

Is it Costly to Introduce SRI into Islamic Portfolios?

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Abstract

Could Environmental, Social and Governance (ESG) performance be a criterion for Islamic investment? The development of socially responsible investment (SRI) has challenged the ethical approaches associated with Islamic investment as a means to promote social achievements. Noting similarities with the positive screening approach, we investigate the integration of ESG criteria, into Islamic portfolios using KLD social ratings. This research seeks to determine the financial price of being both Sharī'ah-compliant and socially responsible. We examine the financial performance of self-composed Islamic portfolios with varying ESG scoring. The results indicate no adverse effect on returns due to the application of Islamic and ESG screens, with a substantially higher performance for positive screening on governance during post subprime crisis' period. Significant outperformance still arises for portfolios with bad records in community and human rights though. Performances are controlled for market sensitivity, investment style, momentum factor and sector exposure.

JEL Classification: G11

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KEYWORDS: socially responsible investing (SRI), Islamic investing, ESG scorings, corporate social responsibility (CSR), portfolio management.

1. Introduction

In 2013, a report by Human Rights Watch revealed systematic “ethnic cleansing” of the Rohingya Muslim minority and massive human rights violations

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perpetrated by Burma's oppressive military government over the course of more than a decade¹. Implicated in these egregious crimes were oil companies active in the region, such that Unocal (a subsidiary of the Chevron group) which was named in a civil lawsuit in U.S. federal court. In response socially conscious investors and sustainable index providers have excluded Chevron from their investment universes. From another perspective, even though Islamic investors promise that their primary objective when entering markets is compliance with Islamic ethics, controversial firms such as Chevron often appears prominently in Islamic indexes². Modern investment processes and increasing use of extra-financial information render appreciation of firms' ethics in portfolios management less costly. As such, evidences of multinationals' social and environmental controversies challenge current Islamic investment's ability to address unethical behaviour.

Unlike conventional types of investments, socially responsible investment (SRI) applies a set of investment screens to exclude or include stocks on the basis of environmental, social and corporate governance (ESG) criteria, and often engages in local communities and in shareholder activism to further corporate strategies towards the above aims (Renneboog et al., 2008a). In Islamic investment, screening practices are limited to exclusion related to religious and normative prescriptions (Miglietta and Forte, 2007). Islamic investment refers to an investment practice that conforms with the Sharī'ah³ whose guidelines and principles govern several aspects of investment practices, including portfolio allocation, trading practices and income distribution (Girard and Hassan, 2008). That is, fund managers establish industry and financial screens⁴ to ensure the final portfolio's compliance with Islamic legal prescriptions.

Islamic asset management sector has come a long way from the appearance of the first Islamic fund several decades ago. This niche market was estimated at \$ 62 billion in 2014 by Reuters⁵, still minimal in comparison with the assets of SRIs, for which assets in socially screened portfolios climbed to \$ 10.4 trillion at the start of 2010 for the European and U.S market that represent the two core SRI markets⁶.

¹ The full report is available at http://www.hrw.org/sites/default/files/reports/Burma_0413webwcover_0.pdf.

² We can mention for instance the case of Dow Jones Islamic Market and MSCI Islamic index series.

³ Sharī'ah is usually referred to as Islamic law, but it also embodies a more global meaning that encompasses all the ethical moral and legal principles governing all aspects of a Muslim's life.

⁴ The first stage or industry screening relates to the main activity of a company and the second stage or quantitative screening refers to debt leverage, liquidity ratio and interest exposure.

⁵ Figure extracted from Reuters' Global Islamic asset management Report published in 2014.

⁶ Figure extracted from the USSIF and European SRI Study 2012 reports.

Islamic finance and SRI movement share obvious similarities in their objectives and claims (promotion of social welfare through an emphasis on ethics). Several studies have highlighted the compatibility of Islamic ethics and classical business ethics theory that served as foundational sources for SRI current practices (Rice, 1999; Beekun and Badawi, 2005; Brammer et al., 2007; Dusuki and Abdullah, 2007; Dusuki, 2008; Williams and Zinkin, 2010). Their conclusions suggest that a strategy that only focuses on excluding “sin” activities is not sufficient to comply with all the ethical and social guidelines prescribed by Islamic sources, pledging for the integration of ESG indicators into Islamic investment process. Although Islamic finance and SRI appear to trigger the same expectations among their proponents of being more ethical than conventional finance, they also face criticisms of not being able to tie to these expectations, as suggested by the “form-over-substance” issue in Islamic finance and the “green-washing” debate in SRI (Hayat, 2013). A survey conducted among Islamic finance practitioners revealed that 98.8% of respondents believed that promoting social responsibility in financial transactions would create value for Islamic financial institutions (Sairally, 2007). The author of the survey concluded that Islamic investment could further “learn from the more proactive engagement practices of SRI funds whereby they encourage companies to be more responsive to society’s expectations”.

Despite these calls for reconciliation, no serious attempt has been made to combine these two ethical investing styles in a single investment process (Hayat, 2013). This research intends to fill up this gap by examining the effect of positive ESG criteria in Islamic investment process.

Accordingly, we apply varying ESG screens to an Islamic stock universe and specify whether Islamic socially responsible portfolios vary in their performance and investment styles. Due to differences in sector exposure between Islamic and SRI investments, we test the robustness of the results using an industry-adjusted measurement model.

From a practical point of view, this research provides new diversification perspectives for funds managers that seek to increase their performance while adjusting for diversification risk. Additionally, by proofing the financial merit of SRI initiatives, our research may provide arguments for the promotion of CSR guidelines by Islamic finance regulatory institutions⁷.

⁷ Such as AAOIFI or IFSB

In the next section we present the theoretical background that served to derive our hypothesis and frame our empirical analysis. In the second section we describe the methodological settings of the study. In a third section we report the results and test their robustness. In the last section we discuss the major findings of our research and conclude.

2. Literature Review

This section reviews the literature on the performance and characteristics of SRI and Islamic investment as compared to unrestricted traditional investment portfolios. It gives a general view on the impact of applying SRI and Islamic screenings on the risk and return and investment style characteristics of funds or portfolios.

2.1 The Effects of Ethical Screening on Portfolios' Performance

2.1.1 Performance of Islamic Portfolios

The resilience observed by Islamic financial market during the last “subprime” crisis has triggered the interest of many researchers. Previous findings suggest that Sharī‘ah screening criteria do not seem to provide inferior performance. Among the pioneering works we can mention those of Wilson (2001) and Ahmad (2001) who find that Islamic mutual funds are financially viable. Later on, Hakim & Rashidian (2004) used a co-integration technique to compare the performance of the Dow Jones Islamic Market Index (DJIMI) with Wilshire 5000 Index using data for period 1999 to 2002. Their findings show that on a risk-return basis, there is no loss from the screening process used for DJIMI stocks, and Islamic investors are not worse off by investing in an Islamic index as a subset of a much larger market portfolio. Similarly, Elfakhani & Hassan (2005), Abderrezak (2008) and Hayat & Kraeussl (2011) note that, on average, there is no statistically significant difference between the risk adjusted performance of Islamic equity mutual funds and their Islamic and conventional market benchmarks. Confirming previous studies' conclusions, Hoepner, Rammal & Rezac (2011) show that, in general, Islamic equity mutual funds do not significantly underperform their international benchmarks when its home economy account for a high Muslim population, in addition of being a relatively well developed market for Islamic financial services (e.g. Malaysia, UAE, Bahrain). However, the authors find that in non-Muslim countries, Islamic mutual funds tend to underperform compared to their market benchmarks.

From another perspective, Hussein & Omran (2005) suggest that Islamic indexes provide positive abnormal returns over the January 1996 – March 2003 period. Their study reveals that Islamic indexes performed well during the bull market period (January 1996 - March 2000) but they underperformed their index counterparts over the bear market period (April 2000 – July 2003). The authors explain that technology sector firms are responsible for the Islamic index positive abnormal returns. Small size, basic materials, consumer cyclicals, industrial and telecommunication firms turn out to be the dominant drivers. On the opposite, using the case of liquor firms that exhibited good performance despite the recent global recession, some have argued that excluding significant chunks of business from Islamic portfolio exposes a fund to losing out in overall performance. However the authors point out that in the recent global recession and on several occasions before the collapse of high-profile firms such as WorldCom and Enron, the DJIMI was able to detect signs of corporate distress and excessive indebtedness and eliminate those stocks from their constituents.

More recently, Forte & Miglietta (2007) offered a quantitative and qualitative comparison of Shari‘ah-compliant and SRI funds’ investment styles and also perform a co-integration analysis. They reveal that Islamic and SRI funds exhibit different characteristics in terms of asset allocations, econometric profiles, and sector exposure. Islamic indices are found to be more oriented towards growth⁸ and small-cap stocks, whereas SRI indices are more oriented towards value and large-caps.

Few studies have attempted to review the screening methodologies of Islamic Investments. A study conducted by Derigs & Marzban (2008) helped to examine the different screening approaches adopted by the providers of Islamic indexes. They touch on some points that are crucial to the development and expansion of the Islamic fund management industry. Indeed, the authors revealed the inconsistencies of Shari‘ah scholars in their screening approaches. Precisely, one firm could be considered Shari‘ah compliant for one index and non-Shari‘ah compliant for another. This discrepancy arises from the fact that the index providers use different threshold and ratios to exclude non-Shari‘ah compliant stocks from their universe. Arguably, the authors conclude that “mathematical formalism may not be able to fully account for the subtitle and subjective interpretation of the Islamic sources” and that “the effect of bundles of such formal constraints may be too complex to be anticipated on every possible asset universe”. The latter conclusion provides

⁸ Also confirmed by (Walkshaeusl and Lobe, 2012)).

justification for the need of reviewing the current Sharī‘ah-compliance methodologies from a conceptual and a practical setting.

In fact, our review of the literature reveals that despite the clear prohibition of interest-based, speculative and “illicit” activities, no uniform Sharī‘ah-compliant criteria has been set through a general consensus of scholars. Indeed, Islamic jurisprudence allows for diversity and flexibility in rulings that regard mundane affairs⁹. Each ruling should be specific to a context. Therefore, each IFI has its own Sharī‘ah committee in charge of defining the appropriate set of guidelines based on its specific context¹⁰. Besides the criticisms regarding the lack of consistency of Sharī‘ah-compliance methodologies, many researchers also express a common view that any Islamic investment screening process should emphasize both negative and positive screening criteria to invest in companies that make positive contributions to the society and avoid investing in companies that cause any harm (Dar Al Istithmar, 2010).

2.1.2. The Adverse Effect of Islamic Portfolio Selection

Another argument for the merit of incorporating ESG screening into Islamic investment could be found in the literature focusing on the corporate social performance (CSP) - corporate financial performance (CFP) link. The findings brought up by this literature suggest the existence of a double adverse effect of Islamic financial screenings.

The first one can be identified as a social adverse effect. Indeed, some authors found that ESG screening affects stock returns by increasing the market-to-book ratio (Galema et al., 2008) which suggest that socially responsible firms tend to have a higher market-to-book ratio than their non-socially responsible peers. When looking at Sharī‘ah-compliant screening process, we find that some fund managers use firms’ book value (i.e. total assets) to calculate the acceptable level of debt, cash and receivable of Sharī‘ah-compliant firms. In a call for revising the current criteria for compliance, some researchers rejected the use of market capitalization, perceived to be inappropriate, in favor of balance sheet items, notably total assets (Khatkhatay and Nisar, 2007). However, CSP-CFP theory’s evidence suggests quite the opposite. Therefore, we argue that relying exclusively on accounting

⁹ The juristic discipline related to mundane affairs is referred as *fiqh mu’amalat* in Islamic scholarship.

¹⁰ For instance a practice can be rejected in a particular context and tolerated in other conditions. Islamic jurisprudence usually quotes the example of a famished man in the desert that has no other choice than eating pork to avoid dying from starvation. In such critical situation referred as *darurat*, prohibited practices can become tolerated and even obligatory to preserve human life.

measure to estimate the economic value of a firm may lead Islamic fund managers to screen out companies with good CSP that tend to have a higher market to book ratio. Indeed, corporate intangible assets are proven to be linked to high ESG standards. For instance, a study focusing on environmental performance concluded that legally emitted toxic chemicals have a significant effect on the intangible asset value of publicly traded companies (Konar and Cohen, 2001). From a general perspective, studies on intangible assets suggest that traditional financial reports do not fully reflect a firm's value (Lev and Zarowin, 1999; Xu et al., 2007; Edmans, 2012). In today's high tech environment, firm's intangible and knowledge-based assets become a significant determinant of firms' social and economic performance. Intangible resources such as employee satisfaction, employee knowledge and innovation commitment, firm culture and reputation are often associated with CSP and can also represent invaluable assets to the firm (Branco and Rodrigues, 2006).

The second adverse effect deals with long term financial performance. While accounting information indicates a firm's current financial position, it does not necessarily reflect the firm's ability to increase or maintain its CFP in the future. For instance, Rogers, Choy and Guiral (2013) recently found that investors' perception of a firm's corporate social responsibility (CSR) efforts and its investment in innovation play a significant role in predicting a firm's long-term performance. Hence an Islamic index provider that uses a total-assets-based screening strategy (e.g. MSCI) will systematically exclude companies from intellectual property sensitive sectors from its asset universe which means the exclusion of assets with potentially good ESG standards and good return and risk profiles.

This double adverse effect provides another justification for a critical review of current Sharī'ah-compliance screening process found to be inappropriate both from an ethical perspective (Khatkhatay and Nisar, 2007) and from an economic viewpoint (Khatkhatay and Nisar, 2007; Derigs and Marzban, 2008). Since the adoption of total-assets based screening in Islamic portfolio selection disadvantage firms with the best ESG standards, a new portfolio selection strategy that includes positive ESG screenings is likely to mitigate the adverse effect produced by traditional Sharī'ah-compliant screenings.

2.1.3. The Effect of a Multiple and Transversal Screening Approach

Despite the classical argument suggesting that a reduction in stock universe due to the act of screening should impose an additional set of constraints to the optimization problem faced by the return-maximizing investor (Markowitz, 1952),

arguments for the merits of increasing the number of ethical screens used to compose SRI portfolios appear in many studies (Barnett and Salomon, 2006; Kempf and Osthoff, 2007; Capelle-Blancard and Monjon, 2011; Humphrey and Lee, 2011). In these studies, the authors investigate the relationship between the number of ethical screens, defined as screening intensity, and mutual fund performance. Barnett & Salomon (2006) demonstrate the presence of a curvilinear relationship, such that performance suffers with low screening intensity, and then increases with intensified screening (i.e., as the number of social screens used by an SRI fund increases). Capelle-Blancard & Monjon (2011) also note that greater strategy distinctiveness is associated with better financial performance; the negative effects of transversal (also referred as positive or best in class) screens are less significant than those of sectoral (also referred as negative or exclusion) screens. Humphrey & Lee (2011) find weak evidence that funds with more screens overall provide better risk-adjusted performance but conclude that positive ESG screening significantly reduces funds' risk. These empirical findings thus provide strong arguments for the superior positive effect expected from a transversal screening approach based on positive ESG indicators. Another argument could be found in the study conducted by Statman & Glushkov (2009). The authors find that investors benefit from a better return advantage of tilts toward stocks of companies with high ESG scores but offset this advantage by the return disadvantage that comes from the exclusion of stocks of banned sectors. Considering all the arguments presented in the previous sub-sections, we formulate the following hypotheses:

H1a. Islamic portfolios with high ESG scores perform better than traditional Islamic portfolios.

H1b. Islamic portfolios with high ESG scores perform better than Islamic portfolios with poor ESG scores.

2.1.4 The Investment Style of SRI and Islamic Investment

Most of previous studies find that Shari'ah and ESG screening processes tend to impact the investment style of the investment portfolios compared to their unrestricted conventional counterparts. Girard & Hassan (2005; Girard and Hassan, 2008) and Abderrezak (2008) show that Islamic investment portfolios seem to be more exposed to small and growth companies. Studies by Forte & Miglietta (2007) and Walkshaeusl & Lobe (2012) note a growth cap orientation associated with Islamic indices. Hoepner et al. (2011) only find an exposure towards small cap for Islamic mutual funds. Hassan, Khan & Ngow (2010) show that Malaysian Islamic mutual funds tend to be small cap oriented compared to their conventional

counterparts. Regarding SRI portfolios' investment style, Statman & Glushkov (2009) indicate that applying different ESG criteria influences the investment style differently. Luther, Matatko & Corner (1992), Luther & Matatko (1994), Gregory, Matatko & Luther (1997) and Scholtens (2005) show that SRI mutual funds seem to be tilted towards small cap. Schröder (2004), Bauer, Koedijk & Otten (2005), Gregory & Whittaker (2007) and Cortez, Silva & Areal (2009) find small and growth cap bias to be associated with SRI mutual funds. Studies by Guerard (1997), DiBartolomeo & Kurtz (1999) and Statman (2006) indicate that the Domini Social Index (DSI 400) tends to be more exposed to growth caps than the conventional S&P 500 Index. This is consistent with Garz, Volk & Gilles (2002) who find growth tilt associated with the European Dow Jones Sustainability Index (DJS). Confirming previous studies' findings, Kempf & Osthoff (2007) and Statman & Glushkov (2009) indicate that SRI portfolios tend to be skewed towards growth stocks. On the other hand, Vermeir, Van de Velde & Corten (2005) find that, in general, SRI indices tend to be significantly more exposed to large cap, but their exposure to book to market factor is not significant. Bello (2005), Schröder (2004) and Bauer et al. (2005) find that while European SRI mutual funds tend to be biased towards small cap, US SRI funds tend to be tilted towards large cap. Considering these arguments, we formulate the following hypotheses:

H2a. Islamic portfolios with high ESG scores are more oriented towards big-cap stocks than traditional Islamic portfolio.

H2b. Islamic portfolios with high ESG scores are more oriented towards big-cap stocks than Islamic portfolio with poor ESG scores.

3. Methods and Data

3.1. Data Set

Our data set combines ESG ratings and financial data for 238 firms listed in U.S. stock markets as of 2007. We import the ESG ratings from Kinder, Lynderberg and Domini (KLD) Research & Analytics STATS (Statistical Tool for the Analysis of Trends in Social and Environmental Performance) and retrieve financial data from Datastream. Generous contributions by MSCI analysts provided us with the constituents of the MSCI U.S. Islamic index from its inception year in 2007¹¹ from which we formed our Shari'ah-compliant stock universe. The methodology used by MSCI to screen Shari'ah-compliant stocks is described in the Appendix. Because KLD is the property of MSCI, we assumed the MSCI Islamic index series coverage

¹¹ Our KLD ratings coverage lasts until the end of 2010.

would match the KLD universe, to ensure broader stock coverage. Of the 270 firms listed in the MSCI U.S. Islamic index in 2007, we retained the 238 firms that received ESG ratings from KLD.

KLD provides annual snapshots of the ESG performance of U.S companies, evaluated on the basis of multiple criteria that constitute two broad categories: qualitative and exclusionary. The qualitative criteria are used for the positive and the best-in-class strategies. The exclusionary screens eliminate companies involved in controversial business areas¹². The seven qualitative screens are:

1. Community
2. Governance
3. Diversity
4. Employee relations
5. Environment
6. Human rights
7. Products

For each domain, KLD lists several criteria and considers both positive strengths and negative concerns. On each domain, each constituent criterion receives a score of either 0 or 1, and the rating lists strengths, concerns, both, or neither. Among the concerns, the indicators measure the severity of the controversies that the firm faces, such as fines/sanctions for causing environmental damage, violations of operating permits, emission of toxic chemicals, poor employee union relations, abuses of employee labour rights, and so forth. For the strengths dimension, the indicators measure positive ESG engagement by the firm's products/services, management, policies, or operations, which might include air emission mitigations, limited water discharges and solid waste from operations, the use of recycled materials, the establishment of pro-minority or local community involvement policies (e.g., indigenous peoples), strong health and safety programs, and the development of employee benefits or programs to address work-life balance concerns.

3.2. ESG Performance Measurement

Barnett & Salomon (2011) observe that most CSP studies based on KLD data measure the ESG performance using aggregate measures, which may be problematic (Brammer et al., 2006). As Sharfman (1996) notes, the simple addition

¹² Namely Alcohol, Gambling, Tobacco, Firearms, Military and Nuclear power.

of positive ratings and subtraction of negative ratings across screens using KLD data fails to give an accurate picture of ESG performance. As suggested by Waddock & Graves (1997), investors grant different levels of importance to different components of ESG performance (Waddock and Graves, 1997). Therefore, aggregate measurements of ESG performance may confound existing relationships between the specific sub-components of ESG performance and returns (Galema et al., 2008). The resulting confounded effects might explain why empirical literature yields contradictory conclusions regarding SRI performance. For example, positive news about a firm's recycling policies may relate positively to expected returns, whereas news pertaining to philanthropic activities, perceived as an unproductive cost, relates negatively. These insights motivated our choice not to rely on a single composite score for ESG performance but rather to use disaggregated measures that represent each of its sub-components. Our portfolio composition approach diverges from previous studies (e.g. (Dravenstott and Chieffe, 2011) in that we differentiate portfolios according to ESG performance's sub-components, dimensions and intensity. Importantly, the ESG performance measurement that we derive from KLD's data is based on declarative statement and reports.

3.3. Portfolio Composition

We adopt a self-composed portfolio approach to circumvent the methodological biases affecting traditional funds' studies (Orlitzky et al., 2003). Indeed, some authors showed that there is no uniformity in the rating process of SRI mutual funds; rather, the ratings tend to differ with local regulations, investors' preferences, and fund managers' abilities. It is therefore difficult to neutralize the singularity effect caused by each social indicator (Kurtz and Dibartolomeo, 2011).

The portfolio composition relies on a simple, passive, value-weighted methodology, which neutralizes any effect of managers' stock-picking skills and enables us to measure effects attributed exclusively to ESG strategic allocations. We isolate each of the seven ESG domains and separate out the two dimensions of the screening (*strength/concerns*) and the score level. Next, we classified the scoring according to three rankings: 0, 1, or greater than 1. For each ESG sub-components and depending on the type of dimension, 0 indicates "no engagement" or "no implication in controversies"; 1 indicates "partial engagement" or "partial controversies implication"; and a score greater than 1 indicates "significant engagement" or "significant controversies implication." In some ESG domains though, we found no scores greater than 1, so we obtained a short portfolio panel.

The final panel contains 28 portfolios (7 domains¹³ × 2 dimensions × 2 score intensities), plus a subset of 6 portfolios that score above 1. The portfolios are non-mutually exclusive. Table 1 displays the portfolio panel structure.

Table-1
Islamic SRI Portfolios Panel Structure*

	ESG Engagement (Strengths)			ESG Controversies (Concerns)		
	No (score=0)	Partial (score=1)	Significant (score>1)	No (score=0)	Partial (score=1)	Significant (score>1)
Community	√	√	×	√	√	×
Governance	√	√	×	√	√	√
Diversity	√	√	√	√	√	×
Employee	√	√	√	√	√	√
Environment	√	√	√	√	√	√
Human Rights	√	√	×	√	√	×
Product	√	√	×	√	√	×

* The □ signifies that no portfolio was constructed for this category, due to the absence of scores.

To appreciate the relevance of the disaggregated ESG performance approach, we constructed a comparative subset of portfolios using an aggregate scoring approach. However, subtracting concerns from the strengths score would not be meaningful, because of the distinct nature of these two dimensions. Indeed, the issue related to “greenwashing” described in management literature (Laufer, 2003) explains how firms may be tempted to hide their social controversies by strategically emphasizing of positive ESG ratings¹⁴. To tackle this issue, we adopt an alternative method that overweight the presence of controversies in the measurement of ESG performance. The measurement formula is described as follow:

$$Total\ ESG\ scoring_i = (total\ strengths\ score_i + 0.5) / (total\ concerns\ score_i + 0.5)$$

where *total strengths score_i* and *total concerns score_i* represent the sum of firm’s *i* strengths and concerns, respectively, across all ESG domains. To obtain a score for each firm, we normalize both the divisor and the numerator by adding a constant term.

¹³ In this study, the seven ESG domains form the seven sub-components of the ESG performance used to rank firms.

¹⁴ By subtracting negative ratings from positive to obtain a global ESG score, the classical approach may favor “greenwashing” practices usually observed among firms with a specific CSR communication department (Parguel et al., 2011).

In terms of timing, at the end of year $t - 1$, KLD reports the stock ratings. We used this rating to form portfolios at the beginning of year t and maintain the portfolios until the end of year t . New ratings then get published, and we restructure the portfolios for year $t + 1$. Thus we obtain a time series of monthly returns from 2008 to 2011. The period limitation is due to the historical inception of the MSCI Islamic index, which started in 2007.

Table 2 contains the descriptive statistics for the 39 portfolios in our panel, grouped according to their level of ESG engagement and level of implication in ESG controversies. It gives descriptive statistics of monthly returns from January 2008–December 2011¹⁵. Group 1 comprises neutral portfolios in terms of engagement and controversies. Group 2 encompasses portfolios that are partially engaged in ESG concerns or partially involved in ESG controversies. Group 3 includes portfolios significantly engaged in ESG concerns or significantly involved in ESG controversies. In the lower part of the table, we display the results for the five portfolios constructed on the basis of the aggregated ESG scores, which provides a benchmark for our panel.

3.4. Financial Performance Measurement

To assess the effect of ESG performance on financial performance, we performed two analyses. First, we used the four-factor model developed by Fama and French (1992) and Carhart (1997). Formally, we approached performance measurement with the following equation:

$$R(i,t) - RF(t) = \alpha_i + \beta_i[RM(t) - RF(t)] + s_iSMB(t) + h_iHML(t) + m_iMOM(t) + \varepsilon(i,t) \quad (1.1)$$

where $R(i,t)$ is the return on portfolio i constructed as explained previously; $RM(t)$ is the return in month t on a value-weighted market proxy; $RF(t)$ is the return in month t of a one-month Treasury bill extracted from Kenneth French's data library¹⁶; $SMB(t)$ is the difference in monthly returns between small and large-cap portfolios; $HML(t)$ is the difference in returns between value and growth portfolios; and $MOM(t)$ is the monthly return on a portfolio long on past one-year winners and short on past one-year losers. The momentum factor captures the risk due to the

¹⁵ The mean return, standard deviation, and Sharpe ratio (given by the mean excess return to the standard deviation of the returns) are all annualized. The last two columns provide skewness and kurtosis data. Group 3 does not contain all seven domains, because for some domains, no firms were significantly engaged in ESG issues or were significantly involved in ESG controversies. In the lower part of the table, the benchmark was a set of five portfolios constructed on the basis of aggregated scores. The sample period was

¹⁶ Available at <http://mba.tuck.dartmouth.edu/pages/faculty/ken.french>.

momentum found in stock returns (Jegadeesh and Titman, 1993). Controlling for investment style is particularly important in light of mounting evidence that returns on style account for a considerable portion of SRI portfolio performance (Bauer et al., 2005).

Table-2
Descriptive Statistics for Islamic-SRI Portfolios

	Mean	Std. Dev.	Sharpe Ratio.	Minimum	Maximum	Pr (Skewness)	Pr (Kurtosis)
Group 1: Non-engaged portfolios							
<i>Panel A : Not engaged in ESG issues (strengths=0)</i>							
Community	1.11	22	0.05	-16.47	17.58	0.32	0.17
Governance	-0.31	23.35	-0.01	-18.95	17.07	0.17	0.19
Diversity	1.99	26.22	0.08	-19.48	18.11	0.19	0.54
Employee	2.67	20.59	0.13	-19.29	13.95	0.04	0.05
Environment	2.68	21.16	0.13	-18.46	15.48	0.1	0.09
Human Rights	0.34	17.76	0.02	-15.06	11.04	0.08	0.26
Product	-0.67	18.95	-0.04	-15.25	13.68	0.19	0.27
<i>Panel B: Not involved in ESG controversies (concerns=0)</i>							
Community	1.12	18.74	0.06	-15.58	12.02	0.1	0.27
Governance	2.54	23.91	0.1	-21.33	15.52	0.04	0.1
Diversity	3.53	18.99	0.18	-17.45	10	0.02	0.12
Employee	0.55	17.78	0.03	-15.28	10.91	0.16	0.29
Environment	0.94	18.88	0.05	-17.7	10.58	0.03	0.09
Human Rights	-0.43	18.19	-0.02	-14.63	11.74	0.12	0.32
Product	0.67	21.88	0.03	-18.91	14.56	0.07	0.22
Group 2: Partially engaged portfolios							
<i>Panel C : Engaged in ESG issues (strengths=1)</i>							
Community	1.6	16.29	0.1	-14.17	9.25	0.05	0.21
Governance	3.08	15.24	0.2	-12.88	8.12	0.03	0.2
Diversity	-1.87	25.55	-0.07	-25.8	18.58	0.01	0.01
Employee	0.06	22.1	0	-17.96	13.62	0.14	0.38
Environment	-3.54	19.9	-0.18	-14.3	16.01	0.4	0.16
Human Rights	-8.92	35.44	-0.26	-57.45	12.48	0	0
Product	6.01	17.43	0.34	-15.22	10.56	0.04	0.14
<i>Panel D: Involved in ESG controversies (concerns=1)</i>							
Community	2.64	17.92	0.15	-14.94	8.89	0.06	0.45
Governance	2.64	18.91	0.14	-15.99	10.37	0.07	0.37
Diversity	-0.65	17.54	-0.04	-11.16	14.13	0.52	0.31
Employee	0.68	19.36	0.03	-15.38	13.78	0.15	0.29
Environment	2.11	18.6	0.11	-16.4	11.21	0.04	0.2
Human Rights	2.59	18.55	0.14	-15.97	10.76	0.08	0.33
Product	1.56	15.38	0.1	-12.16	8.31	0.14	0.52
Group 3: Significantly engaged portfolios							
<i>Panel E: Significantly engaged in ESG issues (strengths>1)</i>							
Diversity	3.34	15.39	0.21	-11.86	8.66	0.1	0.53
Employee	0.76	17.46	0.04	-12.27	14.56	0.55	0.17
Environment	2.72	16.68	0.16	-13.35	10.69	0.21	0.35
<i>Panel F: Significantly involved in ESG controversies (concerns>1)</i>							
Governance	4.37	16.19	0.26	-12.6	8.39	0.09	0.45
Employee	0.94	17.31	0.05	-15.08	9.06	0.06	0.26
Environment	0.43	18.1	0.02	-13.24	12.33	0.32	0.63
Portfolios based on aggregated scoring							
Worst ESG score	-2.07	26.42	-0.08	-20.77	20.2	0.29	0.14
Bad ESG score	0.43	20.35	0.02	-13.88	13.56	0.36	0.96
Mid ESG score	0.26	20.34	0.01	-17.08	14.35	0.11	0.18
Good ESG score	1.81	19.07	0.09	-15.45	9.43	0.08	0.39
Best ESG score	2.56	15.57	0.16	-13.62	8.15	0.05	0.24

In addition, we test returns on a difference portfolio, to measure relative performance (Derwall et al., 2005; Galema et al., 2008). To construct the difference portfolios, we first subtracted the returns of portfolios composed of firms that were not engaged in ESG concerns from the portfolios of firms engaged in ESG concerns, then subtracted the returns of portfolios of firms involved in controversies from portfolios composed of firms not involved in any controversies. The corresponding equation is as follows:

$$R(i,t,p) - R(i,t,n) = \alpha_i + \beta_i[RM(t) - RF(t)] + \sigma_iSMB(t) + \rho_iHML(t) + \mu_iMOM(t) + \varepsilon(i,t), \quad (1.2)$$

where $R(i,t,p)$ represents the returns on ESG-engaged and non-controversial portfolios¹⁷ and $R(i,t,n)$ is the return on their accompanying non-ESG-engaged and controversial portfolios. The independent variables are similar to those in Equation (1.1), except that α_i is the differential excess performance in this equation.

4. Results

4.1. Performance Analysis

4.1.1. Islamic SRI Portfolios Treatment

Table 3 reports the results of the four-factor regressions estimating disaggregated socially responsible and non-socially responsible portfolios' performance. We construct our value-weighted market proxy from MSCI U.S. Islamic index. We excluded from our analysis the ESG-engaged *human rights* portfolio (Panel C) which appeared to be an outlier, according to its small size (i.e., fewer than 20 stocks throughout the observation period). The extreme alpha reported for this portfolio is linked to the overweighting of one stock. The estimates of the four factors exhibited significant differences across panels. We report significant alpha values for five portfolios (out of 39). In particular, the portfolio composed of companies with partial engagement in *governance* outperformed its peer Islamic index (i.e. MSCI U.S. Islamic) over the observation period ($\alpha=4.91\%$, $p<.05$). Concerning the negative ESG performance, we observed that two portfolios, representing firms with partial implications in *community* relationship and *human rights* controversies, outperformed their peer index ($\alpha=6.04\%$ and $\alpha=5.54\%$ respectively, $p<.05$). Our results indicate the positive effect of positive ESG performance exclusively for the *governance* domain; they

¹⁷ We merged the partially engaged portfolios and significantly engaged portfolios into a single set of engaged portfolios.

also suggest a positive effect of ESG controversies in the *community* relationship and *human rights* domains.

Beyond the effect linked to each ESG performance sub-components, we found a tangible effect linked to ESG performance intensity. That is, considering portfolios representing firms that are significantly engaged in ESG concerns (Group 3) or significantly involved in ESG controversies (Group 4), we observed noticeable differences in comparison with the partially engaged and partially involved portfolios (Groups 1 and 2). The portfolio composed of firms with significant positive engagement in *diversity* outperformed its peer index ($\alpha=4.41\%$, $p<.1$). Surprisingly, the portfolio composed of firms with significant involvement in *governance* controversies also outperformed their peer index ($\alpha=7.06$, $p<.05$).

For *diversity* and *governance* issues, the intensity of ESG engagement and respectively the intensity of controversy involvement thus appear to be determining factors of the ESG performance – financial performance relationship. These results thus suggest that the most financially successful companies overlook the negative impacts of their operations to local populations¹⁸ and do not meet certain *human rights*. Concerning *governance* issues, the positive performance of significantly irresponsible and partially responsible portfolios highlights a paradox. When examining the indicators considered by KLD to evaluate corporate *governance*, we find that good *governance* is measured solely by firms' declared support to ESG public policies and the quality of their social reporting¹⁹. In addition of these indicators, bad *governance* is also measured by the severity of disputes regarding executives' compensations, *governance* structure and misbehavior such as bribery, tax evasion, inside trading and accounting irregularities. Thus, this dual-performance paradox suggests that firms with good market performance are more prone to *governance* bad practices and therefore tend to hide it by a positive CSR communication strategy²⁰.

The last rows of Table 3 present the results of the four-factor regressions for the five portfolios ranked on the basis of the firms' aggregate ESG performance. None of the reported alpha estimates were significant, which suggests the irrelevance of a composite social performance measurement and confirms Sharfman's (1996) argument on the potential opposing effect across ESG domains.

¹⁸ These negative impacts are evaluated by KLD on the basis of NGOs or independent observers' complaints.

¹⁹ Reports' quality assessment is based on the compliance with the Global Reporting Initiative.

²⁰ Accordingly, based on the numerous "greenwashing" evidences, some authors such as Parguel et al. (2011) argue on the necessity to review current social ratings methods.

Table-3
Performance of Islamic-SRI Portfolios (4-factor model)

	α	t stat	SMB	t stat	HML	t stat	MOM	t stat	Rm-Rf	t stat	Adj. R ²
Group 1: Non-engaged portfolios											
<i>Panel A: Not engaged in ESG issues (strengths=0)</i>											
Community	0.96	0.36	0.15	1.3	0.06	0.55	0.01	0.27	1.17***	15	0.93
Governance	-2.02	-0.68	0.30***	3.44	-0.08	-0.68	-0.06	-2.42	1.23***	19.7	0.94
Diversity	-0.12	-0.02	0.40**	1.69	-0.09	-0.59	-0.01	-0.24	1.32***	13.3	0.86
Employee	0	-0.01	0.41***	2.73	-0.13	-1.05	-0.06	-1.33	1.04***	16.8	0.92
Environment	0.96	0.33	0.29***	4.05	-0.11	-1.09	-0.05	-2.7	1.12***	18.7	0.94
Human Rights	1.21	0.69	-0.03	-0.89	0.05	0.87	0	0.44	0.99***	117	0.98
Product	0.36	0.18	-0.04	-0.74	0.02	0.24	0.03	2.3	1.06***	32.4	0.95
<i>Panel B: Not involved in ESG controversies (concerns=0)</i>											
Community	-1.07	-0.51	0.41***	3.3	0.02	0.27	-0.03	-0.68	0.92***	30.9	0.92
Governance	0.36	0.1	0.35***	2.04	-0.07	-0.62	-0.08	-1.8	1.22***	14.3	0.91
Diversity	3.29	1.25	0.13	0.88	0.05	0.63	-0.02	-0.79	1.00***	17	0.92
Employee	-0.48	-0.18	0.17	1.31	-0.04	-0.56	-0.05	-0.94	0.91***	20.8	0.89
Environment	-1.31	-0.59	0.37***	4.75	0.01	0.13	-0.08**	-3.16	0.93***	16.8	0.94
Human Rights	-1.19	-0.88	0.21***	4.08	0.08	1.32	-0.03	-1.15	0.94***	40	0.96
Product	1.09	0.4	0.04	0.64	0.08	0.9	-0.03	-0.87	1.18***	24	0.94
Group 2: Partially engaged portfolios											
<i>Panel C: Engaged in ESG issues (strengths=1)</i>											
Community	1.94	1.14	0.05	0.44	0.01	0.31	0.01	0.45	0.89***	30.2	0.94
Governance	4.91**	2.54	-0.1	-1	0.13	1.86	0.05	1.83	0.84***	24.9	0.93
Diversity	-4.24	-1.22	0.38**	2.6	-0.25*	-1.72	-0.04	-1.02	1.34***	12.5	0.9
Employee	-0.48	-0.16	0.22*	1.27	0.01	0.06	0.03	1.01	1.16***	19.4	0.9
Environment	-1.79	-0.53	-0.15	-1.18	-0.07	-0.64	0.06	2.13	1.12***	15.4	0.88
Human Rights	-11.04	-0.61	0.19	0.75	-0.53	-0.86	-0.06	-0.73	1.07***	10.8	0.21
Product	5.03	1.68	0.19	1.36	0.14	1.31	-0.09*	-1.48	0.78***	9.61	0.8
<i>Panel D: Involved in ESG controversies (concerns=1)</i>											
Community	6.04**	1.99	-0.33	-4.96	0.11	1.47	0.04	1.55	1.03***	23.8	0.94
Governance	1.81	0.63	0.27***	2.16	0.15*	2.12	-0.01	-0.2	0.94***	20.6	0.92
Diversity	0.12	0.04	0.06	0.52	0.04	0.51	0.09**	2.75	0.95***	12.3	0.9
Employee	1.57	0.84	0.02	0.38	0.15***	1.94	0.02	0.92	1.05***	26.7	0.97
Environment	2.43	1.01	0.06	0.75	0.06	0.86	-0.01	-0.6	1.00***	31.7	0.94
Human Rights	5.54**	1.61	-0.30***	-4.75	0.02	0.25	0.04	1.81	1.07***	38.4	0.93
Product	2.67	1.15	-0.06	-1.16	0.07	1.1	0.01	0.42	0.84***	22.9	0.92
Group 3: Significantly engaged portfolios											
<i>Panel E: Significantly engaged in ESG issues (strengths>1)</i>											
Diversity	4.41*	2.06	-0.01	-0.09	0.14*	2.15	0.03	0.87	0.82***	25.2	0.91
Employee	1.57	0.54	0	-0.01	0.04	0.4	0.03	1.68	0.96***	11.5	0.92
Environment	3.29	1.83	0.04	0.55	0.16**	2.09	-0.02	-0.46	0.87***	19.7	0.93
<i>Panel F: Significantly involved in ESG controversies (concerns>1)</i>											
Governance	7.06**	1.98	-0.24**	-1.49	0.07	0.81	0.05	2.22	0.90***	20.5	0.88
Employee	2.43	0.9	-0.14	-1.64	-0.03	-0.5	0.01	0.43	0.98***	20.1	0.91
Environment	3.04	1.1	-0.23***	-4.14	0.06	0.85	0.05	3.42	1.04***	28.2	0.94
Portfolios based on aggregated scoring											
Worst ESG score	-3.43	-0.77	0.24	1.26	-0.28*	-1.75	0	-0.04	1.41***	15.4	0.86
Bad ESG score	3.66	0.77	-0.31**	-2.79	0.03	0.23	0.08	1.66	1.14***	20.1	0.86
Mid ESG score	1.33	0.63	-0.04	-0.34	0	0	0.02	0.82	1.13***	20.8	0.93
Good ESG score	2.43	1.13	0.06	0.52	0.24***	3.33	-0.03	-0.98	0.96***	19.9	0.91
Best ESG score	1.21	0.43	0.23	1.6	0.1	1.19	-0.08	-1.21	0.67***	8.38	0.75

Note: The table displays the R², coefficients, and their respective t-stat and p-values for each regression. Portfolios are grouped into three categories. All alphas are annualized. T-statistics are derived from Newey–West heteroscedasticity and autocorrelation-consistent standard errors. The sample period was from January 2008–December 2011. * 10% significance. ** 5% significance. *** 1% significance.

4.1.2. Difference Portfolios Treatment

The exposed differences between ESG-engaged and non-ESG-engaged portfolios and between non-ESG controversial and ESG controversial portfolios helped reduce the dimensionality of our panel, in addition to revealing the differences in factor exposure. Thus, we could estimate the differential performance of an ESG engagement strategy from one side and a controversy disengagement strategy from the other. As we show in Table 4, for *governance* domain, the return difference between ESG-engaged and non-ESG-engaged portfolio is significantly positive (7.06%, $p < .1$), whereas for *community* relationship and *human rights* domains the return difference between non-controversial and controversial portfolios is significantly negative (-6.74% and -6.40% respectively, $p < .1$). Accordingly, while a strategy favouring good *governance* seem to be positively linked to portfolios performance, a strategy excluding companies involved in *community* and *human rights* controversies seems to be negatively linked to portfolio returns.

Table-4
Relative Performance of Islamic-SRI Difference Portfolios (4-factor model)

	α	t stat	SMB	t stat	HML	t stat	MOM	t stat	Rm-Rf	t stat	Adj. R ²
<i>Panel A: ESG engagement</i>											
Community	0.96	0.3	-0.11	-0.6	-0.05	-0.43	0.01	0.12	-0.28***	-2.62	0.3
Governance	7.06*	1.86	-0.39***	-2.77	0.22*	1.34	0.11	2.23	-0.39***	-4.16	0.53
Diversity	-4.24	-1.32	-0.02	-0.16	-0.16	-1.5	-0.03	-0.69	0.02	0.19	-0.04
Employee	-0.48	-0.12	-0.19	-1.63	0.14	1.2	0.09**	1.49	0.12**	2.03	0.1
Environment	-2.73	-0.57	-0.43***	-2.79	0.04	0.27	0.11**	3.06	0	0.01	0.24
Human Rights	-12.11	-0.62	0.22	0.77	-0.58	-0.86	-0.06	-0.7	0.08	0.75	-0.07
Product	4.66	1.01	0.23	1.23	0.13	0.81	-0.12	-1.66	-0.28***	-2.51	0.15
<i>Panel B: ESG controversies disengagement</i>											
Community	-6.74*	-1.76	0.74***	5.04	-0.09	-1.09	-0.07	-1.04	-0.1	-1.72	0.39
Governance	-1.43	-0.36	0.08	0.54	-0.23*	-1.85	-0.07	-1.08	0.28***	3.5	0.29
Diversity	3.17	0.6	0.07	0.38	0.01	0.06	-0.11**	-2.17	0.05	0.34	0.07
Employee	-2.02	-0.76	0.15	1.03	-0.19*	-1.98	-0.07	-1.33	-0.14**	-1.93	0.13
Environment	-3.66	-1.17	0.31**	3.15	-0.06	-0.49	-0.07	-2.33	-0.07	-1.46	0.1
Human Rights	-6.40*	-1.75	0.51***	4.71	0.06	0.57	-0.07	-1.5	-0.13*	-2.57	0.29
Product	-1.55	-0.39	0.11	0.9	0	0.03	-0.04	-0.65	0.33***	3.99	0.37

Note: This table displays the results of the multifactor regressions conducted on difference portfolios expressed by the following equation: $R(i,t,p) - R(i,t,n) = \alpha_i + \beta_i[RM(t) - RF(t)] + \delta_iSMB(t) + \eta_iHML(t) + \theta_iMOM(t) + \varepsilon(i,t)$. The table displays the R², coefficients, and their respective t-stat and p-values for each regression. All alphas are annualized. T-statistics are derived from Newey–West heteroscedasticity and autocorrelation-consistent standard errors. The sample period was from January 2008–December 2011. * 10% significance. ** 5% significance. *** 1% significance.

4.2. Investment Style Analysis

4.2.1. Islamic SRI portfolios treatment

Size Effect

Firstly, the results reported in table 3 show a significant exposure to SMB factor for portfolios that are neutral in terms of ESG performance (i.e. neither engaged in ESG issues nor involved in controversies) suggesting a rating bias. Regardless of the ESG domain of focus, small companies seem to be less concerned with ESG issues in their activities. From the negative ESG performance point of view, we find balanced results depending on the type of ESG performance and its intensity. Indeed, the results only show a significant exposure for portfolios representing significant involvement in *governance* and *environment* controversies and partial involvement in *human rights* issues. This suggests that big firms are exposed to *human rights* controversies in general, and that they are only exposed to severe *governance* and *environment* concerns. This result is also confirmed by the negative exposure to SMB factor found for one benchmark portfolio representing negative ESG performance (namely Bad ESG). From the positive ESG performance side, we found a significant exposure towards small stocks only for the two portfolios representing partial engagement in *diversity* and *employee relations*.

Book-to-Market Value Effect

The loadings for the HML factor reveal the compounding and balanced links between the book-to-market ratio of a firm and the type and intensity of its ESG performance. Indeed, the results in table 3 show a significant exposure to growth stocks for the portfolio partially engaged in *diversity*. On the opposite, we find a positive exposure to value stocks for the portfolios significantly engaged in *diversity* and *environment* strategies but also for the portfolios partially involved in *governance* and *employee* concerns. These results reveal that if firms with high book-to-market ratio are more exposed to substantial *governance* and *employee* concerns they are at the same time significantly more engaged in *diversity* and *environment* strategies. It also suggests that these firms suffer from undervaluation due to *governance* and *employee* issues and thus seek to counterbalance the negative perception of investors by overinvesting in *diversity* and *environment* issues to enhance their public image and increase their market value. The loadings of the aggregated ESG performance portfolios give a less explainable result. We note that the portfolio representing the worst aggregated ESG score is more exposed toward growth stock while the portfolio representing good aggregated

ESG score is more exposed toward value stocks. This suggests that the market value of a stock is inversely correlated to its ESG performance and contradicts theory (Galema et al., 2008). These findings confirm the importance of considering the multi-dimensionality of ESG performance and its confounding effects even from an investment style view point.

4.2.2. Difference Portfolios Treatment

Size Effect

The estimates in Panel A of Table 4 show that two difference portfolios related to ESG engagement exerted significant negative exposures on the SMB factor. In contrast, Panel B shows that three difference portfolios linked to controversies disengagement had significant positive exposures to the SMB factor. That is, portfolios with no controversial implications for *community* relationships, the *environment* or *human rights* are more sensitive to small size effects. Thus, disengaging from controversial companies in one of the three specific domains orients investment towards smaller firms. Furthermore, portfolios representing either *governance* or *environment* engagement are less sensitive to the small size effect than their accompanying non-engaged portfolios; thus engaging in good *governance* or *environment* strategies favours big firms.

Book-to-Market Value Effect

Ultimately, the results from Panel A of Table 4 show that the difference portfolio representing ESG engagement in *governance* has a significant positive exposure to HML; a SRI strategy targeting good corporate *governance* behaviour emphasizes value-oriented stocks. In addition, the difference portfolio representing *governance* and *employee* controversies disengagement revealed a significant negative exposure to the HML factor, suggesting that an investment strategy targeting good corporate *governance* behaviour leads to favouritism for value-oriented stocks.

These results suggest that screening a Sharī'ah compliant stock universe according to SRI principles produce effects that varies according to dimension (positive vs. negative), sub-components (i.e. *employee*, *environment*...) and intensity of ESG performance.

In summary, our analysis of Sharī'ah-compliant SRI investment style confirms the existence of a relationship between the size and book-to-market value of a firm

and its ESG performance. However our findings provide balanced conclusions. While the positive dimension of ESG performance expressed by ESG engagement or “strengths” is found to be positively related to firm size and to a lesser extent to its book-to-market value, its negative dimension expressed by ESG controversies or “concerns” is also positively related to firm size and to lesser extent its book-to-market value. Therefore, by combining the positive and negative dimensions of ESG performance through the construction of a single composite ESG score, previous empirical works might have failed to observe a significant relationship between ESG performance and financial performance due to the neutralization bias produce by composite ESG measurement approach.

4.3 Robustness

4.3.1 Industry-Adjusted Seven-Factor Model

Kurtz & DiBartolomeo (2011) provide evidence that sector exposures substantially drive SRI portfolio returns. Moreover, because Islamic screenings are based on exclusion, including the effect of sector exclusion in Sharī‘ah-compliant portfolios could be relevant. We investigate whether our portfolio loadings change after controlling for industry effect. We used an approach similar to that adopted by Jones & Shanken (2005) and previously applied to SRI funds and SRI portfolios by Geczy, Stambaugh & Levin (2003) and Derwall et al. (2005). It involves the construction of a factor model composed of the four investment style regressors and three industry factors, orthogonal to the primary factor. To derive these regressors, we performed a principal-components analysis on the portion of Fama and French's excess industry-sorted portfolio returns that cannot be explained by the four-factor model (i.e., the model's intercept and residual series). We used seven industry-sorted portfolios: consumer, manufacturing, energy, high-technology, telecommunication, shops, utilities, and others. The exhaustive industry-sorted portfolios list composed by French was not appropriated to our study because of the limited number of sectors composing our Sharī‘ah-compliant universe.

In turn, we retained the first three components, which captured most remaining industry return variation, and added them to the four-factor model. The resultant model takes the following form:

$$R(it) - RF(t) = \alpha_i + \beta_i[RM(t) - RF(t)] + s_iSMB(t) + h_iHML(t) + m_iMOM(t) + p_iIP1-3(t) + \varepsilon(it) \quad (1.3)$$

where $IP1-3(t)$ represents three factors (principal components) that capture industry effects. After performing this regression, we obtained the industry bias-free alpha estimates. The results of this industry-adjusted regression provide robust, unbiased estimates (Table 5). The loadings recorded for industry-adjustment variables cannot be interpreted with respect to specific industry exposure but provide evidence of industry effects, as revealed by significant alphas obtained in the regressions performed on the eight portfolios in the original four-factor model. The results confirm the robustness of our original alpha estimates. We notice slight changes in the significance level too, that is the alpha estimates for the difference portfolio attached to *community* controversies disengagement lost its significance.

Table-5
Performance of Industry-Adjusted Islamic-SRI Portfolios (7-Factor Model)

	Industry-adjusted α	SMB	HML	MOM	Rm-Rf	IP1	IP2	IP3	Adj. R ²
ESG baseline portfolios									
Group 2: Partially engaged portfolios									
<i>Panel C: Engaged in ESG issues (strengths=1)</i>									
Governance	4.91**	-0.1	0.13*	0.04***	0.85***	0	0.30**	-0.45***	0.94
	2.47	-1.56	1.86	2.81	33.3	0.04	2.01	-3.25	
<i>Panel D: Involved in ESG controversies (concerns=1)</i>									
Community	6.04*	-0.33***	0.11	0.05**	1.01***	-0.20**	0.02	0.11	0.94
	1.96	-5.12	1.55	2.18	25.2	-2.4	0.1	0.62	
Human Rights	5.54*	-0.29***	0.03	0.04***	1.05***	-0.21**	-0.35*	0.09	0.93
	1.75	-4.66	0.34	2.56	28.2	-2.53	-1.83	0.5	
Group 3: Significantly engaged portfolios									
<i>Panel E: Significantly engaged in ESG issues (strengths>1)</i>									
Diversity	4.41**	-0.02	0.13**	0.02	0.84***	0.12	0.41***	-0.5***	0.94
	2.06	-0.25	2.15	1.11	29.8	0.97	2.67	-2.75	
<i>Panel F: Significantly involved in ESG controversies (concerns>1)</i>									
Governance	6.98**	-0.24**	0.07	0.04*	0.90***	-0.2	0.18	-0.38	0.89
	1.99	-1.84	0.8	1.82	22.6	-1.57	0.7	-1.47	
Difference portfolios									
<i>Panel A: ESG engagement</i>									
Governance	7.06**	-0.41***	0.21	0.10***	-0.35***	0.22	0.74***	-0.57**	0.51
	1.94	-3.8	1.31	4.25	-4.38	0.9	2.6	-2.47	
<i>Panel B: ESG controversies disengagement</i>									
Community	-6.74	0.74***	-0.1	-0.08*	-0.08	0.22	0.19	-0.69**	0.62
	-1.61	5.65	-1.18	-1.67	-1.25	1.54	0.6	-2.39	
Human Rights	-6.40*	0.50***	0.05	-0.08**	-0.09	0.29**	0.53**	-0.40**	0.28
	-1.89	4.81	0.53	-2.48	-1.66	2.51	2	-2.05	

Note: The equation used for industry adjustment is derived from the classical four-factor model. Added industry factors are represented by the *IP* variable. The equation is modified as follows: $R(it) - RF(t) = \alpha_i + \beta_1[RM(t) - RF(t)] + \beta_2SMB(t) + \beta_3HML(t) + \beta_4MOM(t) + \beta_5IP1-3(t) + \epsilon(t)$. T-statistics (in italics) are derived from Newey–West heteroscedasticity and autocorrelation-consistent standard errors. The sample period was from January 2008–December 2011. *10% significance. **5% significance. ***1% significance.

5. Discussion

5.1. Performance Analysis

The results exposed by the four-factor model measurement and confirmed by the industry-adjusted seven-factor model provide substantial conclusive evidences

regarding the outperformance of Islamic portfolios expressing partial engagement in good *governance* and significant engagement in *diversity* issues as compared to their traditional peer Islamic index during the 2007-2011 periods. Moreover, our investigation reveals that controversial portfolios in *community*, *human rights* and *governance* exhibit higher performance than their Islamic peer index during these periods. This finding balances previous assertion and potentially suggests that well performing firms care less for the negative reputation originated by *human rights* and *community* concerns violations. Concerning *governance* matters, the results show that when taken separately, positive *governance* performance (i.e. engagement) and negative *governance* performance (i.e. concerns) lead both to superior performance and suggest that an ESG screening based on a composite ESG score may produce compound effect that annihilate the outperformance. Therefore we may only partially accept our hypothesis *H1a* and reformulate our final assertion accordingly: Islamic portfolios with high ESG scores in *governance* and *diversity* engagement perform better than traditional Islamic portfolio.

The results brought by the difference portfolios investigation provide a more balanced conclusion in the fact that it relatives previous assertion. Precisely, when comparing the relative performance of high ESG scores portfolios with their poor ESG scores counterparts, we find that the outperformance observation only holds for *governance* engagement. It appears that engagement in *governance* brings superior performance as compared to non-engagement, but non-involvement in *governance* concerns doesn't provide superior performance as compared to involvement in *governance* concerns. A possible explanation for this can be found in the principle-agent theory literature whereby agency issues and information asymmetries related to governance concerns may mislead investors' perception of a firm value. Well-informed investors can thus obtain superior returns by selecting firms that are undervalued by traditional investors because of their governance concerns. We conclude that the positive effect of an Islamic *governance*-oriented investment strategy is more guided by engagement in good *governance* practices than alleviation of controversial *governance* behaviour. Therefore, we reformulate the second hypothesis *H1b* accordingly: Islamic portfolios with high scores in *governance* engagement perform better than Islamic portfolios with poor scores in *governance* engagement.

5.2. Investment Style Analysis

As presented in the results section, we find that ESG screening produce different style effect in relation to its dimension, its sub-components and its intensity. Concerning our initial hypothesis *H2a*, the results displayed by partially

engaged and significantly engaged ESG portfolios provide no support for its validity and on the contrary suggest quite the opposite. Indeed, the results show clearly that screening on the basis of ESG concerns orients portfolios towards small caps suggesting that large companies are more concerned with ESG controversies. Big firms thus appear to be more exposed to *human rights*, *governance* and *environment* concerns. Interestingly, the results of SMB factor exposure suggest that because small companies are less involved in ESG controversies, they tend to be less concerned with implementing ESG practices. Furthermore, the results indicate that when small companies engage into ESG, they do it only partially and only for specific domains that relate to internal stakeholders issues (i.e. diversity and employee relations).

The results provided by our difference portfolios treatment balance our previous finding and suggest that Islamic portfolios with high ESG scores for *governance* and *environmental* issues are more oriented towards big-cap stocks than their Islamic portfolios counterparts with poor ESG scores. We therefore reformulate *H2b* accordingly and state that Islamic portfolios with high governance and environmental performance are more oriented towards big-cap stocks than Islamic portfolio with low governance and environmental performance.

Our investment style analysis shows that an ESG strengths engagement strategy applied to an Islamic stock market redirects Islamic portfolios toward value and big caps stocks. Additionally, it shows that an ESG controversies disengagement strategy intensify the original growth and small cap effects initially produced by Islamic screens.

6. Conclusion

Islamic Equity investments are ready for the next step in their development. The current practice of negative screening in Islamic investing has been the stepping-stone for Islamic equity investments. Now, in order to expand the equity asset class of Islamic investments and bring Islamic investment closer to the social tenets of Islam law, more and more scholars and practitioners argue on the need to include a positive approach targeting the social responsibility of businesses. Prior studies have highlighted the perfect compatibility of ESG criteria with the principles of Islamic ethics. Our study goes one step further and proposes to study the financial impact of merging Islamic investment with SRI practices. To do so we used KLD's ESG ratings and conducted an experimental analysis, using a panel of self-constructed portfolios formed from an Islamic stock universe. We set out to investigate the combined effect of ESG and Islamic screenings using the four-

factor model defined by Carhart (1997), through both a simple portfolios treatment and a difference portfolios treatment. An industry-adjusted model is used to confirm the robustness of the four-factor model loadings. Our results indicate the presence of different and confounding effects with regard to the dimension (positive vs. negative), the sub-components (i.e. different ESG domains) and the intensity of ESG performance.

From the financial return perspective, significant compound effects, through the presence of positive effects for both positive and negative dimensions of ESG performance, balance the conclusion we can draw from the results and suggests that though good corporate *governance* may be a possible determinant of financial performance, the presence of controversial firms in a portfolio does not necessarily harm its financial performance but rather the contrary.

From the investment style perspective, we found evidence of different style effects produced by the combination of Islamic and ESG screens. That is, good corporate *governance* and *environment* engagement are prominent among big firms that are compliant with Islamic screens. However, big firms are more involved in *community*, *environment* and *human rights* concerns than smaller firms. From the negative perspective, our result suggests that ESG engaged Islamic investors have to make an ethical trade-off when targeting large caps in their portfolio selection. From a more positive perspective, Islamic investors that only seek to disengage from socially controversial firms will benefit from higher growth potential. From a broader scope, we find that the intensity of ESG engagement or controversy involvement may act as a moderator in SRI – financial performance relationship and provide avenues for further empirical studies looking into the role of ESG performance measurement approach in SRI mutual funds' performance.

Thus, this study provides theoretical and practical contributions to the debate on the merits of ethical investing. First, it provides empirical evidence that incorporating ESG criteria into an Islamic investment process doesn't harm its financial performance and gives supporting conclusion to the SRI performance argument (Derwall et al., 2005; Galema et al., 2008). Additionally, the study enriches the discussion related to CSP-CFP debate by highlighting the benefit of investigating the relationship using disaggregated measurement of ESG performance that takes into account its two dimensions (i.e. ESG engagement and ESG concerns), the distinct nature of its sub-components (i.e. different ESG domains) and the intensity of the scoring. From a practical perspective, this pioneering experimental study offers to Islamic investors a venue to consider the potential financial benefit of considering additional ethical issues.

If Islamic investors value good *governance* behaviour as a major corporate social responsibility (CSR), the positive financial implications of good *governance* practices reported herein provide an additional argument for adopting this way. Moreover, because Islamic screening favours smaller companies that are less liquid than companies with higher market capitalization, the adoption of ESG standards by these firms should increase transparency, mitigate informational asymmetry and improve stocks liquidity (Chung et al., 2010).

APPENDIX

MSCI Islamic Index Series Methodology

Index Construction

Following Sharī'ah investment principles, MSCI excludes securities using two types of criteria: business activity and financial ratios. Securities for which sufficient financial information was not available to determine the business activity information and financial ratios described in the following sections were considered non-compliant with the Islamic Index Methodology.

Business activity screening. Sharia investment principles do not allow investment in companies that are directly active in or derive more than 5% of their revenue (cumulatively) from the following prohibited activities:

- Alcohol: distillers, vintners and producers of alcoholic beverages, including producers of beer and malt liquors, owners and operators of bars and pubs.
- Tobacco: cigarettes and other tobacco product manufacturers and retailers.
- Pork-related products: companies involved in the manufacture and retail of pork products.
- Conventional financial services: commercial banks involved in retail banking, corporate lending, investment banking; companies involved in mortgage and mortgage-related services; providers of financial services, including insurance, capital markets and specialized finance; credit agencies; stock exchanges; specialty boutiques; consumer finance services, including personal credit, credit cards, lease financing, travel-related money services, and pawn shops; financial institutions primarily engaged in investment management, related custody and securities fee-based services; companies operating mutual funds, closed-end funds and unit investment trusts; financial institutions primarily engaged in investment banking and brokerage services, including equity and debt underwriting, mergers and acquisitions; securities lending and advisory services institutions; and insurance and reinsurance brokerage firms, including companies providing property, casualty, life disability, indemnity or supplemental health insurance.
- Defense/weapons: manufacturers of military aerospace and defense equipment, parts or products, including defense electronics and space equipment.

- Gambling/casino: owners and operators of casinos and gaming facilities, including companies providing lottery and betting services.
- Music: producers and distributors of music, owners and operators of radio broadcasting systems.
- Hotels: owners and operators of hotels.
- Cinema: companies engaged in the production, distribution, and screening of movies and television shows, owners and operators of television broadcasting systems and providers of cable or satellite television services.
- Adult entertainment: owners and operators of adult entertainment products and activities.

Financial screening. Shari'ah investment principles do not allow investment in companies deriving significant income from interest or companies that have excessive leverage. MSCI uses the following three financial ratios to screen for these companies:

- Total debt over total assets
- Sum of a company's cash and interest-bearing securities over total assets
- Sum of a company's accounts receivables and cash over total assets

None of the financial ratios may exceed 33.33%. Securities are considered non-compliant with respect to financial screening if any of the financial ratios exceeds 33.33%. To reduce index turnover resulting from financial screening, a lower threshold of 30% is used to determine new inclusions to the Islamic indices. A security that is currently not a constituent of the MSCI Islamic Indices is considered compliant only if all three financial ratios do not exceed 30%.

Index Maintenance

Rebalancing. MSCI reassesses the composition of the Islamic indices by applying the business activity screening and financial screening annually at its May index review. MSCI also reassesses the composition of the Islamic indices by applying the financial screening to all applicable securities on a quarterly basis during quarterly index reviews. New additions to the MSCI Equity Indices resulting from a quarterly index review may be considered for inclusion at the following quarterly index review. For example, a security added to the MSCI Equity Indices as a result of a November index review may be considered for inclusion at the February quarterly index review.

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