.52	10.40	10.94
<b>MS-M.C</b>	10.24	9.47	10.17	11.07
<b>All Sin-T.A</b>	10.91	10.86	10.40	11.47
<b>All Sin-M.C</b>	10.85	10.81	10.22	11.52
<b>MH-T.A (Halved)</b>	10.08	10.61	10.51	9.12
<b>MH-M.C (Halved)</b>	10.27	10.58	10.86	9.37
<b>All Halal-T.A(Halved)</b>	10.58	11.01	10.60	10.13
<b>All Halal-M.C(Halved)</b>	10.53	10.99	10.41	10.18
<b>MS-TA (Halved)</b>	10.59	10.12	10.75	10.90
<b>MS-MC (Halved)</b>	10.53	10.08	10.80	10.73
<b>All Sin-T.A(Halved)</b>	10.63	10.45	10.33	11.12
<b>All Sin-M.C(Halved)</b>	10.96	10.78	10.79	11.31
<b>Test Statistics</b>				
<b>N</b>	313	104	105	104
<b>Chi-Square</b>	12.016	10.997	3.322	34.029
<b>Df</b>	19	19	19	19
<b>Sig.</b>	.885	.924	1.000	<b>.018</b>

Note: The table shows the results of the Friedman test for the differences between the median of the portfolios' means during the whole sample period as well as the three sub-periods. N indicates the number of observations, the test is based on the Chi-square distribution, df is the degree of freedom for the test and the last row is the P-value for the test.

Table 7.4 reveals that that there is insufficient evidence to reject the null hypothesis for the whole, the bullish, and the GFC periods, but interestingly the null hypothesis was rejected for the bearish period, indicating that there is at least one portfolio that differs in performance from the others. To further investigate the result of the Friedman test during the bearish period, the procedure was repeated for the *Halal* portfolios only: PH, All *Halal*-T.A, All *Halal*-M.C, All

*Halal*-T.A (Halved), and All *Halal*-M.C(Halved) with the CP and KSE market index, as shown in Table 7.5, to see whether the *Halal* portfolios vary from each other and from the CP and KSE index during the bearish period, because this is what interests *Halal* investors and Islamic funds.

**Table 7.5: The Friedman’s Test Results for 6 *Halal*-Based Portfolios during the Bearish Period**

	<b>The Bearish Period (2010-2011)</b>
	<b>Mean Rank</b>
<b>KSE Index</b>	<b>3.66</b>
<b>CP</b>	<b>4.02</b>
<b>PH</b>	<b>4.35</b>
<b>All <i>Halal</i>(T.A)</b>	<b>4.07</b>
<b>All <i>Halal</i>-M.C</b>	<b>4.11</b>
<b>All <i>Halal</i>-T.A(Halved)</b>	<b>3.87</b>
<b>All <i>Halal</i>-M.C(Halved)</b>	<b>3.93</b>
<b>N</b>	<b>104</b>
<b>Chi-Square</b>	<b>6.210</b>
<b>Df</b>	<b>6</b>
<b>Sig.</b>	<b>0.400</b>

Note: This Table shows the results of the Friedman test of the difference between the median of the *Halal*-based portfolios, the CP and the KSE index means returns during the bearish period. N indicates the number of observations, the test is based on the Chi-square distribution, df is the degree of freedom for the test and the last row is the p-value for the test.

Table 7.5 shows that that there is no statistical difference between these *Halal*-based portfolios and the KSE index and CP benchmarks. Thus, Islamic funds and investors who wish to invest only in *Halal*- securities in Kuwait do not have to sacrifice their returns, even when halving their financial screening thresholds. This finding is consistent with that found in Table 7.3 of the ANOVA results and with Figure 7.6 in the previous section. Furthermore, the small performance gaps seen in Figure 7.6 between the PH, All *Halal*-M.C, All *Halal*-M.C (Halved) portfolios are not statistically significant different from each other, asserting that there is no performance penalty on Islamic funds that only invest in PH, or those that adopt the AAOIFI’s

screening or wish to apply the AAOIFI's halved screening thresholds, including the bearish period.

Although the parametric and non-parametric statistical tests confirm that the performance of the *Halal*-based portfolios is not statistically different from each other and the benchmarks,<sup>185</sup> a paired sample t-test was used to detect whether a *Halal* portfolio in Table 7.5 has significantly different performance from the other non-*Halal* portfolios' during the bearish period. The null hypothesis of the paired sample t-test states that the mean returns of the portfolios do not significantly differ from each other. The test procedure was repeated 190 times, to cover all combinations of portfolios pairings.<sup>186</sup> The results of the test show that none of the values are significant for the full, bullish, or crisis periods, although some significant values were detected in the bearish period only, as shown in Table 7.6. The results for the paired sample t-test for the other periods are reported in Appendix 7.1-7.3.

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<sup>185</sup> The present study attempts to understand the portfolios from the *Halal*-based investors' perspective.

<sup>186</sup> The formula for the number of possible combinations of  $r$  objects, which is 2, as portfolio pairs are compared, from a set of  $n$  objects, which are the 19 portfolios plus the KSE index, is computed based on the following equation:

$${}^n C_r = \frac{n!}{r!(n-r)!}$$



**Table 7.6: The Paired Sample T – Statistics for Comparison between Row and Column Portfolios during the Bearish Period**

	KSE	CP	PH	Sin	MH-T.A (H)	MH-M.C (H)	All <i>Halal</i> -T.A(H)	All <i>Halal</i> -M.C(H)	MS-T.A(H)	MS-M.C(H)	All Sin-T.A(H)	All Sin-M.C(H)	MH-TA	MH-MC	All <i>Halal</i> -T.A	All <i>Halal</i> -M.C	MS (T.A)	MS (M.C)	All Sin(T.A)	
CP	-0.98																			
PH	-0.83	-0.22																		
Sin	-1.87*	-1.34	-1.26																	
MH-T.A (H)	0.72	1.48	1.30	2.10**																
MH-M.C (H)	0.63	1.40	1.18	1.98*	-0.29															
All <i>Halal</i> -T.A(H)	-0.14	0.70	1.36	2.14**	-1.10	-0.89														
All <i>Halal</i> -M.C(H)	-0.20	0.65	1.30	2.11**	-1.15	-0.97	-0.54													
MS-T.A(H)	-1.49	-0.90	-0.68	0.13	-1.78*	-1.61	-1.32	-1.27												
MS-M.C(H)	-1.32	-0.77	-0.57	0.22	-1.71*	-1.51	-1.21	-1.15	0.56											
All Sin-T.A(H)	-1.94*	-1.21	-0.76	0.15	-1.86*	-1.72*	-1.48	-1.44	-0.02	-0.15										
All Sin-M.C(H)	-1.88*	-1.21	-1.02	0.19	-2.10*	-1.89*	-1.92*	-1.85*	-0.06	-0.24	-0.03									
MH-TA	-0.12	0.62	0.66	1.56	-1.37	-1.10	0.02	0.09	1.57	1.46	1.49	1.83*								
MH-MC	-0.21	0.62	0.61	1.58	-1.66	-1.42	-0.08	-0.01	1.44	1.31	1.45	1.75*	-0.21							
All <i>Halal</i> -T.A	-0.47	0.37	0.78	1.81*	-1.44	-1.22	-1.00	-0.81	1.27	1.14	1.36	1.88*	-0.51	-0.36						
All <i>Halal</i> -M.C	-0.51	0.36	0.77	1.86*	-1.48	-1.28	-1.26	-1.10	1.22	1.08	1.34	1.82*	-0.48	-0.41	-0.15					
MS (T.A)	-1.19	-0.71	-0.54	0.13	-1.50	-1.35	-1.05	-1.01	0.07	-0.20	0.05	0.08	-1.18	-1.10	-0.96	-0.93				
MS (M.C)	-1.18	-0.71	-0.55	0.14	-1.54	-1.37	-1.08	-1.03	0.09	-0.21	0.05	0.09	-1.25	-1.12	-0.99	-0.95	0.02			
All Sin(T.A)	-1.87*	-1.24	-1.08	0.03	-2.07**	-1.88*	-1.91*	-1.85*	-0.21	-0.36	-0.17	-0.71	-1.74*	-1.69*	-1.80*	-1.77*	-0.19	-0.20		
All Sin(M.C)	-1.83*	-1.19	-1.05	0.09	-2.05**	-1.85*	-1.88*	-1.81*	-0.15	-0.32	-0.12	-0.52	-1.74*	-1.65	-1.79*	-1.73*	-0.15	-0.17	0.39	

Note: This table reports the t-statistic test for comparison between the row and column portfolios of the paired sample t-test for the 190 possible combinations during the bearish period.

\* Significant at the 10% level. \*\* Significant at the 5% level.

The paired sample t-test results in Table 7.6 show that there exists evidence to reject the null hypothesis for 5 pairs at a 5% significance level during the bearish period, indicating that the mean returns are different between the pairs for 5 *Halal* portfolios based on the halved financial screening thresholds and the non-*Halal* portfolios.<sup>187</sup> This highlights the impact of halving the financial screening thresholds if such portfolios are benchmarked against the non-*Halal* portfolios during the bearish period. Furthermore, there is also weak evidence to show that the differences between the mean returns of 33 portfolios are significant, since the null hypothesis is rejected at a 10% significant level. For instance, the mean returns for some non-*Halal* portfolios [Sin, All Sin-T.A, All Sin-MC, All Sin-T.A (H), and All Sin-MC (H)] were different from the KSE index. This consistent with finding of Fabozzi et al. (2008), Hong and Kacperczyk (2009), and Liston and Soydemir (2010) who find that ‘sin’ stocks earn higher risk-adjusted returns. Particularly, it supports the finding of Salaber (2007) who indicates that tobacco and alcohol sin stocks recorded higher returns during recessions than in expansions.

The results of Table 7.6 also provide robust statistical evidence that the mean returns for all of the *Halal* portfolios are similar to the KSE market index and CP under the 5% and 10% significance levels. Therefore, there will be no penalty for Islamic funds, even if they wish to apply the halved screening thresholds, which confirms the results of Tables 7.3 and 7.5. In addition, Table 7.6 also reveals that the performance of the MH and MS portfolios classified under the AAOIFI 2004 and 2006 criteria performed similarly, implying that the two methods of classification do not impact on the portfolios’ performance.

To conclude this section, both the parametric and non-parametric tests assert that there is no statistical difference between the performance of the *Halal* and non-*Halal* portfolios during the whole, bullish, and GFC periods and, hence, there is no penalty for investing in PH or MH

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<sup>187</sup> These 5 pairs, documented in Table 7.6, are as follows: MH-T.A(H) and Sin; All *Halal*-T.A(H) and Sin; All *Halal*-M.C(H) and Sin; MH-T.A(H) and All Sin (T.A); and finally MH-T.A(H) and All Sin (M.C).

portfolios during these periods. Differences in the portfolios' returns were only detected during the bearish period. Combining the results of Table 7.6 with the descriptive statistics in Tables 7.1 and 7.2, we recognize that, during the bearish period, the *Halal* portfolios did not underperform the conventional funds presented by the CP or KSE market index. However, some *Halal* portfolios underperformed other non-*Halal* ones (e.g. Sin and MS). This finding is inconsistent with Merdad et al. (2010) Abdullah et al. (2007) and Hayat and Kraeusl (2011), who found that Islamic funds underperformed conventional funds (CP in this study) in the full sample and bullish periods, and outperformed them in the GFC and bearish periods (Ashraf, 2013). This finding, however, further supports that of Rahimie (2010), Hassan et al. (2010), Mansor and Bhatti (2011), and BinMahfouz and Hassan (2012) that there was no significant difference between the return performance of *Shariah*-compliant funds and conventional funds.<sup>188</sup>

### 7.5 Analysis of the Portfolios' Return Correlation

This section analyses the correlations of the portfolios' returns with each other and the KSE market Index (*i* and *j*) to investigate how a portfolio's return is related to or influenced by that of another portfolio or market index. The covariance is used to measure the degree of variability of the portfolios' returns relative to other portfolio returns, as how they move together relative to their individual mean returns over time (Anderson et al., 2009; Reilly and Brown, 2006). The covariance value is obtained by computing the covariance of the two portfolios based on equation 7.6:

$$Cov_{ij} = E[(R_i - \bar{R}_i)(R_j - \bar{R}_j)] \quad [7.6]$$

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<sup>188</sup> The performance of the PH portfolio and *Halal*-portfolios that apply halved financial screening criteria cannot be compared with the literature, as these have not been previously addressed.

In order to standardize the covariance value, the correlation coefficient,  $\rho$ , is computed as follows:<sup>189</sup>

$$\rho_{ij} = \frac{Cov_{ij}}{\sigma_i \sigma_j} \quad [7.7]$$

The correlation coefficient,  $\rho$  measures the relationship between the returns of the portfolios  $i$  and  $j$ , which can vary in range from -1 to +1. A value of +1 indicates a perfectly positive linear relationship between  $R_i$  and  $R_j$ , meaning that the returns of the two portfolios move together in a completely linear trend, and a value of -1 indicates a perfect negative linear relationship between the return series of the two portfolios  $R_i$  and  $R_j$ , while a value of zero suggests that no linear relationship exists between the trend of returns for the two portfolios. Since the data appeared to be non-normally distributed, the nonparametric correlation coefficient, Spearman's coefficient, is applied rather than the Pearson's correlation (Anderson et al., 2009). The Spearman test of rank correlation uses ranks to test for association rather than actual data values. The null hypothesis is that there is no significant correlation or association between the portfolio returns. Therefore, a rejection of the null hypothesis implies that there is evidence of an association between the returns behaviour of the portfolios. The correlation analysis is conducted for the full and sub sample periods. The results of the Spearman's correlation for 9 selected portfolios and the KSE index are shown in Table 7.7.

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<sup>189</sup> See Strong (2003) and Reilly and Brown (2006).

**Table 7.7: Portfolio Returns Correlations**

**Panel A: Portfolio Returns Correlations for the Full Sample Period (2006-2011)**

	KSE Index	CP	PH	Sin	MH-TA	MH-MC	MS-T.A	MS-M.C	MH.T.A (Halved)	MH.M.C (Halved)
KSE Index	1									
CP	.653**	1								
PH	.662**	.784**	1							
Sin	.642**	.778**	.757**	1						
MH.TA	.542**	.845**	.644**	.624**	1					
MH.MC	.529**	.844**	.632**	.612**	.985**	1				
MS.T.A	.601**	.742**	.660**	.634**	.681**	.676**	1			
MS.M.C	.611**	.746**	.687**	.664**	.699**	.677**	.974**	1		
MH.T.A(Halved)	.450**	.752**	.565**	.544**	.897**	.905**	.562**	.573**	1	
MH.M.C(Halved)	.476**	.797**	.592**	.561**	.929**	.944**	.588**	.596**	.950**	1

**Panel B: Portfolio Returns Correlations for the Bullish Period (2006-2007)**

	KSE Index	CP	PH	Sin	MH-TA	MH-MC	MS-T.A	MS-M.C	MH.T.A (Halved)	MH.M.C (Halved)
KSE Index	1									
CP	.680**	1								
PH	.648**	.873**	1							
Sin	.689**	.849**	.740**	1						
MH.TA	.561**	.922**	.737**	.659**	1					
MH.MC	.563**	.921**	.734**	.658**	.998**	1				
MS.T.A	.613**	.819**	.733**	.631**	.710**	.711**	1			
MS.M.C	.606**	.811**	.734**	.628**	.698**	.695**	.992**	1		
MH.T.A(Halved)	.462**	.755**	.578**	.517**	.854**	.851**	.580**	.561**	1	
MH.M.C(Halved)	.525**	.877**	.702**	.611**	.960**	.958**	.678**	.663**	.907**	1

**Panel C: Portfolio Returns Correlations for the GFC Period (2008-2009)**

	KSE Index	CP	PH	Sin	MH-TA	MH-MC	MS-T.A	MS-M.C	MH.T.A (Halved)	MH.M.C (Halved)
KSE Index	1									
CP	.681**	1								
PH	.744**	.878**	1							
Sin	.701**	.897**	.811**	1						
MH.TA	.501**	.889**	.698**	.677**	1					
MH.MC	.497**	.887**	.699**	.671**	.998**	1				
MS.T.A	.640**	.841**	.789**	.735**	.731**	.729**	1			
MS.M.C	.639**	.840**	.790**	.737**	.736**	.727**	.973**	1		
MH.T.A(Halved)	.449**	.855**	.667**	.647**	.975**	.972**	.666**	.670**	1	
MH.M.C(Halved)	.456**	.864**	.673**	.654**	.986**	.985**	.679**	.683**	.993**	1

**Panel D: Portfolio Returns Correlations for the Bearish Period (2010-2011)**

	KSE Index	CP	PH	Sin	MH-TA	MH-MC	MS-T.A	MS-M.C	MH.T.A (Halved)	MH.M.C (Halved)
KSE Index	1									
CP	.540**	1								
PH	.522**	.500**	1							
Sin	.531**	.515**	.726**	1						

<b>MH.TA</b>	.599**	.653**	.494**	.556**	1					
<b>MH.MC</b>	.566**	.635**	.445**	.534**	.929**	1				
<b>MS.T.A</b>	.521**	.478**	.402**	.531**	.574**	.568**	1			
<b>MS.M.C</b>	.560**	.522**	.469**	.597**	.668**	.612**	.952**	1		
<b>MH.T.A(Halved)</b>	.458**	.548**	.428**	.494**	.810**	.855**	.419**	.495**	1	
<b>MH.M.C(Halved)</b>	.459**	.517**	.349**	.408**	.751**	.812**	.335**	.392**	.925**	1

Note: The Table demonstrates the results of the 2-tailed Spearman correlation test between the returns of 9 selected portfolios and the KSE market index during the full (in panel A) and sub sample periods (in panels B-D). \*\* Correlation is significant at the 1% level (2-tailed).

The Spearman's correlation results in Table 7.7 suggest that there is strong evidence for rejecting the null hypothesis that there is no correlation between the returns of the created portfolios, affirming that the returns of the portfolios in general are highly and positively correlated with each other, with the CP and with the KSE market index during the full sample period and sub periods. This finding is consistent with Rahimie (2010) and Merdad et al. (2010), who found that *Halal* and non-*Halal* portfolios were highly correlated with the CP and the market index. Interestingly, the correlation reduced during the bearish period, which is consistent with previous results, showing same differences in the bearish period.

The PH and Sin portfolios are closely associated with the KSE index and each other, possibly due to the fact that 60- 86% of the stocks in both PH and Sin exist in the financial sector, which was affected by the performance of the whole sector rather than that of the individual companies within it. In particular, they might be affected by the performance of the banking sector which represents the vast majority of the weighted value for the PH and Sin portfolios. For instance, banks represented 75% of the PH portfolio and 79% of the Sin portfolio in 2011. The return of the MH- T.A and MH-M.C portfolios were the most positively correlated, approaching a perfect positive correlation, indicating that these portfolios move in a very similar direction during all sample periods, reflecting almost identical performance. The same

applies to MS-T.A and MS-M.C,<sup>190</sup> implying that the change in AAOIFI's financial screening criteria from 2004 to 2006 did not affect the returns behaviour of such portfolio pairings differently. Furthermore, the return for the MH-T.A and MH-T.A (Halved) portfolios was also highly correlated during all periods, but less so during the bearish period, and the same applies to the MH-M.C and MH-M.C (Halved). This suggests that halving the financial screening thresholds did not reduce the number of stocks significantly, and the impact was more due to the impact of the crisis on screening as discussed in Chapter 6.

Of all of the portfolios, MH-T.A and MH-M.C are the most closely correlated with the CP benchmark during the bullish period, but the correlation is weaker during the bearish period. This may be because MH portfolios lost more stocks after the crisis period, and therefore became less correlated to the CP. The least correlated portfolios with the CP and KSE index are MH-TA (Halved) and MH-MC (Halved). This suggests that including such portfolios within a PH portfolio would offer diversification benefits for Islamic funds and *Halal*-seeking investors, as their correlation coefficient is lower.<sup>191</sup> One reason for this is that MH stocks are in the non-financial sector and hence better diversified across more sectors in the market. This could explain why the majority of Islamic funds invest in both PH and MH stocks, rather than PH stocks only. As Table 7.7 reveals, not only are the stocks that are classified under AAOIFI's 2004 and 2006 criteria highly correlated but also the degree of correlation amongst all of the portfolios' returns and with the KSE index increased during the crisis period. This is consistent with the finding that the correlations of returns often increase during financial turbulence (Corsetti et al., 2010). In the bearish period, however, the portfolios are less

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<sup>190</sup>There is also a high level of correlation between the following portfolios (not displayed in Table 7.7): All *Halal*-T.A and All *Halal*-M.C; All Sin-T.A and All Sin-M.C and; All *Halal*-T.A (Halved) and All *Halal*-M.C (Halved); MH-T.A (Halved) and MH-M.C (Halved); and finally MS-T.A (Halved) and MS-M.C (Halved).

<sup>191</sup> The portfolio that includes PH and MH-T.A (Halved) is portfolio number 16 in section 5 of chapter 6 (All *Halal*-TA- Halved), and the portfolio that includes PH and MH-M.C (Halved) is portfolio number 17 in section 5 of chapter 6 (All *Halal*-M.C- Halved).

correlated than in other periods, suggesting the diverse movement after crisis, which explains the significant differences in portfolios means only during this period as shown in the previous section.

Overall, the correlation analysis reveals that the returns of all of the portfolios are significantly correlated with each other and with the benchmark KSE. This positive correlation shows that the returns of all the portfolios are moving in a similar direction together with the overall market return. There is also slight evidence of a varying level of correlation in different time periods.

### **7.6 Analysis of the Portfolios' Risk-Adjusted Return Performance**

This section analyses the portfolios' performance using the traditional portfolio risk-adjusted performance measures, namely the Treynor ratio (Treynor, 1965), the Sharpe ratio (Sharpe, 1966) and the Jensen-alpha (Jensen, 1968). These ratios were calculated for each of the 19 portfolios and KSE Index in the different full and sub sample periods, based on Equation 4.1 for the Sharpe ratio, Equation 4.4 for the Treynor ratio, and finally Equation 4.5 for the Jensen-alpha. The standard errors from the Jensen's alpha regression were corrected for autocorrelation and Heteroskedasticity problems using the Newey-West procedure. The traditional performance measures allow the portfolios' performance to be analyzed based on their risk-adjusted returns and enables the ranking of the portfolios according to their performance. Although these performance measures employed are very common in the investment funds literature, the uniqueness of this analysis is that it also employs a *Shariah-compliant* risk free asset (*Murabahah rate*) alternative when calculating the Sharpe and Treynor ratios, as detailed in Chapters 4 and 5, for all of the possible portfolios. Hence, the first part of this section reports the results of the risk-adjusted returns for all portfolios using the three traditional portfolio performance measures, whilst the second part of this section



analyses the portfolios' performance via the same three traditional performance measures but using a *Shariah*-compliant risk free asset (*Murabahah rate*).

### **7.6.1 The Results of the Portfolios' Risk-Adjusted Return Performance Analysis Using the Interest-Based Risk-free Rate**

This section reports the results of risk-adjusted returns for all portfolios using the traditional portfolio performance measures, namely: the Sharpe ratio, the Treynor ratio, and the Jensen-alpha, after which the portfolios are ranked according to their performance. The results of the risk-adjusted return performance analysis for all 19 portfolios and the KSE index and the rankings of the portfolios according to these measures during the full sample period and in each sub-period<sup>192</sup> are provided in Table 7.8. To provide a clearer understanding, the Sharpe and Treynor ratio results are also presented graphically in Appendix 7.6 for each portfolio during all sample periods.

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<sup>192</sup> To examine the impact of the market condition on the portfolios' risk-adjusted performance.

**Table 7.8: The Risk-adjusted Performance Analysis and Rankings of the 19 portfolios**  
**Panel A: for the Full Sample Period (2006-2011)**

Portfolio	Performance Measures			Ranking		
	Sharpe	Treynor	Jensen	Sharpe	Treynor	Jensen
CP	-1.0695	-0.6113	0.0007	17	15	15
PH	-0.8876	-0.5270	0.0011	13	9	8
Sin	-0.9027	-0.5464	0.0008	15	12	14
MH- T.A	-0.8101	-0.5616	0.0010	9	14	12
MH- M.C	-0.7790	-0.5475	0.0010	8	13	11
All Halal-T.A	-0.8711	-0.5351	0.0011	11	11	10
All Halal-M.C	-0.8565	-0.5281	0.0011	10	10	9
MS-T.A	-0.3849	-0.2284	0.0025*	3	3	2
MS-M.C	-0.4994	-0.2945	0.0024	4	4	3
All Sin-T.A	-0.7391	-0.4185	0.0012	6	6	6
All Sin-M.C	-0.7721	-0.4368	0.0012	7	7	7
MH-T.A(Halved)	-1.1785	-0.9714	-0.0004	19	19	19
MH-M.C(Halved)	-0.8818	-0.6921	0.0000	12	17	18
All Halal-T.A(Halved)	-1.1267	-0.7213	0.0004	18	18	17
All Halal-M.C(Halved)	-1.0044	-0.6438	0.0007	16	16	16
MS-T.A(Halved)	-0.2662	-0.1704	0.0019**	2	2	4
MS-M.C(Halved)	-0.2216	-0.1233	0.0028**	1	1	1
All Sin-TA(Halved)	-0.8906	-0.4938	0.0010	14	8	13
All Sin-M.C(Halved)	-0.6728	-0.3691	0.0014	5	5	5
Average	-0.7797	-0.4958	0.0011	N/A	N/A	N/A
KSE Index	-2.0510	-0.8514	0.0000	N/A	N/A	N/A

**Panel B: For the Bullish Period (2006-2007)**

Portfolio	Performance Measures			Ranking		
	Sharpe	Treynor	Jensen Alpha	Sharpe	Treynor	Jensen Alpha
CP	0.7164	0.2018	0.0018	8	9	11
PH	0.4984	0.1468	0.0013	17	17	17
Sin	0.5362	0.1567	0.0011	16	15	19
MH- T.A	0.8191	0.2822	0.0027	3	4	4
MH- M.C	0.8259	0.2834	0.0027	2	3	3
All Halal-T.A	0.7570	0.2328	0.0021	7	7	8
All Halal-M.C	0.7644	0.2348	0.0022	6	6	6
MS-T.A	0.3592	0.1182	0.0019	18	18	10
MS-M.C	0.3113	0.1024	0.0017	19	19	12
All Sin-T.A	0.5739	0.1598	0.0013	13	13	16
All Sin-M.C	0.5488	0.1531	0.0013	15	16	18
MH-T.A(Halved)	0.7707	0.3336	0.0027	5	2	1
MH-M.C(Halved)	1.0528	0.4026	0.0027	1	1	2
All Halal-T.A(Halved)	0.7793	0.2432	0.0021	4	5	7
All Halal-M.C(Halved)	0.6906	0.2188	0.0020	10	8	9
MS-T.A(Halved)	0.5677	0.1576	0.0015	14	14	14
MS-M.C(Halved)	0.6054	0.1881	0.0024	11	11	5

All Sin-TA(Halved)	0.5844	0.1643	0.0014	12	12	15
All Sin-M.C(Halved)	0.7035	0.1951	0.0016*	9	10	13
Average	0.6561	0.2092	0.0019	N/A	N/A	N/A
KSE Index	-0.1087	-0.0243	0.0000	N/A	N/A	N/A

**Panel C: For the GFC Period (2008-2009)**

Portfolio	Performance Measures			Ranking		
	Sharpe	Treynor	Jensen Alpha	Sharpe	Treynor	Jensen Alpha
CP	-1.3866	-0.5829	0.0003	14	11	11
PH	-1.1532	-0.4845	0.0016	9	5	5
Sin	-1.8486	-0.7917	-0.0015	18	19	19
MH- T.A	-1.0609	-0.5610	0.0005	4	10	10
MH- M.C	-1.0411	-0.5577	0.0006	3	9	9
All Halal-T.A	-1.1246	-0.5127	0.0011	8	7	7
All Halal-M.C	-1.1166	-0.5104	0.0011	7	6	6
MS-T.A	-1.1045	-0.4478	0.0020	6	3	3
MS-M.C	-1.1804	-0.4786	0.0017	11	4	4
All Sin-T.A	-1.6666	-0.6767	-0.0006	16	15	14
All Sin-M.C	-1.6735	-0.6789	-0.0006	17	16	15
MH-T.A(Halved)	-1.2202	-0.7372	-0.0014	12	17	17
MH-M.C(Halved)	-1.0964	-0.6464	-0.0008	5	13	16
All Halal-T.A(Halved)	-1.3864	-0.6628	-0.0005	13	14	13
All Halal-M.C(Halved)	-1.1757	-0.5552	0.0006	10	8	8
MS-T.A(Halved)	-0.9638	-0.3765	0.0028	1	1	1
MS-M.C(Halved)	-0.9877	-0.3798	0.0027	2	2	2
All Sin-TA(Halved)	-1.9545	-0.7787	-0.0014	19	18	18
All Sin-M.C(Halved)	-1.6065	-0.6323	-0.0002	15	12	12
Average	-1.3025	-0.5817	0.0004	N/A	N/A	N/A
KSE Index	-1.9480	-0.6098	0.0000	N/A	N/A	N/A

**Panel D: For the Bearish Period (2010-2011)**

Portfolio	Performance Measures			Ranking		
	Sharpe	Treynor	Jensen Alpha	Sharpe	Treynor	Jensen Alpha
CP	-0.8745	-0.2399	-0.0001	14	14	13
PH	-0.2338	-0.0777	0.0009	10	10	10
Sin	0.7117	0.2284	0.0029*	1	1	8
MH- T.A	-0.8738	-0.2327	-0.0001	13	13	14
MH- M.C	-0.9193	-0.2594	-0.0003	15	15	15
All Halal-T.A	-0.7327	-0.1907	0.0002	11	11	11
All Halal-M.C	-0.7528	-0.2013	0.0001	12	12	12
MS-T.A	0.3566	0.1035	0.0035	7	7	2
MS-M.C	0.3458	0.0957	0.0036	8	8	1
All Sin-T.A	0.6468	0.1768	0.0032*	2	2	5
All Sin-M.C	0.6057	0.1627	0.0032*	3	3	6
MH-T.A(Halved)	-1.5826	-0.5809	-0.0023	19	19	19
MH-M.C(Halved)	-1.4359	-0.5240	-0.0021	18	18	18

<b>All Halal-T.A(Halved)</b>	-0.9602	-0.2893	-0.0005	17	17	17
<b>All Halal-M.C(Halved)</b>	-0.9434	-0.2801	-0.0004	16	16	16
<b>MS-T.A(Halved)</b>	0.4449	0.1186	0.0033	6	6	3
<b>MS-M.C(Halved)</b>	0.3409	0.0905	0.0032	9	9	4
<b>All Sin-TA(Halved)</b>	0.6051	0.1622	0.0028	4	4	9
<b>All Sin-M.C(Halved)</b>	0.5781	0.1489	0.0031*	5	5	7
<b>Average</b>	-0.3064	-0.0903	0.0012	N/A	N/A	N/A
<b>KSE Index</b>	-1.4546	-0.2173	0.0000	N/A	N/A	N/A

Note: The first three columns reports the results of the risk-adjusted performance analysis of the 19 portfolios based on the three traditional performance measures, and the remaining three columns reports the portfolios' ranking based on these performance measures for the full sample period (in panel A) and for the three sub sample periods (in panel B-D). The last two rows show the average results for the 19 portfolios and the KSE index performance, that is not applicable to the rankings. The standard errors from the Jensen's alpha regression were corrected for autorotation and Heteroskedasticity problems using the Newey-West procedure.

\*Indicates that Jensen alpha values are significant at the 10% level. \*\* Significant at the 5% level.

The risk-adjusted performance measures and rankings provided in Table 7.8 show that, in general, the results are close to each other, especially those of the Treynor and Jensen measures.<sup>193</sup> However, the portfolios' performance varied across different sample periods contrary to the returns performance in section 7.3, which did not have risk in consideration. The results in Table 7.8 show that using AAOIFI's 2004 and 2006 financial screening criteria in general does not have a significant impact on the portfolios' performance.<sup>194</sup>

The results during the full sample period (2006-2011) reveal that the Sharpe and Treynor performance of all portfolios was negative due to the significant impact of the GFC driving the whole results, similar to return performance in Tables 7.1 and 7.2. However, all portfolios had positive alpha values, apart from MH-T.A (Halved); nevertheless, the only three portfolios that had significant values were MS-T.A, MS-T.A (Halved), and MS-M.C (Halved), indicating

<sup>193</sup> The correlation between the rankings of the Sharpe, Treynor, and Jensen measures for the full and three sub-periods is calculated in Appendix 7.5.

<sup>194</sup> Only a few portfolios showed somewhat some small differences after halving the financial screening criteria. For instance, during the overall sample period, the MH-M.C (Halved) was ranked 12<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> according to the Sharpe, Treynor and Jensen measures respectively, while MH-T.A (Halved) was ranked 19<sup>th</sup> across all three measures. Another example is the MH-M.C (Halved) during the GFC period, which was ranked 5<sup>th</sup>, 13<sup>th</sup> and 16<sup>th</sup> according to the Sharpe, Treynor and Jensen measures, while the MH-T.A(Halved) was ranked 12<sup>th</sup> according to the Sharpe and 17<sup>th</sup> according the Treynor and Jensen measures.

their superior performance. Overall, the top portfolios were the non-*Halal*; MS ones, most of the *Halal* portfolios beat the CP and almost all 19 portfolios beat the KSE index.<sup>195</sup>

The analysis highlights that, prior to the GFC period, all of the portfolios were performing well, as they all recorded positive Sharpe, Treynor and Jensen measures.<sup>196</sup> The only significant alpha however, was recorded by All Sin-M.C (Halved). The *Halal* portfolios, apart from the PH, performed the best during the bullish period, even after halving the financial screening thresholds. Surprisingly, the MH-M.C (Halved) and MH-T.A (Halved) portfolios were the top two performers of all during the bullish period.<sup>197</sup> This is because they were still heavily weighted with Zain stock, the large-sized stock in KSE that led the market and achieved the best performance during the bullish period.<sup>198 199</sup> This also suggests that the new, tighter financial screening criteria might not have a negative impact on portfolio performance during the bullish period. The PH portfolio did not perform very well during the bullish period as it was less diversified. For instance, there was only one Islamic bank (PH stock) included in 2006 that was KFH and another smaller one was added in 2007 (Boubyan Islamic Bank), while the rest were small-sized stocks that did not have any significant weight in the portfolio. Thus,

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<sup>195</sup> The only *Halal* portfolio that was able slightly to beat the average performance was MH-M.C, as the averages were -0.7797,-0.4958, 0.0011 for the Sharpe, Treynor, and Jensen measures respectively, while the MH-M.C results were -0.7721, -0.4368, and -0.0012 for the Sharpe, Treynor, and Jensen measures respectively.

<sup>196</sup> On average, the Sharpe measure during the bullish period (2006-2007) was 0.6561 while the Treynor and Jensen measures were 0.2092 and 0.0019 respectively.

<sup>197</sup> The MH-M.C (Halved) and MH-T.A (Halved) portfolios were the top portfolios based on the Treynor and Jensen measures, while MH-M.C (Halved) was the top one based on the Sharpe measure.

<sup>198</sup> For instance, Zain comprised 41% and 75% in 2006 and 2007 respectively in the MH-T.A (Halved) portfolio and 84% of the MH-M.C (Halved) portfolio in 2007.

<sup>199</sup> Appendix 7.4 graphically shows the performance of the top four stocks in the KSE that have a market capitalization above 1.5 billion (K.D) to see how they impact on the portfolios included. These stocks were Kuwait Finance House (KFH- PH stock), National Bank of Kuwait (NBK-Sin Stock), Zain, Telecommunication Company, and Agility, a logistics and warehousing company. The last two are mixed companies that are usually classified as MH stocks. The market capitalization for the 4 companies together counts for approximately 33% of the average total market capitalization during all sample periods.

the portfolio was affected by the performance of KFH which did not perform as well as it did in 2008.<sup>200</sup>

The Sharpe and Treynor measures for all the portfolios, that were positive during the bullish period, mostly turned negative during the GFC period (2008-2009). The top two portfolios during this period were non-*Halal* portfolios: MS-T.A (Halved) and MS-M.C (Halved), followed by *Halal* portfolios. This was expected because many MH stocks turned into MS stocks after halving the financial screening thresholds, thus enhancing the risk-adjusted returns, as they became more diversified. Nevertheless, all of the *Halal* portfolios outperformed the CP and KSE benchmarks; in addition they were able to outperform the average, except for the All *Halal*-T.A (Halved) portfolio.

After the GFC period (2010-2011), most of the *Halal* portfolios reversed their position with the non-*Halal* portfolios. For instance, the Sin portfolio performed far below the average and the CP during the crisis, being ranked 18<sup>th</sup> according to the Sharpe measure and last according to the Treynor and Jensen measures, but registered a superior performance during the bearish period, as it was ranked the top of all portfolios, pulling other portfolios that comprise Sin stocks; All Sin-T.A, All Sin-M.C, All Sin-TA (Halved), and All Sin-M.C (Halved). In addition, the only positive and significant alpha values were recorded by Sin, All Sin-T.A, and All Sin-M.C (Halved). This shows the positive impact of the CBK's intervention in supporting the banking sector along with government spending to mitigate the impact of the GFC and stabilize the economy.<sup>201</sup> Most of these supported banks were the main constitution of such non-*Halal* portfolios; for instance, banks comprise 60-80% of the Sin portfolio market

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<sup>200</sup> Kuwait Finance House (KFH) comprised alone 38% of the portfolio in 2006, while in 2007 it comprised alone 44% of the portfolio and the second Islamic bank (Boubyan) comprised 7% only. See Appendix 7.4 for the return performance of KFH during the full sample period (2006-2011).

<sup>201</sup> See: CBK Economic Report (2010), Global Research (2009), and KAMCO Research (2011).

capitalization. Following the Sin portfolio, another 4 non-*Halal* portfolios<sup>202</sup> performed above average with positive performance measures. This could be due to the fact that all of these non-*Halal* portfolios contain only non-financial companies that were generally less affected by the GFC.<sup>203</sup> In addition, Zain stock became non-compliant with the original and halved AAOIFI's 2004 and 2006 screening criteria in 2009, and was thus excluded from the 2010 MH portfolios<sup>204</sup> and included in the MS portfolios.<sup>205</sup> The CBK intervention after the GFC also explains why the PH portfolio was the only *Halal* portfolio to perform above average during the bearish period, as 75-66% of the portfolio's constituents were the stocks of banks that benefitted from such intervention, yet the PH portfolio achieved negative performance. It could be that PH banks benefitted less from CBK support compared to conventional banks, as most of the liquidity support was in the form of conventional loans that are forbidden for Islamic banks. In addition, the large owners of conventional banks are big merchant families and the government, who supported these banks after the crisis, as noted by the interviewees in Chapter 5.

Most importantly, the analysis in Table 7.8 reveals that there were no risk-adjusted performance penalties for Islamic funds that invest in both PH and MH stocks during all sample periods; using the original AAOIFI's screening criteria.<sup>206</sup> This finding supports the previous findings, that the *Shariah*-compliant screening did not have a negative impact on the portfolios' return performance. This is consistent with prior research such as Hoepner et al.

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<sup>202</sup> These non-*Halal* portfolios are MS-T.A (Halved), MS-T.A, MS-M.C, and MS-M.C (Halved) respectively.

<sup>203</sup> The non-financial portfolios, MS-T.A (Halved), MS-M.C (Halved), MH-M.C, and MH-T.A, were ranked as the top performers during the GFC period, as shown in Table 7.8 panel C. This is consistent with many interviewees' input. This is empirically tested in the next chapter to examine the key factors affecting the stock's performance.

<sup>204</sup> Because Zain was highly leveraged, it therefore failed to comply with Interest bearing debt to total assets or the market capitalization financial screening criteria.

<sup>205</sup> Zain signed a huge deal of USD1.70 billion to sell its African assets (excluding Morocco and Sudan) to Bharti Airtel. The company also made great strides in the completion of the sale of a 46 percent stake to the Emirates Telecommunications Corporation (Etisalat). These events inflated Zain's stocks price on the KSE, as reported by several interviewees.

<sup>206</sup> The proxies for these Islamic funds in this study are portfolios: All *Halal*-T.A and All *Halal*-M.C.

(2011) who found that there was no significant difference in performance between Islamic and conventional funds and benchmarks especially in the GCC and Malaysia as they are the six largest Islamic financial centers.<sup>207</sup>

Moreover, Islamic funds that invest only in PH stocks do not have to sacrifice risk-adjusted returns, apart from the bullish period. Therefore, it might be a wise idea for Islamic fund managers of these funds and PH investors to include MH stocks during bullish markets.

The rankings of the risk-adjusted performance measures in Table 7.8 indicate that, in general, they are positively and strongly correlated during all sample periods, as shown in Appendix 7.5. The rankings of the Sharpe and Treynor ratios were less correlated during the GFC, but it was highly correlated between the Treynor and Jensen measures.<sup>208</sup> This is due to the fact that the Treynor ratio and Jensen alpha reward a portfolio with the lowest systematic (market) risk, unlike the Sharpe ratio that provides advantage to portfolios with the lowest total risk. This confirms that, during the GFC period, the systematic risk was a significant factor affecting the performance of the portfolios but, overall, the high correlation between the rankings indicates that the difference between most of the portfolio ratings does not depend on the performance measure used, as the results were relatively similar across different performance measures, especially during the bearish period.<sup>209</sup> Appendices 7.6-7.9 provide a visual confirmation of the Sharpe and Jensen performance for the full and sub-sample period.<sup>210</sup>

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<sup>207</sup> Hoepner et al. (2011) also found that Islamic funds from most countries with less developed Islamic financial services underperform their benchmarks, particularly Islamic funds from predominantly Christian economies.

<sup>208</sup> The correlation between the Shape and Treynor rankings was 0.768 and that between Sharpe and Jensen rankings during the crisis period was 0.714, but it was highly correlated (0.989) between the Treynor and Jensen measures.

<sup>209</sup> During the bearish period, the Shape and Treynor rankings were perfectly correlated.

<sup>210</sup> Any portfolio that is located above the respective market line (CML and SML) for a given level of risk provides evidence of superior performance as it offers higher returns (total or systematic risk).



### **7.6.2 The Results of the Portfolios' Risk-Adjusted Return Performance Analysis using a *Shariah*-Compliant Risk-free Rate**

The valuation of the portfolios' performance on the basis of their risk-adjusted returns in section 7.1 was undertaken using the Kuwait T-bond rate as a proxy for the risk free rate. It is now appropriate to extend the analysis by applying a *Shariah*-compliant asset as an alternative to the conventional risk-free rate, as discussed in Chapters 4 and 5. Therefore, this section analyses the portfolios' performance via the same three traditional performance measures but using the *Murabahah* rate as the *Shariah*-compliant risk free asset.<sup>211</sup> The Kuwait weekly one-year *Murabahah* returns were obtained from Thomson Reuters Knowledge database for the bearish period (2010-2011) only, since data were only available from 2009. The results of risk-adjusted performance measures and rankings are provided in Table 7.9 below in comparison with the results from the previous section when using the CBK one year T-bonds rate for the same sample period (Table 7.8 panel D).

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<sup>211</sup> The *Murabahah* rate was chosen because it was the one that was most frequently recommended by the interviewees (see Chapter 5).

**Table 7.9: The Risk-adjusted Performance Analysis and Rankings of the 19 Portfolios for the Bearish Period (2010-2011), using a Shariah-Compliant and Conventional Risk-free Rates**

Performance Measures			Ranking			Portfolio	Performance Measures			Ranking		
Using a Shariah-Compliant Risk-free Rate							Using a Conventional Risk-free Rate					
Sharpe	Treynor	Jensen Alpha	Sharpe	Treynor	Jensen Alpha		Sharpe	Treynor	Jensen Alpha	Sharpe	Treynor	Jensen Alpha
-0.9002	-0.2471	-0.0001	14	14	13	CP	-0.8745	-0.2399	-0.0001	14	14	13
-0.2462	-0.0818	0.0009	10	10	10	PH	-0.2338	-0.0777	0.0009	10	10	10
0.6992	0.2245	0.0029*	1	1	7	Sin	0.7117	0.2284	0.0029*	1	1	8
-0.8859	-0.2360	-0.0020	13	13	16	MH- T.A	-0.8738	-0.2327	-0.0001	13	13	14
-0.9331	-0.2634	-0.0003	15	15	14	MH- M.C	-0.9193	-0.2594	-0.0003	15	15	15
-0.7467	-0.1944	0.0002	11	11	11	All Halal-T.A	-0.7327	-0.1907	0.0002	11	11	11
-0.7677	-0.2053	0.0001	12	12	12	All Halal-M.C	-0.7528	-0.2013	0.0001	12	12	12
0.3483	0.1011	0.0035	7	7	2	MS-T.A	0.3566	0.1035	0.0035	7	7	2
0.3376	0.0935	0.0036	8	8	1	MS-M.C	0.3458	0.0957	0.0036	8	8	1
0.6351	0.1737	0.0032*	2	2	5	All Sin-T.A	0.6468	0.1768	0.0032*	2	2	5
0.5942	0.1596	0.0032*	3	3	6	All Sin-M.C	0.6057	0.1627	0.0032*	3	3	6
-1.5938	-1.4600	-0.0023	19	19	19	MH-T.A(Halved)	-1.5826	-0.5809	-0.0023	19	19	19
-1.5577	-0.5687	-0.0021	18	18	18	MH-M.C(Halved)	-1.4359	-0.524	-0.0021	18	18	18
-0.9737	-0.2934	-0.0020	17	17	17	All Halal-T.A(Halved)	-0.9602	-0.2893	-0.0005	17	17	17
-0.9574	-0.2843	-0.0019	16	16	15	All Halal-M.C(Halved)	-0.9434	-0.2801	-0.0004	16	16	16
0.4350	0.1160	0.0033	6	6	3	MS-T.A(Halved)	0.4449	0.1186	0.0033	6	6	3
0.3315	0.0880	0.0032	9	9	4	MS-M.C(Halved)	0.3409	0.0905	0.0032	9	9	4
0.5921	0.1588	0.0028	4	4	8	All Sin-TA(Halved)	0.6051	0.1622	0.0028	4	4	9
0.5660	0.1458	0.0011*	5	5	9	All Sin-M.C(Halved)	0.5781	0.1489	0.0031*	5	5	7
-0.2644	-0.1355	0.0009	N/A	N/A	N/A	Average	-0.3064	-0.0903	0.0012	N/A	N/A	N/A
-1.4727	-0.2200	0.0000	N/A	N/A	N/A	KSE Index	-1.4546	-0.2173	0.0000	N/A	N/A	N/A

Note: This table reports the risk-adjusted performance of the 19 portfolios and their ranking, during the bearish sample period (2010-2011), based on the three traditional performance measures using the *Murabahah* rate as a Shariah-compliant risk-free asset, and a conventional risk-free rate (CBK's one year T-bonds). The last two rows show the average results for the 19 portfolios and the KSE index performance that is not applicable for the rankings. The Table covers the The standard errors from the Jensen's alpha regression were corrected for autorotation and Heteroskedasticity problems using the Newey-West procedure.

\*Indicates that the Jensen alpha values are significant at the 10% level.

Table 7.9 reveals that the risk-adjusted performance measures have not changed much after using the *Shariah*-compliant risk free asset, as the performance of all portfolios measured by the Sharpe and Treynor ratios are consistent with the outcomes of the previous analysis using the conventional risk-free rate. Nevertheless, a few insignificant differences were identified under the Jensen alpha measure for the portfolios: Sin, MH-T.A, MH-M.C, All *Halal*-M.C (Halved), All Sin-T.A (Halved), All Sin-T.A (Halved), and All Sin-M.C (Halved).

Appendix 7.10 reports the correlation between the rankings of the Sharpe, Treynor, and Jensen measures using the *Shariah*-compliant risk-free rate, and confirms that the Sharpe and Treynor ratios were the same as using the conventional risk-free rate, and the rankings are highly correlated for the Jensen alpha. Furthermore, as a robustness check, a correlation test was also conducted between the rankings based on the Sharpe, Treynor, Jensen measures of all portfolios using the conventional risk-free rate and the same measures using the *Shariah*-compliant risk-free rate, as shown in Appendix 7.11, which are exactly the same for Sharpe and Treynor ratios and similar for Jensen alpha. Therefore, in contrast to the findings of Rahimie (2010), this analysis suggests that using a *Murabahah* rate as the risk-free rate leads to the same conclusion as using a conventional risk-free rate (T-bonds).<sup>212</sup> This could be due to the fact that Rahimie (2010) used both an Islamic index to calculate the portfolios' alpha and beta and *Mudarabah* investment account rate as the proxy for the risk-free rate, while this study used the KSE index and *Murabahah* rate as the *Shariah*-compliant risk-free rate and the difference in time periods. A *Mudarabah* investment account rate could not be used because the data were not available.<sup>213</sup>

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<sup>212</sup> Appendix 7.12 plots the performance of the T-bond rate (Conventional risk-free rate), and the *Murabahah* rate (*Shariah*-compliant risk-free rate).

<sup>213</sup> It is believed that financial instruments that are based on the *Mudarabah* contract, such as the *Mudarabah* investment account, are more suitable because they are based on profit-loss sharing which achieve *Maqasid al-Shariah* (see Al-Suwailem, 2009; Al-Mubarak and Osmani, 2010).

Nevertheless, the finding of this section was expected by some interviewees who outlined that moving away from the conventional interest-based benchmark is difficult because there is a correlation between interest rates and *Murabahah* rate, as both are affected by the conventional financial system (see section 5.7). This is also consistent with Chong and Liu (2009), Zainol and Kassim (2010), and with Cevik and Charap (2011), who noted that there is a substantial link between the Islamic and conventional financial system, as changes in interest rates put pressure on Islamic deposit rates and hence they are sensitive to changes in interest rates too due to competition. As in dual financial systems, clients are free to choose to bank with an Islamic bank and/or a conventional bank, which creates an arbitrage opportunity due to rate differentials (see Chong and Liu, 2009; Zainol and Kassim, 2010).

However, a further extension to the current analysis could be conducted in the future, especially after the launch of the first world Islamic Interbank Benchmark Rate (IIBR) on the 22<sup>nd</sup> of November 2011 by Thomson Reuters.<sup>214</sup> This rate was established to be independent of LIBOR and thereby gives the Islamic finance industry a rate that reflects its own unique characteristics and market conditions. Therefore, it would be interesting to employ this new Islamic rate as a Shariah-compliant risk-free rate instead of the *Murabahah* rate used here, and the conventional risk-free rate such as T-bonds.

## 7.7 Summary

This chapter has examined the performance of the *Halal* and non-*Halal* portfolios of stocks listed on the KSE that were created in Chapter 6, using quantitative analysis. Several major findings emerge from this chapter. First, the return performances of all of the portfolios are

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<sup>214</sup> IIBR was established by Thomson Reuters Corp, in cooperation with the Islamic Development Bank, SSB of AAOIFI, the Association of Islamic Banking Institutions Malaysia, the Bahrain Association of Banks, the Hawkamah Institute for Corporate Governance, the Statistical Economic and Social Research Center for Islamic Countries, and 19 Islamic banks, most of them based in the Gulf. For more details see Reuters website: <http://www.reuters.com/article/2011/11/22/islamic-interbank-idUSL5E7MLOQC20111122>

positively correlated and move in the same direction as the KSE market index. However, the deviations among the portfolios' returns during the last bearish period were more marked. Second, the parametric and non-parametric tests reveal that there is no statistical difference between the raw return performance of the *Halal* and non-*Halal* portfolios during the full, the bullish or the GFC periods and, hence, there is no penalty for investing in PH or MH portfolios. Nevertheless, differences were identified during the bearish period, showing that some non-*Halal* portfolios performed better. However, the *Halal* portfolios did not underperform the CP or the KSE index in any of the sample periods, even after halving the AAOIFI's financial criteria, implying that all Islamic funds do not gain less than other investment funds. Third, the risk-adjusted returns, however, show that there is a performance penalty on Islamic funds that invest only in PH stocks during the bullish period. Fourth, Islamic funds that wish to apply the suggested halved AAOIFI's screening criteria would be unable to outperform the non-halved portfolios and CP during the full and bearish periods. This shows the negative impact of using AAOIFI's 'tighter' financial screening on the performance of such *Halal* portfolios due to the impact of the GFC, as the crisis has reduced the number of MH stocks for Islamic funds who invest in both PH and MH stocks, making them less diversified and lower in terms of risk-adjusted returns. Therefore, reducing the financial screening thresholds by 50% is possible, but not during market shocks. Fifth, AAOIFI's change from the 2004 to the 2006 screening criteria did not seem to hinder the risk-adjusted performance of the *Halal*-based portfolios. Finally, using a *Shariah*-compliant alternative (*Murabahah* rate) as the risk-free rate did not have a significant impact on the risk-adjusted performance of the portfolios due to the correlation between the conventional and Islamic rates that are dominated by the conventional financial system. Nonetheless, the recent IIBR

launched by Thomson Reuters opens the door for future empirical investigation as it could provide the Islamic finance industry a rate that reflects its own unique identity.

**Chapter 8: The Performance of the *Halal* and non-*Halal* Portfolios,  
a Matched Pair and a General Linear Model (GLM) Analysis**

## 8.1 Introduction

The previous chapter revealed that PH and MH portfolios were able to perform as well as conventional funds as represented by the CP, but underperformed when compared with some non-*Halal* portfolios; it was also suggested that halving AAOIFI's screening criteria was feasible before the GFC. This chapter takes the analysis a step further by employing two different approaches that control for other factors that might impact on the financial performance of *Halal* and non-*Halal* stocks and complements the findings outlined in chapter 7. The first approach is the matched pair approach which controls for size and sector when comparing the risk-adjusted performance of the *Halal* portfolios against the non-*Halal* ones. The matched pair approach is a methodology that has been adopted by studies that match ethical funds and non-ethical funds to overcome the benchmark problem, such as Mallin et al. (1995), Gregory et al. (1997), Statman (2000) and Kreander et al. (2005), to evaluate the performance of ethical funds with non-ethical funds. Only Abderrezak (2008)<sup>215</sup> and BinMahfouz and Hassan (2012) employed this approach when comparing the performance of Islamic and conventional funds. However, the matched pair approach in this chapter is distinct from the previous literature, as it matches more than just two equity investment types, namely the *Halal* stocks represented by PH, MH, and MH (Halved) which are directly matched against each other and against their non-*Halal* (Sin)<sup>216</sup> counterparts on the basis of size and sector.<sup>217</sup> This approach controls for the impact of size and sector that might impact on financial performance and also mitigates the problem of any benchmark selection in the portfolio's evaluation, as prior studies have established that funds' performance can be sensitive to the

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<sup>215</sup> Abderrezak (2008) is an unpublished master's dissertation.

<sup>216</sup> PH, MH, MH (Halved) portfolios represent the *Halal* portfolios group while the Sin portfolio represents the non-*Halal* portfolio group, because the chapter is mainly concerned with *Halal* investors.

<sup>217</sup> AAOIFI's 2006 criteria were chosen to screen MH stocks based on the findings of the previous chapter in sections 7.4 and 7.6 that the impact of AAOIFI's 2004 and 2006 criteria on portfolio performance is not significantly different and since AAOIFI's 2006 screening criteria are the most recent, they are used in this chapter.



benchmark market index employed (Lehmann and Modest, 1987; Grinblatt and Titman, 1994; Mallin et al., 1995; Gregory et al., 1997; Kreander et al., 2005; Rahimie, 2010). The purpose of the matched pair analysis is to investigate whether there is a risk-adjusted performance penalty for *Halal* investment, including the impact of halving AAOIFI's screening criteria, after controlling for size and sector.

This chapter also applies a General Linear Model (GLM) to investigate the impact of a number of factors on the performance of KSE stock returns, such as *Shariah* classification of stocks to *Halal* and non-*Halal*, the sector, the firm size, and the GFC. The GLM model builds on the findings of the interviews in Chapter 5. The model has the benefit of allowing interaction effects between the factors to be investigated in addition to the main factors.<sup>218</sup>

The remainder of this chapter is structured as follows. Summary information, descriptive statistics and risk-adjusted performance for the matched pair's portfolios are provided in the next section. The results of the GLM analysis before and after halving AAOIFI's financial screening thresholds and an analysis of the models are reported in section 8.3. Finally, section 8.4 offers a number of conclusions.

## **8.2 Descriptive Statistics and Risk-Adjusted Performance of the Matched Pairs**

This section provides the descriptive statistics of the sample of matched portfolios, analyses the results of the different performance measures, and relates them to the findings outlined in the previous chapter.

For this thesis portfolios were created and five matched pairs were analyzed, namely: (I) PH (A) versus Sin (A); (II) PH (B) versus MH (A); (III) Sin (B) versus MH (B); (IV) PH (C) versus MH (Halved) (A); and (V) Sin (C) versus MH (Halved) (B). It is worth noting that each matched pair portfolio has its own constitution of stocks and sectors. This is why each portfolio

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<sup>218</sup> The GLM procedure provides regression analysis and analysis of variance for one dependent variable by one or more factors and/or variables (See online help search of SPSS).

was given a different alphabetic code. For instance, the stocks in the PH (A) portfolio of matched pair (I) are different from the stocks of the PH (B) and PH (C) portfolios of matched pairs (II) and (IV) respectively, as per Appendix 8.1. For each stock in each portfolio the size and sector was matched. Size and sector were selected as the criteria for matching the stocks in each matched pair portfolio to the other portfolios because they are seen by many of the investors and fund managers interviewed as significant variables affecting funds' performance. The size of each matched stock was chosen to be the closest possible within the same sector. Similar to Chapter 7, this chapter uses weekly data. Summary information about these matched portfolios is reported in Appendix 8.1. All of these stocks were investable for the whole sample period, from 04/01/2006 to 28/12/2011; any new listed stocks during this period were not considered in the sample stocks.<sup>219</sup>

Table 8.1 shows the descriptive statistics for each portfolio in the five matched pairs and the KSE market index as a benchmark, namely: the mean; standard deviation; maximum; minimum; and the three traditional risk-adjusted performance measures of the Sharpe ratio (Sharpe, 1966), the Treynor ratio (Treynor, 1965) and the Jensen-alpha (Jensen, 1968), as calculated based on Equations 4.1, 4.4, and 4.5 respectively. The standard errors from the Jensen's alpha regression were corrected for autocorrelation and Heteroskedasticity problems using the Newey-West procedure.<sup>220</sup> The matched pair portfolios contain just a few stocks ranging from 4 stocks in matched pair portfolios (III) to 13 in matched pair portfolios (I).<sup>221</sup> In

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<sup>219</sup> In chapter 7 any new listed companies during the sample years are considered and the portfolios are rebalanced for the following year, as elaborated in chapter 6.

<sup>220</sup> The CP portfolio is not used as a benchmark in this matched pairs comparison, because CP is a well-diversified portfolio that includes all the stocks in the study.

<sup>221</sup> This could be considered a limitation of using matched pair approach, as it was difficult to create larger portfolios based on defined matching criteria. Nevertheless, some studies have found that diversifiable risk can be eliminated with a random selection of 10 securities (Evans and Archner, 1968), while others argue that there is a significant reduction in risk moving from 10 shares to 25 (Poon et al.,1992).

addition, Figures 8.1- 8.5 plot the return performance for the matched pair portfolios against the KSE index.

**Table 8.1: Descriptive Statistics and Performance Measures for the Five Matched Pairs portfolios**

**Panel A: The Full period (2006-2011)**

	Pair (I)		Pair (II)		Pair (III)		Pair (IV)		Pair (V)		KSE Index
	PH (A)	Sin(A)	PH(B)	MH(A)	Sin(B)	MH(B)	PH (C)	MH (Halved)(A)	Sin (C)	MH (Halved)(B)	
<b>Mean</b>	-0.0023	-0.0015	-0.0041	-0.0044	-0.0009	-0.004	-0.0043	-0.0011	-0.0015	-0.0051	-0.0022
<b>St. Dev.</b>	0.0408	0.0373	0.0458	0.0419	0.0377	0.0474	0.0439	0.0453	0.0404	0.0469	0.0235
<b>Max.</b>	0.1575	0.1560	0.1480	0.1210	0.1202	0.2043	0.1445	0.2395	0.1750	0.1396	0.0791
<b>Min.</b>	-0.3096	-0.2309	-0.2036	-0.1509	-0.1719	-0.3755	-0.1916	-0.2260	-0.1695	-0.1894	-0.0984
<b>Sharpe Ratio</b>	-1.2177	-0.9729	-1.8138	-2.0908	-0.6989	-1.6888	-1.9674	-0.6436	-0.9189	-2.1345	-2.0510
<b>Treynor Ratio</b>	-0.8347	-0.6975	-1.2763	-1.3986	-1.4614	-4.4428	-1.3748	-0.3895	-1.6300	-1.6924	-0.8514
<b>Jensen Alpha</b>	0.0001	0.0005	-0.0016	-0.0019	-0.0037	-0.0037	-0.0019	0.0020	-0.0010	-0.0028	-0.0000

**Panel B: The Bullish period (2006-2007)**

	Pair (I)		Pair (II)		Pair (III)		Pair (IV)		Pair (V)		KSE Index
	PH (A)	Sin(A)	PH(B)	MH(A)	Sin(B)	MH(B)	PH (C)	MH (Halved)(A)	Sin (C)	MH (Halved)(B)	
<b>Mean</b>	0.0035	0.0013	0.0002	-0.0027	-0.0003	-0.0086	-0.0002	0.0023	-0.0016	-0.0075	0.0008
<b>St. Dev.</b>	0.0244	0.0244	0.0334	0.0343	0.0393	0.0618	0.0324	0.0322	0.0333	0.0483	0.0219
<b>Max.</b>	0.0559	0.0621	0.1480	0.1092	0.1202	0.2043	0.1445	0.1231	0.0966	0.1120	0.0494
<b>Min.</b>	-0.0639	-0.0731	-0.1142	-0.0990	-0.1719	-0.3755	-0.1074	-0.1049	-0.0914	-0.1894	-0.0862
<b>Sharpe Ratio</b>	1.0413	0.1280	-0.2616	-1.0943	-0.3504	-1.5892	-0.3814	0.3897	-0.7955	-1.7949	-0.1087
<b>Treynor Ratio</b>	0.3729	0.0548	-0.1096	-0.4007	-0.2323	-1.559	-0.1540	0.1594	-0.9448	-0.6079	-0.0243
<b>Jensen Alpha</b>	0.0027	0.0004	-0.0007	-0.0035	-0.0012	-0.0095*	-0.0010	0.0014	0.4363	-0.0082**	-0.0000

**Panel C: The Financial crisis period (2008-2009)**

	Pair (I)		Pair (II)		Pair (III)		Pair (IV)		Pair (V)		KSE Index
	PH (A)	Sin(A)	PH(B)	MH(A)	Sin(B)	MH(B)	PH (C)	MH (Halved)(A)	Sin (C)	MH (Halved)(B)	
<b>Mean</b>	-0.0087	-0.0064	-0.0055	-0.0056	-0.0026	-0.0016	-0.0058	-0.0050	-0.0020	-0.0043	-0.0054
<b>St. Dev.</b>	0.0616	0.0518	0.0596	0.0503	0.0373	0.0456	0.0569	0.0652	0.0433	0.0513	0.0306
<b>Max.</b>	0.1575	0.1560	0.1308	0.1210	0.1029	0.1931	0.1230	0.2395	0.1131	0.1396	0.0791
<b>Min.</b>	-0.3096	-0.2309	-0.2036	-0.1509	-0.1547	-0.1186	-0.1916	-0.2260	-0.1695	-0.1874	-0.0984
<b>Sharpe Ratio</b>	-1.5184	-1.3487	-1.0060	-1.2096	-0.8225	-0.458	-1.1155	-0.8463	-0.5592	-0.9468	-1.9480
<b>Treynor Ratio</b>	-0.7151	-0.6448	-0.4283	-0.5615	-1.0165	-1.1951	-0.4785	-0.3485	-0.5379	-0.5823	-0.6098
<b>Jensen Alpha</b>	-0.0013	-0.0004	0.0025	0.0005	-0.001	-0.001	0.0017	0.0040	0.0003	0.0002	0.0000

**Panel D: The Bearish period (2010-2011)**

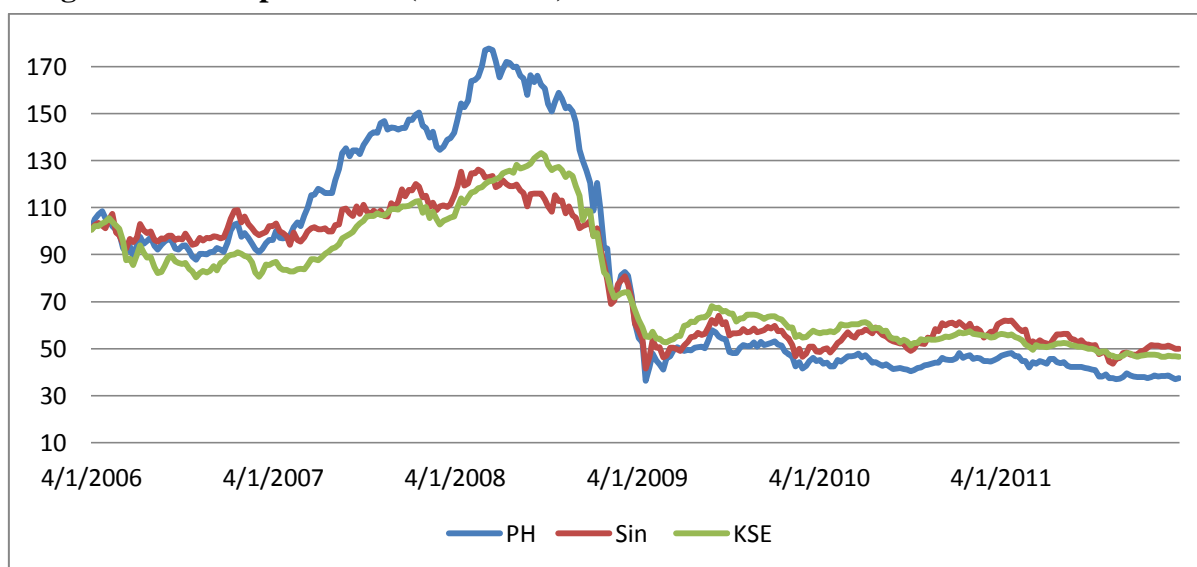
	Pair (I)		Pair (II)		Pair (III)		Pair (IV)		Pair (V)		KSE Index
	PH (A)	Sin(A)	PH(B)	MH(A)	Sin(B)	MH(B)	PH (C)	MH (Halved)(A)	Sin (C)	MH (Halved)(B)	
<b>Mean</b>	-0.0015	0.0007	-0.0071	-0.0050	0.0001	-0.0017	-0.0070	-0.0005	-0.0011	-0.0035	-0.0018
<b>St. Dev.</b>	0.0224	0.0290	0.0399	0.0393	0.0363	0.0286	0.0384	0.0285	0.0437	0.0402	0.0146
<b>Max.</b>	0.0594	0.0767	0.1003	0.1106	0.1110	0.1046	0.0943	0.0763	0.1750	0.1314	0.0429
<b>Min.</b>	-0.0675	-0.0967	-0.1146	-0.1047	-0.1501	-0.1100	-0.1078	-0.0760	-0.1083	-0.1420	-0.0467
<b>Sharpe Ratio</b>	-0.7858	0.1456	-1.8865	-1.3553	-0.0292	-0.6906	-1.9264	-0.2689	-0.3109	-0.9471	-1.4546
<b>Treynor Ratio</b>	-0.3499	0.0532	-1.0855	-0.3639	-0.0614	-0.6290	-1.0450	-0.0659	-0.3146	-0.3558	-0.2173
<b>Jensen Alpha</b>	-0.0007	0.0021	-0.0059**	-0.0021	0.0003	-0.0013	-0.0057**	0.0017	-0.0004	-0.0015	0.0000

Note: This table provides some descriptive statistics and the three performance measures, namely: Sharpe Ratio, Treynor Ratio, and Jensen Alpha for five value weighted matched pairs portfolios and the KSE index as a benchmark during the full sample period (in panel A) and the three sub periods (in panels B-D). The matched pairs are based on matching 13 PH and Sin stocks, 8 PH and MH stocks, 4 Sin and MH stocks, 9 PH and MH (Halved) stocks, and finally 5 MH (Halved) and Sin stocks. PH=Pure *Halal* stocks, Sin= non-*Halal* portfolio based on their core activities (non-compliance with the qualitative screening criteria), MH=Mixed *Halal* stocks based on compliance with AAOIFI's 2006 screening criteria, and MH (Halved)= Mixed *Halal* stocks based on compliance with the halved AAOIFI's 2006 screening criteria. The standard errors from the Jensen's alpha regression were corrected for autorotation and Heteroskedasticity problems using the Newey-West procedure. \*Indicates that Jensen alpha values are significant at the 10% level. \*\* Significant at the 5% level.

The analysis in Table 8.1 shows that the risk-adjusted performance of the matched pairs' portfolios varied across the sample periods, especially before and after the GFC. Unlike the previous chapter, some portfolios did not perform well, even in the bull market. This could be due to the individual performance of each stock within each portfolio as there are a smaller number of stocks in each compared to the portfolios created in Chapter 7.

For matched pair (I), Table 8.1 and Figure 8.1 show that the PH (A) portfolio is only better than the Sin (A) portfolio during the bullish period. This finding is in line with the findings outlined in section 7.5 whereby PH underperformed the Sin portfolio during the bearish period although the performance of the PH outperformed that of the Sin during the full sample period.

**Figure 8.1: The performance of the PH (A) and Sin (A) Matched Pair Portfolios (I) during the Full Sample Period (2006-2011)**



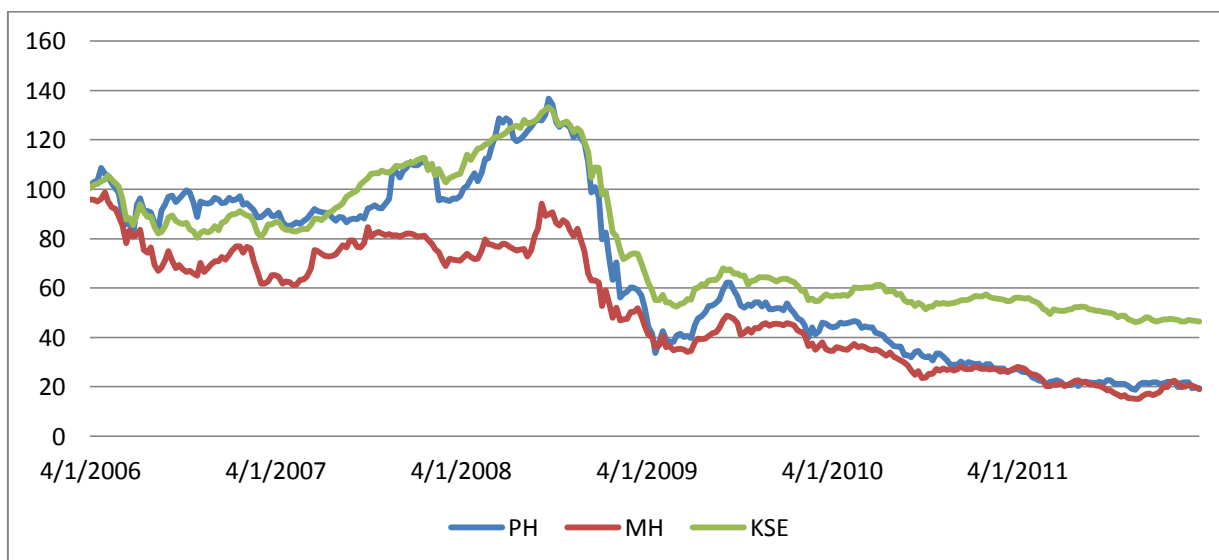
Note: This figure plots the return performance of PH and Sin matched pair portfolios and the KSE index as a benchmark indexed from 100 at 4/1/2006-28/12/2011. Each portfolio contains 13 stocks. PH= Pure *Halal* portfolio, Sin= non-*Halal* portfolio based on their core activities (non-compliance with the qualitative screening criteria).

Based on the Sharpe ratio, the PH portfolio beat the KSE index during all sample periods, consistent with the findings outlined in section 7.6. Based on the Treynor and Jensen measures, the PH (A) portfolio beat the KSE index during the bullish and full sample periods while the Sin (A) portfolio beat the KSE index during the bearish period. However, neither the PH (A)

nor the Sin (A) portfolios beat the KSE index during the GFC period. This is because the KSE index had the lower risk as it is diversified, containing all listed stocks.

For the results of the matched pair (II) portfolios, Table 8.1 and Figure 8.2 reveal that the PH (B) portfolio outperformed its MH (A) matched pair during all sample periods except for the bearish period, during which the MH (A) portfolio only slightly outperformed the PH(B) portfolio. This confirms the previous findings that PH portfolios do not do so well during the bearish period.

**Figure 8.2: The performance of the PH (B) and MH (A) Matched Pair Portfolios (II) during the Full Sample Period (2006-2011)**



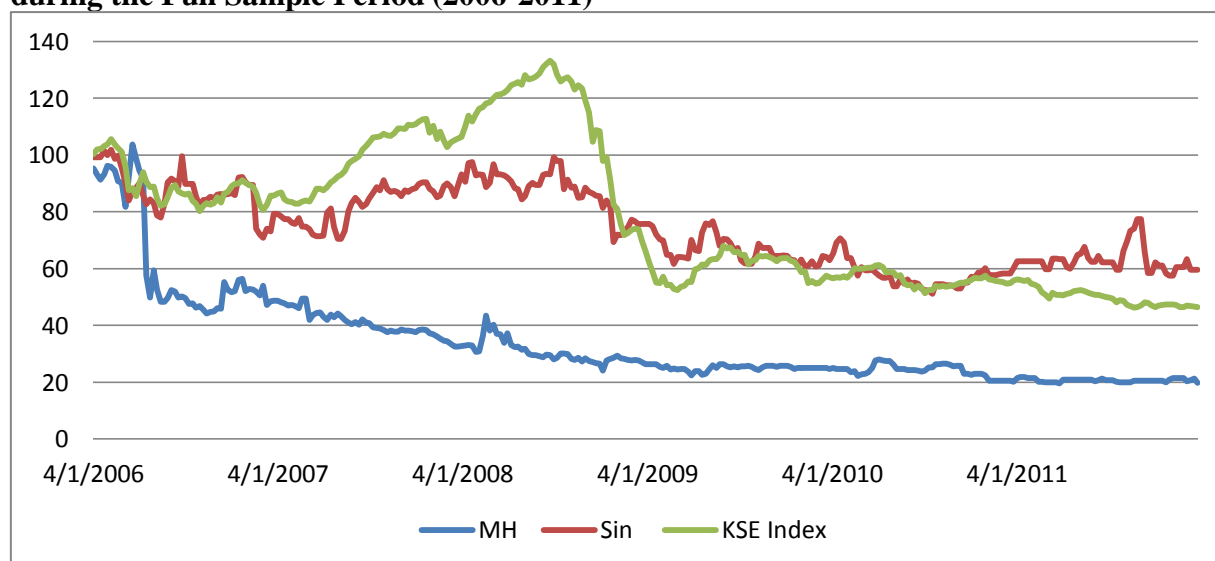
Note: This figure plots the return performance of PH and MH matched pair portfolios and the KSE index as a benchmark indexed from 100 at 4/1/2006-28/12/2011. Each portfolio contains 8 stocks. PH= Pure *Halal* portfolio, MH=Mixed *Halal* stocks according to AAOIFI's 2006 screening criteria.

The results also show that both the PH (B) and MH (A) underperformed the KSE index during the GFC period across all performance measures, while the MH (A) outperformed during the bearish period by the Sharpe ratio. The PH (B) outperformed the KSE index during when the full sample is considered; the result is inconsistent with the findings reported in section 7.6 that the MH portfolios did better than the PH during all sample periods, apart from the bearish period. While Figure 8.2 shows that the return rates of PH (B) and MH (A) are lower than the

return of KSE, the Sharpe ratios show that PH (B) outperformed the KSE during the GFC period but the MH (A) outperforms both the PH (B) and KSE during the bearish period. Therefore, PH stocks may be complements to MH stocks in maximizing risk-adjusted performance, in contrast to the interviewed fund managers' perceptions that it was a disadvantage to include many PH stocks in an Islamic fund. This advocates that investing in both PH and MH stocks could boost Islamic funds' performance because, if one group does not do well in certain market cycles, the other may counterbalance this.

The results of the matched pair (III) portfolios as shown in Table 8.1 demonstrates that the Sin (B) portfolio outperforms MH (B), apart from the GFC period when the MH portfolio beat the Sin based on the Sharpe ratio. The Sin (B) portfolio in this matched pair also beats the KSE index during the bearish period by all performance measures but struggled to do so before and during the GFC, while the MH (B) matched pair portfolio was only able to beat the KSE index during the full sample period by the Sharpe ratio alone. Figure 8.3 illustrates this return performance gap graphically.

**Figure 8.3: The performance of the Sin (B) and MH (B) Matched Pair Portfolios (III) during the Full Sample Period (2006-2011)**



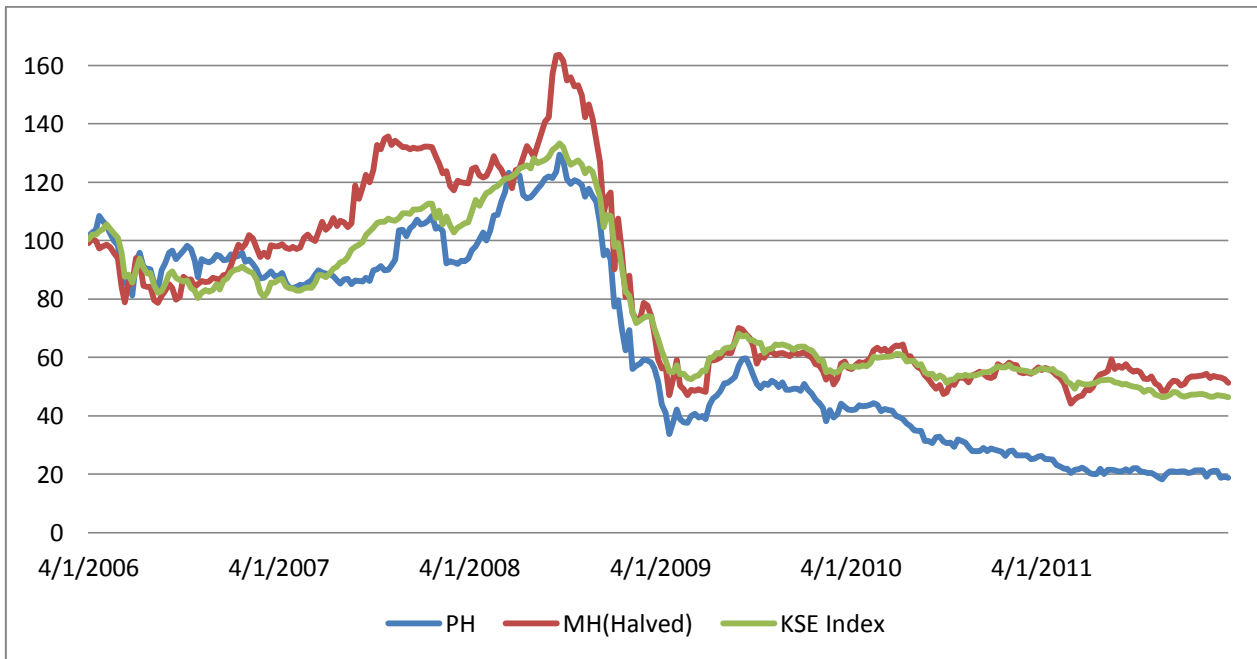
Note: This figure plots the return performance of MH and Sin matched pair portfolios and the KSE index as a benchmark indexed from 100 at 4/1/2006-28/12/2011. Each portfolio contains 4 stocks. MH=Mixed *Halal* stocks according to AAOIFI's 2006 screening criteria, Sin= non-*Halal* portfolio based on their core activities (non-compliance with the qualitative screening criteria).



Therefore, if investors are risk neutral and choose stocks or portfolios based on returns only, then they will invest in the KSE. In contrast, by taking into account total risk (measured by the Sharpe ratio), MH is preferable from investing in the KSE, even for conventional investors during all sample periods, apart from the bullish period. However, risk averse investors would still prefer Sin to MH and KSE, unlike religious driven investors who might still stick to *Halal* stocks.

From matched pair (IV) portfolios as shown in Table 8.1 and Figure 8.4, the PH (C) portfolio and KSE index underperformed MH (Halved) (A) across all sample periods.

**Figure 8.4: The performance of the PH (C) and MH-Halved (A) Matched Pair Portfolios (IV) during the Full Sample Period (2006-2011)**



Note: This figure plots the return performance of PH and MH (Halved) matched pair portfolios and the KSE index as a benchmark indexed from 100 at 4/1/2006-28/12/2011. Each portfolio contains 9 stocks. PH= Pure *Halal* portfolio, and MH-halved= Mixed *Halal* stocks based on compliance with the halved AAOIFI's 2006 screening criteria.

Furthermore, the PH (C) underperformed the KSE index during the bullish and bearish periods. This finding is consistent with that outlined in section 7.6.<sup>222</sup> This indicates that halving the screening thresholds,<sup>223</sup> makes the MH (Halved) (A) portfolio beat the market benchmark and PH (C) portfolio. Therefore, for Islamic funds and religious driven investors who invest mainly in PH stocks, investing in the MH (Halved) stocks is the optimal *Halal* investment alternative, because the MH (Halved) are seen by *Shariah* scholars and other interviewees in chapter 5 to be more *Shariah*-compliant than MH classified stocks based on current AAOIFI screens. The results from Table 8.1 and Figure 8.5 below, on the other hand, show that the MH (Halved) (B) in the matched pair (V) consistently underperformed its Sin counterpart portfolio.<sup>224</sup> Both the MH (Halved) (B) and Sin (C) matched pairs tracked the risk-adjusted performance of the KSE index, apart from the full sample period, where both portfolios performed worse than the KSE index by the Treynor and Jensen measures, while only the Sin (C) portfolio did better than the KSE on the Sharpe ratio.

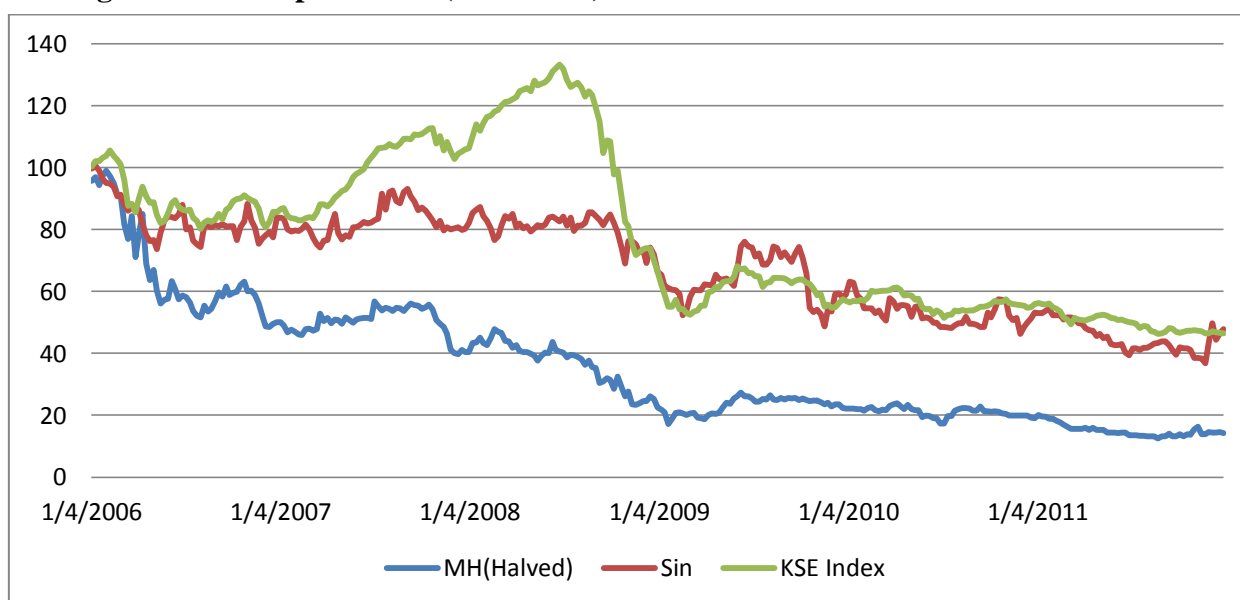
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<sup>222</sup> In section 7.6 the MH (Halved) stocks did perform better than the PH and the KSE index during the full, the bullish, and the crisis periods; however, the matched pair (IV) results in this section shows that the MH (Halved) (A) stocks were also able to beat the PH (C) and the market index during the bearish period.

<sup>223</sup> Which means making the definition of MH stocks ‘tighter’ than the original definition suggested by AAOIFI 2006.

<sup>224</sup> Except in the bullish period, MH (Halved) (B) beat Sin (C) on Treynor measure.

**Figure 8.5: The performance of the MH-halved and Sin Matched Pair Portfolios (V) during the Full Sample Period (2006-2011)**

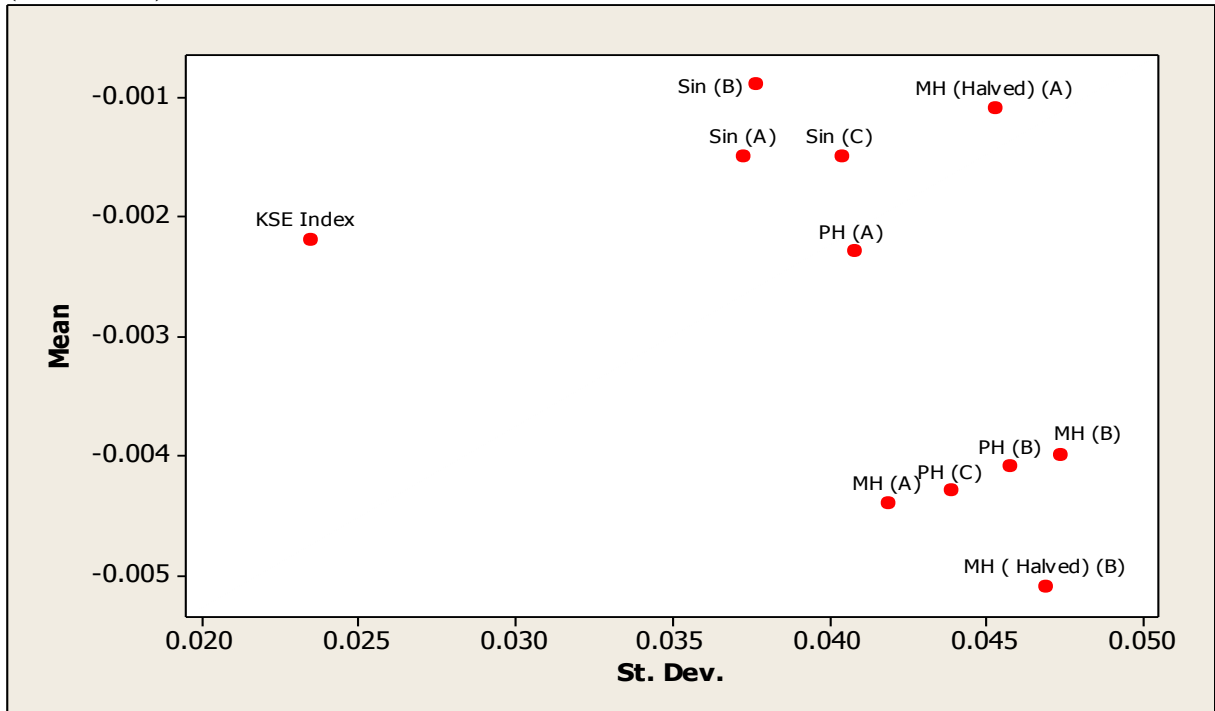


Note: This figure plots the return performance of MH-halved and Sin matched pair portfolios and the KSE index as a benchmark indexed from 100 at 4/1/2006-28/12/2011. Each portfolio contains 5 stocks. MH-halved= Mixed *Halal* stocks based on compliance with the halved AAOIFI's 2006 screening criteria. Sin= non-*Halal* portfolio based on their core activities (non-compliance with the qualitative screening criteria)

Overall, the analysis reveals that the performance of the various types of portfolios (PH, MH, MH-Halved, and Sin) varied during different sample periods, suggesting that the *Shariah*-compliance classification is not the main factor affecting the stock performance, but rather it may be the individual performance of each *Halal* stock per se, the sector to it belongs, or the time period.<sup>225</sup> This mixed result of *Halal* portfolios confirms the literature such as Hussein and Omran (2005), Abdullah et al. (2007), Merdad et al. (2010), Hassan (2009), and Ashraf (2013) which show that Islamic portfolios performs differently over different sample periods. However, in most cases Sin stocks tend to outperform their *Halal* counterparts as revealed from Figures 8.6-8.9 (and Appendix 8.2 for a summary of all matched pairs).

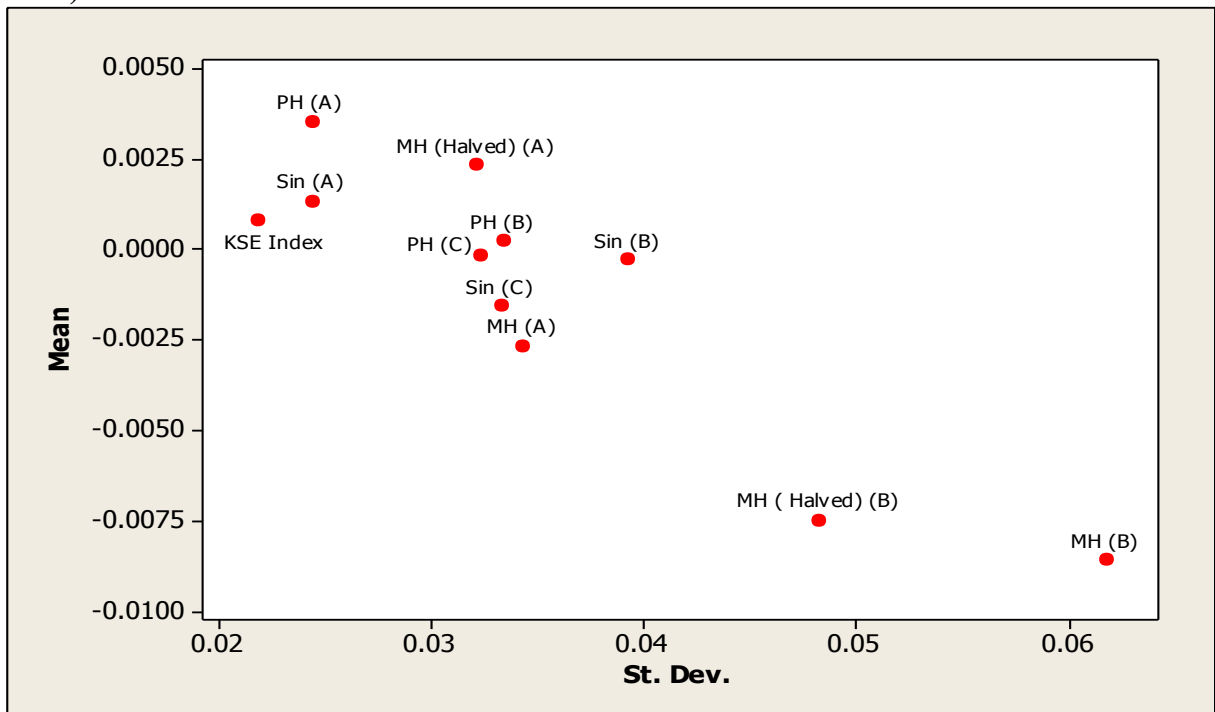
<sup>225</sup> The next section investigates certain key factors that might affect stocks performance in addition to sector and firm's size, namely: Stocks' *Shariah* classification and GFC.

**Figure 8.6: Return and Risk of the Matched Pairs Portfolios for the Full Sample Period (2006-2011)**



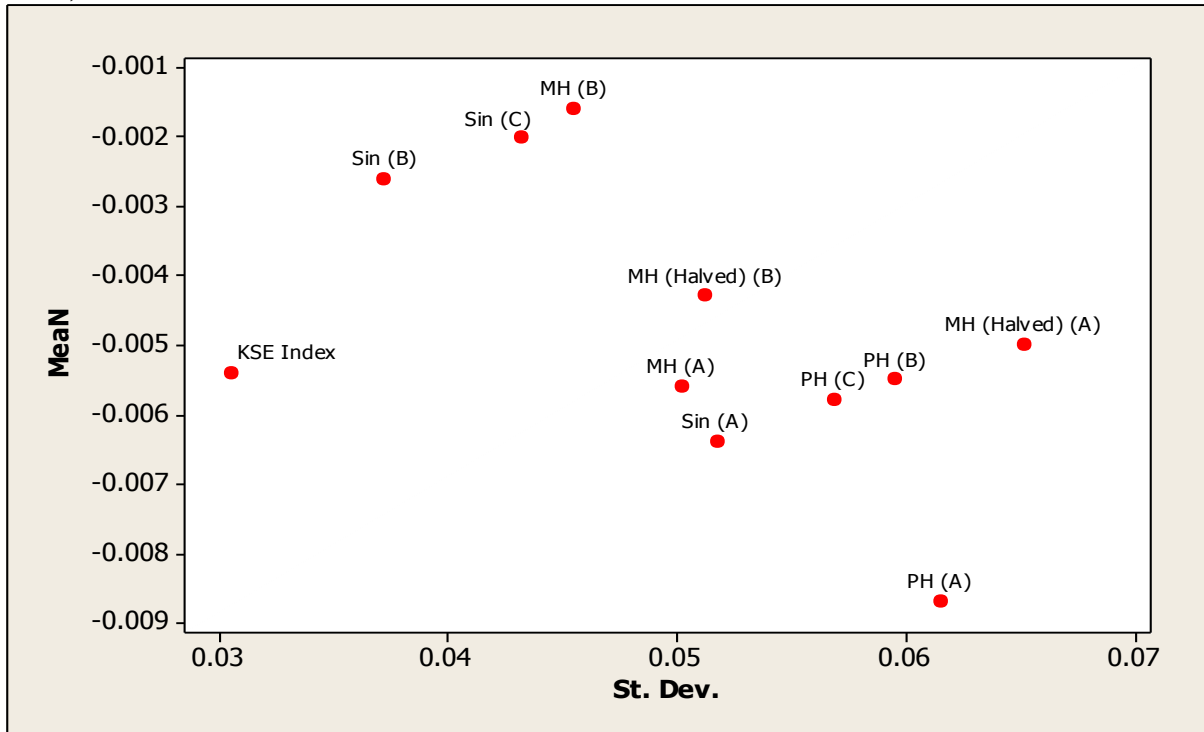
Note: This figure shows the return (mean) and risk (standard deviation) of each portfolio in the matched pairs over the full sample period.

**Figure 8.7: Return and Risk of the Matched Pairs Portfolios for the Bullish Period (2006-2007)**



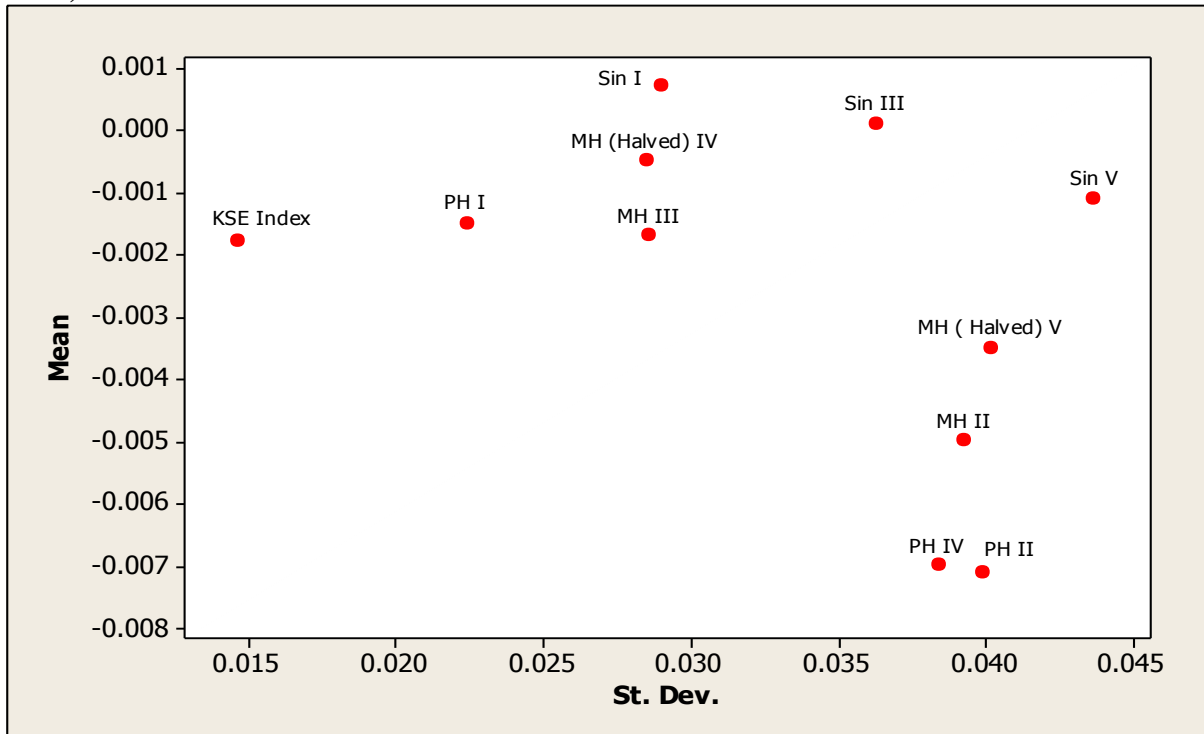
Note: This figure shows the return (mean) and risk (standard deviation) of each portfolio in the matched pairs over the bullish period.

**Figure 8.8: Return and Risk of the Matched Pairs Portfolios for the GFC Period (2008-2009)**



Note: This figure shows the return (mean) and risk (standard deviation) of each portfolio in the matched pairs over the global financial crisis period.

**Figure 8.9: Return and Risk of the Matched Pairs Portfolios for the Bearish Period (2010-2012)**



Note: This figure shows the return (mean) and risk (standard deviation) of each portfolio in the matched pairs over the bearish period.

The analysis shows that the Sin portfolios in general performed well over the full period and after GFC, in particular the Sin portfolio in matched pair (I) did the best.<sup>226</sup> This finding is supported by the findings of Fabozzi et al. (2008), Hong and Kacperczyk (2009), and Liston and Soydemir (2010) who find that ‘sin’ stocks earn higher risk-adjusted returns. Fabozzi et al. (2008) for instance, found that their sin portfolios outperformed common benchmarks; while, Liston and Soydemir (2010) revealed that their sin portfolio outperformed the faith-portfolio. Nevertheless, Kim and Venkatachalam (2008) argue that, despite the superior returns of sin stocks, investors are willing to neglect them and accept a financial cost to comply with social norms.

The positive impact of CBK’s intervention after the GFC is reflected in these findings, as the NBK had a weight of 74% of the Sin portfolio (matched pair I) as shown in Appendix 8.1 and this institution benefited the most from the CBK’s actions. In addition, the major shareholder of NBK is a well-known merchant family which also supported its bank after the crisis. Further, the Kuwaiti government invested more to pop up conventional companies and conventional investment funds than Islamic ones, as reported in the interviews, and thus supported them more after the crisis. Not only was Sin (A) in matched pair (I) the best, but also the PH (A) portfolio in matched pair (I) did well especially before the GFC. This highlights the sectorial impact, since 70-74% of the portfolio’s components were banks (see Appendix 8.1). Hence, the banking sector performed the best before and after the crisis, driving the performance of these portfolios. Figures 8.6-8.9 also show that the KSE index had the lower risk as it is diversified, containing all listed stocks.

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<sup>226</sup> Sin (A) was the only portfolio that achieved positive performance across all return and risk-adjusted measures after the GFC (see table 8.1).

Finally, it can be inferred from Table 8.1 and Appendix 8.1 that, in order to maximize Islamic funds' performance, PH stocks from the banking sector and MH (Halved) stocks from the real estate and service sectors should be included.<sup>227</sup>

Nonetheless, the findings of this section should be interpreted cautiously, because the number and size of the stocks in these matched pair portfolios are small, except KFH and NBK in the PH (A) and Sin (A) portfolios of matched pair (I).<sup>228</sup> Hence, to overcome this shortcoming the remainder of this chapter extends the analysis by using another approach that employs a wider sample of stocks and controls for more factors to examine their impact on the portfolios' performance.

### **8.3 Analysis of Factors affecting the Financial Performance of Stocks in KSE**

The findings in the previous chapter and former section show that there are some differences between the performance of *Halal* and non-*Halal* portfolios over certain sample periods. The matched pair approach in Section 8.2 attempted to control for two key factors that might affect stocks performance; size and sector but, since the number of stocks was small and not all sectors were represented in each matched pair portfolio, a GLM is now fitted to the time series data to explore how size, sector and time period might influence different stocks' returns to investigate whether the *Shariah* classification of stocks to *Halal* (PH and MH) and non-*Halal* (Sin and MS) is important. The factors incorporated in the GLM were as suggested by the interviewees in Chapter 5.

The data in this thesis involves the impact of the GFC that started to impact the financial sector in the US in late 2007 (Senbet and Gande, 2009; Buckley, 2011; Trabelsi, 2011; Samarakoon,

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<sup>227</sup> This is true especially during the bull and bear markets and concentrate more on the MH (Halved) during sharp stock market crashes.

<sup>228</sup> The stocks of KFH and NBK are ranked on the top three large sized stocks in whole KSE market. See (Table 2.5 in Chapter 2), and discussion about the impact of the large 4 stocks in KSE on the performance of the weighted-value portfolios in Chapter 7 and their performance in Appendix 7.4.

2011; Neaime, 2012; Karim et al., 2012; Bourkhis and Nabi, 2013). The Sub-prime crisis from the last quarter of 2007 in the US affected global financial institutions (Trabelsi, 2011) and led US and European banks to lose their values and damage global stock markets (Buckley, 2011; Örnberg et al., 2013).<sup>229</sup> Senbet and Gande (2009) note that emerging markets, including the GCC oil rich countries, seemed to be unaffected by the initial 2007 sub-prime crisis, but they too were hit eventually when, after a relatively stable first half in the US in 2008 due to the central banks' repetitive interventions, tensions intensified again in September 2008 after Lehman Brothers declared bankruptcy (Buckley, 2011; Trabelsi, 2011; Bourkhis and Nabi, 2013; Örnberg et al., 2013). Hence, different studies may vary in determining the cut off points of the start and end of the GFC period. For instance, Karim et al. (2012) define the GFC from July 2007- Dec. 2008. Similarly Baurkhis and Nabi (2013) denote 2007/2008 as their GFC period, while Karim et al. (2012) expands the end of the GCF period to Dec. 2011. Other studies use the period 2008-2009 as their GFC period (Samarakoon, 2011; Örnberg et al., 2013) as defined in Chapter 7 and the matched pairs in the previous section. The GLM model, however (sections 8.3 and 8.4) refines the two year GFC period (2008-2009) to a narrower 15 months period from November 2007 to February 2009. This definition of GFC tallies with the literature (Senbet and Gande, 2009) and, most importantly, with the structural break in global stock markets as shown in Figure 8.10, which plots the performance of the Kuwait, US and other world indices. This shows that structural brake in Kuwait occurred 3 months after other major stock markets. Therefore, in order to examine the impact of GFC on KSE, three months

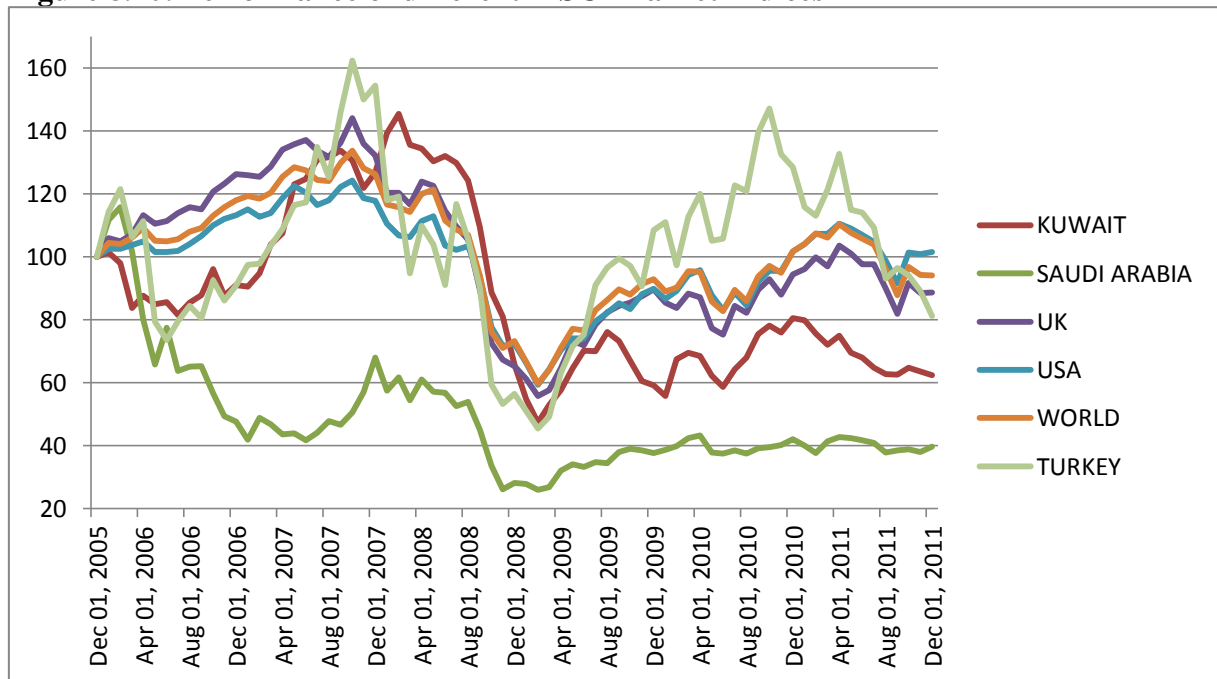
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<sup>229</sup> Buckley (2011) notes that 2007 was the year when US home sales fell and the subprime mortgage business collapsed. For instance, on August 31 2007, Ameriquest, once the largest US subprime lender, went out of business. On the first of November 2007 the Federal Reserve injected USD 41 billion for banks to borrow at a low rate, the largest single expansion by the Fed since 2001, and on December 12 2007, central banks, the Federal Reserve, Bank of England, Swiss National Bank and Bank of Canada announced measures designed to deal with pressures in short-term funding markets.



before the structural break that occurred in KSE was chosen based on the global stock markets structural break.

**Figure 8.10: Performance of different MSCI market Indices**



Note: this figure shows the monthly performance of the MSCI index for the world and several different countries, namely: Kuwait, Saudi Arabia, UK, US, and Turkey from Dec.2005-Dec. 2011.  
Source: MSCI official website

Unlike mainstream studies that use cross-sectional regression analysis to explain stocks or fund returns (such as Gregory et al., 1997; Bilson et al., 2001; and Kreander, 2005), this study employs a GLM, that allows more than two factors to interact and be investigated at the same time as well as the effects of individual factors. This section attempts not only to capture the effect of *Halal* and non-*Halal* stocks (the *Shariah* classification) on stock returns but also the effect of them being in different sectors or of different sizes, and in different years which also considers the impact of the GFC. The results of the analysis will provide some insights to explain the previous findings of portfolio performance in chapter 7.

This investigation is conducted for a wider number of stocks compared to the matched pair approach adopted in the previous section, as all KSE stocks that were in existence for the whole sample period are included, from 2006 until 2011. This produces a sample of 135

company stocks drawn from all sectors,<sup>230</sup> comprising 31 ‘PH’, 37 ‘Sin’, 50 ‘MH’ and 17 ‘MS’ stocks.<sup>231</sup> The *Shariah* classification of stocks was allowed to change annually based on the screening conducted in chapter 6. The model controls for newly listed stocks, unlike the portfolio performance in Chapter 7 which allowed newly listed companies to be screened and included in the relevant portfolios during the sample period. Appendix 8.3 reports the 135 companies’ sample information. Similar to Chapter 7 and the prior section, the same set of weekly panel data was obtained from DataStream to be used for the GLM. The null hypotheses test the effects of the following 4 factors on the mean stock returns: (i) *Shariah* classification of stocks<sup>232</sup>; (ii) company size; (iii) sector; and (iv) the global financial crisis (GFC).<sup>233</sup> The null hypotheses also test the interactions between the 4 explanatory factors on the means of the stock returns. The final model took the following form:

$$\begin{aligned}
 R_{j(i,s,z,c)} = & \mu + \alpha_i + \beta_s + \gamma_z + \lambda_c + (\alpha\beta)_{is} + (\alpha\gamma)_{iz} + (\alpha\lambda)_{ic} + (\beta\gamma)_{sz} + (\beta\lambda)_{sc} \\
 & + (\gamma\lambda)_{zc} + (\alpha\beta\gamma)_{isz} + (\alpha\beta\lambda)_{isc} + (\beta\gamma\lambda)_{szc} + (\alpha\beta\gamma\lambda)_{iszc} \\
 & + \varepsilon_{j(i,s,z,c)} \qquad \qquad \qquad [8.1]
 \end{aligned}$$

Where  $R_{j(i,s,z,c)}$  is the return of company  $j$  that has a *Shariah* classification  $i$ , listed in sector  $s$  of size  $z$ ; during the GFC period  $c$  or not;  $\mu$  is the overall mean return of company  $j$  for the whole time period.  $\alpha_i$  is the main effect for the stocks’ *Shariah* classification  $i$ , where  $i = 1, 2,$

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<sup>230</sup> Apart from non-Kuwaitis sector which was excluded from the sample period because data were unavailable on DataStream, as discussed in chapter 6.

<sup>231</sup> After halving AAOIFI’s thresholds screening criteria as of 31/12/2005, the MH decreased to 42 stocks while the MS increased to 25 stocks.

<sup>232</sup> The *Shariah* classification of stocks is based on the screening in chapter 6: PH, MH, MS, and Sin and after halving the financial screening criteria thresholds; MH (Halved) and MS (Halved). AAOIFI’s 2006 screening criteria are used to classify mixed stocks for the GLM model for the same reason discussed in the matched pairs section.

<sup>233</sup> The GLM originally used an additional fifth factor, namely: timed period- represented by the ‘year’ of sample period to reflect market cycles. However, since using both the year and the GFC factors exposed the model to a confounding problem, which occurs when the data are such that it is not possible to estimate both of the two parameters as the same data is affected by each parameter (similar impact of multicollinearity problem), the year factor was then dropped.

3, 4 representing the PH, Sin, MH, and MS<sup>234</sup> respectively.  $\beta_s$  is the main effect for sector  $s$ , where  $s$  is assigned values from 1-7 to indicate: banking, investment, insurance, real estate, industrial, service, and food.  $\gamma_z$  is the main effect for size  $z$ , where  $z$  varies between 1- 3 to identify the firm size.<sup>235</sup> Finally, a dummy variable  $\lambda_c$  was introduced into the model to examine the main effect for the GFC, where  $C = 1$  if the stocks return is during this time period, or  $C = 0$  otherwise. As noted earlier, November 2007 to February 2009 was chosen to represent the GFC period.

The terms that denote the two levels of interaction between the main factors are as follows:  $(\alpha\beta)_{is}$  is the interaction effect for the stock's *Shariah* classification  $i$  and their sector  $s$ ;  $(\alpha\gamma)_{iz}$  shows the interaction effect for the stock's *Shariah* classification  $i$  and company size  $z$ ;  $(\alpha\lambda)_{ic}$  denotes the interaction effect for the stock's *Shariah* classification  $i$  and the crisis period  $c$ ;  $(\beta\gamma)_{sz}$  indicates the interaction effect between sector  $s$  and company size  $z$ ;  $(\beta\lambda)_{sc}$  represents the interaction effect for sector  $s$  and the financial crisis period  $c$ ;  $(\gamma\lambda)_{zc}$  is the interaction between company size  $z$  and the financial crisis period  $c$ . The terms that represent the three level interactions are as follows:  $(\alpha\beta\gamma)_{isz}$  is the interaction effect for stocks' *Shariah* classification  $i$ , sector  $s$  and company's size  $z$ ;  $(\alpha\beta\lambda)_{isc}$  is the interaction effect for stocks' *Shariah* classification  $i$ , sector  $s$ , and financial crisis  $c$ ;  $(\alpha\gamma\lambda)_{izc}$  is the interaction effect for stocks' *Shariah* classification  $i$ , company size  $z$  and financial crisis  $c$ ;  $(\beta\gamma\lambda)_{szc}$  is the interaction effect for sector  $s$ , company's size  $z$  and financial crisis  $c$ ;  $(\alpha\beta\gamma\lambda)_{iszc}$  is the four level interaction effect the interaction effect for the stock's *Shariah* classification  $i$ , sector  $s$ , firm's size  $z$  and financial crisis  $c$ . Finally,  $\varepsilon_{j(i,s,z,c)}$  denotes the random error term for company

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<sup>234</sup> The *Shariah* classification of stocks was reassigned after halving the AAOIFI's financial screening criteria and the model was rerun.

<sup>235</sup> The market capitalization of the firms is based on average weekly values for the whole sample periods from 2006-2011. Firms with an average market capitalization of not more than KD 100 million are categorized as small, while firms with an average market capitalization of between KD 100 million – 1 billion are categorized as medium, and firms with an average market capitalization of over KD 1 billion are considered as large.

$j$  which is assumed to be an independent, identically distributed random variable for the estimation period.

An F-ratio was utilized to test the null hypothesis that the returns of the sample stocks are unaffected by the independent factors, or by the interaction effect of their combinations. The F-ratio was estimated as follows:

$$F - ratio = \frac{Effect\ Mean\ Square\ Error}{Residual\ Mean\ Square\ Error} \quad [8.1]$$

The null hypothesis is rejected if the test statistic takes values greater than the critical values of the F-distribution with appropriate degrees of freedom, or when the p-value is less than the significance level  $\alpha$ . Moreover, after an F-test has shown significance, the Bonferroni test is used for multiple comparisons to determine which means differ. Finally, the model also provides estimated means that give estimates of the predicted mean values between the main factors in the model to allow for visualization of some of the relationships between the factors. The model is fitted to the data twice to test the null hypotheses again after halving AAOIFI's financial screening thresholds to examine whether that has an impact on stock returns. Hence, section 8.3.1 analyses the results for the GLM using AAOIFI's financial screening criteria for the *Shariah* classification factor, while section 8.3.2 analyses the results of the GLM using AAOIFI's halved financial screening thresholds for the *Shariah* classification factor.<sup>236</sup>

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<sup>236</sup> Only the mixed *Halal* stocks (MH) and the mixed sin stocks (MS) will be affected by halving the AAOIFI's financial screening thresholds, because the pure *Halal* stocks (PH) and the sin stocks (Sin) are screened based only on the first level of screening (sector compliance) rather than on the financial screening criteria (the second level of screening), as detailed in chapter 6.

### 8.3.1 The Results of the GLM Analysis Using AAOIFI's (2006) Screening Criteria for the Shariah Classification Factor

Table 8.2 summarizes the results obtained by estimating equation [8.1]. The sum of the squares, degrees of freedom, mean square, F-ratio and the P-value for the F-test are reported for each main factor under investigation and the related interaction factor groups.

**Table 8.2: Results of the GLM the Analysis, Factors and Interaction Effects**

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-ratio	P-value
Corrected Model	1.384 <sup>a</sup>	68	.020	3.940	.000
Intercept	.197	1	.197	38.181	.000
<i>Shariah</i> Classification	.002	3	.001	.141	.936
<b>Sector</b>	<b>.104</b>	<b>6</b>	<b>.017</b>	<b>3.372</b>	<b>.003</b>
Size	.002	2	.001	.148	.863
<b>GFC</b>	<b>.236</b>	<b>1</b>	<b>.236</b>	<b>45.706</b>	<b>.000</b>
<i>Shariah</i> Classification * Sector	.055	9	.006	1.185	.300
<i>Shariah</i> Classification * Size	.025	5	.005	.973	.432
<i>Shariah</i> Classification *	.015	3	.005	.964	.409
Financial Crisis					
Sector * Size	.009	4	.002	.457	.767
<b>Sector * GFC</b>	<b>.066</b>	<b>6</b>	<b>.011</b>	<b>2.141</b>	<b>.046</b>
Size * GFC	.017	2	.009	1.669	.188
<i>Shariah</i> Classification * Sector * Size	.007	4	.002	.355	.841
<b><i>Shariah</i> Classification * Sector * GFC</b>	<b>.126</b>	<b>9</b>	<b>.014</b>	<b>2.701</b>	<b>.004</b>
<i>Shariah</i> Classification * Size * GFC	.012	4	.003	.595	.666
Sector * Size * GFC	.016	4	.004	.754	.555
<i>Shariah</i> Classification * Sector * Size * GFC	.011	4	.003	.519	.722
Error	217.879	42186	.005		
Total	219.866	42255			
Corrected Total	219.263	42254			

Notes: The table reports the analysis of variance of the weekly returns for the sample stocks for the full sample period from 4/1/2006-28/12/2011. The p-value shows the significance of the F-ratio that tests whether any of the 4 main factors: *Shariah* classification; sector; size; and global financial crisis (GFC), or their interactions is significant. **Bold** are the significant values.

Several interesting findings emerge from the analysis shown in Table 8.2.<sup>237</sup> To begin with, the GFC factor appears to be the most significant factor impacting stock returns (F-ratio=45.706, p-value=.000). This implies that the stock returns of the KSE differ during the GFC which supports the findings in section 7.5 and the matched pairs analysis in the previous section that show different performance patterns before, during and after the 2008-2009 crisis. In addition, this is also consistent with the interviewees' input in Chapter 5 and with prior studies which have found that the time horizon matters when explaining stock returns (Sinclair et al., 1996; Fifield et al., 1999; Middleton, 2006; Abdullah et al., 2007; Hayat and Kraeusl, 2011; Hassan, 2009).

Interestingly, the analysis in Table 8.2 shows that there is evidence of a significant effect of sector on stock returns (F-ratio=3.372, p-value=0.003), implying that different sectors in KSE performed differently during the sample period. Such a finding corroborates those from the interviews, outlined in chapter 5 and prior studies on KSE such as Almujaed (2011), Al-Mutari (2011), and other studies on emerging markets such as Middleton (2006) who found that the performance of stocks in different sectors varies through time in several central and Eastern European emerging markets, and Evrensel and Kutan (2007) who found that financial sector returns behaved differently from non-financial sector returns during the Asian financial crisis in Indonesia, Korea, and Thailand. The analysis, however, shows that the interaction effect between sector and *Shariah* classification (F-ratio= 1.185 and p-value =0.300) or

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<sup>237</sup> It is worth noting that the the coefficient of determination *Adjusted - R<sup>2</sup>* for the model is only 0.05 indicating that that the model is incapable of explaining most of the total variation in the stock returns of the KSE market. Nevertheless, similar studies that attempted to explain stock returns also suffered from low *R<sup>2</sup>*, such as Fifield et al. (1999), Bilson et al. (2001) and Kreander et al. (2005). In addition, more factors were investigated in the literature which explain the variations in stock returns; for instance, the effect of a company's specific factors like the EPS, ownership structure and capital structure or macroeconomic factors such as interest rate, oil prices, and GDP. However, since the aim of this investigation was to examine the impact of certain factors under investigation, rather than to predict or explain variations in stock returns, maximizing *R<sup>2</sup>* was not an objective. Furthermore, there were limitations imposed related to the computational power of the model and the statistical software used to calculate all of the interaction effects for all factors and the unavailability of the most required data. Thus, the number of incorporated factors had to be reduced.

between sector and firm size (F-ratio= 0.973 and p-value =0.432) tend to be insignificant, indicating that the performance of *Halal* and non-*Halal* stocks or stocks of different sizes did not vary on a sector basis. However, the interaction effect between the GFC and sector appeared to also be significant (F-ratio=2.141, p-value=.046) suggesting that performance of stocks in different sectors performed differently during the GFC. These findings are consistent with many interviewees' input, who thought that, regardless of stocks' *Shariah* classification, overall, the banking and investment sectors were hit most during the crisis.<sup>238</sup>

Interestingly, and most importantly, Table 8.2 establishes that there is no reward or penalty for *Halal* investing (PH and MH) and highlights that the GFC affected the performance of stocks in the KSE, irrespective of their *Shariah* classification. This finding is consistent with that of the parametric and non-parametric tests reported in section 7.3 and 7.6. In addition, it is consistent with many of the interviewees' thoughts, outlined in chapter 5, and prior studies, such as Elfakhani et al. (2005), Girard and Hassan (2008), Hasan and Dridi (2010), Parashar (2010),<sup>239</sup> Rahimie (2010), Hassan et al.(2010), and Zarrouk (2012). This finding brings good news for Islamic or religious-driven investors, as they are not penalized compared to conventional investors during normal period, because the *Shariah* classification factor is not significant in itself, or at any of the two level interactions between the *Shariah* factor with other factors. Nonetheless, the three level interaction effect between GFC, sector, and stocks' *Shariah* classification is significant (F-ratio= 2.701 and p-value =0.004), suggesting that the

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<sup>238</sup> The banking sector recovered the quickest in 2010 due to CBK intervention, while the vast majority of investment companies were still suffering and some of them were delisted in 2012. The performance of different sectors is examined later in this section.

<sup>239</sup> Hasan and Dridi (2010) suggested that the Islamic banks (which are considered PH stocks in this study) have been affected differently to the conventional banks, whereby variables related to the Islamic banks' business model reduced the adverse effect on profitability in 2008. However, weaknesses in risk management practices in some Islamic banks led to a larger decline in profitability in 2009 compared with conventional banks. Parashar (2010) shows that the conventional banks have suffered more than the Islamic banks during the GFC in terms of return on average assets and liquidity, while the Islamic banks have suffered more in terms of capital ratio, leverage and return on average equity.

*Halal* and non-*Halal* stocks within different sectors performed differently during the GFC.<sup>240</sup>

This supports the interviewees' argument in Chapter 5 who noted that the performance of the *Halal* and non-*Halal* stocks were different during and after the GFC.

Finally, Table 8.2, finds that firm size does not explain variations in stock returns, (F-ratio=0.148, p-value=0.863)<sup>241</sup> unlike some studies that find evidence of a size effect such as Fifield et al. (1999), Kreander et al. (2005) and Almujaed (2011),<sup>242</sup> but in line with the findings of Gregory et al. (1997),<sup>243</sup> and Middleton (2006).

As the sector was significant, further analysis was carried out in order to determine the performance of different sectors and a Bonferroni<sup>244</sup> post hoc test was conducted to investigate the pairwise comparisons for the stock returns in each sector, as reported in Table 8.3.<sup>245</sup>

Although the year factor is dropped from the model, as it confounds the GFC factor, a Bonferroni test for the year factor was also conducted to measure the impact of GFC over the sample period (2006-2011) and is reported in Table 8.4.

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<sup>240</sup> The three level interactions between GFC, sector, and stocks' *Shariah* classification is elaborated later in this chapter.

<sup>241</sup> As a robustness check, an attempt was made further to investigate the firm size effect. Thus, a lower classification cut-off was constructed to allocate fewer companies to each size category. Hence, size was classified from 1-6 to be 6 categories instead of 3, consisting of stocks with the largest market capitalization to stocks with the smallest market capitalization. In addition, size was further classified from 1-9 and then from 1-16 classifications; however, the size effect was not significant in all cases.

<sup>242</sup> Fifield et al. (1999) and Almujaed (2011) found significant reverse size effect in their analysis of emerging markets, suggesting that larger firms outperform their smaller counterparts. For instance, Almujaed (2011) discovered that large firms', mainly banks, outperformed smaller and medium-sized ones during his sample period from 1998-2008 for 40 companies listed in KSE, and the findings of Fifield et al. (1999) who found a reverse size effect in the analysis of seventeen emerging markets over the period 1991-1996.

<sup>243</sup> Gregory et al. (1997) and Kreander et al. (2005) investigated the performance of ethical funds.

<sup>244</sup> The Bonferroni test provides a pairwise multiple comparison to determine which means differ (not the interaction factors) based on the Student's *t*-statistic.

<sup>245</sup> This test was not undertaken for the *Shariah* classification or size factors because they were insignificant.



**Table 8.3: Multiple Comparisons of the Mean Stock Returns of KSE in Each Sector**

<b>Sector I/J</b>	<b>Banking</b>	<b>Investment</b>	<b>Insurance</b>	<b>Real Estate</b>	<b>Industrial</b>	<b>Services</b>
<b>Banking</b>						
<b>Investment</b>	0.00621*					
<b>Insurance</b>	0.00183	-0.00438				
<b>Real Estate</b>	0.00417	-0.00204	0.00234			
<b>Industrial</b>	0.00194	-0.00427*	0.00011	-0.00223		
<b>Services</b>	0.00276	-0.00345*	0.00093	-0.00142	0.00082	
<b>Food</b>	0.00123	-0.00498	-0.00060	-0.00294	-0.00071	-0.00153

Note: This table provides multiple comparisons of the mean difference for stock returns in each sector in the KSE Market for the whole sample period from 01/04/2006-28/12/2011 using a Bonferroni test. The results in the columns represent the mean difference between sector J-I, for instance, banking minus investment (0.00621).

\* note mean difference significant at the 5% significance level.

Table 8.3 reveals that the investment sector tends to underperform all sectors and is significantly different from the banking, industrial and service sectors, while the performance of the banking sector is always better than the others although the other sectors are not significantly different from each other.

**Table 8.4: Multiple Comparisons of the Mean Stock Returns of KSE for each Year**

<b>Year I/J</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>2006</b>					
<b>2007</b>	-0.0061*				
<b>2008</b>	0.0077*	0.0137*			
<b>2009</b>	-0.0002	0.0059*	-0.0078*		
<b>2010</b>	-0.0010	0.0051*	-0.0087*	-0.0009	
<b>2011</b>	0.0011	0.0072*	-0.0066*	0.0012	0.0021

Note: This table provides multiple comparisons of the mean differences for stock returns in each sample year in the KSE Market for the whole sample period from 01/04/2006-28/12/2011 using a Bonferroni test. The results in the columns represent the mean difference between year J-I, for instance, 2006 minus 2007 (-0.0061).

\* note mean difference significant at the 5% significance level.

Table 8.4 uncovers that 2007 was the best year, while 2008 was the worst year for all stocks in KSE, as expected, due to the impact of the GFC as confirmed in all of the previous analyses. Most importantly, 2007 and 2008, that contain the GFC period, were significantly different

from other years. In addition, 2007 showed a recovery after a burst of a bubble in the GCC in 2006 markets (Sturm et al., 2008; Hertog, 2012) (see Chapter 2).

Unlike some of the interviewees' thoughts that 2011 was affected by the Arab spring and internal domestic political disputes,<sup>246</sup> Table 8.4 shows that 2011 was not significantly different from 2009 and 2010. But perhaps, as the KSE had already experienced a steep downturn during the GFC, no further significant underperformance was detected. In addition, this supports KAMCO's (2012, p. 12) projection about the future performance of KSE which stated that:

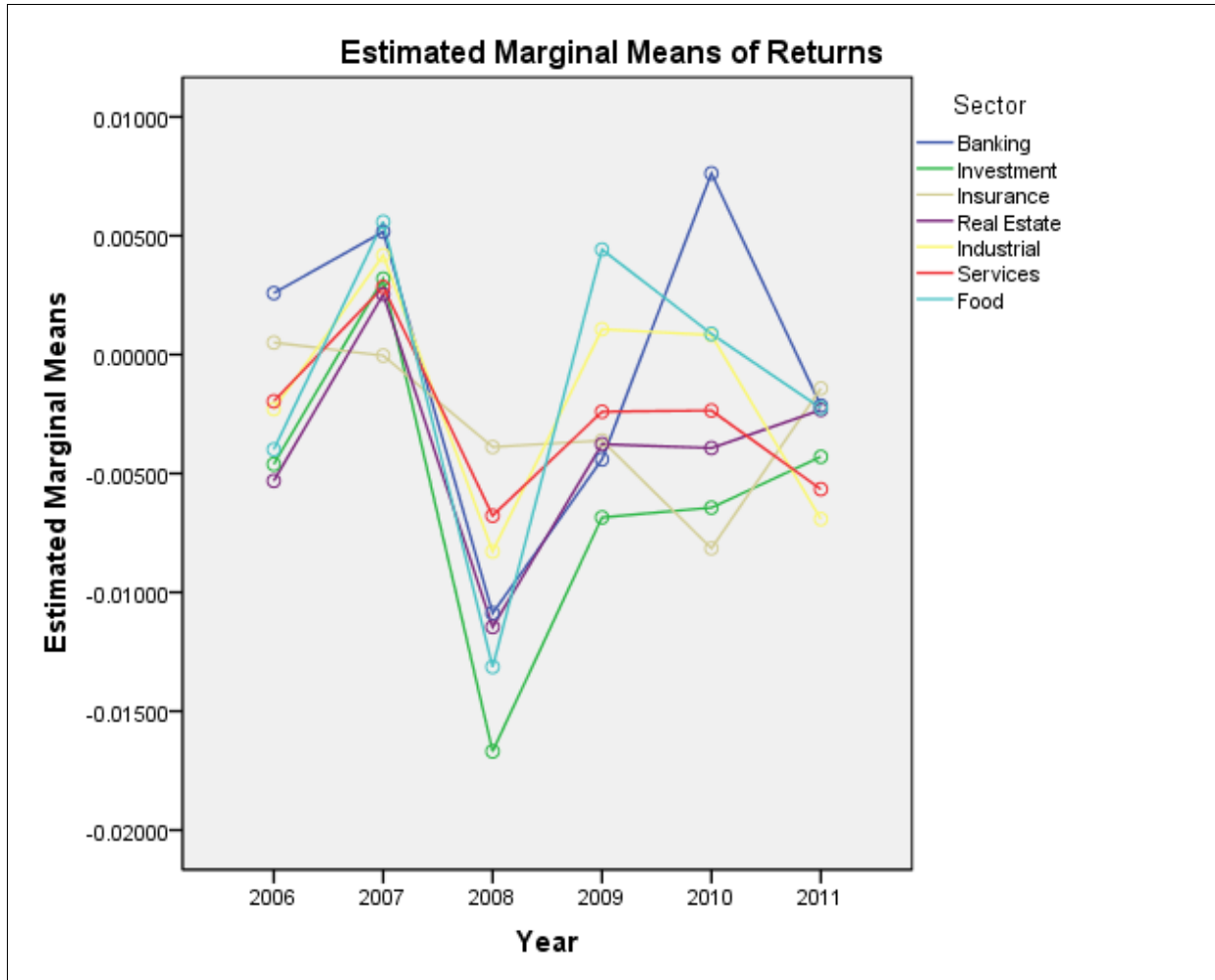
“Looking ahead, we believe that gradual recovery in Kuwait Stock Exchange will continue throughout 2013 fuelled by the positive political environment, positive economic growth aided by robust oil prices, expected improvement in liquidity, restoration of investors' confidence in the local bourse driven by the implementation of CMA bylaws and regulations along with restructuring of the stock market and the implementation of the new Commercial Law”.

To examine the performance of KSE in greater depth, Figure 8.6 plots the performance of each sector during all of the sample years (2006-2011).

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<sup>246</sup> The domestic political distress is briefly related to accusations of corruption against the previous Prime Minister (Nasser Al-Mohammed Al-Sabah); causing the government to resign several times, and the parliament to be dissolved and early elections to be called (Sabrie and Hakala, 2013). In 2009, large-scale protests led by young activists and MPs called for serious political reforms and the removal of the Prime Minister (Sabrie and Hakala, 2013). Hence, the Emir dissolved parliament on the 18<sup>th</sup> of March 2009 and early elections took place on the 16<sup>th</sup> of May 2009, which brought a regime-friendly majority to dominate the parliament; hence, the Emir decided to keep the previous Prime Minister (Sabrie and Hakala, 2013). Just a few months after the beginning of the new parliament, in December 2009, opposition MPs filed a motion of “non-cooperation” against the Prime Minister over corruption charges, claiming that his office had misappropriated millions of dollars in the run up to the 2008 elections. But, because he had a majority in parliament, was able to stay until April 2011 when the Emir replaced him with a new Prime Minister from the Sabah family, as protests continued to build in 2010. A new parliament was elected in 2012 but with a strong opposition majority this time, which argued that the new Prime Minister was not strong enough to stand up to the corruption, and hence further called for an elected government and Prime Minister (Davidson, 2013). Yet, the opposition and youth activists continued to lead mass protests to boycott these elections. It was argued that the local political unrest during 2009-2012 seemed to impact the KSE performance and slowed down the economic projects (KAMCO, 2012). See Chapter 2.

**Figure 8.11: KSE Sectors Performance from 2006-2011**



Note: This figure plots the mean return performance of stocks in each of the 7 sectors in KSE; namely, banking, investment, insurance, real estate, industrial, service, and food, across all sample years from 2006-2011.

Figure 8.11, shows that 2007 was the best year for most sectors in the KSE market, while 2008 was the worst. The year 2008 experienced the most significant decline, due to the impact of the GFC, when every sector faced a sharp drop, reaching their lowest performance level, especially the investment sector. This is because the GFC impacted on many investment companies, particularly reflecting the high leverage these had that exposed their risks after the crisis, as highlighted by many interviewees in chapter 5 (see Penman et al., 2007; George and Hwang, 2010; Bhatt and Sultan, 2012). The market witnessed improvements in 2009, especially food, industry and services sectors as their operational activities were less affected compared to the

financial sector. The banking sector witnessed a dramatic jump reaching a peak in 2010, for the full sample period, attributed to the government and CBK intervention after the crisis, supporting the findings of the matched pairs analysis and many interviewees' thoughts in chapter 5, that the banking sector was bailed out after the crisis.<sup>247</sup> The insurance sector was the least affected by the crisis, but the downward effect lasted to 2010, and this could be due to the low trading volume of this sector, as noted by the interviews.

Figure 8.11 also illustrates that the performance of the different sectors in the market varied more after the GFC, especially in 2010. Nevertheless, most sectors had negative returns in 2011 possibly due to the Arab spring radical political changes in the region, and the domestic political dispute in Kuwait.

Overall, the analyses in Tables 8.4 and 8.5 and Figure 8.11 suggest that Islamic fund managers should pay more attention to their investment allocation across different sectors in different economic cycles e.g. invest more in food, industrial and service sectors during bearish markets as they were the best performers. This highlights the importance of including MH stocks in Islamic funds investment universe because only a few PH stocks exist in the non-financial sector, and the non-financial sectors were the most profitable after the GFC period.<sup>248</sup> In addition, most PH stocks are concentrated in the investment and real estate sectors that were hit the worst during the GFC. This supports the findings of Table 8.2 that the three level interaction effect between GFC, sector, and stocks' *Shariah* classification is significant,

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<sup>247</sup> The Interviews asserted that the government intervention was essential, since the banking system has been affected by a huge decline in asset prices, low credit growth, and a limited ability to lend to the corporate sector. Moreover, they noted that banks are mainly owned by merchant families who enjoy strong political and economic power, and the government or government agencies. Merchant families and the government are usually major owners of conventional banks in Kuwait. This might explain why the vast majority of institutional and government investment funds invest heavily in banks, mainly in conventional banks, believing that the banking sector is leading the market and protected by the government as revealed from the interviews.

<sup>248</sup> The screening in Table 6.5 shows that, in 2006, for instance, the PH stocks covered only 4% of the industrial sector, 17% of the service sector and none of the food sector. However, the MH stocks comprised 71% of the industrial sector, 49% of the service sector and 100% of the food sector (see Table 6.5 in chapter 6 for details).

indicating that the performance of *Halal* and non-*Halal* stocks within the different sectors varied during the GFC period and non-GFC period. Appendixes 8.3-8.9 examines the performance of the different *Shariah* classified stocks; PH, MH, MS, and Sin, across different sectors, over time.<sup>249</sup>

Generally, the graphs of Appendixes 8.4-8.10 suggest mixed results across different sectors over time, indicating that the *Shariah* classification of stocks itself does not matter but rather the sector and time period they are in. For instance, during the years that contain the GFC period, PH stocks did well in the real estate, industrial, and service sectors while in banking and investment sectors, they did not do so well. In contrast, after the GFC period (2009-2011), PH performed well in the investment but bad in the insurance, industrial and service sectors. These findings support the previous findings that there is no penalty for PH and MH investments. Hence, Islamic funds should diversify the *Halal* investments (PH and MH) across different sectors during different markets (bullish, crisis, and bearish). For example, in downturn markets, it is wise to include more PH stocks from the industrial sector and MH stocks from the real estate sector. This again highlights the need to include both PH and MH stocks in the Islamic investment universe, as they behave differently over sectors and years. However, the results suggest that during GFC period, if Islamic funds only invest in PH stocks, they might sacrifice financial returns, not because of the *Shariah* classification of their stocks, but due to the lack of diversification, where few PH are located in non-financial sector as noted earlier.

Furthermore, since the results show that PH stocks, mainly IFIs,<sup>250</sup> were exposed to the impact of the GFC similar to non-PH stocks, this may challenge the arguments raised in the literature

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<sup>249</sup> Appendixes 8.3-8.9 show that there are no MH and MS stocks in the banking, investment, and insurance sectors as noted earlier in Chapter 6 and it can be noted that there are no Sin stocks in the industrial sector and no PH and Sin stocks in the food sector as the performances of such stocks were non-estimable and not plotted.

<sup>250</sup> IFI are classified as PH stocks in this study as noted in earlier chapters.

that IFIs are asset-based, and adopt profit and loss sharing principles<sup>251</sup> that make their activities closely related to the real economy, and are hence able to cope with economic downturns more than their conventional peers (Hasan and Dridi, 2010; Trabelsi, 2011; Karim et al., 2012). On the other hand, it could support the findings of studies showing that IFIs mimick the commercial strategies of their conventional peers and diverge from their theoretical business model (Bourkhis and Nabi, 2013). But, as pointed out by many interviewees and prior researchers, although IFIs may have been immune from the direct impact of the US subprime crisis, the ongoing economic effects of the GFC impacted upon them too, as large numbers of IFIs contracts are backed by real estate and property as collateral which all lost value after the GFC (Parashar, 2010; and Zarrouk, 2012).

### **8.3.2 The Results of the GLM Analysis using AAOIFI's Halved Screening Thresholds for the *Shariah* Classification Factor**

The above GLM model was estimated again as in equation [8.1] but used AAOIFI's (2006) halved screening thresholds for the *Shariah* classification rather than the original AAOIFI thresholds (see Appendix 8.3 for the changes of MH and MS stocks). The GLM results are documented in Table 8.5.

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<sup>251</sup> For instance, instead of paying interest to depositors, those with investment *mudarabah* accounts share in the Islamic banks' profits, where, if the profitability decreases during an economic downturn, depositors receive lower returns while, if profits increase, they enjoy higher returns. However, many Islamic banks build up profit equalization reserves as a depositor's protection for difficult years.

**Table 8.5: Results of the GLM Analysis, Factors and Interaction Effects Using Halved AAOIFI's Screening Thresholds**

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-ratio	P-Value
Corrected Model	1.391 <sup>a</sup>	69	.020	3.903	.000
Intercept	.137	1	.137	26.571	.000
<i>Shariah</i> Classification (Halved)	.001	3	.000	.038	.990
<b>Sector</b>	<b>.089</b>	<b>6</b>	<b>.015</b>	<b>2.881</b>	<b>.008</b>
Size	.003	2	.001	.289	.749
<b>GFC</b>	<b>.138</b>	<b>1</b>	<b>.138</b>	<b>26.630</b>	<b>.000</b>
<i>Shariah</i> Classification (Halved) *	.048	8	.006	1.171	.312
Sector					
<i>Shariah</i> Classification (Halved) *	.021	4	.005	1.012	.400
Size					
<i>Shariah</i> Classification (Halved) *	.007	3	.002	.470	.703
GFC					
Sector * Size	.011	4	.003	.538	.708
Sector * GFC	.034	6	.006	1.103	.357
Size * GFC	.004	2	.002	.364	.695
<i>Shariah</i> Classification (Halved) *	.012	5	.002	.453	.812
Sector * Size					
<b><i>Shariah</i> Classification (Halved)</b>	<b>.105</b>	<b>8</b>	<b>.013</b>	<b>2.546</b>	<b>.009</b>
<b>* Sector * GFC</b>					
<i>Shariah</i> Classification (Halved) *	.009	4	.002	.433	.785
Size * GFC					
Sector * Size * GFC	.011	4	.003	.523	.719
<i>Shariah</i> Classification (Halved) *	.002	5	.000	.078	.996
Sector * Size * GFC					
Error	217.872	42185	.005		
Total	219.866	42255			
Corrected Total	219.263	42254			

Notes: The table reports the analysis of variance of the weekly returns for the sample stocks for the full sample period from 04/01/2006-28/12/2011. The p-value shows the significance of the F-ratio that tests whether any of the 5 main factors: *Shariah* classification(Halved) after halving the AAOIFI's screening thresholds; sector; size; year; and financial crisis, or their two and three level interactions, is significant.

Table 8.5 confirms the findings that emerged from the previous section that sector and GFC are significant, and size is insignificant. However, contrary to what was expected from Chapters 6

and 7, there are no significant differences between the performance of the *Halal* and non-*Halal* stocks, despite halving AAOIFI's financial screening thresholds (F-ratio= 0.038, p-value= 0.990). This implies that Islamic funds could apply more conservative, stricter financial screening strategies that are more *Shariah*-compliant, without sacrificing any of their returns. This interesting conclusion supports the arguments raised by many of the *Shariah* scholars interviewed and other fund managers, that the financial screening criteria should become more rigorous since the need for such stocks nowadays has diminished. However, similar to the previous section, the three way interaction between the *Shariah* classification (Halved), sector, and the GFC is significant (F-ratio=2.546, p-value =0.009), uncovers that the performance of *Halal* and non-*Halal* stocks under the suggested halved financial screening thresholds within different sectors varied between the GFC and non-GFC periods. Appendix 8.11-8.14 graphs the performance of the *Halal* and non-*Halal* stocks after halving AAOIFI's (2006) screening thresholds compared to the portfolios with the non-halved screening thresholds within real estate, industrial, service, and food sectors over time. Stocks in the banking, investment, and insurance sectors will not be affected by the screen's halving methodology as they do not contain MH or MS stocks in them, and thus are not plotted.

Overall, the Figures in Appendices 8.11-8.14 show that AAOIFI's thresholds being halved do not impact the results and during and after the crisis, the performance of MH stocks slightly declined in real estate, industrial and service sectors after the GFC, as the portfolio of MH became less diversified (as expected from section 6.4 in Chapter 6 and interviews) but did not adversely impact their performance. This again indicates that AAOIFI's halved screens are not the main reason for MH stocks to underperform MS stocks but rather it is the performance of the sector and time horizon.



Moreover, the Figures in Appendices 8.11-8.14 may suggest that Islamic funds could enhance their performance when halving the screening thresholds, if they invested in MH industrial stocks during crisis periods (e.g. 2008) and MH food sector stocks during bearish periods (e.g. 2011). This mixed result supports the model output in Table 8.5 which suggests that the overall *Shariah* classification under halved screening criteria is insignificant.

#### **8.4 Summary**

This chapter compares the performance of *Halal* and non-*Halal* stocks after controlling for size and sector in the matched pair analysis and for size, sector, GFC and their interactions in the GLM model. This was to investigate whether managers of investment funds can employ *Shariah*-compliant screening criteria without bearing any loss in performance in order to comply with their religious beliefs. The chapter also examines the impact of halving AAOIFI's existing screening thresholds.

The results of the *Halal* and non-*Halal* matched pairs portfolios were mixed and inconclusive across different sample periods. This suggests that the *Shariah* screening criteria do not seem to impact on portfolio performance, which implies that Islamic funds and religious driven investors are not penalized for investing according to their faith. Nevertheless, the analysis provides some evidence that Sin portfolios tend to outperform during downturn markets.

The GLM analysis shows that GFC and sector are important while *Shariah*-compliance and size are not significant. These findings from both the matched pairs and the GLM provide support to individual investors and investment funds that they can pursue *Shariah* guidelines, including halving AAOIFI's financial screening thresholds, and still expect investment returns to be similar to those of conventional investments. In addition, the results suggest that 'tightening' the MH stocks' financial screening thresholds is a possibility.

Finally, this chapter shows that stock performance varies across the sectors over time; the investment sector was the worst, while the banking and non-financial sectors were the best. Hence, Islamic funds could be encouraged to allocate their investments more in MH stocks rather than PH stocks, especially during bearish markets, since more MH stocks exist in the non-financial sectors rather than the financial sector. Thus, it is not the right time to ban investment in MH and only invest in PH stocks, but alternatively it should place more restrictions on the screening thresholds as a step towards only PH investments in the future.

## **Chapter 9: Conclusion**

## 9.1 Introduction

This study provides a critical review of the issues associated with the screening and performance of Islamic funds in Kuwait to conclude whether the *fatwa* on investing in MH companies should be revisited and further steps be taken to encourage Islamic funds to invest only in PH stocks. In particular, the thesis attempts to answer the following research questions: (i) how do participants define and screen PH and MH equity investments?; (ii) do participants believe that MH stocks are still necessary for a *Halal* diversified portfolio?; (iii) is there a financial penalty for investing in *Halal* equity portfolios?; (iv) did AAOIFI's change in screening criteria in 2006 affect portfolio creation and performance?; (v) is there an impact of halving AAOIFI's screening thresholds on portfolios creation and performance?; and (vi) does the *Shariah*-compliant classification of stocks, firm size, sector or GFC period affect performance?

The thesis uses both qualitative and quantitative analyses to answer these questions so that the limitation of using one research approach is compensated by the strength of the other approaches used in the thesis. Specifically, the qualitative analysis (58 semi-structured interviews) initially explores whether Islamic funds are currently good investments from a *Shariah* perspective with a wide range of stakeholders, and whether there is a need to revisit the tolerance of the mixed *Halal* screening criteria. In addition, the interviews explored the investment strategies and opinions of market participants such as Islamic fund managers, SSBs, investors, and regulators on the screening and performance evaluation of PH and MH equity investments and relevant *Shariah* issues.

Various quantitative analyses are applied in Chapters 6-8 to investigate the performance of *Halal* portfolios to see how good they are from a financial perspective. Prior studies use

secondary data drawn from a sample of Islamic funds or Islamic indexes to examine fund managers' timing and stocks selection skills. This study instead screens individual securities to form hypothetical portfolios that are constructed for the purpose of empirical analysis to examine the performance of Islamic funds.

Most importantly, unlike previous studies, this thesis distinguishes between pure *Halal* and Mixed *Halal* portfolios based on various screens, which helps in explaining the inconclusive results in the literature on Islamic funds' performance when studying the behaviour of each group individually. Thus, Chapter 6 uses content analysis of companies' annual reports during the sample period 2005-2010 to classify stocks as: (i) Pure *Halal* (PH); (ii) Mixed *Halal* (MH); (iii) Mixed Sin (MS); and (v) Sin, based on the screening criteria of AAOIFI and definitions suggested by the practitioners interviewed. Further, the chapter studies the impact of halving AAOIFI's financial screening on the creation of mixed *Halal* portfolios.

Chapter 7 measures the performance of the PH, MH, MS and Sin portfolios. The chapter employs parametric and non-parametric statistical tests of portfolio returns and the three traditional risk-adjusted returns, namely: Sharpe (1966) Treynor (1965), and Jensen (1968). Portfolio performance is then re-evaluated using a *Shariah*-compliant risk-free rate (*Murabahah* rate).

Chapter 8 employs a matched pair approach to compare the performance of portfolios of similar firm size and sector. Moreover, a GLM is developed to investigate the determinants of portfolio returns, specifically by examining the importance of the *Shariah* classifications of stocks as *Halal* and non-*Halal*, under the current and halved screening criteria, as well as firm size and sector, and the impact of the GFC.

The significance of the study can be appreciated academically through its contribution towards the expansion of knowledge and the literature related to Islamic fund screening and performance, as well as practically by policy makers, *Shariah* scholars and investors.

The remainder of this chapter is organized as follows. Section 9.2 discusses the key findings of the empirical chapters and outlines the major conclusions that can be drawn. The limitations of the research are discussed in section 9.3 while section 9.4 highlights potential avenues for future research. Finally, section 9.5 concludes the chapter.

## **9.2 Main Findings and Contribution to Knowledge**

This section summarizes the key findings of the empirical chapters of this thesis. First, the interviewees distinguished between PH and MH investee companies and noted that there is a growing number of Islamic funds and individual investors in the GCC that invest merely in PH stocks, driven by religious motivation. However, the interview analysis reveals a gap between the motivations of Islamic investors and fund managers, as investors are concerned about religious and economic motives while fund managers are concerned mostly with profit maximization. This gap should motivate Islamic investment funds to differentiate themselves from conventional ones on the basis of religious and ethical values. This finding may explain why some Islamic fund managers resist restricting their investments in mixed *Halal* stocks based on the current screens or only PH stocks as this result in smaller *Halal* universe and possible portfolio underperformance. The interviewees suggest that the SSBs and regulators should lead the change in having a more *Shariah* focus rather than driven by profit maximization.

Second, some interviewees seriously questioned the *Shariah*-compliance of MH stocks and many were unaware of the *Shariah* rationale underlying MH screening. Thus, the interviewees

called for a revisit of the *fatwa* that allows MH stocks, and some indicated that Islamic funds can still do well with only PH stocks due to the recent growth in the number of PH stocks; this finding is consistent with the *Shariah* jurisprudence literature (Al-Quradaqi, 2002; Al-Khalel, 2005; Al-Shubali, 2005; Al-Tunaji, 2009; Al-Nifasa, 2010). Many interviewees, therefore, agreed that financial screening criteria needs to become tighter and that, companies in Muslim countries should be treated differently from western ones as noted by Wilson (2005).

Third, the analysis in Chapter 7 affirms that there is no statistical difference between the performance of the *Halal* and non-*Halal* portfolios during the full, the bullish or GFC periods, indicating there is no penalty for *Halal* investments. Differences were only identified during the bearish period, showing that some sin portfolios performed better, but overall, *Halal* portfolios did not underperform either the CP or the KSE index in any of the sample periods. This supports the evidence from the substantive literature which suggests that Islamic funds possess competitive performance characteristics (Abullah et al., 2007; Merdad et al., 2010; Hassan et al., 2010; Mansor and Bhatti, 2011; BinMahfous and Hassan, 2012; Asharaf, 2013). The GLM analysis in chapter 8 however, shows that *Shariah*-compliance is not as significant on portfolio performance as the GFC and the sector factors, confirming that a *Shariah* classification does not cause underperformance.

Fourth, Islamic funds should consider allocating their investments more in the non-financial sectors rather than in the financial sector, especially during bearish markets to improve diversification. However, there are fewer PH non-financial stocks, thus, as stated by some interviewees, a ban on investment in MH stocks is premature. Indeed, some interviewees pointed out that some investors prefer to invest in PH stocks even with relatively low returns rather than investing in stocks that are questionable in *Shariah* (i.e. MH). This is consistent

with the idea that investors may be willing to accept a lower return in order for their investments to not compromise their beliefs (Gregory and Whittaker, 2007; Renneboog et al., 2008a; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011). Some interviewees also suggested that PH investors could diversify by investing across all GCC stocks markets. Thus, Islamic fund managers need to be active fund managers focusing on certain sectors and markets in different market conditions.

Fifth, the interviewees revealed that AAOIFI's financial screening criteria are widely adopted by Islamic funds in the GCC, and they knew that AAOIFI had changed its financial screening criteria in 2006 to use market capitalization instead of total assets. Most interviewees believed that this change was intended to widen the *Halal* asset universe. However, the analysis of companies' annual reports reveals that the use of AAOIFI (2006) during the GFC resulted in a sizeable number of MH equities being re-categorised as MS stocks, as the market capitalization of all listed companies dropped leading, for example, to higher interest-bearing debt to market capitalization ratios. However, in terms of performance, the different *Halal* portfolios created based on the different AAOIFI financial screens was not significantly different, as revealed from the parametric and non-parametric statistical tests and the risk-adjusted performance.

Sixth, the screening results presented in Chapter 6 show that *Halal* stocks shrink in number if financial screening thresholds are halved although this does not affect performance. This may be because the loss in the number of MH stocks is compensated for by the lower interest-bearing gearing ratio of the individual companies suggested by the halved financial screening thresholds, as previous studies report a negative relationship between stock returns and firms' gearing, especially during downturn markets (Penman et al, 2007; George and Hwang, 2010; Bhatt and Sultan, 2012). Such a result is similar to that of Abdullah et al. (2007), Hassan



(2009), Hoepner et al. (2011) and Ashraf (2013), who found that Islamic funds perform better than conventional ones, especially in an economic downturn, due to the lower levels of leverage from the equities they hold. This implies that ‘tightening’ the MH stocks’ financial screening thresholds is a viable option, that would not cause Islamic funds to underperform conventional ones, and is better than banning MH stocks totally or only investing in PH stocks.

Seventh, Chapter 7 shows that using a *Shariah*-compliant alternative (*Murabahah* rate) as the risk-free rate did not seem to significantly impact on the risk-adjusted returns of *Halal* portfolios. This finding was expected by some interviewees who thought that moving away from the conventional interest-based benchmark is difficult due to the correlation between the conventional and Islamic rates that are dominated by the conventional financial system. Nonetheless, the recent IIBR launched by Thomson Reuters opens the door for future empirical investigation as it could provide the Islamic finance industry a rate that reflects its own unique identity. This supports the interviewee’s views that developing an alternative performance evaluation model that avoids interest-based benchmarks would be an essential step forward towards a pure Islamic capital market among Muslim countries.

Finally, the interview analysis as the well as content analysis suggest that the *Shariah*-compliant equity investment screening process is dynamic in nature that requires laborious efforts, and is time consuming, especially given that accounting information is not prepared for *Shariah*-compliant investors. The screening analysis and interviews show an inadequate level of disclosure for assessing Sharia-compliance from the companies’ annual reports. Hence, there is a need for harmonizing the *Shariah* screening criteria, as suggested by Derigs and Marzban (2008) and Abdul Rahman et al. (2010), to have one unique list of *Halal* stocks for all individual investors and Islamic funds, as in Malaysia (Rahimie, 2010; Abdul Rahman et al.,

2010). This accords with Derigs and Marzban (2008), as it was unclear in this study whether or not certain items were *Halal* (e.g. other income, cash in banks, debt, other investments, investment in securities, and other liabilities). Therefore, many interviewees called for the development of accounting and auditing standards and a disclosure framework based on Islamic values rather than western ones to reflect the unique characteristics of *Halal* investments, consistent with the recommendation of Karim (2001), Lewis (2001), Kamla et al. (2006), Maali et al. (2006), Haniffa and Hudaib (2007), Kasim et al. (2009), Yaacob and Donglah (2012), and Kasim and Sanusi (2013). Thus, for companies that are not governed purely by *Shariah* (MH and MS), additional disclosures related to *Shariah*-compliance are required so that *Halal* investors know what portion of a company's operations and income are non-*Shariah*-compliant in order to purify it or to decide if it is a *Shariah*-compliant investment. For example, disclosures of whether debt is interest-bearing or *Shariah*-compliant like *Murabahah*. The interviewees suggested that AAOIFI, as an Islamic regulatory body, could coordinate countries' market authorities (i.e. CBK and CMA in Kuwait) to introduce these recommendations.

Overall, the results of the empirical chapters suggest that it is difficult to ban MH completely and only invest in PH stocks in KSE due to the impact of the GFC. However, halving the current AAOIFI financial screening thresholds for MH is possible. This demonstrates that further work needs to be done on PH equity portfolios from GCC stocks markets and this thesis provides a solid ground for additional investigations in the future.

### **9.3 Limitations of the Study**

Although the thesis provides a systematic examination of the issues discussed, it is nevertheless subject to certain limitations. First, though the sample of 58 interviewees

represents a very wide proportion of the Islamic funds industry's population in Kuwait, only six interviews of the 58 were conducted in other GCC countries, namely in Saudi Arabia, Qatar, Bahrain and the UAE. This could make the results biased towards Kuwait, but the 12 interviewed SSBs are the most active *Shariah* scholars in the GCC and around the globe.

Second, the quantitative empirical analyses were restricted in their coverage to Kuwaiti listed equities on the KSE. Therefore, the quantitative empirical findings reflect Kuwait's experience, which may not necessarily be similar to that of other countries, due to the differences in the stock market and Islamic funds industry's environment, regulatory structure, and fund management practice. Nonetheless, the reason for GCC listed companies not being included in the quantitative empirical analyses is because the companies' annual reports were unavailable before 2007 in most countries, which would not allow the analyses to cover the period before the GFC. In addition, companies' annual reports were only available for the Saudi and Omani stock markets in 2008. Further, Oman only launched Islamic banks in 2012, while Bahrain has a very thin, illiquid market.

Third, the thesis only used AAOIFI's 2004 and 2006 financial screening criteria to screen MH stocks, while there are other screening criteria issued by for example the Dow Jones Islamic Index Market index (DJIM), the Financial Times *Shariah* Index (FTSE), the Standard & Poor's Islamic Index and, the Morgan Stanley Capital International Islamic Index (MSCI). This decision was made due to the fact that the interviewees reported that AAOIFI's financial screening criteria are dominant in the GCC. Further, Derigs and Marzban (2008) and Marzban and Asutay (2012) outlined that the main distinction between the different screens is the use of either total assets or market capitalization for calculating ratios. Thus, AAOIFI (2004) captures the screens that use total assets, while AAOIFI (2006) reflects those that use market

capitalization as the denominator for the different financial ratios. In addition, AAOIFI's criteria were chosen because the prior studies on Islamic funds' screening and performance do not use it as the vast majority of studies have been conducted in non-GCC countries, and is therefore a contribution to knowledge.

Fourth, the created hypothetical portfolios used in the quantitative empirical analysis were consistent with a single type of asset, namely KSE listed equities, while, in practice, investment funds may invest in several types of security other than stocks, such as cash, money market instruments, and real estate, in accordance with the fund's asset allocation and investment strategy. Hence, the results of the quantitative analysis do not reflect the performance of multi-asset portfolios.

Fifth, the created portfolios adopt an annual buy-and-hold strategy, rather than an active strategy, but in practice Islamic funds may not do this.<sup>252</sup> Moreover, transaction costs have been ignored in the analysis, as it is deemed to be small in KSE (Almujamed et al., 2013), and varies according to the stock's price range, which changes over time. This is in line with most other empirical studies.

Sixth, some companies were removed from the empirical analyses, even after screening, because the stock data was unavailable. Thus, the CP was created to serve as a relevant benchmark, as well as the KSE index. Further, the Kuwait weekly *Murabahah* returns were calculated only for the bearish period (2010-2011) since data were only available from 2009.

Finally, the *Adjusted – R<sup>2</sup>*, for the GLM was relatively small, although other studies (Fifield et al., 1999; Bilson et al., 2001; Kreander et al., 2005) suffer from a low *R<sup>2</sup>* too. In addition, other factors (e.g. EPS, ownership structure, and capital structure), and macroeconomic factors

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<sup>252</sup> Islamic funds may follow certain investment or allocation strategies and not invest in all of the *Halal* stocks available, or may sell *Halal* stocks for reasons other than the fact that they are non-*Shariah*-compliant.

(e.g. interest rate, oil prices, and GDP) are not investigated as the objective was mainly to examine the impact the *Shariah*-compliance of stocks, rather than to predict or explain all the variations in stock returns.

Nonetheless, despite the aforementioned limitations, the current thesis remains one of the first comprehensive investigations of a topic that has been challenged from a *Shariah* point of view since it was first discussed at the OIC *Fiqh* Academy in Saudi Arabia on 9-14 May 1992. Therefore, this research provides a springboard for future research as presented in the following section.

#### **9.4 Future Research**

Future research on the issues discussed in this thesis could be extended to cover other GCC countries, such as Saudi Arabia, Qatar, and the UAE and whether there are diversification benefits from investing in PH equity portfolios over several GCC stock markets. Further, the potential of establishing an Islamic market among member countries of the Organization of Islamic Cooperation (OIC), free from interest-based or non-*Halal* securities and speculations grounded on Islamic values.

Future research may also measure the extent to which companies and hence their stocks fully embrace Islamic principles. For example, research may examine the *Shariah* screening process covering CSR and environmental issues. This would provide Islamic investors with a broader picture of the additional Islamic values of a firm before making their investment decisions. Thus, positive screens could also be taken into account to see how this would impact *Halal* portfolios creation and performance.

Moreover, future studies might examine the role of the fund management companies, SSBs and regulators in *Shariah* investing. This could include examining the education of Islamic fund managers and investors and their level of awareness of the moral intention and true philosophy behind Islamic investment and explore the extent to which Islamic funds uphold the true spirit of *Shariah* objectives. This could include studies on improving the quality of *Shariah* information dissemination, training for fund managers and Islamic fund prospectuses. Further, future research may explore the roles of SSBs in ensuring the compliance of Islamic funds with *Shariah* guidelines and values, and investigate the roles of regulators in overseeing the Islamic fund industry. For instance, the CBK only oversees IFIs, such as banks, investment and finance companies, insurance companies, and investment funds, while no regulatory body oversees non-financial PH companies to see if they are fully *Shariah*-compliant. Furthermore, it is worth examining the different regulatory frameworks in the GCC that oversee the Islamic funds industry.

It is also worth examining the importance of developing a unified, standardized screening framework and issuing one, unique *Halal* securities list, for the market. Harmonizing the screening criteria would provide a clear, understandable classification that would enhance the credibility and consistency of Islamic equity funds and would make the screening process more efficient and cost effective.

The disclosure practices of companies to examine the *Shariah* screening relevant information in companies' annual reports and their compliance with *Shariah* is an important issue that could be another avenue for future research. Such research could construct a benchmark disclosure index to measure the compliance of companies. Further, a new comprehensive Islamic accounting framework could be explored, based on Islamic values rather than western ones, to reflect the unique characteristics of *Halal* companies as investments since currently no

Islamic accounting standards have yet been designed for Islamic companies (PH) in the non-financial sector. AAOIFI has only developed Islamic accounting standards for IFIs that are even not obligatory in many Muslim countries (Maali et al., 2006).

It would also be interesting to examine the impact of reducing the financial screening thresholds further on portfolio creation and performance under different market conditions.

Income purification also needs examination as it is not included in MH stocks' performance. Thus, the impact of income purification on the performance of MH stocks, as opposed to PH ones, remains an empirical research question that could be to be tested.

Further research might also consider Islamic finance theory as a means of explaining the non-monetary satisfaction that may be achieved through making Islamic, especially PH, investments. Non-monetary satisfaction means meeting investor's utility preferences not just in terms of financial returns, which may include pleasure, or religious beliefs (See Hamilton et al., 1993; Jensen, 2001; Statman, 2005; Beal et al., 2005).

Finally, further extension of the risk-adjusted performance analysis could be conducted using the IIBR established by Thomson Reuters that was designed to be independent of LIBOR instead of the *Murabahah* rate adopted in current study. Moreover, future analysis could empirically test other Shariah-compliant risk-free proxies suggested by some interviewees such as gold or the old Islamic golden currency, Islamic banks' deposit rate, profitability index based on *Musharakah* rate of returns, Islamic investment accounts, government *Sukuk* or leasing *Sukuk*.

## **9.5 Concluding Thoughts**

The current thesis demonstrates the learning process of the researcher; it was a stepping stone into an academic research career that has enhanced my capacity for independent, deep and critical thought. Although working on a research project that involves a new avenue of research was challenging and required a lot of motivation and hard work, it was also extremely rewarding. This PhD journey has developed my skills and understanding, which also relies on my previous working experience in the industry. It helped me challenge and question common standards and norms, and showed me how to put my own intellect and ideas into being constructively critical. This learning journey has boosted my confidence to present my empirical work at conferences and seminars, which will be written up into academic papers for publication in well-known international journals with the support of the supervisors. Further, this research has shown me how to examine other peoples' work critically and has exposed me to potential avenues of future academic research. In addition, it has provided me with the courage and enthusiasm to jump into new areas, even when others have looked at them before, as I have learned that there is always something interesting to find and to develop; it has helped me to value creativity and seek it out, and to think differently from other people in all aspects of life.

No piece of academic research is fully perfect and complete and the current study is not an exception. Overall, despite the limitations and suggestions for future research, the current thesis has significantly contributed to our knowledge about the screening and performance of PH and MH equity investments, and it provides fertile ground for further study.



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## Appendices

### Appendix 1.1: Comparison of AAOIFI's Screening Criteria for Mixed *Halal* Stocks in 2004 and 2006

AAOIFI's Screening Criteria in 2004	AAOIFI's Screening Criteria in 2006
<b>1. Interest revenue to un-<i>Halal</i> (sin) revenue to total revenue of less than 5%.</b>	1. Interest revenue and un- <i>Halal</i> (sin) revenue to total revenue of less than 5%.
<b>2. Interest bearing debt to total assets of less than 30%.</b>	2. Interest bearing debt to <b>market capitalization</b> of less than 30%.
<b>3. Interest bearing Investment and cash to total assets of less than 30%.</b>	3. Interest bearing Investment and cash to <b>market capitalization</b> of less than 30%.

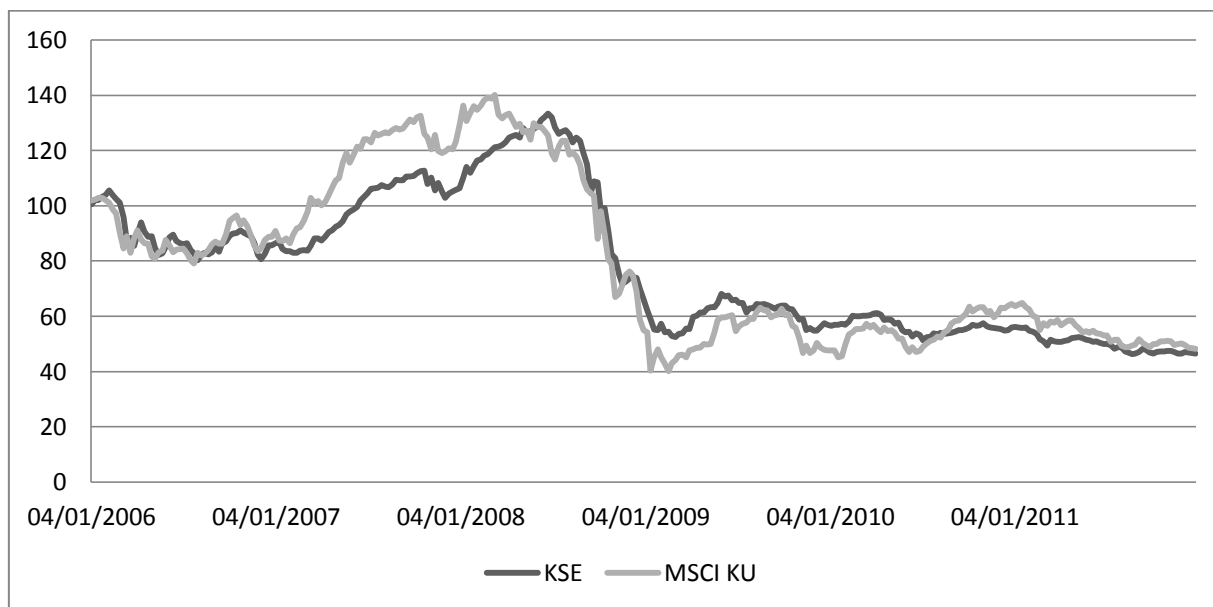
Note: this table compares the financial screening criteria for both AAOIFI's 2004 and 2006 standards. The differences between the two sets of criteria are shown in bold.

### Appendix 2.1: The Area and Population of each GCC Country

Country	Area	Population								
		2005	2006	2007	2008	2009	2010	2011	2012*	2013*
<b>Bahrain</b>	767	0.734	0.749	0.764	0.779	1.039	1.107	1.129	1.151	1.174
<b>Kuwait</b>	17,818	2.991	3.183	3.4	3.442	3.485	3.582	3.682	3.785	3.89
<b>Oman</b>	309,500	2.618	2.67	2.726	2.785	2.883	2.981	3.083	3.18	3.28
<b>Qatar</b>	11,607	0.888	1.042	1.226	1.448	1.639	1.7	1.768	1.839	1.912
<b>Saudi Arabia</b>	2,000,000	23.11	24.12	24.94	25.78	26.66	27.56	28.16	28.78	29.42
<b>UAE</b>	71,024	4.106	4.229	4.488	4.765	5.066	5.218	5.375	5.536	5.702
<b>Total</b>	<b>2410716</b>	<b>34.45</b>	<b>35.99</b>	<b>37.54</b>	<b>39.00</b>	<b>40.77</b>	<b>42.15</b>	<b>43.20</b>	<b>44.28</b>	<b>45.38</b>
		<b>6</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>6</b>		

Note: the area is calculated in square kilometers and the population in millions of people. Source: the International Monetary Fund (IMF) data and statistics (2012). \* The figures for the years 2012 and 2013 are estimated.

## Appendix 2.2: The Performance of the official KSE index and MSCI Kuwait index



Note: this figure compares the performance of the official KSE and MSCI Kuwait index, index from 100 points from the 4/1/2006-31/12/2011 based on weekly prices.

## Appendix 2.3: The Stock Price Maximum Daily Change

Stock Price Range (Fils)	Unit Change (Fils)	Max Daily Change (5 Units)
<b>1-50</b>	0.5	5x0.5 = 2.5 Fils
<b>51-100</b>	1	5x1 = 5 Fils
<b>102-250</b>	2	5x2 = 10 Fils
<b>255-500</b>	5	5x5 = 25 Fils
<b>510-1000</b>	10	5x10 = 50 Fils
<b>1020-2500</b>	20	5x20 = 100 Fils
<b>2520-5000</b>	20	5x20 = 100 Fils
<b>5050-9900</b>	50	50X5 = 250 Fils

Note: This table shows the maximum daily price changes per stock based on its price range. The One Kuwaiti Dinar (K.D) is equivalent to 1,000 Fils. The price is not permitted to increase or to decrease more than 5 units per day. For example, a stock with a value of 300 Fils cannot increase more than 325 Fils or decrease less than 275 Fils daily during its daily trading.

Source: KSE official website: <http://www.kse.com.kw/KSE/Trading.aspx>

## Appendix 2.4: the Differences between Islamic and Conventional Banking

Conventional Banking	Islamic Banking
The functions and operating modes of conventional banks are based on man-made principles.	The functions and operating modes of Islamic banks are based on the principles of Islamic <i>Shariah</i> . Thus, they have to have a SSB that play a significant role in ensuring <i>Shariah</i> compliancy.
The investor is assured of a predetermined rate of interest.	In contrast, it promotes risk sharing between provider of capital (investor) and the user of funds (entrepreneur).
It aims at maximizing profit without any restriction.	It also aims at maximizing profit but subject to <i>Shariah</i> restrictions.
It does not deal with <i>zakat</i> .	In the modern Islamic banking system, it has become one of the service-oriented functions of the Islamic banks to collect and distribute <i>zakat</i> .
Lending money and getting it back with interest is the fundamental function of the conventional banks.	Participation in partnership business is the fundamental function of the Islamic banks.
Its scope of activities is narrower when compared with an Islamic bank.	Its scope of activities is wider when compared with a conventional bank. It is, in effect, a multi-purpose institution.
It can charge additional money (compound rate of interest) in case of defaulters.	The Islamic banks have no provision to charge any extra money from the defaulters.
In it very often, bank's own interest becomes prominent. It makes no effort to ensure growth with equity.	It gives due importance to the public interest. Its ultimate aim is to ensure growth with equity.
For interest-based commercial banks, borrowing from the money market is relatively easier.	For Islamic banks, it is comparatively difficult to borrow money from the money market.
Since income from the advances is fixed, it gives little importance to developing expertise in project appraisal and evaluations.	Since it shares profit and loss, Islamic banks pay greater attention to developing project appraisal and evaluations.
Conventional banks give greater emphasis on credit-worthiness of the clients.	Islamic banks, on the other hand, give greater emphasis on the viability of the projects.
The status of a conventional bank, in relation to its clients, is that of creditor and debtors.	The status of Islamic bank in relation to its clients is that of partners, investors and trader.
A conventional bank has to guarantee all its deposits.	Strictly speaking, an Islamic bank cannot guarantee all its deposits.

Note: this table shows the differences between conventional and Islamic banking system.

Source: (Ahmad and Hassan, 2007)

### Appendix 3.1: Summary of Studies on the Performance of Ethical Investments

Author(s)	Methods, Sample, and Period	Key findings
<b>Luther et al. (1992)</b>	Compared 15 U.K. ethical funds with two market indices (domestic and international) from Dec. 1972- Jun.1990 using monthly data.	Weak evidence that ethical funds outperformed both indices measured by Jensen alpha and Sharpe ratio.
<b>Hamilton et al. (1993)</b>	Compared 32 U.S ethical funds with 170 random conventional funds from Jan. 1981- Dec.1990 using monthly data	No statistical performance difference measured by Jensen alpha.
<b>Luther and Matatko (1994)</b>	9 U.K ethical funds from the period 1985-1992	Ethical funds performed better when evaluated against a small company benchmark than when using the financial times all share index.
<b>Diltz (1995)</b>	Compared the performance of 14 constructed equity portfolio pairs of U.S 159 firms according to their compliance with 11 ethical screens classified to either good, fair (for mixed results), or poor, using daily stock price data from Jan.1989-Dec.1991	Ethical and social screening appears to have little, if any, effect on portfolio returns. Significant differences occur between alphas for portfolios rated good and poor only when military and nuclear involvements are scrutinized. The excess returns showed that enhanced performance comes from applying environmental and charitable giving screens, and negative performance comes from applying the family benefits screen.
<b>Mallin et al. (1995)</b>	29 U.K ethical funds directly compared with 29 'non-ethical' funds matched based on funds' size and formation data from Jan. 1986- Dec.1993, using monthly data.	Ethical funds underperformed non-ethical matched funds and market index. But some evidence of superior risk-adjusted performance of ethical funds using Jensen, Sharpe, and Treynor measures.
<b>Bal and Leger (1996)</b>	Analyzed the Performance of 92 UK investment trusts over the period 1975 to 1993.	Weak evidence of superior performance of UK funds by Jensen and Treynor measures.
<b>Gregory et al. (1997)</b>	Compared 18 U.K ethical funds with 18 'non-ethical' funds using a matched pair analysis based on age, size from Jan. 1986- Dec.1994. Examine the impact of funds characteristics on the performance of 108 funds (16 ethical and 92 non -ethical). Investigated the small firm's effects on funds' performance (13ethical and 74 non-ethical)	Lower returns but not significantly different. Both groups underperform the FTSA benchmark index. The age of a fund appears to be an important factor affecting each fund's alpha measure, while the size of a fund and its ethical status are found to be insignificant. Ethical funds have greater exposure to small firm's size.
<b>Sauer (1997)</b>	Examined the performance of Domini 400 Social Index (DSI) , S&P500 and CRSP value weighted market index from 1986-1994 using Jensen's alpha and Sharpe ratio.	No adverse impact of socially responsibility screens on investment performance.
<b>Statman (2000)</b>	Compared 31 U.S ethical funds with 62 'non-ethical' funds and two indices (S&P500 and DSI). Each ethical fund was matched with two non-ethical funds based on funds' asset size, from 1990-1998, using monthly data.	Ethical funds performed better, but differences are not statistically significant. Both types of funds underperformed the market. Used Jensen alpha and modified Sharpe measures for the risk-adjusted performance. The risk-adjusted returns of the DSI were slightly lower than those of the S&P 500, but the difference was not statistically significant.
<b>Kreander et al. (2002)</b>	Studied the performance of 40 ethical funds from 7 European countries from the period Jan. 1996- Dec. 1998 using weekly	Most funds seemed to outperform the benchmark index as measured by the Jensen and the Treynor performance measures but not statistically



	data	significant. The index slightly outperformed the average fund based on Sharpe ratio. Size was positively related to good fund performance as measured by the Jensen alpha, but neither the universe nor the country factors were significant. No evidence of a significant positive market timing ability.
<b>Bauer et al. (2005)</b>	Examined the performance of 103 German, U.K., and US ethical, conventional funds, and international, domestic, and ethical indices, using Jensen alpha and investment style using Carhar (1997) 4 factor model from 1990-2001 using monthly data.	No statistically significant difference in performance (Jensen alpha) between ethical and conventional mutual funds. Ethical funds were less exposed to market return variability compared to conventional funds. U.K. and German ethical funds are heavily exposed to small caps, while US ethical funds invest more in large caps compared to their conventional peers. Ethical indices perform worse than conventional indices in explaining ethical mutual fund returns.
<b>Kreander et al. (2005)</b>	Analyzed the performance of 30 European ethical funds and 30 non-ethical funds employing a matched pair approach based on age, size, country and investment universe. The four countries are Germany, Netherlands, Sweden, and U.K) from Jan.1995-Dec. 2001 using weekly data.	No significant risk-adjusted performance difference between ethical and non-ethical funds measured by Jensen alpha, Sharpe, and Traynor ratios. Neither type of fund displayed any ability to time the market. Management fee is a significant explanatory variable for the Jensen measure.
<b>Derwall et al. (2005)</b>	Examined the performance of Stock portfolios composed of U.S. companies based on eco-efficiency <sup>253</sup> ranking (via a best-in-class stock selection strategy) over the 1995–2003 period.	The high ranked portfolio provided substantially higher significant returns than its low-ranked counterpart. Suggesting that the benefits of considering environmental criteria in the investment process can be substantial contrary to the portfolio and asset pricing theory.
<b>Statman (2006)</b>	Compared the returns of the four SRI indexes and the returns of the conventional S&P 500 index during May 1990-April 2004.	Returns of SRI indexes generally exceeded returns of the S&P 500 index but Jensen's alphas are not statistically significant. Correlations between the returns of SRI indexes and the S&P 500 are high.
<b>Girard et al. (2007)</b>	Investigating the performance of 117 U.S ethical funds (equity, bond, and balanced) and appropriate style benchmarks, from Jan. 1984-Dec. 2003	Found evidence of poor selectivity and market timing ability on the part of ethical fund managers. Equity funds' size had not impact on performance. Funds with the most ethical screens have the least selectivity performance and lack diversification.
<b>Schröder (2007)</b>	Analyzed the performance of 29 international ethical equity indices with conventional benchmarks. <sup>254</sup> From the	Ethical screens for equities neither lead to a significant out-performance nor an underperformance compared to the benchmarks based on Jensen

<sup>253</sup> According to Derwall et al. (2005) eco-efficiency measures the environmental performance of a company and can be described as the ratio of the value a company adds (e.g. by producing products) and the wastes the company generates resulting from the creation of that value. See Schaltegger et al. (2003). Derwall et al. (2005) obtained rating data from Innovest Strategic Value Advisors to proxy for corporate eco-efficiency.

<sup>254</sup> The Ethical indices used such as families Dow Jones Sustainability indices (DJSI), Ethical, FTSE4Good, Humanix and KLD covering different international investment areas. Seven indices have a global investment universe and ten cover European stocks, of which four concentrate on the euro area. The other 12 indices contain stocks of single countries (number of indices in brackets): Australia (1), Canada (1), Sweden (1), the United Kingdom (2) and the United States (7). Most indices concentrate on stocks with a large market capitalization and aim to sufficiently represent the market capitalization of the stock market. Hence, Schroder (2007) argues that small cap bias, the relatively high investment weight of stocks with a low market capitalization, which has been found in several studies (Luther et al., 1992; Schroder, 2004; Bauer et al., 2005), would not affect his study.

	starting date of each index till the end of Dec. 2003 <sup>255</sup> on monthly basis.	alpha and Sharpe ratio. 19 out of the 29 ethical indices exhibited a higher risk exposure measured by $\beta$ .
<b>Consolandi et al. (2009)</b>	Investigated the performance of the DJSSI compared to the Surrogate Complementary Index (SCI) <sup>256</sup> in European countries, over the full 2001–2006 and sub-periods, using daily data time series data.	The performance of ethical companies in the ethical index performed as well as that of the other firms in the conventional index using excess returns and Sharpe ratio.
<b>Lyn and Zychowicz (2010)</b>	Analyzed the performance of 43 faith-based funds against Domini 400 Social Index (DS400) as a proxy for the performance of SRI and S&P 500 Index, during the period during from May 2001 to Feb.2008 on monthly basis.	The faith-based funds did better than SRI funds in general. They also found that additional faith and social value screens used by these funds do not hinder their performance relative to the market overall. Measured by Jensen alpha, Sharpe, Trynor, information ratios.
<b>Carosella et al. (2012)</b>	Compared the performance of a Catholic ethical values portfolio of large cap 500 U.S stocks that is ranked as defined by IWFinancial (IWF) according to compliance such screens <sup>257</sup> and benchmarked against various ethical and conventional indices, from May 1998-Dec.2007, using monthly data.	The bottom quintile of the ethical rankings provided better performance results on a risk–reward basis (Jensen alpha, Share ratio, Treynor ratio, and the reward to semi variability ratio) than top quintile of the ethical rankings. They explained their finding based on the performance of economic performance of different sectors. As high ethical returns high CSP sectors; financials and consumer discretionary have poor performance, while low ethical sectors; energy and industrials have high CFP results.
<b>Ortas et al. (2012)</b>	Analyzed the performance of the mainstream ethical equity index in emerging markets in the Latin American context: the Brazilian Corporate Sustainability Index (BCSI), from 2007-2010.	Found evidence that there is no risk or return disadvantage in bullish market periods. However, the financial crisis led the ethical index to take a riskier and less profitable portfolio as they were more sensitive to changes in the market cycle, whereas its benchmark comprises more stocks in ‘sin’ sectors that are not affected to the same extent. <sup>258</sup>

Note: this table shows a summary of previous studies on the performance of ethical investments. For each study, the table reports the countries studied, the data and time period and finally the key findings.

<sup>255</sup> The start date varies across indices (e.g. KLD1 starts at June 1990, while FT1 starts at Aug. 1996)

<sup>256</sup> Dow Jones Sustainability Stoxx Index (DJSSI) focuses on the European corporations with the highest CSR scores among those included in the Dow Jones Stoxx 600 Index. The Surrogate Complementary Index (SCI) is a benchmark built by the authors to include only companies that do not belong to the ethical index to serve as an unbiased conventional index, because any official conventional index includes ‘ethical’ companies that may blur the findings Consolandi et al. (2009). DJ stoxx 600 Index contained 556 stocks, while DJSSI and SCI contained 137 and 419 stocks respectively.

<sup>257</sup> IWFinancial (IWF) allows users to construct SRI scores based on a user-specified SRI profile. In the IWF database, different overarching issues and specific social and ethical practices can be excluded or given “high,” “medium,” or “low” according to their compliance with such screens (Carosella et al., 2012). Their rankings were done with IWFinancial data available on June 27, 2007 as the IWFinancial does not maintain a history of its database.

<sup>258</sup> Unlike, all the literature on ethical investments that used the signal factor model and multifactor models (static analysis) Ortas et al. (2012) used a dynamic analysis of its time-varying behavior of the alphas and betas arguing that will provide more robust insights about the BCSI performance.

### Appendix 3.2: Summary of Studies on the performance Islamic Investments

Author(s)	Methods, Sample, and Period	Key findings
<b>Mueller (1994)</b>	Compared the risk-adjusted returns of the Amana Income Fund (Islamic fund) in U.S as his only sample with a conventional fund and index, from 1987-1992 using annual data.	The Amana income fund underperformed the conventional index and fund measured by Traynor ratio. Thus he evidence to support the <i>cost-of-discipleship</i> hypothesis which suggests that ethical based investment suffers additional costs on investment return.
<b>Hakim and Rashidian (2004)*</b>	Compared the performance of DJIM, Dow Jones World Index (DJW) and Dow Jones Sustainability World Index (DJS) using weekly data from Jan. 2000- Aug. 2004, employing CAPM measures.	The total fluctuations in the DJIM index have been in line with other two indices during the full period and bear market sub-period (2000-2002). The DJIM index has done as well as the DJW, however measured against the DJS index, the performance of the DJI has been lacking.
<b>Hussein (2004)</b>	Compared the performance of the FTSE Global Islamic index with FTSE All-World Index and FTSE4Good index during the sample period 1996-2003, using monthly data. Using Jensen, Sharpe, Treynor measures.	FTSE Islamic index performed as well as the FTSE All-World index over the entire period. Gained positive returns in the bull market period, but underperformed in the bear market period. FTSE4Good index has the best performance during the entire and bull markets periods but underperforms the FTSE All-World index during the bear market. In general, they concluded that there is no adverse effect on FTSE Islamic index.
<b>Hussein and Omran (2005)</b>	Examined the performance of DJIM and sub-indices (based on size and industry) and their DJ counterparts, using monthly data obtained from DJ data bases covering a full period from 1996- 2003, using Jensen, Sharpe, Treynor measures, as well as non-parametric test to measure the significance of indices returns.	Islamic indices yield significant positive returns over the full and the bull market periods, then they underperform their index counterparts over the bear market period (but not statistically significant). They argued that positive returns may be attributed to small firm effect and low gearing of firms in DJIM index. While the underperformance could be due to the removal of several alcoholic beverage firms when they were among the best performers during the bear market.
<b>Abdullah et al. (2007)</b>	Investigated the performance of 14 Islamic funds and 51 conventional mutual funds in the Malaysian over the period 1992- 2001 using monthly data. Jensen Alpha, Sharpe, adjusted Sharpe, Modigliani measure.	Islamic funds performed better than the conventional funds during bearish market, while conventional funds showed better performance than Islamic funds during bullish market. They implied that implies that Islamic funds can be used as a hedging instrument during bad economic conditions. Conventional funds were better diversified.
<b>Abderrezak (2008)*</b>	Studied the performance of 46 Islamic and ethical Equity funds divided in different regions, measured against 3 benchmarks during January 1997 to August 2002. He used Sharpe measure, and Fama and French (1993) model to evaluate funds investment style.	Islamic funds in the west did poorly against their respective indices. Islamic funds are exposed to small cap firms and also a preference for growth preference stocks. No significant difference between ethical and conventional funds was detected. Finally, Islamic funds do suffer from lower diversification
<b>Girard and Hassan (2008)</b>	Compared the performance of 5 FTSE Islamic with conventional series classified into regions, over the period Dec.1998-Dec.2006 on monthly basis. Used Carhart (1997) 4 factor model in addition to Jensen, Sharpe, Treynor measures.	Did not find strong evidence of performance differences between Islamic and non-Islamic indices peers. They found that Islamic indices are growth and small-cap oriented and conventional indices are relatively more value and midcap focused. They indicated that Islamic indices exclude value sectors with higher environmental risks, such as chemical, energy, and basic industries.
<b>Albaity and</b>	Measured the risk and return	Found no evidence of significant statistical

<b>Ahmad (2008)</b>	performance of the Kuala Lumpur Syariah Index (KLSI) and the Kuala Lumpur Composite Index (KLCI) during 1999-2005.	differences in risk-adjusted returns between Islamic and conventional stock market indices.
<b>Derigs and Marzban (2009)</b>	Examined the impact of the different <i>Shariah</i> financial screens on portfolio performance of S&P 500 index companies on the 17 <sup>th</sup> of Sep. 2007 using a Mean-Variance model to create efficient frontiers.	The <i>Shariah</i> -compliance portfolios underperformed the unrestricted portfolio. The <i>Shariah</i> -compliant portfolios that use market capitalization based ratios in their financial screens outperform those which use total assets based ratios.
<b>Merdad et al. (2010)</b>	Analyzed the performance of a sample of 28 Islamic and conventional mutual funds managed by HSBC in Saudi Arabia <sup>259</sup> , from January 2003 to January 2010 employing Jensen, Sharpe, Treynor measures.	Islamic funds underperform conventional funds during full period and bullish period, but they over perform them during bearish and financial crisis period. Hence, they implied that Islamic mutual funds do offer hedging opportunity for investors during economic downturns.
<b>Hassan et al. (2010)</b>	Compared the performance of 80 funds in Malaysia (30 Islamic and 50 conventional) from Nov. 2005-Jan.1996 on a monthly basis. Using Jensen, Sharpe, Treynor measures and Carhart (1997) model.	They did not find performance differences between the two investment groups. Conventional funds were value-focused while Islamic funds were small cap oriented.
<b>Rahimie (2010)</b>	Examined the return and risk characteristics of <i>Shariah</i> compliant, non- <i>Shariah</i> compliant, and unrestricted portfolios <sup>260</sup> in Malaysia from 1989 to 2008 divided to four sub periods, using annual data. Employing Jensen, Sharpe, Treynor measures.	Statistical results show that the return of <i>Shariah</i> compliant portfolio is not significantly different from conventional portfolio. However, the non- <i>Shariah</i> -compliant portfolio outperformed the <i>Shariah</i> compliant ones as they were able to invest in large capitalized.
<b>Alam and Rajjaque (2010)</b>	Analyzed the performance of three constructed portfolios based on the constituents of S&P Europe 350 to represent the market, the market without the financial companies and the market of <i>Shariah</i> -compliant companies from 2007-2009 on weekly basis using Jensen and Sharpe measures.	The portfolio of <i>Shariah</i> -compliant equities performs better than the other two portfolios during the crisis. Nevertheless, the <i>Shariah</i> -compliant portfolio tends to slightly underperform when the market is generally trending upward.
<b>Hayat and Kraeussl (2011)</b>	Analyzes the return and risk characteristics of 145 Islamic funds across five regions benchmarked against Islamic and conventional indices, over the period 2000 to 2009 using CAPM, employing weekly data.	Islamic funds underperform both their Islamic and conventional benchmarks, which have been worse during the GFC period. This could be because they are young funds. Globally invested Islamic funds did less than locally invested ones.
<b>Hoepner et al., (2011)</b>	Studied the performance and investment style of 265 Islamic funds from 20 different countries in five regions from Sep.1990-April 2009 on monthly basis. They used CAPM and	Islamic funds from the Muslim prominent countries, especially the six largest Islamic financial markets (GCC and Malaysia) are competitive to their respective benchmarks, while those from Western nations with less <i>Shariah</i> -compliant assets tend to

<sup>259</sup> The 28 funds used in Merdad et al. (2010) sample include different types of securities: equity, bond, balanced, and money market. Not all funds invest in Saudi Arabia, as some of them invest globally or in Arab countries.

<sup>260</sup> The *Shariah*-compliant stocks were identified based on the list of *Shariah*-approved securities provided by the Securities Commission of Malaysia (SC) issued on 28th November 2008. Non-*Shariah*-compliant portfolio are stocks of companies that fail to comply with SC, and unrestricted or conventional portfolio includes all stocks.

	Carhart models.	significantly underperform. Islamic funds investment style is slightly towards growth stocks, and small cap preference in predominantly Muslim countries.
<b>Mansor and Bhatti (2011)</b>	Evaluating the monthly aggregate raw returns of the 128 Islamic mutual funds and 350 conventional mutual funds from 1996-2009 by only using statistical t- test.	There is no significant different between the mean returns of the Islamic fund's portfolio and that of the conventional funds' portfolio. Yet, the Islamic portfolio is riskier than the conventional portfolio (measured by standard deviation). Both portfolios are highly correlated with the market.
<b>BinMahfouz and Hassan (2012)</b>	Examined the performance of 55 Islamic and 40 conventional funds in Saudi Arabia but matched based on their geographical focus, between July 2005-July 2010 on a monthly basis, using CAPM and Fama-French models.	Islamic funds performed as well as their conventional counterpart's pairs and indices. The systematic risk measured by $\beta$ reveals that Islamic funds in most cases tend to be less exposed to market risk than their conventional ones. Islamic funds do not seem to be influenced to target smaller size stocks.
<b>Shah et al. (2012)</b>	Compared the performance of 35 Islamic with 94 conventional funds in Pakistan, using daily data from the time of their incentive to November 2011 using Jensen, Sharpe, Treynor, Modigliani & Modigliani measures.	Islamic funds showed lower average risk rate with higher average return but both funds provide less returns than the risk-free rate. Interestingly, they found that conventional funds are less diversified due to their higher volatility.
<b>Lobe et al. (2012)</b>	Explored the performance of 155 Islamic indices aggregated into three groups (global, regional, domestic) from data of availability to June 2012, using CAPM and Carhart models.	Did not find evidence of an out-or underperformance by Islamic indices. Islamic indices showed but significant positive alphas for the recent bear market. Islamic Indices based on different screens (MSCI or DJIM) did not impact their performance.
<b>Walkshäusl and Lobe (2012)</b>	Analyzed the performance of 35 Islamic indices (21 from developed markets and 14 emerging markets) from MSCI against their respective market benchmarks during the period 2002–2011 on monthly basis. Employing Sharpe ratio, CAPM, and Carhart models.	The performance of Islamic indices and conventional benchmarks is similar. However, they found significant outperformance of Islamic indices in developed market during the recent GFC. As this is related to the decline of financial stocks that are excluded in Sharia-compliant indices. Islamic indices tend to invest particularly in large-capitalization stocks in emerging markets.
<b>Ashraf (2013)</b>	Examined the performance of 159 investment funds in Saudi Arabian from 2007 to 2011 by using the CAPM regression.	Found evidence of better performance of Islamic funds compared to conventional ones GFC.

Note: this table summarizes the previous studies on the performance of Islamic equity investments. For each study, the table reports the countries studied, the data and time period and finally the key findings.

\*Denotes unpublished conference papers.

## Appendix 4.1: Interview's Authorization Letter



UNDEE

CVH/AEA

School of Business

ACCOUNTING & FINANCE

30<sup>TH</sup> May 2013

Kuwait Culture Office  
Embassy of the State of Kuwait  
60A Knightsbridge  
LONDON  
SW1X 7JX

Dear Sir

**Khaled Alotaibi**

Khaled is working very hard on the final write up of his PhD thesis. However, he is behind schedule as he has had a number of disruptions during his study. First, his co-supervisor left the University of Dundee so Khaled only had one supervisor for a number of months while we found a replacement. Then a year ago his main supervisor, myself, left the UK to go to Australia and I am now supervising Khaled remotely across a large distance which makes it far more difficult than when I used to see him every week. These reasons have left Khaled severely disadvantaged and although we hope he will submit this year it would be prudent to extend his studies until June 2014 to give him time to have his viva voce and do any corrections as well as work on academic papers for publication in well-known international journals.

Yours faithfully

A handwritten signature in blue ink that reads "Alison Anderson".

› **Professor Christine Helliar**

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## Appendix 5.1 Interview Questions

### Background information:

Participant:

Age:  20-30,  30-40,  40-50,  over 50

Years of experience:

Professional Qualifications:

Educational background:

### A. *Shariah* portfolios

1. How do you classify and define *Halal* stocks?
2. Have the number of pure and mixed *Shariah*-compliant companies increased over the last ten years in GCC stock markets? If so, what have been the main drivers to such growth?
3. Is there a growing demand by investors seeking for *Halal* investments in GCC stock markets?
4. Why do you think investors invest in Islamic funds, are they profit driven or religious driven?
5. What factors influence the performance of Islamic funds?
6. How do you allocate your investments across sectors or markets?
7. What type of stocks do you hold in your funds (large, small,..others)?
8. How do Islamic and conventional funds differ in terms of: size, operating cost, performance?
9. Are there any diversification benefits of Islamic investing in different GCC markets? Are there any diversification opportunities for western ethical investors or Islamic investors?
10. What was the impact of the recent financial crisis on the investment funds (*Halal* vs. non-*Halal*)?

### B. *Shariah* Screening Criteria

11. What criteria do you apply (positive and negative) in screening mixed *Shariah*-compliant stocks for your Islamic funds?
  - A. qualitative screens; (tobacco, alcohol, gambling, conventional financial services) any involvement or core business?

- B. quantitative screens or financial criteria (interest ratios, leverage, non-permissible ratios)
12. What criteria do you apply in screening pure *Halal* stocks for your Islamic funds?
  13. What do you use for screening; annual accounts, information providers, company managers?
  14. In order to include an investee company in an Islamic fund, is it sufficient to accept its claim that is Islamic, or do you investigate further? For example KFH (Islamic Bank).
  15. Do all your funds follow the same screening criteria?
  16. How often are your portfolios screened?
  17. Do different *Shariah* screening threshold levels produce variations in the *Halal* asset universe that can be selected from?
  18. What are the advantages and disadvantages of using total assets over market cap. in screening criteria? Which is more sensitive to market movements? Which is more reliable from a *Shariah* perspective?
  19. How often do SSB auditors review investment funds to ensure full compliance with *Shariah*?
  20. What happens if a *Halal* stock becomes non *Halal*, what do you do?
  21. Do SSB or Fund managers have influence over investee companies and encourage them towards more *Shariah* compliant?

### **C. Islamic Portfolios' Performance and evaluation**

22. Do *Shariah* screening criteria hinder you from achieving an efficient or profitable portfolio?
23. Can you select stocks from a *Shariah* screened universe that can outperform any market indices?
24. What is the minimum number of stocks required to diversify your portfolios? Are there enough *Halal* stocks (Islamic or compliant) to diversify and achieve a profitable and efficient portfolio?
25. Is there a penalty for investing in pure or mixed companies?
26. Does *Shariah* screening discourage investment in leveraged companies? If yes, why? Is it because of interest or the ban on trading debt? What if there are Islamic debts?
27. What is the *Shariah* rationale behind the thresholds: 5%, 25%, 30%, and 33% 50% in the financial screening?
28. Is there a need to harmonize *Shariah* screening criteria? Should there be one unique list for all Islamic funds?
29. If you invest in mixed companies, do you purify your portfolio earnings and when and how (on cash dividend or capital gains)? and where does this



- amount go to? Does this earnings purification affect your portfolio profitability?
30. Is it more efficient to invest in pure stocks, as there will be no need to purify earnings?
  31. Given the fact that the number of pure Islamic investee companies has increased rapidly in the GCC stock market over the few years, should it still be permissible to invest in mixed stocks?
  32. How do you measure the performance of your portfolios?
  33. How do you measure risk?
  34. Do you think that using an interest-based benchmark is against Islamic finance principles?
  35. Do you use the risk free interest rate in your performance evaluation, such as the Sharpe ratio?
  36. What could be a *Shariah*-compliant alternative for the risk free rate? Is a *Mudarabah* investment account, as used in Malaysia or gold suitable to proxy for the risk free rate?
  37. Do you think that Islamic funds require different performance measures from western ones based on unique *Shariah* foundations?
  38. Why do you think there are no Islamic alternative performance measures?

#### **D. Islamic indices/benchmarks**

39. Which benchmarks do you use to compare your portfolio performance?  
Does it differ depending upon whether it is a pure or mixed portfolio?
40. Are there any pure Islamic Indices in any GCC or other stock markets?
41. Is there a need for a pure Islamic index in the GCC or globally?
42. Can an Islamic index be created of pure *Halal* investments?

**Appendix 6.1: The Final Screening Results for Mixed Companies over the 2005-2010 Period Based on AAOIFI 2004 Screening Criteria, Ranked According to their Market Value in Million (K.D)**

Company Code	Sector	MV	% of Total	% of Mixed	Compliant With AAOIFI 2004 Screening Criteria					
					2005	2006	2007	2008	2009	2010
ZAIN	Services	5377	16.24	33.83	MH	MH	MH	MH	MS	MH
AGLTY	Services	1014	3.06	6.38	MH	MH	MH	MH	MH	MH
NMTC	Services	999	3.02	6.28	MH	MH	MH	MH	MH	MH
NIND	Industrial	949	2.87	5.97	MS	MS	MS	MS	MS	MS
FOOD	Food	624	1.89	3.93	MH	MH	MH	MH	MH	MS
KCEM	Industrial	465	1.41	2.93	MH	MH	MH	MS	MS	MS
CABLE	Industrial	381	1.15	2.39	MH	MS	MH	MS	MS	MH
MABANEE	Real Estate	368	1.11	2.32	MH	MS	MH	MS	MS	MH
BPCC	Industrial	334	1.01	2.10	MH	MH	MH	MS	MS	MH
NRE	Real Estate	281	0.85	1.77	MH	MH	MS	MS	MS	MS
ALQURAIN	Industrial	278	0.84	1.75			MS	MS	MH	MH
ALNAWADI	Services	225	0.68	1.41						MH
SULTAN	Services	189	0.57	1.19	MH	MS	MS	MS	MS	MS
SRE	Real Estate	145	0.44	0.91	MS	MS	MS	MS	MS	MS
MAZAYA	Real Estate	139	0.42	0.87	MH	MH	MH	MH	MH	MH
NICBM	Industrial	134	0.41	0.85	MH	MH	MH	MS	MH	MH
TAM	Real Estate	129	0.39	0.81	MH	MS	MS	MS	MS	MS
IKARUS	Industrial	121	0.37	0.76				MS	MH	MH
THEMAR	Real Estate	118	0.36	0.74	MH	MS	MS	MS	MS	MS
CGC	Services	117	0.35	0.74		MH	MH	MH	MH	MH
KRE	Real Estate	115	0.35	0.72	MH	MH	MH	MH	MH	MH
ABAR	Services	114	0.35	0.72	MS	MH	MH	MH	MH	MH
OULAFUEL	Services	114	0.34	0.72		MS	MS	MH	MH	MH
KFOUC	Industrial	111	0.34	0.70	MH	MS	MH	MH	MH	MH
URC	Real Estate	104	0.31	0.65	MS	MS	MS	MS	MS	MS
FIRSTDUBAI	Real Estate	98	0.30	0.62			MH	MH	MS	MH
KGL	Services	98	0.30	0.62	MS	MS	MS	MS	MS	MH
SOOR	Services	93	0.28	0.59				MH	MH	MH
ACICO	Industrial	89	0.27	0.56	MS	MS	MS	MS	MS	MS
CITYGROUP	Services	88	0.27	0.55	MH	MH	MS	MS	MH	MH
PCEM	Industrial	87	0.26	0.55	MH	MH	MH	MH	MH	MH
MENA*	Industrial	87	0.26	0.55	MH	MH	PH	PH	PH	PH
KPPC	Services	81	0.24	0.51	MH	MS	MS	MS	MS	MS
MARIN	Industrial	74	0.22	0.46	MS	MS	MS	MS	MS	MS
PIPE	Industrial	73	0.22	0.46	MS	MS	MS	MH	MS	MS
INJAZZAT	Real Estate	72	0.22	0.46	MH	MH	MS	MS	MS	MS
CATTL	Food	71	0.22	0.45	MH	MH	MH	MS	MS	MH
NAFAIS	Services	70	0.21	0.44	MH	MH	MH	MH	MH	MH

<b>REMAL</b>	Real Estate	69	0.21	0.44						MS
<b>ARGAN</b>	Real Estate	69	0.21	0.44			MH	MH	MH	MH
<b>ATC</b>	Services	67	0.20	0.42			MH	MH	MS	MH
<b>IPG</b>	Services	65	0.20	0.41	MH	MS	MS	MS	MS	MH
<b>LOGISTICS</b>	Services	65	0.20	0.41					MH	MH
<b>MAYADEEN</b>	Services	64	0.19	0.40	MH	MS	MS	MS	MH	MH
<b>SHIP</b>	Industrial	63	0.19	0.40	MH	MH	MH	MH	MS	MH
<b>SHOP</b>	Services	56	0.17	0.35	MS	MH	MS	MS	MS	MS
<b>JAZEERA</b>	Services	56	0.17	0.35			MS	MS	MS	MS
<b>UIC</b>	Industrial	56	0.17	0.35	MS	MH	MS	MS	MS	MS
<b>HITSTELEC</b>	Services	53	0.16	0.33	MH	MS	MS	MH	MH	MH
<b>DANAH</b>	Food	49	0.15	0.31	MH	MH	MH	MH	MH	MH
<b>ARABREC</b>	Real Estate	48	0.15	0.30	MS	MH	MS	MS	MS	MS
<b>AREEC</b>	Real Estate	46	0.14	0.29	MS	MS	MS	MS	MS	MS
<b>ALKOUT</b>	Industrial	44	0.13	0.28	MH	MH	MH	MS	MH	MH
<b>KNA</b>	Services	44	0.13	0.27				MH	MH	MH
<b>SENERGY</b>	Services	43	0.13	0.27	MH	MH	MH	MH	MH	MH
<b>YIACO</b>	Services	40	0.12	0.25			MH	MH	MH	MH
<b>KOUTFOOD</b>	Food	37	0.11	0.23			MH	MS	MH	MH
<b>KBT</b>	Real Estate	36	0.11	0.23				MS	MS	MS
<b>BIHHC</b>	Industrial	32	0.10	0.20						MH
<b>MTCC</b>	Services	31	0.09	0.20		MS	MH	MH	MH	MH
<b>JEERANH</b>	Services	31	0.09	0.20			MH	MH	MH	MH
<b>UREC</b>	Real Estate	31	0.09	0.20	MH	MH	MH	MH	MH	MH
<b>MASSALEH</b>	Real Estate	31	0.09	0.19	MS	MH	MS	MS	MS	MS
<b>SAFTEC</b>	Services	30	0.09	0.19			MH	MH	MH	MH
<b>REFRI</b>	Industrial	30	0.09	0.19	MH	MH	MH	MH	MH	MH
<b>UPAC</b>	Services	29	0.09	0.18			MS	MH	MH	MH
<b>MRC</b>	Industrial	29	0.09	0.18	MH	MH	MH	MS	MH	MH
<b>HUMANSOFT</b>	Services	27	0.08	0.17	MH	MH	MH	MH	MH	MH
<b>FUTURE</b>	Services	27	0.08	0.17			MS	MH	MH	MS
<b>AQAR</b>	Real Estate	26	0.08	0.17	MS	MS	MS	MS	MS	MH
<b>AGHC</b>	Services	26	0.08	0.16	MS	MS	MS	MS	MS	MH
<b>GGMC</b>	Industrial	25	0.07	0.16	MS	MS	MS	MH	MH	MH
<b>KPAK</b>	Industrial	25	0.07	0.15	MH	MH	MH	MH	MH	MH
<b>TAAMEER</b>	Real Estate	24	0.07	0.15	MS	MS	MH	MH	MS	MH
<b>ALMUDON</b>	Real Estate	24	0.07	0.15					MH	MH
<b>EQUIPMENT</b>	Industrial	23	0.07	0.14	MH	MH	MH	MH	MH	MH
<b>HCC</b>	Industrial	22	0.07	0.14	MS	MS	MS	MH	MH	MH
<b>CLEANING</b>	Services	22	0.07	0.14	MH	MH	MH	MH	MH	MH
<b>ALRAI</b>	Services	22	0.06	0.14						MH
<b>SANAM</b>	Real Estate	19	0.06	0.12	MH	MS	MS	MH	MH	MH
<b>NAPESCO</b>	Services	18	0.05	0.11	MH	MH	MS	MH	MH	MH
<b>SAFWAN*</b>	Services	18	0.05	0.11	MH	MH	PH	PH	PH	PH

<b>HAYATCOMM</b>	Services	17	0.05	0.11			MH	MH	MH	MH
<b>POULT</b>	Food	16	0.05	0.10	MH	MH	MH	MH	MH	MH
<b>GFC</b>	Services	16	0.05	0.10	MH	MH	MH	MH	MH	MH
<b>KCPC</b>	Services	16	0.05	0.10	MH	MS	MH	MS	MH	MH
<b>ASC</b>	Services	16	0.05	0.10	MS	MS	MS	MS	MS	MS
<b>MARAKEZ</b>	Real Estate	14	0.04	0.09						MH
<b>PAPER</b>	Industrial	13	0.04	0.08	MH	MH	MH	MH	MH	MH
<b>FUTUREKID</b>	Services	13	0.04	0.08				MH	MH	MH
<b>UFIG</b>	Food	13	0.04	0.08	MH	MH	MS	MH	MH	MH
<b>KSH</b>	Services	10	0.03	0.07	MH	MH	MH	MH	MS	MH
<b>PAPCO</b>	Services	10	0.03	0.06		MH	MS	MH	MH	MH
<b>GYPSUM</b>	Industrial	8	0.03	0.05		MS	MS	MH	MH	MH
<b>KBMMC</b>	Industrial	8	0.02	0.05	MH	MH	MH	MH	MH	MH
<b>NSH</b>	Services	6	0.02	0.04	MH	MH	MS	MS	MS	MS

Note: This table shows the final results of financial screening results of all mixed companies based on their compliance with AAOIFI's (2004) criteria across all the sample period, ordered according to their average market value (MV) as of the average of all 6 years, from large to small, MV in millions K.D. The tables also illustrate the corresponding sector, percent out of the total market value of all stocks, percent out of the market value of mixed stocks including mixed *Halal* (MH) and mixed sin (MS). Empty cells indicate that the company was not listed then.

\*Indicates the two companies that converted from mixed stocks to pure *Halal* (PH) stocks during the sample period in 2007.

**Appendix7.1: The Paired Sample T–Statistics for Comparison between Row and Column Portfolios for the Full Sample Period (2006-2011)**

	KSE	CP	PH	Sin	MH-T.A (H)	MH-M.C (H)	All Halal-TA(H)	All Halal-M.C(H)	MS-TA(H)	MS-M.C(H)	All Sin-T.A(H)	All Sin-M.C(H)	MH-TA	MH-MC	All Halal-T.A	All Halal-M.C	MS (T.A)	MS (M.C)	All Sin(T.A)	
CP	-0.82																			
PH	-0.61	0.05																		
Sin	-1.20	-0.47	-0.39																	
MH-T.A (H)	0.14	0.83	0.63	0.82																
MH-M.C (H)	0.02	0.73	0.52	0.73	-0.44															
All Halal-TA(H)	-0.41	0.36	0.25	0.59	-0.64	-0.47														
All Halal-M.C(H)	-0.36	0.47	0.35	0.58	-0.79	-0.66	0.00													
MS-TA(H)	-1.57	-1.14	-0.97	-0.59	-1.23	-1.20	-1.12	-1.19												
MS-M.C(H)	-1.54	-1.07	-0.95	-0.59	-1.21	-1.14	-1.11	-1.12	-0.14											
All Sin-T.A(H)	-1.39	-0.55	-0.39	-0.05	-0.84	-0.76	-0.63	-0.60	0.79	0.76										
All Sin-M.C(H)	-1.58	-0.92	-0.69	-0.55	-1.01	-0.92	-0.88	-0.87	0.58	0.59	-0.47									
MH-TA	-0.46	0.08	0.03	0.30	-1.38	-1.42	-0.23	-0.36	0.92	0.88	0.35	0.54								
MH-MC	-0.53	-0.02	-0.04	0.24	-1.53	-1.70	-0.32	-0.51	0.84	0.81	0.28	0.47	-0.45							
All Halal-T.A	-0.60	0.04	-0.02	0.35	-1.02	-0.93	-0.36	-1.33	1.07	1.00	0.39	0.67	-0.09	0.07						
All Halal-M.C	-0.64	-0.05	-0.08	0.31	-1.07	-0.99	-0.42	-1.63	1.02	0.96	0.35	0.62	-0.17	-0.01	-0.46					
MS (T.A)	-1.00	-0.56	-0.54	-0.24	-0.93	-0.86	-0.69	-0.71	0.44	0.69	-0.27	-0.10	-0.51	-0.45	-0.55	-0.51				
MS (M.C)	-0.80	-0.34	-0.35	-0.06	-0.78	-0.70	-0.51	-0.52	0.76	1.14	-0.05	0.13	-0.34	-0.27	-0.35	-0.31	0.72			
All Sin(T.A)	-1.41	-0.74	-0.58	-0.38	-0.95	-0.85	-0.77	-0.77	0.63	0.64	-0.25	0.58	-0.45	-0.38	-0.54	-0.50	0.18	-0.05		
All Sin(M.C)	-1.35	-0.66	-0.53	-0.25	-0.91	-0.82	-0.72	-0.72	0.70	0.70	-0.14	0.96	-0.41	-0.34	-0.49	-0.45	0.22	-0.01	0.63	

Note: This table reports the t-statistic test for comparison between the row and column portfolios of the paired sample t-test for the 190 possible combinations during the full sample period (2006-2011). None of the values are significant at the 10% significance level.

**Appendix 7.2: The Paired Sample T-Statistics for Comparison between the Row and Column Portfolios for the Full Sample Period (2006-2007)**

	KSE	CP	PH	Sin	MH-T.A (H)	MH-M.C (H)	All Halal-T.A(H)	All Halal-M.C(H)	MS-TA(H)	MS-M.C(H)	All Sin-T.A(H)	All Sin-M.C(H)	MH-TA	MH-MC	All Halal-T.A	All Halal-M.C	MS (T.A)	MS (M.C)	All Sin(T.A)	
CP	-1.29																			
PH	-0.89	0.45																		
Sin	-0.85	0.59	0.13																	
MH-T.A (H)	-0.97	-0.43	-0.52	-0.56																
MH-M.C (H)	-1.00	-0.49	-0.55	-0.57	0.05															
All Halal-T.A(H)	-1.22	-0.41	-0.75	-0.58	0.35	0.34														
All Halal-M.C(H)	-1.09	-0.27	-0.53	-0.48	0.41	0.57	0.23													
MS-TA(H)	-0.93	-0.10	-0.33	-0.35	0.30	0.36	0.14	0.07												
MS-M.C(H)	-0.95	-0.30	-0.46	-0.45	0.12	0.11	-0.09	-0.16	-0.34											
All Sin-T.A(H)	-1.08	0.61	-0.10	-0.34	0.49	0.55	0.49	0.42	0.36	0.46										
All Sin-M.C(H)	-1.28	0.18	-0.26	-0.72	0.40	0.42	0.34	0.23	0.16	0.36	-0.46									
MH-TA	-1.17	-0.66	-0.67	-0.67	0.05	0.02	-0.39	-0.72	-0.52	-0.13	-0.72	-0.53								
MH-MC	-1.18	-0.67	-0.68	-0.68	0.05	0.01	-0.39	-0.74	-0.54	-0.13	-0.74	-0.54	-0.02							
All Halal-T.A	-1.22	-0.52	-0.68	-0.58	0.32	0.39	0.02	-0.33	-0.20	0.11	-0.61	-0.36	0.66	0.67						
All Halal-M.C	-1.23	-0.54	-0.69	-0.59	0.31	0.38	-0.01	-0.36	-0.21	0.10	-0.63	-0.38	0.63	0.66	-0.19					
MS (T.A)	-0.55	0.01	-0.14	-0.17	0.25	0.26	0.13	0.08	0.06	0.41	-0.11	-0.04	0.28	0.28	0.13	0.13				
MS (M.C)	-0.48	0.08	-0.07	-0.11	0.30	0.32	0.20	0.15	0.15	0.54	-0.03	0.04	0.34	0.34	0.20	0.20	0.46			
All Sin(T.A)	-1.05	0.55	-0.01	-0.35	0.50	0.53	0.53	0.41	0.32	0.46	0.18	0.85	0.64	0.65	0.53	0.55	0.14	0.07		
All Sin(M.C)	-1.01	0.61	0.03	-0.27	0.52	0.55	0.56	0.44	0.35	0.48	0.26	0.99	0.66	0.67	0.56	0.58	0.15	0.08	0.64	

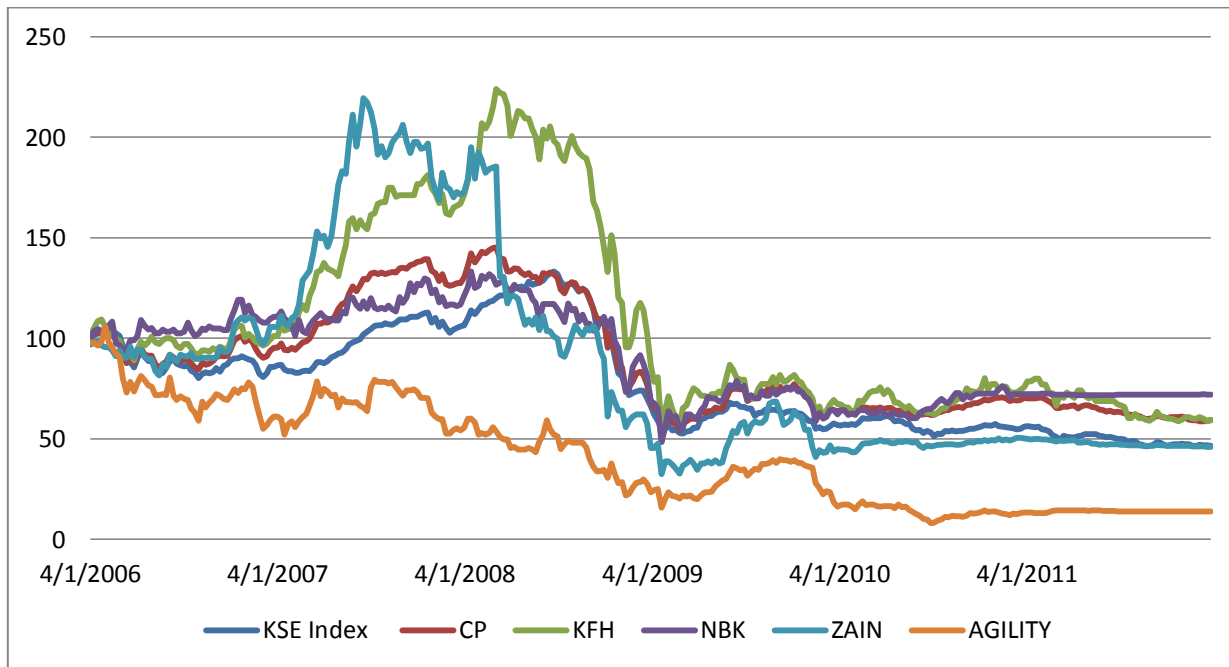
Note: This table reports the t-statistic test for comparison between the row and column portfolios of the paired sample t-tests for the 190 possible combinations during the full sample period (2006-2007). None of the values are significant at the 10% significance level.

**Appendix 7.3: The Paired Sample T-Statistics for Comparison between the Row and Column Portfolios for the Full Sample Period (2008-2009)**

	KSE	CP	PH	Sin	MH-T.A (H)	MH-M.C (H)	All Halal-TA(H)	All Halal-M.C(H)	MS-TA(H)	MS-M.C(H)	All Sin-T.A(H)	All Sin-M.C(H)	MH-TA	MH-MC	All Halal-T.A	All Halal-M.C	MS (T.A)	MS (M.C)	All Sin(T.A)	
CP	0.06																			
PH	0.07	0.05																		
Sin	0.27	0.28	0.13																	
MH-T.A (H)	0.38	0.57	0.41	0.30																
MH-M.C (H)	0.28	0.42	0.30	0.18	-0.92															
All Halal-TA(H)	0.18	0.20	0.11	-0.01	-0.42	-0.26														
All Halal-M.C(H)	0.14	0.27	0.15	-0.02	-0.64	-0.45	-0.02													
MS-TA(H)	-0.47	-0.79	-0.63	-0.75	-0.75	-0.66	-0.65	-0.67												
MS-M.C(H)	-0.48	-0.75	-0.60	-0.75	-0.73	-0.64	-0.64	-0.63	0.04											
All Sin-T.A(H)	0.27	0.22	0.10	-0.09	-0.32	-0.21	-0.03	-0.01	0.89	0.89										
All Sin-M.C(H)	0.02	-0.10	-0.09	-0.76	-0.45	-0.34	-0.20	-0.19	0.74	0.74	-0.65									
MH-TA	0.07	0.06	0.02	-0.09	-1.29	-1.21	-0.11	-0.19	0.48	0.45	-0.06	0.08								
MH-MC	0.03	-0.02	-0.04	-0.13	-1.39	-1.37	-0.17	-0.30	0.42	0.40	-0.11	0.03	-0.57							
All Halal-T.A	0.04	-0.02	-0.06	-0.17	-0.77	-0.61	-0.19	-1.20	0.56	0.53	-0.14	0.04	-0.12	0.00						
All Halal-M.C	0.01	-0.10	-0.11	-0.20	-0.81	-0.66	-0.23	-1.37	0.53	0.50	-0.17	0.00	-0.19	-0.06	-0.55					
MS (T.A)	-0.12	-0.27	-0.24	-0.36	-0.55	-0.45	-0.33	-0.33	1.04	0.90	-0.38	-0.20	-0.20	-0.15	-0.19	-0.16				
MS (M.C)	0.10	0.07	0.02	-0.10	-0.38	-0.26	-0.10	-0.08	1.35	1.40	-0.08	0.12	0.00	0.05	0.07	0.10	0.71			
All Sin(T.A)	0.11	0.06	0.00	-0.64	-0.40	-0.29	-0.13	-0.12	0.77	0.76	-0.33	0.63	-0.02	0.03	0.04	0.08	0.28	-0.03		
All Sin(M.C)	0.14	0.10	0.02	-0.51	-0.39	-0.27	-0.11	-0.09	0.80	0.80	-0.27	0.87	0.00	0.05	0.06	0.10	0.31	-0.01	0.28	

Note: This table reports the t-statistic test for comparisons between the row and column portfolios of the paired sample t-tests for the 190 possible combinations during the full sample period (2006-2007). None of the values are significant at the 10% significance level.

**Appendix 7.4: The Performance of the Four Large-Sized Stocks in the KSE Market during the Full Sample Period (2006-2011)**



Note: this figure plots the return performance for the four large-sized stocks in the KSE market with the market index and CP as benchmarks, indexed from 100 at 04/01/2006. CP = control portfolio, KFH = Kuwait Finance House (PH stock), NBK = National Bank of Kuwait (Sin Stock), Zain = telecommunication company, and Agility = a logistics and warehousing company. Zain and Agility are mixed companies that are classified as MH stocks most of the time.

**Appendix 7.5: The Correlation between the Ranking of the Sharpe, Treynor, and Jensen Measures with the conventional risk-free Rate**

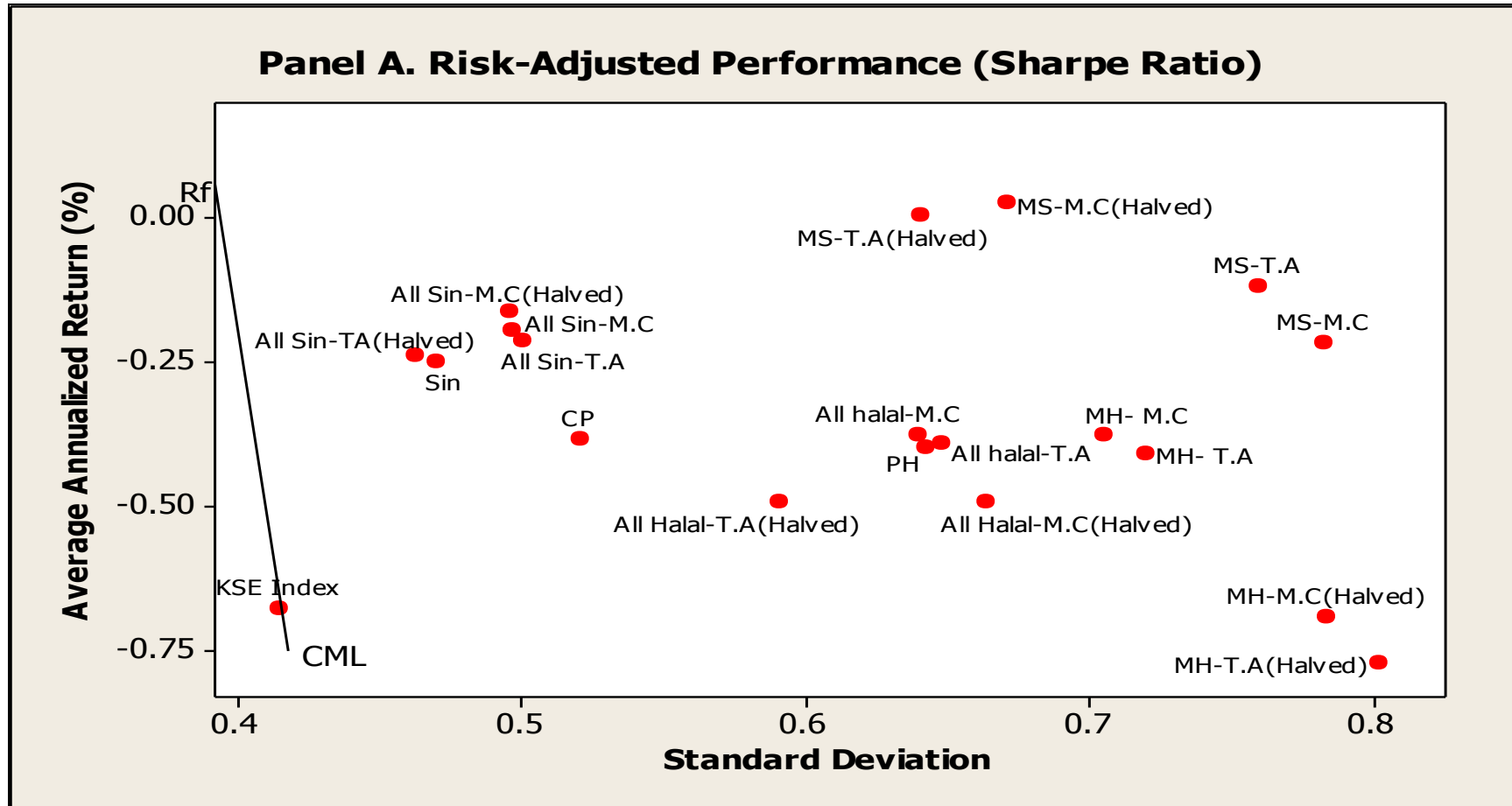
	Full Sample Period		Bullish Period		GFC Period		Bearish Period		
	Sharpe	Treynor	Sharpe	Treynor	Sharpe	Treynor	Sharpe	Treynor	
Sharpe			Sharpe		Sharpe		Sharpe		
Treynor	0.877*		Treynor	0.982*	Treynor	0.768*	Treynor	1.000*	
Jensen	0.918*	0.958*	Jensen	0.789*	0.818*	Jensen	0.714*	0.989*	
							Jensen	0.819*	0.819*

Note: This Table shows the correlation between the rankings of the Sharpe, Treynor, and Jensen measures for the full sample period, and three sub-periods.

\*Indicates significance at the 1% level

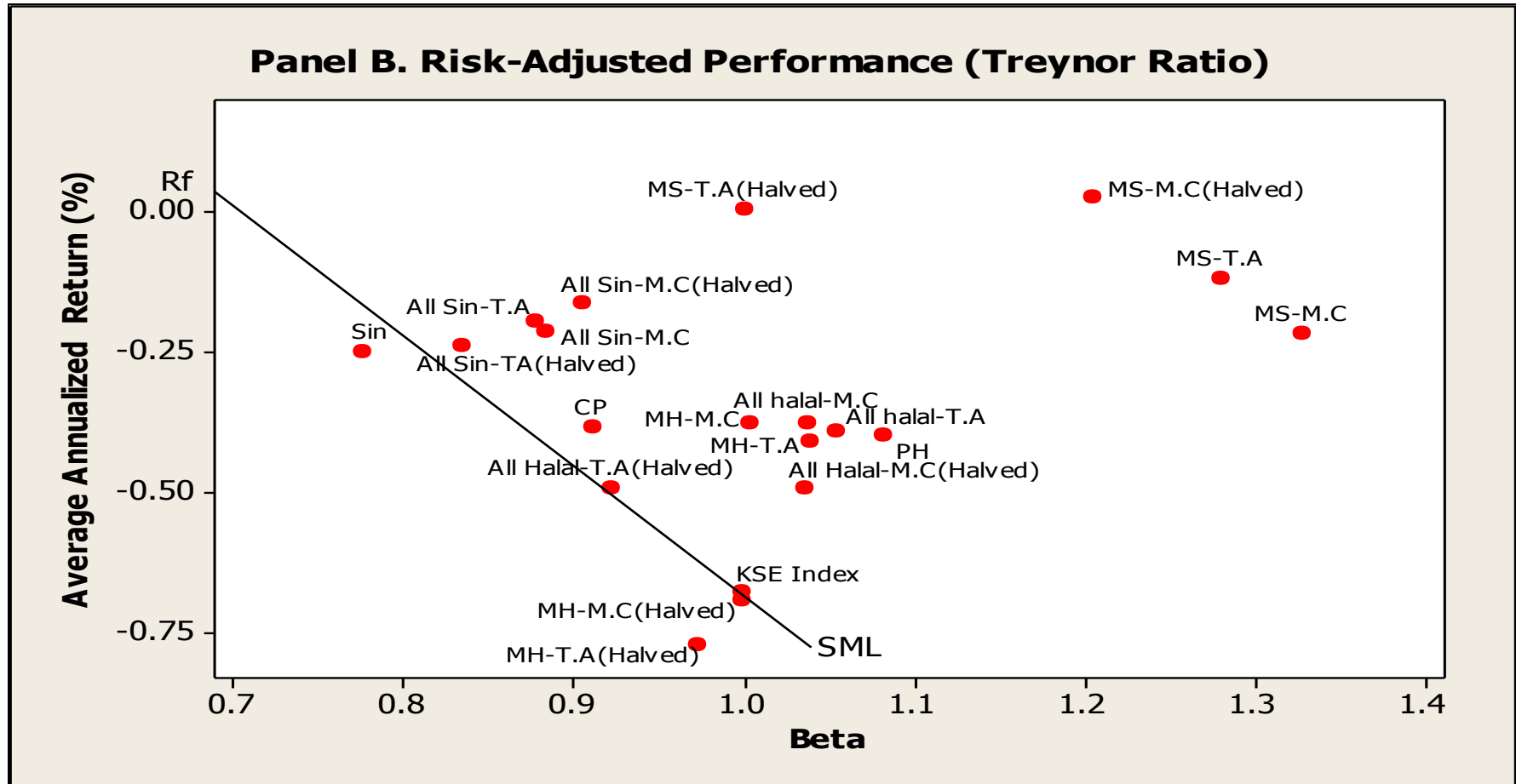


Appendix 7.6, Panel A: The Risk-Adjusted Performance for the Full Sample Period (2006-2011) using Sharpe Ratio



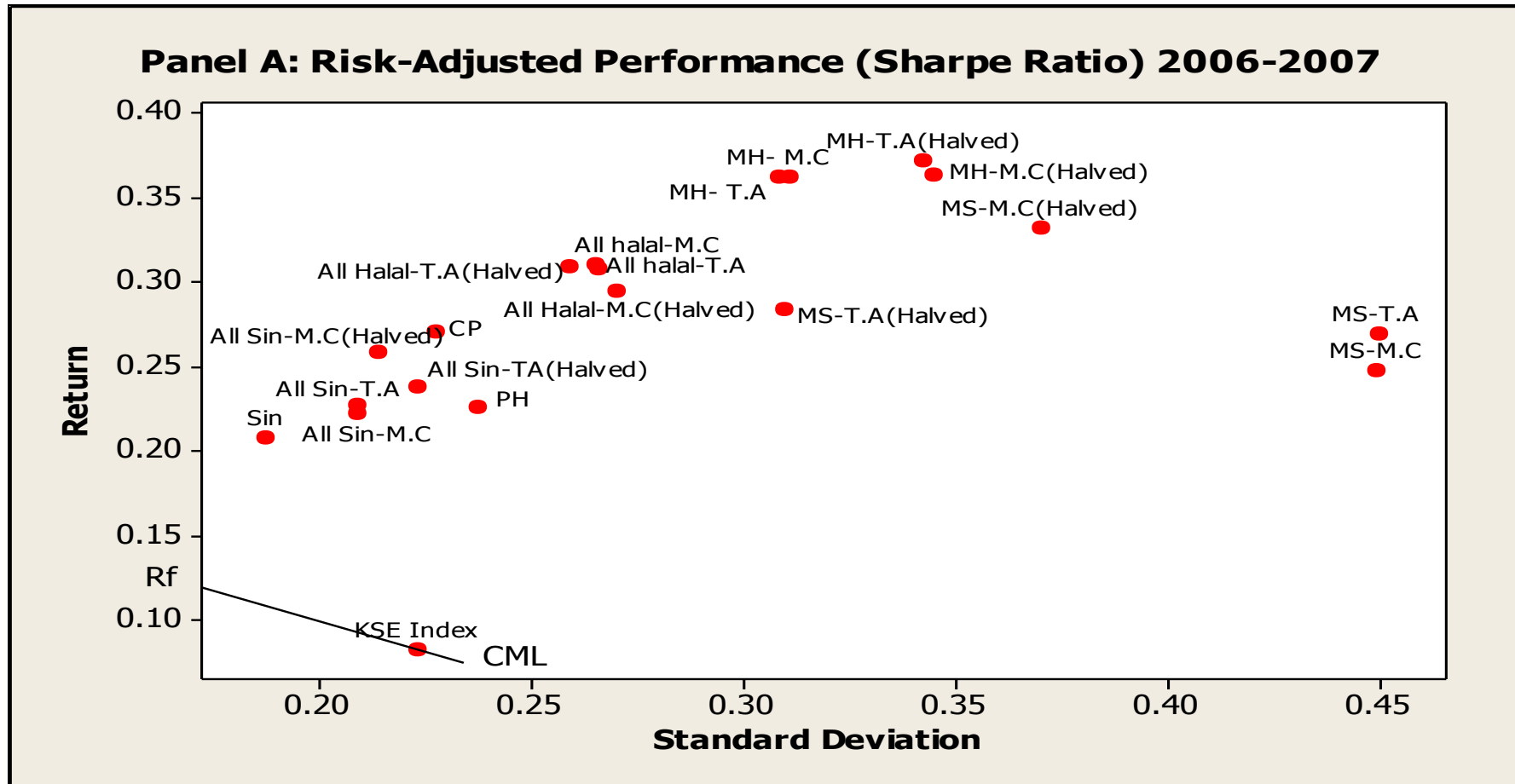
Note: This scatter plot shows the Sharpe ratio performance of the 19 portfolios, which is the annualized returns (on the Y-axis) as a function of total risk measured by standard deviation (on the X-axis). The CML = the Capital market line and the Rf = risk-free rate, which is 0.172 for this period. The Figure covers the full sample period.

Appendix 7.6, Panel B: The Risk-Adjusted Performance for the Full Sample Period (2006-2011) using Treynor Ratio



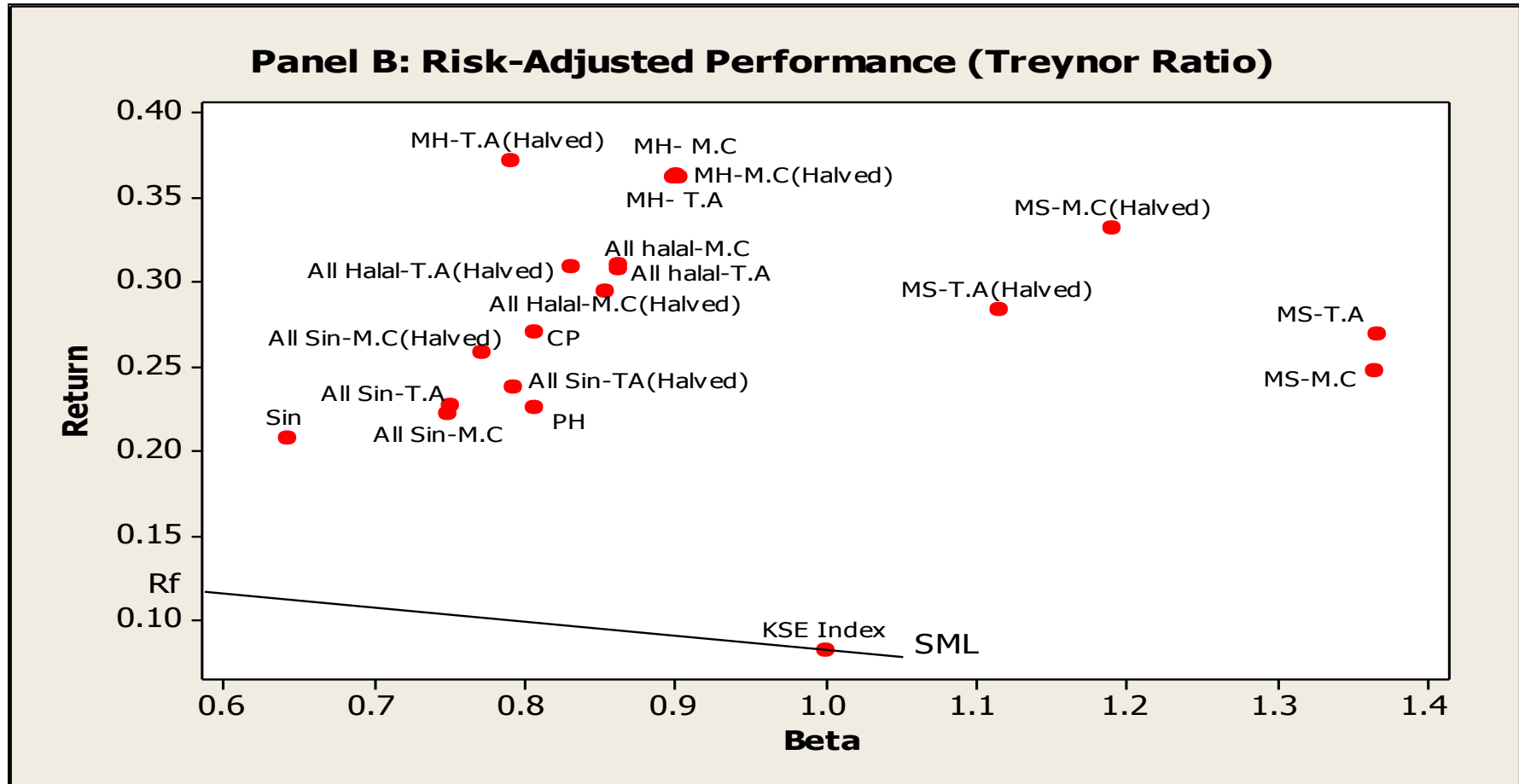
Note: This scatter plot shows the Treynor ratio performance for the 19 portfolios which is the annualized returns (on the Y-axis) as a function of systematic risk measured by the beta (on the X-axis). The SML = the security market line and the Rf = risk-free rate, which is 0.172 for this period. The Figure covers the full sample period.

Appendix 7.7, Panel A: The Risk-Adjusted Performance for the Bullish Period (2006-2007) using Sharpe Ratio



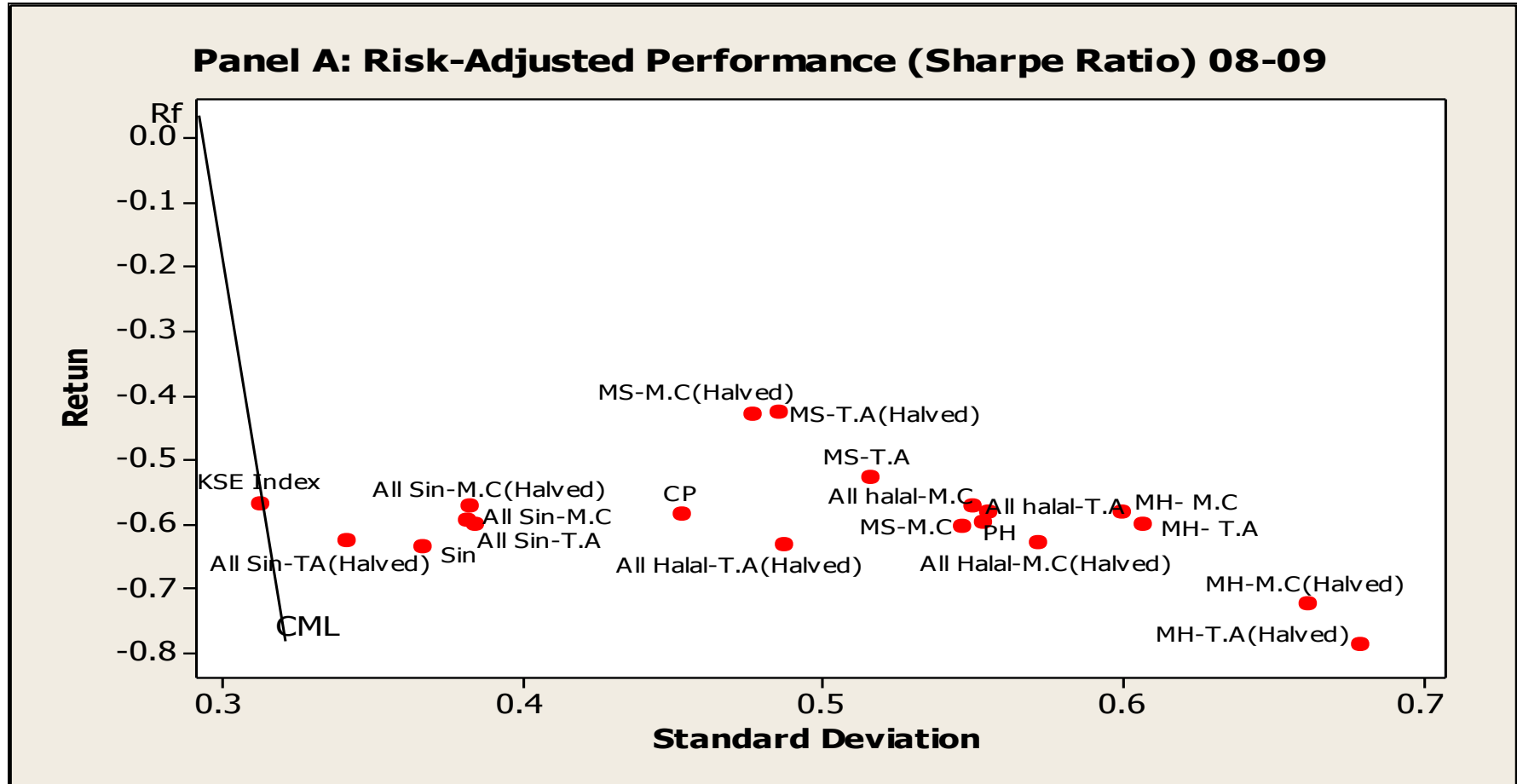
Note: This scatter plot shows the Sharpe ratio performance of the 19 portfolios, which is the annualized returns (on the Y-axis) as a function of total risk measured by standard deviation (on the X-axis). The CML = the Capital market line and the Rf = the risk-free rate, which is 0.106 for this period. The Figure covers the bullish period.

Appendix 7.7, Panel B: The Risk-Adjusted Performance for the Bullish Period (2006-2007) using Treynor Ratio



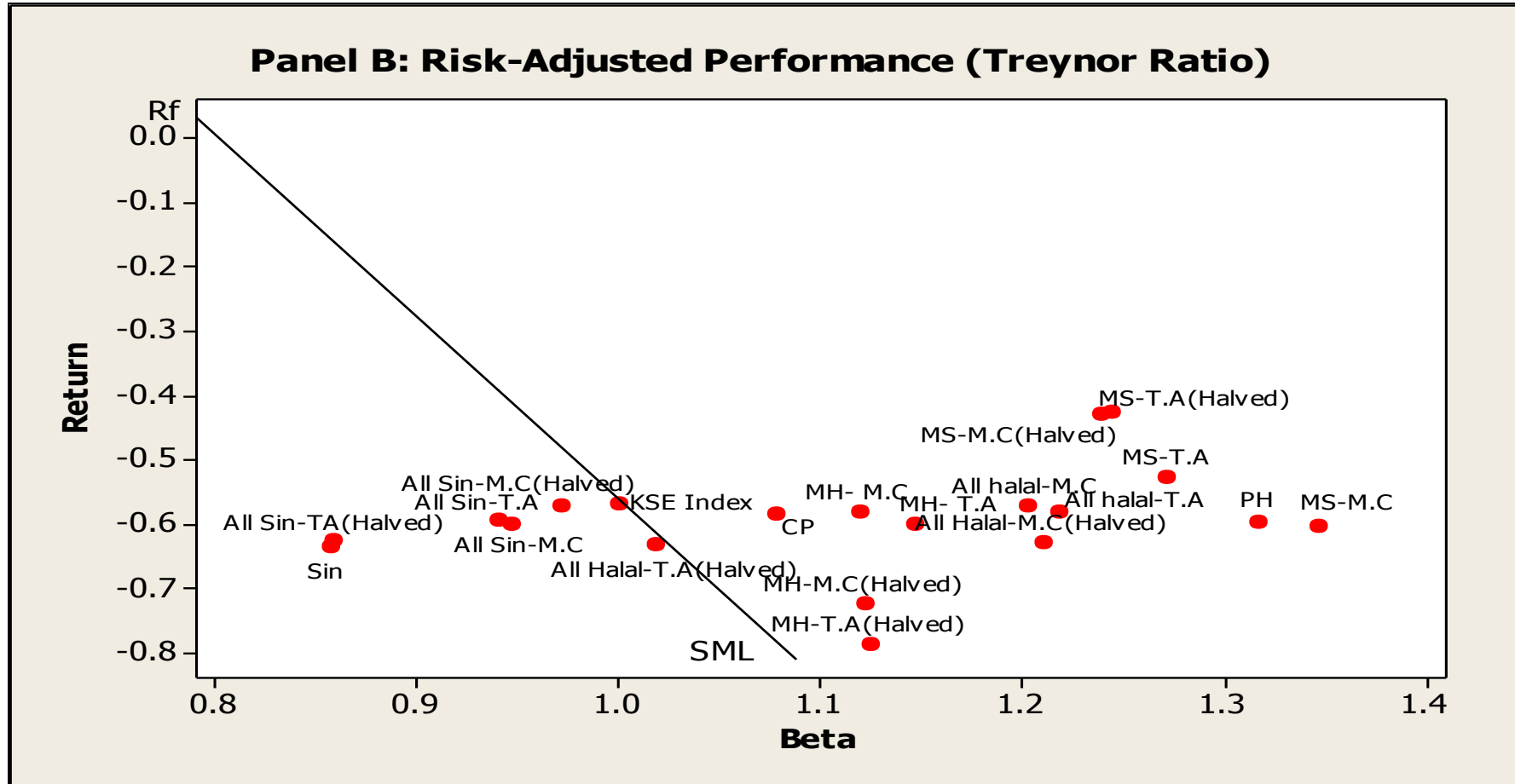
Note: This scatter plot shows the Treynor ratio performance for the 19 portfolios which is the annualized returns (on the Y-axis) as a function of systematic risk measured by the beta (on the X-axis). The SML = the security market line and the Rf = the risk-free rate, which is 0.106 for this period. The Figure covers the bullish period.

Appendix 7.8, Panel A: The Risk-Adjusted Performance for the GFC Period (2008-2009) Using Sharpe Ratio



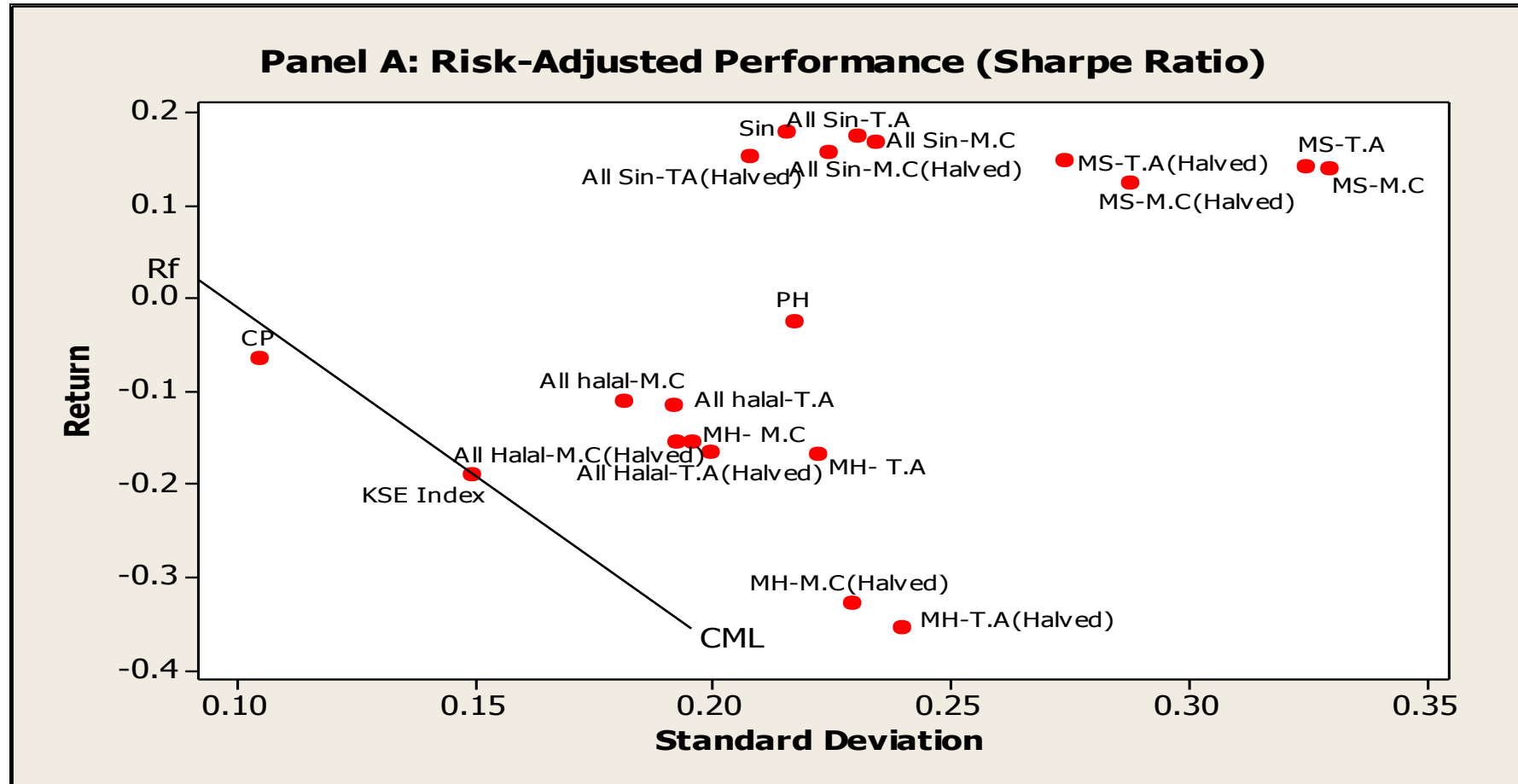
Note: This scatter plot shows the Sharpe ratio performance of the 19 portfolios, which is the annualized returns (on the Y-axis) as a function of total risk measured by the standard deviation (on the X-axis). The CML = the Capital market line and the Rf = the risk-free rate, which is 0.041 for this period. The Figure covers the GFC period.

Appendix 7.8, Panel B: The Risk-Adjusted Performance for the GFC Period (2008-2009) Using Treynor Ratio



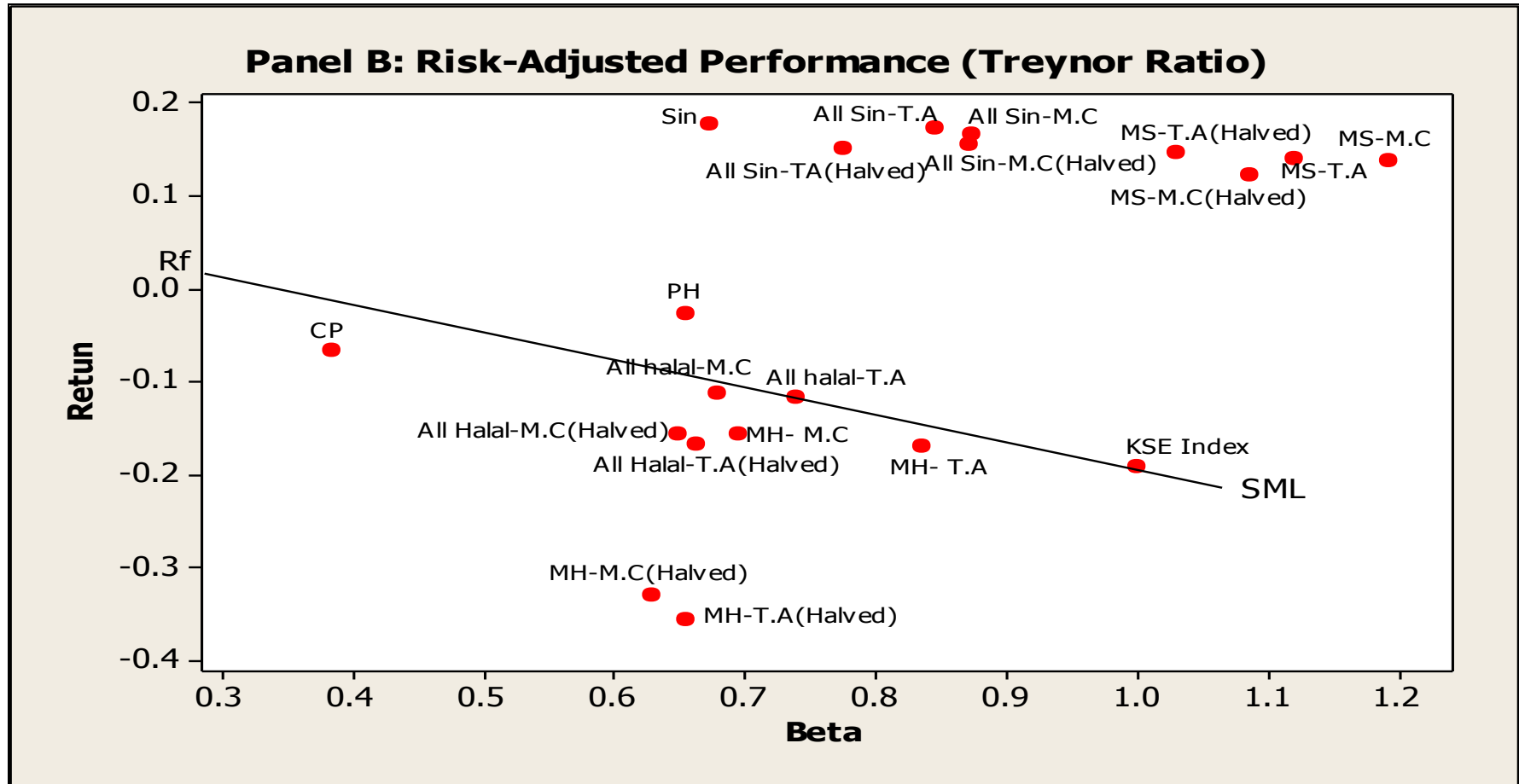
Note: This scatter plot shows the Treynor ratio performance for the 19 portfolios which is the annualized returns (on the Y-axis) as a function of systematic risk measured by the beta (on the X-axis). The SML = the security market line and the Rf = the risk-free rate, which is 0.041 for this period. The Figure covers the GFC period.

Appendix 7.9, Panel A: The Risk-Adjusted Performance for the Bearish Period (2010-2011) using Sharpe Ratio



Note: This scatter plot shows the Sharpe ratio performance of the 19 portfolios, which is the annualized returns (on the Y-axis) as a function of total risk measured by standard deviation (on the X-axis). The CML = the Capital market line and the Rf = the risk-free rate, which is 0.0255 for this period. The Figure covers the bearish period.

Appendix 7.9, Panel B: The Risk-Adjusted Performance for the Bearish Period (2010-2011) using Sharpe Ratio



Note: This scatter plot shows the Treynor ratio performance for the 19 portfolios which is the annualized returns (on the Y-axis) as a function of systematic risk measured by the beta (on the X-axis). The SML = the security market line and the Rf = the risk-free rate, which is 0.0255 for this period. The Figure covers the bearish period.



**Appendix 7.10: The Correlation between the rankings of the Sharpe, Treynor, and Jensen Measures with the *Shariah*-compliant benchmarks for the Bearish Period (2010-2011)**

	Bearish Period	
	Sharpe	Treynor
Sharpe		
Treynor	1.000*	
Jensen	0.819*	0.819*

Note: This Table shows the correlation between the rankings of the Sharpe, Treynor, and Jensen measures for the bearish period (2010-2011).

\*Indicates significance at the 1% level

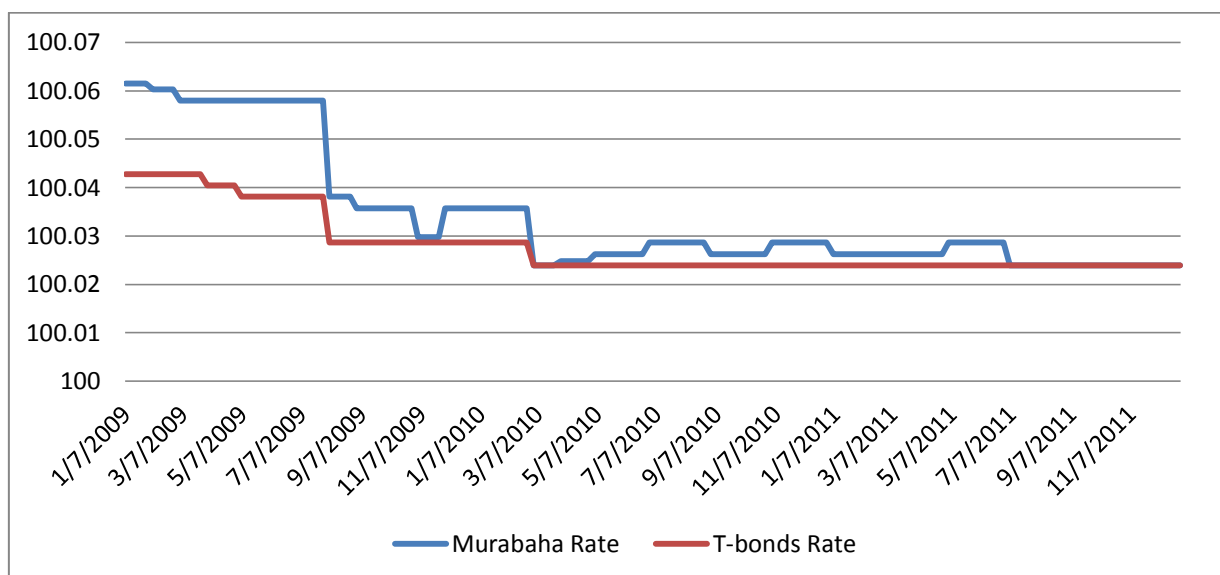
**Appendix 7.11: The Correlation between the rankings of the Sharpe, Treynor, and Jensen Measures Using the Conventional and the *Shariah*-Compliant rates for the Bearish Period (2010-2011)**

	Sharpe- Conventional	Treynor – Conventional	Jensen- Conventional
Sharpe- <i>Shariah</i> - Compliant	1.000*		
Treynor- <i>Shariah</i> - Compliant		1.000*	
Jensen- <i>Shariah</i> -Compliant			0.989*

Note: this Table shows correlation between the rankings of the Sharpe, Treynor, and Jensen measures using the conventional and shariah-compliant risk-free rates for the Bearish Period (2010-2011).

\*Indicates significance at the 1% level

**Appendix 7.12: The Performance of the T-bond and the *Murabahah* rates**



Note: This figure plots the performance of the T-bond rate (the conventional risk-free rate), and the *Murabahah* rate (the *Shariah*-compliant risk-free rate) index from 100 points.

## Appendix to 8.1: Summary Information about the Matched Pair Sample

### Panel A: Matched Pair (I): PH (A) and Sin (B) Portfolios

No.	PH stocks (A)			Sector	Sin Stocks (A)		
	Company name	Size ( Avg. MV)	Size of total		Company name	Size ( Avg. MV)	Size of total
1	KUWAIT FINANCE HOUSE	3379	0.70	Banking	NATIONAL BANK OF KUWAIT	4282	0.74
2	THE INVESTMENT DAR	440	0.09	Investment	GLOBAL INVESTMENT HOUSE	463	0.08
3	SECURITIES HOUSE	216	0.04	Investment	COMMERCIAL FACS.	233	0.04
4	FIRST INVESTMENT CO	159	0.03	Investment	AL-DEERA HOLDING	160	0.03
5	AAYAN LSG.& INV.	144	0.03	Investment	AL-SAFAT INVESTMENT	138	0.02
6	INTERNATIONAL FINANCE	128	0.03	Investment	KIPCO ASSET MANAGEMENT	133	0.02
7	INTERNATIONAL INV.GROUP	78	0.02	Investment	KW.& MID.EAST FINL.INV. CO	74	0.01
8	AL-MADAR FINANCE & INV.	67	0.01	Investment	BAYAN INVESTMENT	73	0.01
9	INDUSTRIAL INVESTMENTS	54	0.01	Investment	HOUSING FINANCE	51	0.01
10	OSOUL INVESTMENT	38	0.01	Investment	AL-QURAIN HOLDING	33	0.01
11	FIRST TAKAFUL INSURANCE	31	0.01	Insurance	KUWAIT REINSURANCE	27	0.00
12	KUWAIT REAL ESTATE HLDG.	34	0.01	Real Estate	INTERNATIONAL RESORTS	19	0.00
13	AL-SAFWA GROUP CO.	92	0.02	Services	KUWAIT NATIONAL CINEMA	87	0.02
	Total	4862	1.00		Total	5771	1.00

**Panel B: Matched Pair (II): PH (B) and MH (A) Portfolios**

No.	PH Stocks (B)			Sector	MH Stocks (A)		
	Company name	Size ( Avg. MV)	Size of total		Company name	Size ( Avg. MV)	Size of total
1	THE COMMERCIAL REAL EST.	278	0.38	Real Estate	NATIONAL REAL ESTATE	281	0.38
2	GRAND REAL ESTATE PRJS.	69	0.10	Real Estate	INJAZZAT RLST.DEV.	73	0.10
3	AAYAN REAL ESTATE	50	0.07	Real Estate	ARAB REAL ESTATE	48	0.07
4	KUWAIT REAL ESTATE HLDG.	34	0.05	Real Estate	UNION REAL ESTATE	31	0.04
5	AREF ENERGY HOLDING CO.	109	0.15	Services	BURGAN CO.FOR WELL DRL.	115	0.16
6	AL-SAFWA GROUP CO.	92	0.13	Services	CITY GROUP COMPANY	88	0.12
7	CREDIT RATING & CLLN.	53	0.07	Services	HITS TELECOM HOLDING	53	0.07
8	GULF PETROLEUM INV.	41	0.06	Services	AL SAFAT EN.HOLDING	42	0.06
Total		726	1.00		Total	731	1.00

**Panel C: Matched Pair sample (III): Sin (B) and MH (B) Portfolios**

No.	Sin Stocks (B)			Sector	MH stocks (B)		
	Sin Company name	Size ( Avg. MV)	Size of total		Company name	Size ( Avg. MV)	Size of total
1	INTERNATIONAL RESORTS	19	0.15	Real Estate	SANAM REAL ESTATE	19	0.15
2	KUWAIT NATIONAL CINEMA	87	0.68	Services	CITY GROUP COMPANY	88	0.71
3	KUWAIT HOTELS	13	0.10	Services	KUWAIT SLAUGHTER HOUSE	10	0.08
4	KUWAIT CABLE VISION	8	0.06	Services	NATIONAL SLAUGHTER HOUSE	6	0.05
Total		127	1.00		Total	123	1.00

**Panel D: Matched Pair sample (IV): PH (C) and MH-Halved (A) Portfolios**

No.	PH Stocks (C)			Sector	MH (Halved)Stocks (A)		
	Company name	Size (Avg. MV)	Size of total		Company name	Size ( Avg. MV)	Size of total
1	THE COMMERCIAL REAL EST	278	0.36	Real Estate	MABANEE	369	0.43
2	GRAND REAL ESTATE PRJS.	69	0.09	Real Estate	INJAZZAT RLST.	73	0.09
3	AAYAN REAL ESTATE	50	0.06	Real Estate	ARAB REAL ESTATE	48	0.06
4	TIJARA & REALESTATE INVEST.	46	0.06	Real Estate	AJIAL RLST.ENTM.	46	0.05
5	KUWAIT REAL ESTATE HLDG	34	0.04	Real Estate	UNION REAL ESTATE	31	0.04
6	AREF ENERGY HOLDING CO	109	0.14	Services	KUWAIT & GULF LINK TRAN.	98	0.12
7	AL-SAFWA GROUP CO.	92	0.12	Services	CITY GROUP COMPANY	88	0.10
8	CREDIT RATING & CLLN.	53	0.07	Services	HITS TELECOM HOLDING	53	0.06
9	GULF PETROLEUM INV	41	0.05	Services	AL SAFAT EN.HOLDING	42	0.05
Total		772	1.00		Total	848	1.00

**Panel E: Matched Pair sample (V): Sin (C) and MH-Halved (B) Portfolios**

No	Sin Stocks (C)			Sector	MH (Halved)Stocks (B)		
	Company name	Size (Avg.) MV	Size of total		Company name	Size (Avg.) MV	Size of total
1	INTERNATIONAL RESORTS	19	0.05	Real Estate	SANAM REAL ESTATE	19	0.06
2	IFA HOTELS & RESORTS	278	0.69	Services	SULTAN CENTRE FOOD	189	0.58
3	KUWAIT NATIONAL	87	0.21	Services	CITY GROUP COMPANY	88	0.27
4	KUWAIT HOTELS	13	0.03	Services	KUWAIT PROCESS PLANT CONSTRUCTION &	16	0.05
5	KUWAIT CABLE VISION	8	0.02	Services	AUTOMATED SYSTEMS	16	0.05
Total		405	1.00		Total	328	1.00

Note: This Table, panels A- E, provides summary information about each matched pair portfolio in the sample. It reports the name of the companies in each sector, their average size (Avg.) in millions of Kuwaiti Dinar (KWD) during the whole sample period, and their size as a percentage of the total portfolio's market value. The last row shows the total of size of each portfolio.

## Appendix 8.2: Summary of Risk, Return, and Risk-Adjusted Returns of Portfolio in the Matched Pairs

Periods/ Pairs		Pair (I)	Pair (II)	Pair (III)	Pair (IV)	Pair (V)	Best Portfolio
<b>Full</b> (2006-2011)	Return	<b>Sin</b> >KSE>PH	KSE> <b>PH</b> >MH	<b>Sin</b> >KSE>MH	<b>MH(H)</b> >KSE>PH	<b>Sin</b> >KSE>MH(H)	Sin
	Risk	PH> <b>Sin</b> >KSE	PH> <b>MH</b> >KSE	MH> <b>Sin</b> >KSE	MH(H)> <b>PH</b> >KSE	MH(H)> <b>Sin</b> >KSE	Sin*
	Sharpe	<b>Sin</b> >PH>KSE	<b>PH</b> >KSE>MH	<b>Sin</b> >MH>KSE	<b>MH(H)</b> >PH>KSE	<b>Sin</b> >KSE>MH(H)	Sin
	Treynor	<b>Sin</b> >PH>KSE	KSE> <b>PH</b> >MH	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	Sin*
	Jensen	<b>Sin</b> >PH>KSE	KSE> <b>PH</b> >MH	KSE> <b>Sin</b> =MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	Sin*
<b>Bullish</b> (2006-2007)	Return	<b>PH</b> > <b>Sin</b> >KSE	<b>PH</b> >KSE>MH	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	PH/Sin
	Risk	PH= <b>Sin</b> >KSE	MH> <b>PH</b> >KSE	MH> <b>Sin</b> >KSE	PH> <b>MH(H)</b> >KSE	MH(H)> <b>Sin</b> >KSE	Sin*
	Sharpe	<b>PH</b> > <b>Sin</b> >KSE	KSE> <b>PH</b> >MH	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	PH/Sin*
	Treynor	<b>PH</b> > <b>Sin</b> >KSE	KSE> <b>PH</b> >MH	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >KSE>PH	KSE> <b>MH(H)</b> > <b>Sin</b>	PH/MH(H)*
	Jensen	<b>PH</b> > <b>Sin</b> >KSE	KSE> <b>PH</b> >MH	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >KSE>PH	<b>Sin</b> >KSE>MH(H)	PH/Sin
<b>GFC</b> (2008-2009)	Return	KSE> <b>Sin</b> >PH	KSE> <b>PH</b> >MH	<b>MH</b> > <b>Sin</b> >KSE	<b>MH(H)</b> >KSE>PH	<b>Sin</b> >MH(H)>KSE	Sin
	Risk	PH> <b>Sin</b> >KSE	PH> <b>MH</b> >KSE	MH> <b>Sin</b> >KSE	MH(H)> <b>PH</b> >KSE	MH(H)> <b>Sin</b> >KSE	Sin*
	Sharpe	<b>Sin</b> >PH>KSE	<b>PH</b> >MH>KSE	<b>MH</b> > <b>Sin</b> >KSE	<b>MH(H)</b> >PH>KSE	<b>Sin</b> >MH(H)>KSE	Sin
	Treynor	KSE> <b>Sin</b> >PH	<b>PH</b> >MH>KSE	KSE> <b>Sin</b> >MH	<b>MH(H)</b> >PH>KSE	<b>Sin</b> >MH(H)>KSE	Sin
	Jensen	KSE> <b>Sin</b> >PH	<b>PH</b> >MH>KSE	KSE> <b>Sin</b> =MH	<b>MH(H)</b> >PH>KSE	<b>Sin</b> >MH(H)>KSE	Sin
<b>Bearish</b> (2010-2011)	Return	<b>Sin</b> >PH>KSE	KSE> <b>MH</b> >PH	<b>Sin</b> >MH>KSE	<b>MH(H)</b> >KSE>PH	<b>Sin</b> >KSE>MH(H)	Sin
	Risk	<b>Sin</b> > <b>PH</b> >KSE	PH> <b>MH</b> >KSE	<b>Sin</b> > <b>MH</b> >KSE	PH> <b>MH(H)</b> >KSE	<b>Sin</b> > <b>MH(H)</b> >KSE	MH/MH(H)*
	Sharpe	<b>Sin</b> >PH>KSE	<b>MH</b> >KSE>PH	<b>Sin</b> >MH>KSE	<b>MH(H)</b> >KSE>PH	<b>Sin</b> >MH(H)>KSE	Sin
	Treynor	<b>Sin</b> >KSE>PH	KSE> <b>MH</b> >PH	<b>Sin</b> >KSE>MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	Sin
	Jensen	<b>Sin</b> >KSE>PH	KSE> <b>MH</b> >PH	<b>Sin</b> >KSE>MH	<b>MH(H)</b> >KSE>PH	KSE> <b>Sin</b> >MH(H)	Sin

Note: this Table summarizes the risk, return, and risk-adjusted returns of portfolio in the matched pairs benchmarked against KSE, over the full and sub-sample periods. The last column reports the best portfolios across different matched pairs based on the performance and risk measures. The (\*) indicates that KSE is better in that portfolio.

### Appendix 8.3: Information of Companies included in the GLM

Sector	No.	Companies Name	Size	Size	<i>Shariah Classification</i>		
			Avg. MV	of Total	AAOIFI	Halved AAOIFI	
<b>Banking</b>	1	KUWAIT FINANCE HOUSE	3379.2	0.099	PH	PH	
	(1)	2	AHLI UNITED BANK	625.8	0.018	Sin	Sin
		3	AL-AHLI BANK OF KUWAIT	898.4	0.026	Sin	Sin
		4	BURGAN BANK	669.0	0.020	Sin	Sin
		5	COMMERCIAL BK.OF KUWAIT	1385.7	0.040	Sin	Sin
		6	GULF BANK OF KUWAIT	1384.3	0.040	Sin	Sin
		7	KUWAIT INTL.BANK	392.6	0.011	Sin	Sin
		8	NATIONAL BANK OF KUWAIT	4281.5	0.125	Sin	Sin
<b>Investment</b>	9	AL-QURAIN HOLDING	32.9	0.001	Sin	Sin	
	(2)	10	AL-AHLEIA HOLDING	105.1	0.003	Sin	Sin
		11	AL-DEERA HOLDING	159.8	0.005	Sin	Sin
		12	AL-MAL INVESTMENT	108.8	0.003	Sin	Sin
		13	AL-SAFAT INVESTMENT	138.1	0.004	Sin	Sin
		14	BAYAN INVESTMENT	72.8	0.002	Sin	Sin
		15	COAST INV.& DEV.	112.0	0.003	Sin	Sin
		16	COMMERCIAL FACS.	233.0	0.007	Sin	Sin
		17	GLOBAL INVESTMENT HOUSE	462.7	0.014	Sin	Sin
		18	GULFINVEST INTERNATIONAL	50.1	0.001	Sin	Sin
		19	HOUSING FINANCE	50.8	0.001	Sin	Sin
		20	INTL.FINANCIAL ADVISORS	233.3	0.007	Sin	Sin
		21	KIPCO ASSET MANAGEMENT	133.2	0.004	Sin	Sin
		22	KW.& MID.EAST FINL.INV. CO KSCC	73.6	0.002	Sin	Sin
		23	KUWAIT FINANCE & INV.CO.	105.6	0.003	Sin	Sin
		24	KUWAIT FINANCIAL CENTRE	105.6	0.003	Sin	Sin
		25	KUWAIT INVESTMENT	151.1	0.004	Sin	Sin
		26	KUWAIT INV.PRJS.	675.1	0.020	Sin	Sin
		27	NATIONAL INTL.HOLDING	28.7	0.001	Sin	Sin
		28	NATIONAL INVESTMENTS	445.4	0.013	Sin	Sin
		29	AAYAN LSG.& INV.	144.5	0.004	PH	PH
		30	AL-AMAN INVESTMENT CO.	65.9	0.002	PH	PH
		31	AL-MADAR FINANCE & INV.	67.1	0.002	PH	PH
		32	ALSALAM GROUP HOLDING	18.1	0.001	PH	PH
		33	AREF INVESTMENT GROUP	198.3	0.006	PH	PH
		34	FIRST INVESTMENT CO	159.2	0.005	PH	PH
		35	GULF INVESTMENT HOUSE	84.8	0.002	PH	PH
		36	INDUSTRIAL INVESTMENTS	54.0	0.002	PH	PH
		37	INTERNATIONAL FINANCE	128.2	0.004	PH	PH
		38	INTERNATIONAL INV.GROUP	78.4	0.002	PH	PH
		39	INTERNATIONAL LSG.& INV.	86.9	0.003	PH	PH
		40	OSOUL INVESTMENT	37.8	0.001	PH	PH
		41	SECURITIES GROUP	80.4	0.002	PH	PH
		42	SECURITIES HOUSE	215.6	0.006	PH	PH
		43	SOKOUK HOLDING	66.0	0.002	PH	PH
44	THE INTL.INVESTOR	63.6	0.002	PH	PH		
45	THE INVESTMENT DAR	440.0	0.013	PH	PH		

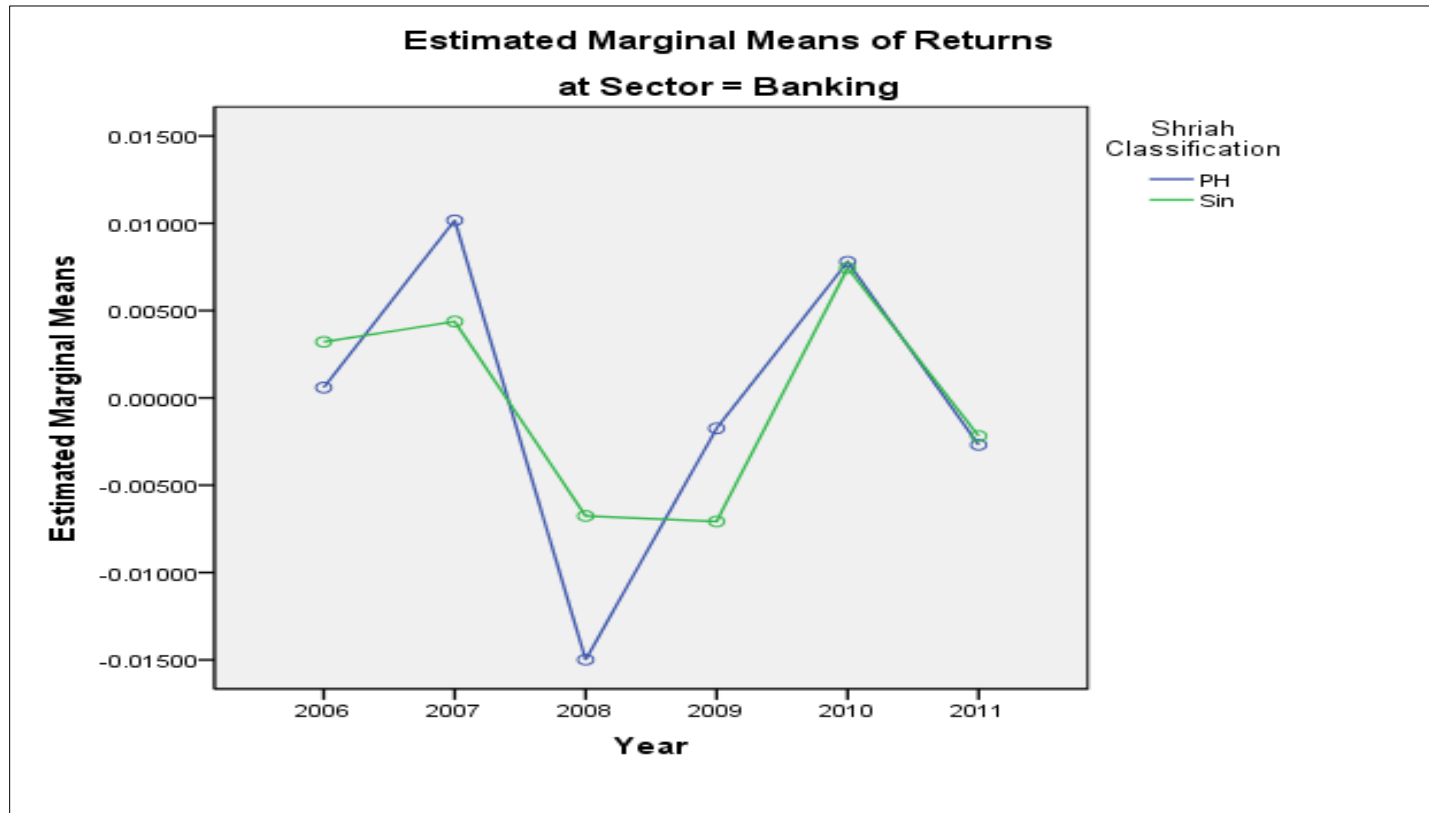
<b>Insurance</b>	46	FIRST TAKAFUL INSURANCE	31.4	0.001	PH	PH	
	47	WETHAQ TAKAFUL INSURANCE	16.0	0.000	PH	PH	
	(3)	48	AL-AHLEIA INSURANCE	86.3	0.003	Sin	Sin
	49	GULF INSURANCE	90.5	0.003	Sin	Sin	
	50	KUWAIT INSURANCE	88.3	0.003	Sin	Sin	
	51	KUWAIT REINSURANCE	27.0	0.001	Sin	Sin	
	52	WARBA INSURANCE	47.3	0.001	Sin	Sin	
<b>Real Estate</b>	53	AAYAN REAL ESTATE	49.8	0.001	PH	PH	
	54	AL-DAR NAT.REAL ESTATE	41.0	0.001	PH	PH	
	(4)	55	AL-ENMA A REAL ESTATE	66.6	0.002	PH	PH
	56	GRAND REAL ESTATE PRJS.	69.0	0.002	PH	PH	
	57	KUWAIT REAL ESTATE HLDG.	34.5	0.001	PH	PH	
	58	THE COMMERCIAL REAL EST.	277.9	0.008	PH	PH	
	59	TIJARA & REALESTATE	46.4	0.001	PH	PH	
	60	INTERNATIONAL RESORTS	19.3	0.001	Sin	Sin	
	61	AL-MAZAYA HOLDING	138.8	0.004	MH	MH(H)	
	62	AL-THEMAR INTL.HLDG.	117.6	0.003	MH	MH(H)	
	63	ARAB REAL ESTATE	48.3	0.001	MH	MH(H)	
	64	INJAZZAT RLST.DEV.	72.5	0.002	MH	MH(H)	
	65	KUWAIT REAL ESTATE	114.6	0.003	MH	MS(H)	
	66	MABANEE	368.6	0.011	MH	MH(H)	
	67	NATIONAL REAL ESTATE	281.0	0.008	MH	MS(H)	
	68	SANAM REAL ESTATE	18.9	0.001	MH	MH(H)	
	69	UNION REAL ESTATE	31.1	0.001	MH	MH(H)	
	70	AJIAL RLST.ENTM.	46.4	0.001	MS	MH(H)	
	71	AL-MASSALEH RLST.	30.8	0.001	MS	MS(H)	
	72	AQAR REAL ESTATE INVS.	26.3	0.001	MS	MS(H)	
73	SALHIAH REAL ESTATE	145.2	0.004	MS	MS(H)		
74	TAMEER REAL EST.INVT.	24.3	0.001	MS	MH(H)		
75	TAMDEEN REAL ESTATE	129.4	0.004	MS	MH(H)		
76	UNITED REAL ESTATE	104.1	0.003	MS	MS(H)		
<b>Industrial</b>	77	ALKOUT INDL.PROJECTS	44.0	0.001	MH	MS(H)	
	78	BOUBYAN PETROCHEM.	334.6	0.010	MH	MS(H)	
	(5)	79	EQUIPMENT HOLDING	22.6	0.001	MH	MS(H)
	80	GULF CABLE & ELECT.INDS.	380.7	0.011	MH	MH(H)	
	81	GULF GLASS MANUFACTURING	24.8	0.001	MH	MS(H)	
	82	HEAVY ENGR.& SHIP BLDG.	63.3	0.002	MH	MH(H)	
	83	HILAL CEMENT	21.7	0.001	MH	MH(H)	
	84	KUWAIT BLDG.MATS.MNFG.	8.0	0.000	MH	MH(H)	
	85	KUWAIT CEMENT	466.3	0.014	MH	MH(H)	
	86	KUWAIT FOUNDARY	111.7	0.003	MH	MH(H)	
	87	KUWAIT PCKG.MATS.MNFG.	24.5	0.001	MH	MH(H)	
	88	MENA HOLDING	86.8	0.003	MH	MH(H)	
	89	METAL AND RECYCLING	28.7	0.001	MH	MH(H)	
	90	NATIONAL INDUSTRIES	134.4	0.004	MH	MH(H)	
	91	PORTLAND CEMENT	87.4	0.003	MH	MS(H)	
	92	REFRIGERATION INDS.	29.6	0.001	MH	MH(H)	
	93	SHUAIBA INDUSTRIAL	13.5	0.000	MH	MS(H)	
	94	ACICO INDUSTRIES	89.0	0.003	MS	MS(H)	
95	CONTRACTING & MAR.SVS.	73.8	0.002	MS	MH(H)		
96	KUWAIT PIPES INDS.& OIL	73.2	0.002	MS	MH(H)		
97	NATIONAL INDS.GP.HDG.	948.7	0.028	MS	MS(H)		
98	UNITED INDUSTRIES	56.0	0.002	MS	MS(H)		
<b>Service</b>	99	AL-SAFWA GROUP CO.	91.9	0.003	PH	PH	

(6)	100	AREF ENERGY HOLDING CO.	108.7	0.003	PH	PH
	101	CREDIT RATING & CLLN.	52.5	0.002	PH	PH
	102	GULF PETROLEUM INV.	41.4	0.001	PH	PH
	103	KUWAIT NATIONAL CINEMA	86.6	0.003	Sin	Sin
	104	KUWAIT HOTELS	13.3	0.000	Sin	Sin
	105	KUWAIT CABLE VISION	7.6	0.000	Sin	Sin
	106	IFA HOTELS & RESORTS	277.8	0.008	Sin	Sin
	107	AGILITY PUB.WHSG.	1014.5	0.030	MH	MH(H)
	108	AL SAFAT EN.HOLDING	42.5	0.001	MH	MH(H)
	109	AUTOMATED SYSTEMS	16.0	0.000	MH	MH(H)
	110	BURGAN CO.FOR WELL DRL.	114.5	0.003	MH	MS(H)
	111	CITY GROUP COMPANY	87.9	0.003	MH	MH(H)
	112	GULF FRANCHISING HLDG.	16.1	0.000	MH	MH(H)
	113	HITS TELECOM HOLDING	52.8	0.002	MH	MH(H)
	114	HUMAN SOFT HOLDING	27.0	0.001	MH	MS(H)
	115	KUWAIT SLAUGHTER HOUSE	10.4	0.000	MH	MS(H)
	116	ZAIN GROUP	5364.7	0.157	MH	MH(H)
	117	NAFAIS HOLDING	69.4	0.002	MH	MH(H)
	118	NATIONAL CLEANING	21.6	0.001	MH	MH(H)
	119	NATIONAL MOBL.TELECOM.	999.3	0.029	MH	MH(H)
	120	NATIONAL PTL.SVS.	18.0	0.001	MH	MH(H)
	121	NATIONAL RANGES CO.	64.2	0.002	MH	MH(H)
	122	NATIONAL SLAUGHTER HOUSE	5.9	0.000	MH	MS(H)
	123	PRIVATIZATION HOLDING	80.5	0.002	MH	MH(H)
	124	SAFWAN TRADING & CNTG.	17.7	0.001	MH	MS(H)
	125	SULTAN CENTRE FOOD	188.7	0.006	MH	MH(H)
	126	AL-ARABI GP.HLDG.	26.1	0.001	MS	MS(H)
	127	INDE.PETROLEUM GROUP	64.8	0.002	MS	MS(H)
	128	KUWAIT & GULF LINK TRAN.	97.9	0.003	MS	MH(H)
	129	KUWAIT PROCESS PLANT CONSTRUCTION & CNTG.	16.0	0.000	MS	MH(H)
	130	KUWAIT COML.MKTS.CMX.	56.2	0.002	MS	MS(H)
<b>Food</b>	131	LIVESTOCK TRAN.&TRDG.	71.3	0.002	MH	MH(H)
	132	UNITED FOODSTUFF INDUSTRIES	13.3	0.000	MH	MH(H)
(7)	133	DANAH ALSAFAT FOODSTUFF	48.8	0.001	MH	MS(H)
	134	KUWAIT FOOD (AMERCANA)	624.5	0.018	MH	MS(H)
	135	KUWAIT UTD.POULTRY	16.5	0.000	MH	MH(H)

Note: This table provides details about the sample companies used in the GLM model. It reports the name of the companies in each sector, their average size (Avg.) in millions of Kuwaiti Dinar (KWD) during the whole sample period, and their size as a percentage of the total sample stocks market value. The last two columns provide companies' *Shariah* classification using the original and halved AAOIFI thresholds only as of 31/12/2005.

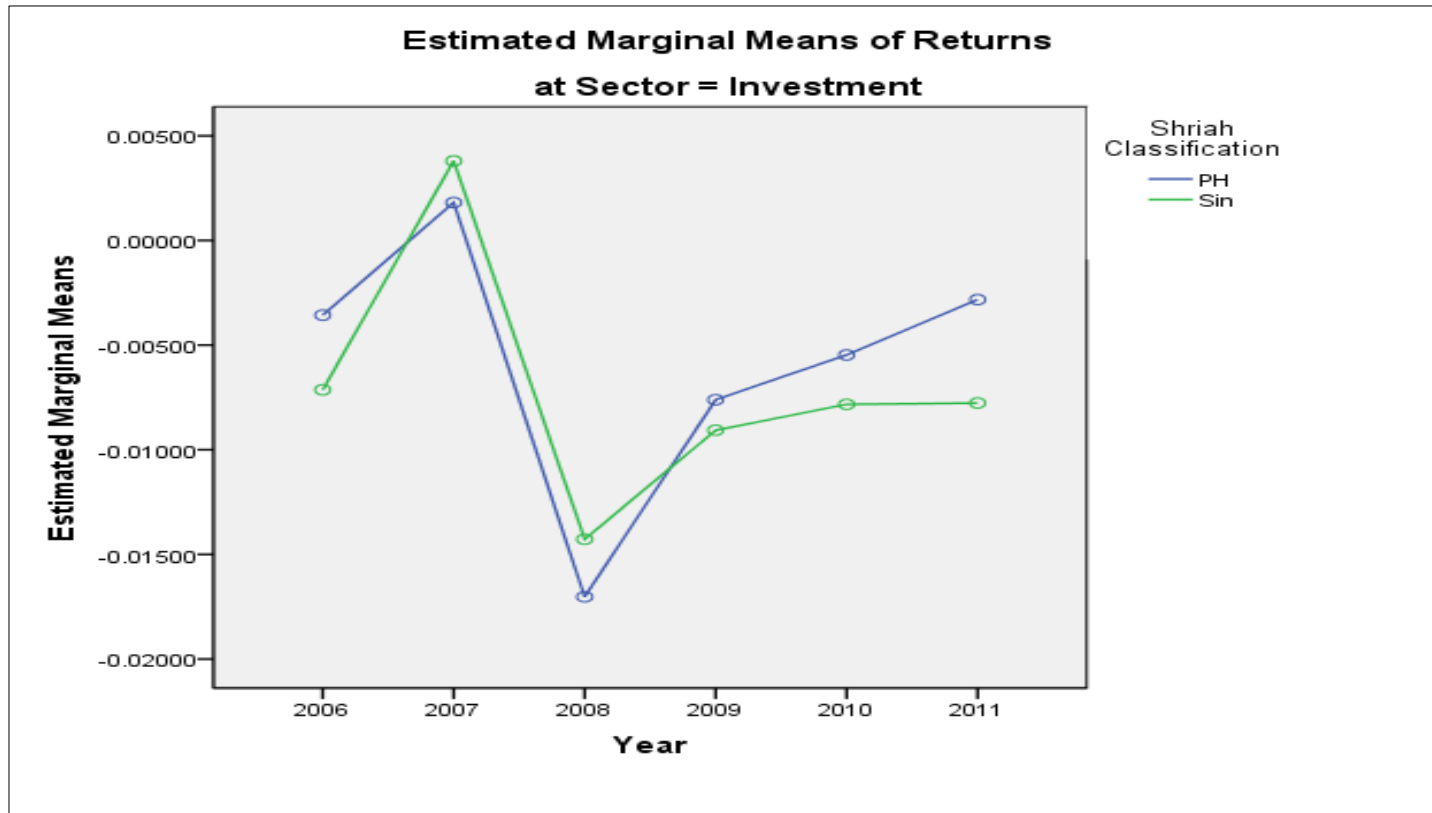


#### Appendix 8.4: Mean Returns of Stock Based on their Sharia Classification in Banking Sector



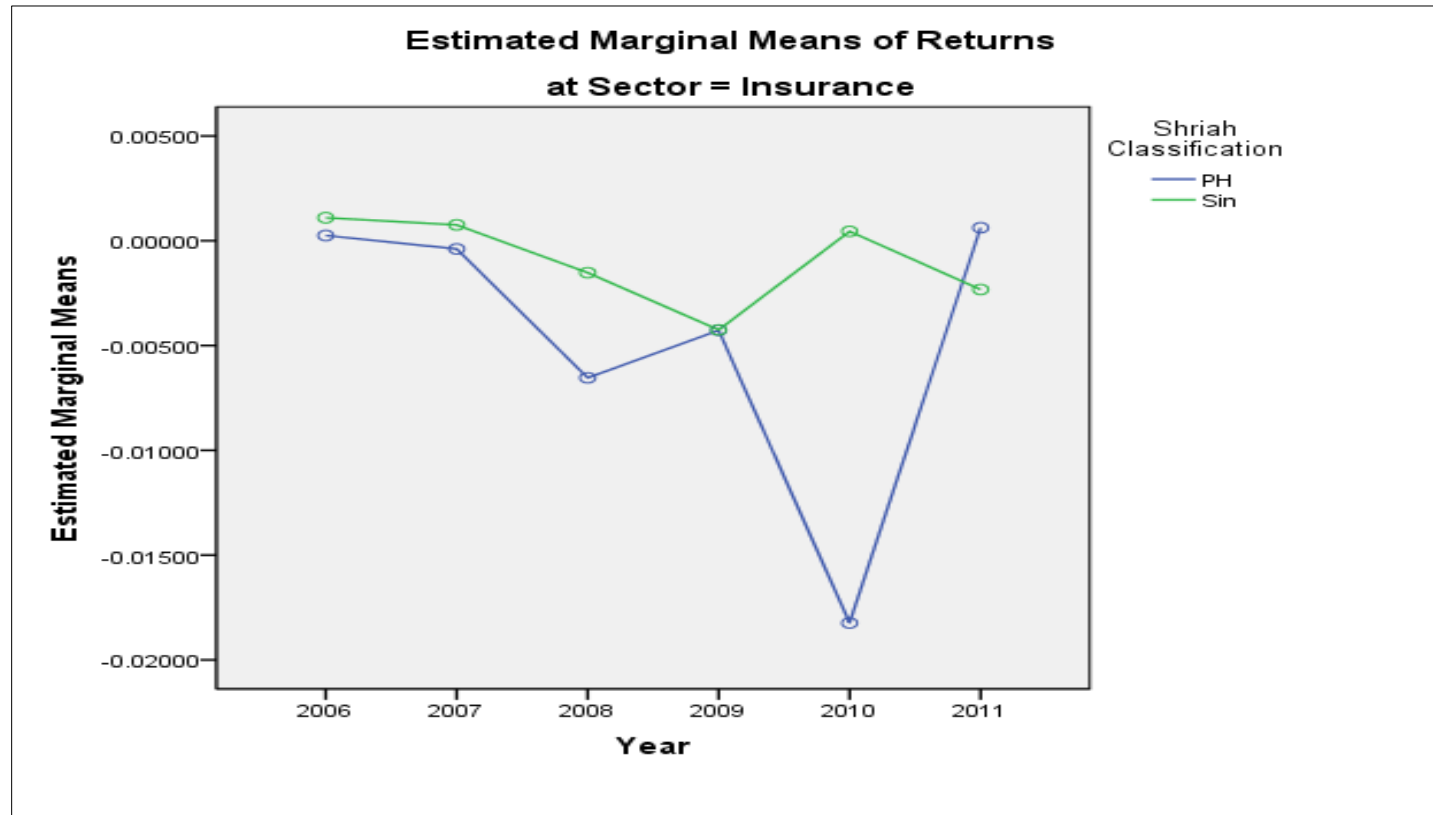
Note: The figure plots the mean return of stocks in the banking sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

### Appendix 8.5: Mean Returns of Stock Based on their Sharia Classification in Investment Sector



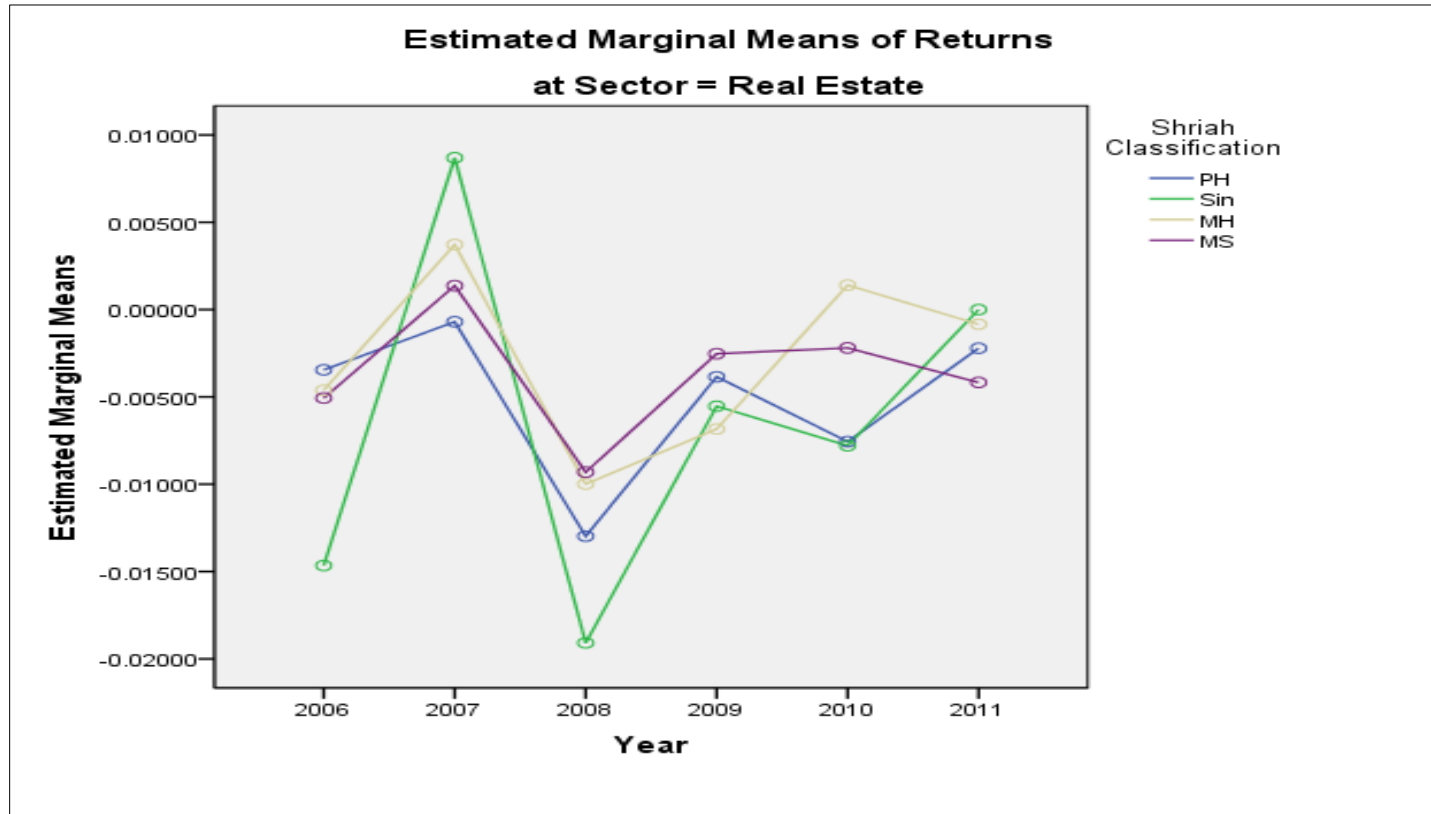
Note: The figure plots the mean return of stocks in the investment sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

**Appendix 8.6: Mean Returns of Stock Based on their Sharia Classification in Insurance Sector**



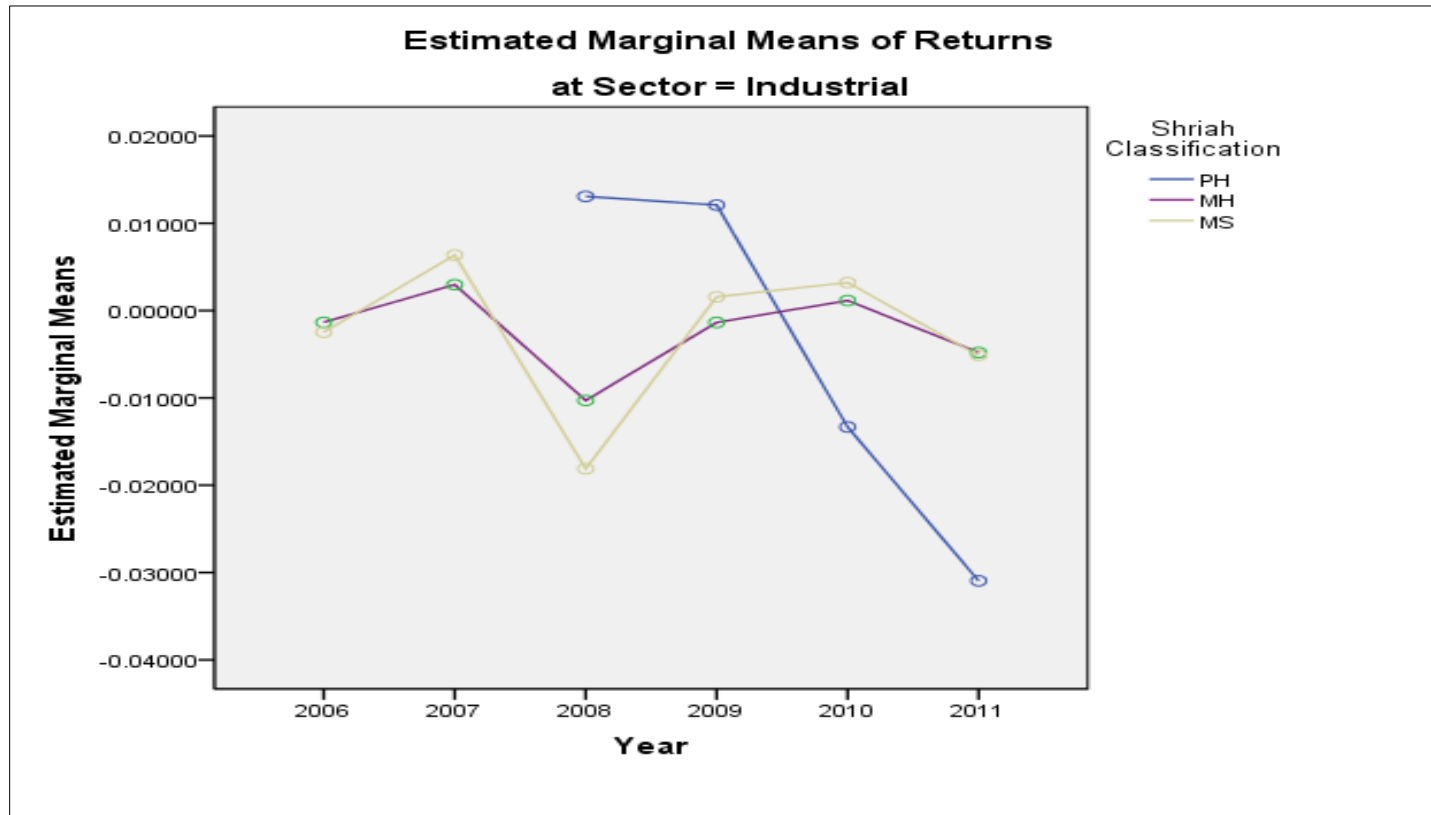
Note: The figure plots the mean return of stocks in the insurance sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

**Appendix 8.7: Mean Returns of Stock Based on their Shariah Classification in Real Estate Sector**



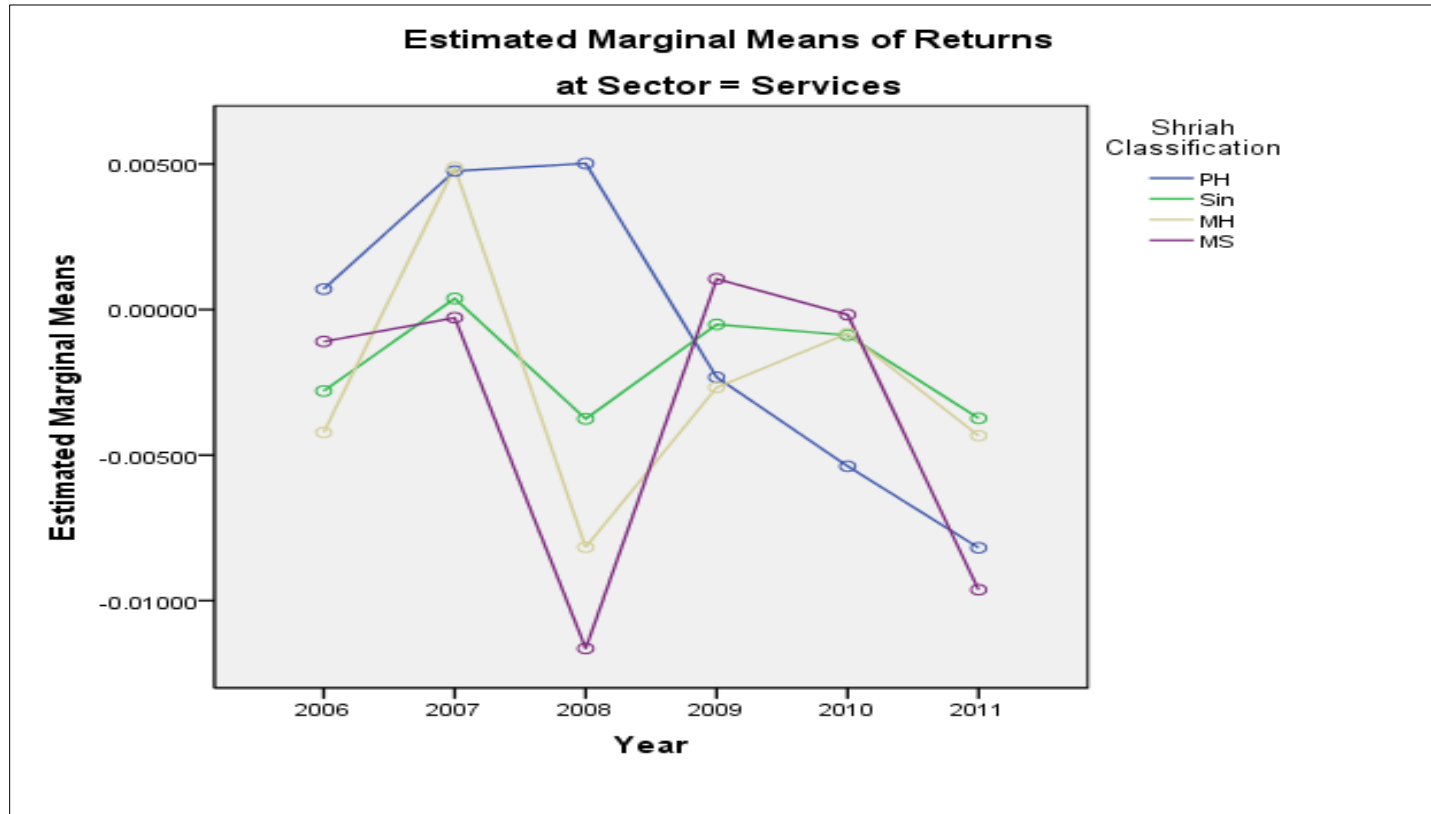
Note: The figure plots the mean return of stocks in the real estate sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

**Appendix 8.8: Mean Returns of Stock Based on their Sharia Classification in Industrial Sector**



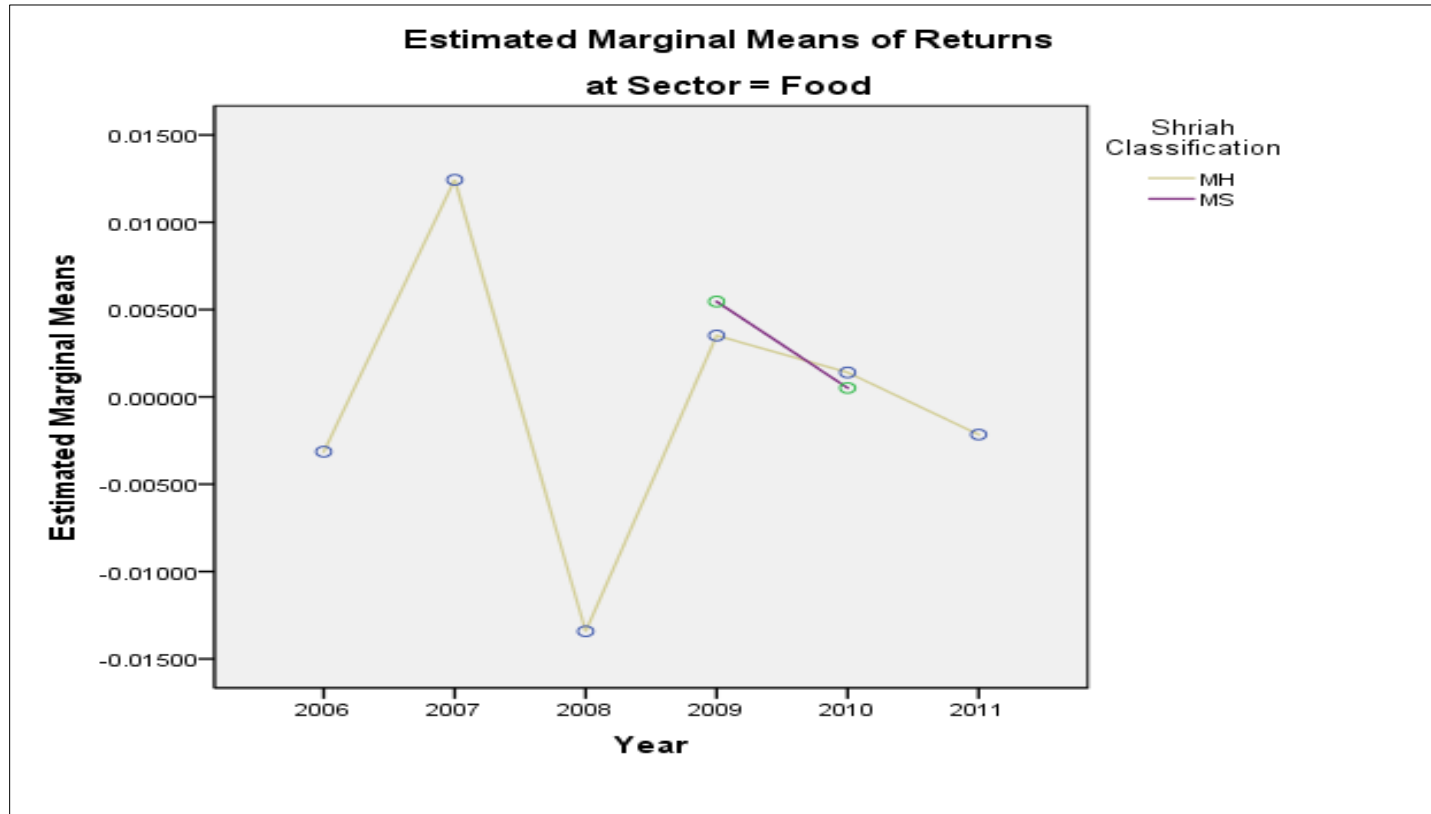
Note: The figure plots the mean return of stocks in the industrial sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

**Appendix 8.9: Mean Returns of Stock Based on their Shariah Classification in Service Sector**



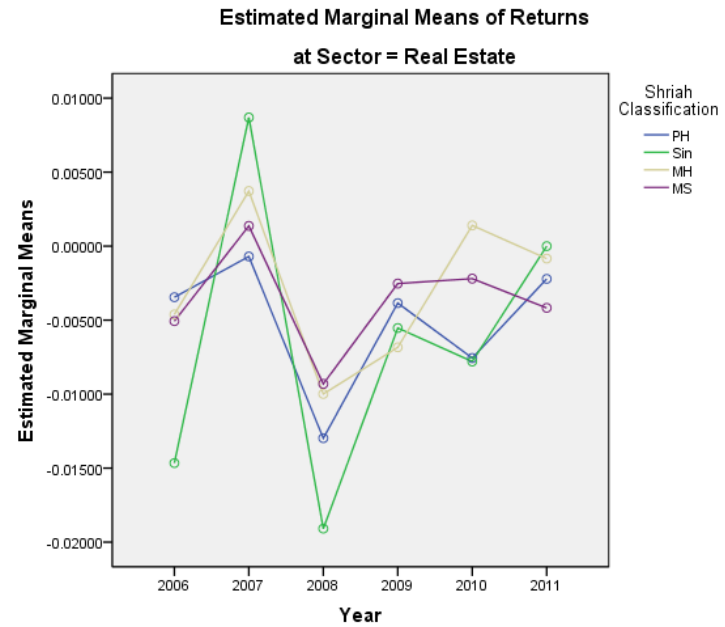
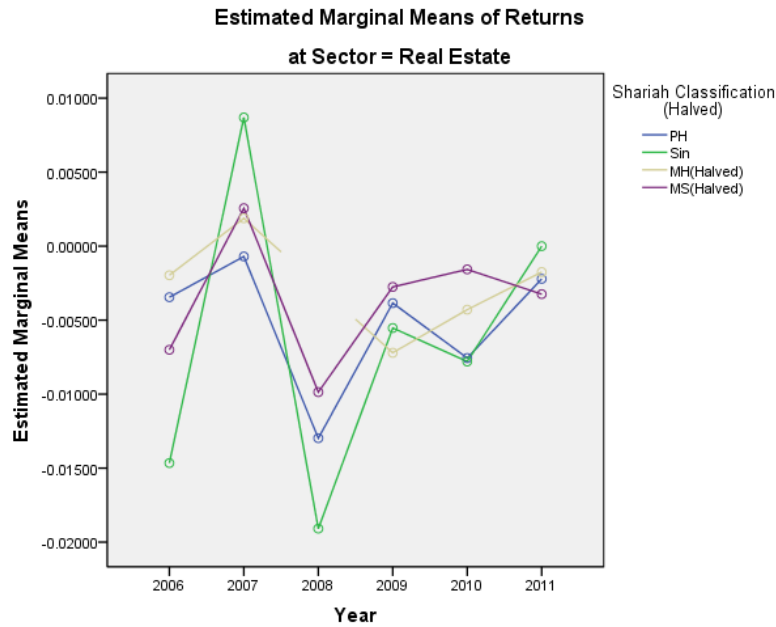
Note: The figure plots the mean return of stocks in the service sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

**Appendix 8.10: Mean Returns of Stock Based on their Shariah Classification in Food Sector**



Note: The figure plots the mean return of stocks in the food sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years (2006-2011).

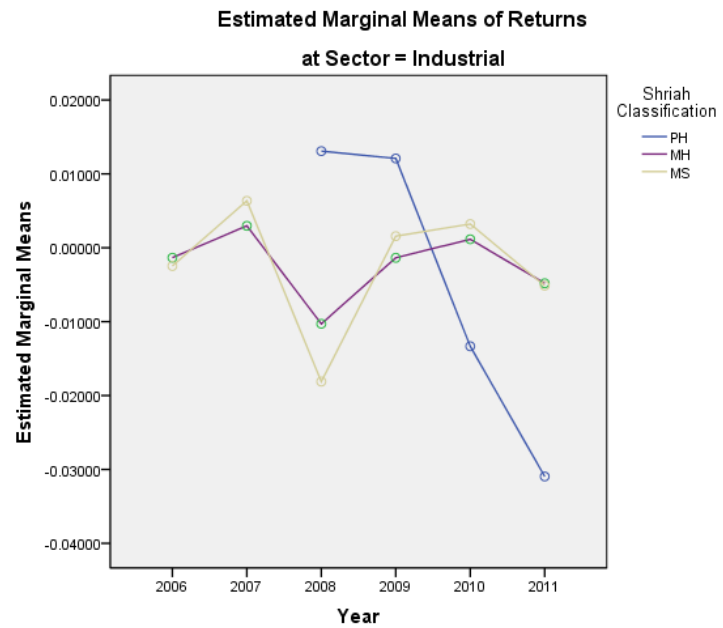
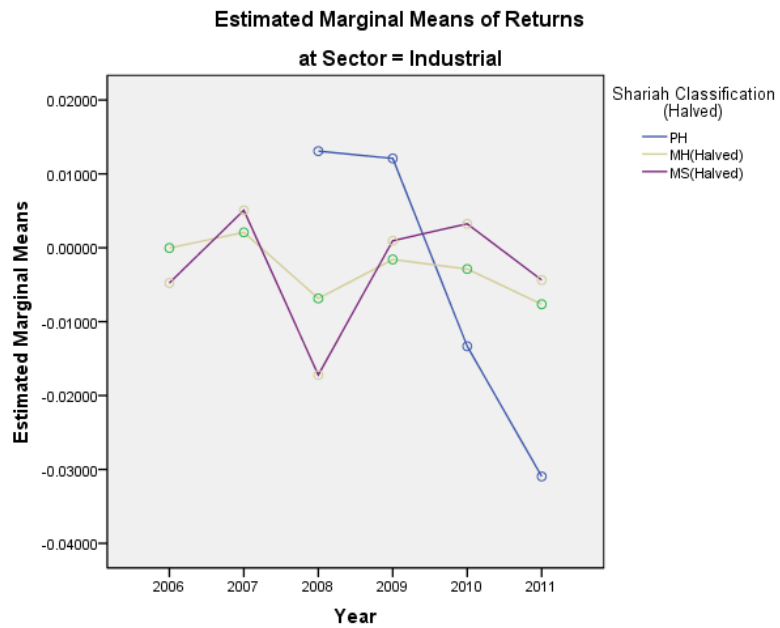
**Appendix 8.11: Mean Returns of Stock Based on their Sharia Classification in Real Estate Sector Before and After Halving AAOIFI's (2006) Screens**



Note: The figures plots the mean return of stocks in the real estate sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years.

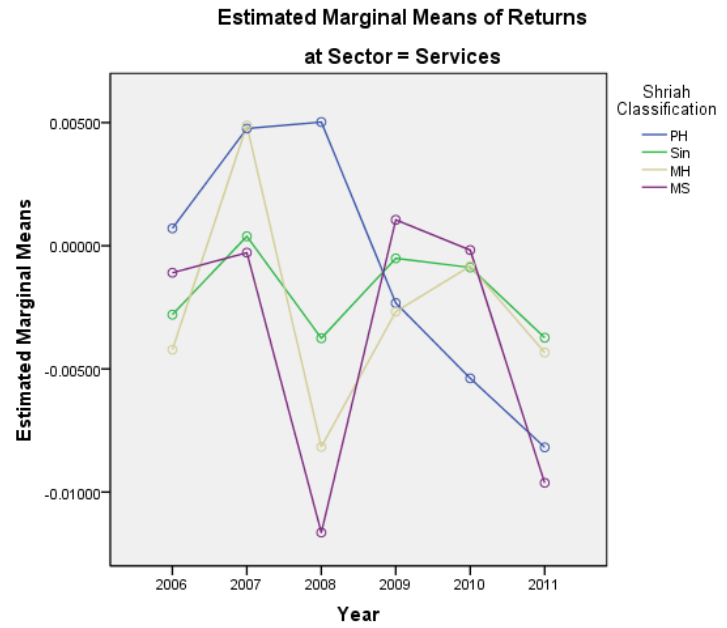
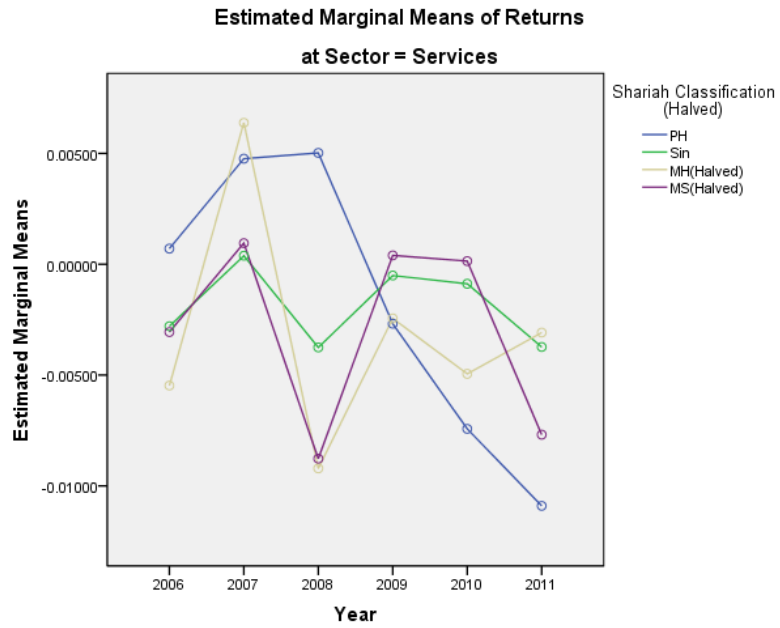


**Appendix 8.12: Mean Returns of Stock Based on their Sharia Classification in Industrial Sector Before and After Halving AAOIFI's (2006) Screens**



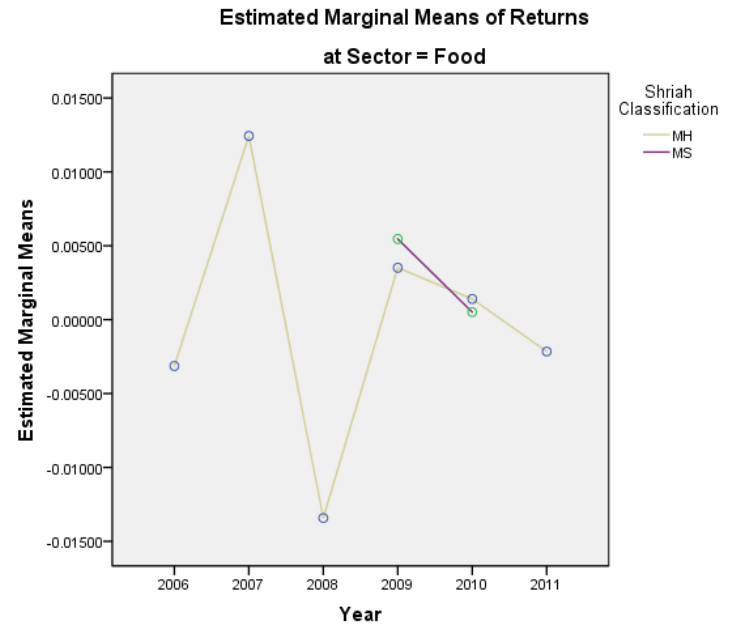
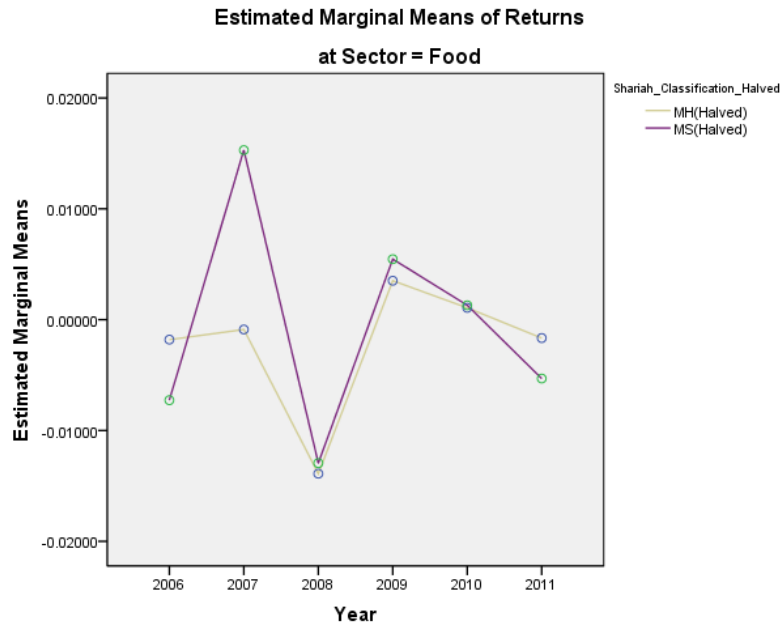
Note: The figures plots the mean return of stocks in the industrial sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years.

**Appendix 8.13: Mean Returns of Stock Based on their Shariah Classification in Service Sector Before and After Halving AAOIFI's (2006) Screens**



Note: The figures plots the mean return of stocks in the services sector based on their *Shariah* classifications, namely: PH=pure *Halal* Stocks, Sin= sin stocks, MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years.

**Appendix 8.14: Mean Returns of Stock Based on their Sharia Classification in Food Sector Before and after Halving AAOIFI's (2006) Screens**



Note: The figures plots the mean return of stocks in the food sector based on their *Shariah* classifications, namely: MH= mixed *Halal* stocks and MS= mixed sin stocks over the sample years.