Corporate Social Responsibility, Shariah-Compliance, and Earnings Quality

Abstract This study examines the effect of two potential sources of ethical principles on earnings quality: corporate social responsibility (CSR) and membership in a Shariah index. We define membership in a Shariah index as the adherence to an ethical code that relates to Islam. Our sample comprises firms in ten European Union countries for the period from 2003 to 2013. The empirical results show that firms with a high degree of CSR are less likely to manage earnings. In contrast, membership in a Shariah index leads to earnings manipulation. Our results are robust after using several alternative quality metrics for earnings. Furthermore, our empirical results indicate that highly rated CSR firms that are not Shariah-compliant are less likely to engage in earnings manipulation. Further, institutional factors are also important in determining the link between CSR, Shariah-compliance, and the quality of financial reporting.

Keywords Corporate social responsibility • Shariah-compliant investments • Earnings quality

JEL classification G30 • M14 • M41

1 Introduction

Ethics and financial reporting are both topical issues that have instigated numerous debates in the academic as well as the business community (Schwartz 2004). In this study, we assess the effect of two potential sources of ethical principles, namely, CSR and membership in a Shariah index. The literature has defined CSR in various ways but in essence, it is a process by which organizations negotiate their roles within the surrounding society (Carroll 1979; McWilliams et al. 2006). Membership in a Shariah index is the adherence to an ethical code that relates to religion. The literature has also proposed this membership as another possible driver of moral activities (Weaver and Agle 2002; Conroy and Emerson 2004; Longenecker et al. 2004). In particular, Noreen (1988) contends that agency contracts with a religious mechanism can mitigate managers' opportunistic behavior. Hence, we also focus on the relation between Shariah-compliant investment and the quality of financial reporting.[1]

This study develops the theoretical link between ethics and financial reporting by using two competing views: moral obligation and opportunistic behavior (Kim et al. 2012). First, firms benefit from conducting their business activities in a way that is honest, trustworthy, and ethical. Thus, firms have a tendency to comply with high moral standards (Jones 1995; Garriga and Melé 2004; Kim et al. 2012). In a similar vein, Kim et al. (2012) contend that firms that expend efforts and resources in designing and implementing ethical programs in order to serve the interests of societal stakeholders are more likely to provide transparent and reliable earnings information. However, managers might have an incentive to use ethical precepts as a strategic tool to obfuscate their opportunistic behavior, and in so

1 Shariah-compliant investment is a growing phenomenon in both Muslim and non-Muslim countries, and it is structured within Islamic parameters, whereby a firm is expected not only to operate in accordance with the law and regulations of a given jurisdiction, but also to seek to achieve both the pleasure of God and the optimisation of social welfare (Hayat and Kraeussl 2011).

doing, they can attempt to influence stakeholders' perceptions of the firm (Hemingway and Maclagan 2004; Merkl-Davies and Brennan 2011). Thus, a firm might use an ethical practice as a *label* to create the perception of transparency, thereby avoiding scrutiny from stakeholders. The practice therefore assists firms in legitimizing their operations within society (Merkl-Davies and Brennan 2007). Thus far, the studies that examine the association between ethics and earnings quality provide mixed empirical results. With regard to CSR reporting, Prior et al. (2008) and Chih et al. (2008) both find that CSR firms are more likely to engage in aggressive earnings manipulation. However, Hong and Andersen (2011) and Kim et al. (2012) show that firms with higher CSR scores provide better quality information on earnings. In the case of religion and the quality of financial reporting, McGuire et al. (2011) and Dyreng et al. (2012) both show that religion-influenced firms are less involved in aggressive financial reporting and have higher accrual quality, lower restatements of financial statements, lower risk of fraudulent accounting, and lower forecast errors. In contrast, Callen et al. (2011) show that the extent of earnings management is not related to religion. Given that most of the research focuses almost exclusively on either CSR or membership in a Shariah index, this study examines the effect of both sources of ethical principles on the quality of financial reporting. Furthermore, whereas the literature that examines the link between Shariah and financial issues concentrates almost exclusively on Muslim countries, this study shifts the focus to rest of the world because Shariah-compliant investment has experienced considerable growth in recent years.

Using a large data set of firms domiciled in ten European Union countries for the period from 2003 to 2013, our main empirical results show that firms engaging in CSR activities are less likely to manipulate earnings. In contrast, membership in a Shariah index does not play an important role in influencing the ethical conduct of a firm. This is because the membership of a firm in the index does not act as a proxy for religion. Membership

basically means that the firm does not do anything prohibited by Islam. In other words, the Shariah index can include firms that adhere to some form of ethical code. However, this membership might or might not be for religion reasons.[2] Our results are robust when using alternative earnings quality metrics. Furthermore, our empirical results show that only firms with high CSR ratings are serious adopters of ethical codes, whereas firms that have a high CSR rating and are Shariah-compliant are more likely to use ethical codes as a label to garner a good perception in order to attract investments. Further, firms' home-country characteristics are also important in determining the link between CSR, Shariah-compliance, and the quality of financial reporting.

This study contributes to the literature in several ways. First, we add to the limited number of studies that examine the link between ethics and the quality of financial reporting. Second, unlike the literature that focuses either on CSR or on the membership in a Shariah index, we examine both ethical principles as potential drivers of the quality of financial reporting. In doing so, we identify whether the firms' ethical practices are based on moral obligations or are used as a label to meet stakeholders' demands. Third, the literature focuses almost exclusively on a single type of country, whereas our empirical analysis is more comprehensive, covering a sample of firms in different countries. And, our study provides a better understanding of corporate financial reporting practices in relation to the behavior, religious ethical values, and CSR that might be of interest to standard setters, regulatory bodies, investors, and academics. We also assist various stakeholders in understanding how reliable and transparent financial reporting is in light of the relation between Islamic principles, CSR, and the quality of financial reporting.

2 These criteria are related to the principle of permissibility (Arabic: *Ibāḥah*) highlighted in the realm of Islamic commercial transactions (see Kamali, 2002). We are grateful to the editor Haluk Ünal for pointing this out to us.

The remainder of this paper is organized as follows: the next section reviews the literature and develops the hypotheses. We discuss the research design, measurement of variables, and empirical models in section 3. We present the main results in section 4 and additional analyses in section 5. Section 6 offers concluding remarks.

2 Theory and hypotheses development

2.1 Corporate social responsibility and earnings quality

Friedman (1970, p. 173) argues that the aim of firms' corporate social responsibility is "to conduct the business in accordance with their [shareholders'] desires, which generally will be to make as much money as possible while conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom." In Carroll's (1991) view, CSR firms operate toward profitable activities, conduct these activities within the legal framework and ethical principles, and aim to be good corporate citizens.

Kim et al. (2012) argue that the conflicting incentives of moral obligation and opportunistic behavior underlie the managerial engagement in CSR activities. The theoretical frameworks based on the moral obligation perspective show that firms in fact benefit from conducting their business activities in a way that is honest, trustworthy, and ethical. Therefore, the firms have a tendency to comply with high moral and ethical standards (Jones 1995; Garriga and Melé 2004; Kim et al. 2012).[3] The stakeholder theory and the myopia avoidance hypothesis argue that CSR firms pay more attention to the strategy of building a long-term relationship with stakeholders than to the strategy of short-term profit maximization (Chih et al. 2008). Further, the integrative theory argues that firms must take

3 Carroll (1979), for instance, proposes a CSR model based on four categories that society expects corporations to cover: economic, legal, ethical, and discretionary. Similarly, Garriga and Melé (2004) propose four theories of CSR, namely, instrumental, political, integrative, and ethical.

into account social demands in their decisions because their success is reliant on society. Furthermore, managers' level of ethical reasoning and firms' moral obligation can lead to a general tendency for managers to conduct business operations in the interests of stakeholders rather than their self-interest (Rutledge and Karim 1999; Booth and Schulz 2004). Similarly, CSR can act as an effective quasi-governance mechanism in constraining the opportunistic behavior of managers (Gao et al., 2014). Empirically, using a data set of nonfinancial US firms in the period from 1995 to 2005, Hong and Andersen (2011) find that firms that engage in CSR activities are more likely to have higher quality financial reporting. In particular, their results show that CSR is positively associated with quality accruals and negatively associated with real earnings management. Similarly, Kim et al. (2012) find that firms with a high CSR score are less likely to use discretionary accruals or manipulate real activities in order to manage earnings. Using earnings smoothing or earnings loss avoidance as proxies for earnings management, Chih et al. (2008) also show a negative association between CSR and earnings management. Taken together, if the underlying incentive in CSR activities is to be truthful, transparent, and ethical in corporate dealings; then firms should be more likely to provide high quality earnings information. Hence, we expect that engagement in CSR activities has a favorable effect on the quality of financial reporting. Accordingly, we hypothesize that:

Hypothesis 1a: *Engagement in CSR is positively associated with the degree of earnings quality.*

In contrast, from the opportunistic behavior perspective, managers use CSR as a strategic tool to satisfy stakeholders' demands and to influence how they perceive the future of the firm. Thus, the managers use CSR to distract attention from any manipulation of the financial reporting (Prior et al. 2008) and as a mechanism to pursue their own self-interests (Fritzsche 1991; Hemingway and Maclagan 2004; McWilliams et al. 2006; Petrovits 2006).

In particular, the research argues that three economic channels of CSR engagement are strategically valuable: (i) as a signal of a product's market quality, (ii) as a way of giving back that makes shareholders feel good; and (iii) as a halo effect (Benabou and Tirole, 2010; Hong and Liskovich, 2015).[4] In a similar vein, Kim et al. (2012) argue firms can use CSR to create the perception of transparency among stakeholders to legitimize their activities and gain stakeholder support when in fact they are engaging in earnings manipulation. Empirically, using a data set of 593 firms in 26 countries between 2002 and 2004, Prior et al. (2008) find a positive relation between CSR and earnings management. This finding shows that firms use CSR as an entrenchment tool to obfuscate poor earnings quality. Similarly, Chih et al. (2008) find a positive relation between CSR and aggressive earnings management. In summary, if managerial opportunistic behavior motivates CSR engagement to influence stakeholders' perceptions, then we predict that CSR engagement has an unfavorable effect on the quality of financial reporting. Hence, we propose the following:

Hypothesis 1b: *Engagement in CSR is negatively associated with the degree of earnings quality.*

2.2 Membership in a Shariah index and earnings quality

Another source of moral principles that might influence corporate activities as well as financial reporting is membership in a Shariah index. In order to be Shariah-compliant, Muslim scholars have introduced a screening process that firm must undergo to detect any activities that are unacceptable to the Shariah. A board called the Shariah Supervisory Board usually conducts this screening process. Firms have been designing Shariah-compliant investments at a rapidly growing rate in recent years. These investments have estimated assets of USD 1033 billion and are in more than 800 managed Islamic funds (Hayat and

4 We thank an anonymous reviewer for highlighting this dimension of CSR.

Kraeussl 2011).[5] Similar to CSR, Shariah principles assert that the firm should carry out business activities in a transparent manner, with every aspect of these activities clarified for various stakeholders (Ali and Al-Owaihan 2008).[6] Shariah compliance thereby provides investors with reliable and relevant information that enables them to make investment decisions in terms of both their economic and their religious position (Haniffa and Hudaib 2002). Empirically, McGuire et al. (2011) and Dyreng et al. (2012) both find that religion-influenced firms are less involved in aggressive financial reporting and have higher quality accruals, lower restatements of financial statements, lower risk of fraudulent accounting, and lower forecast errors. Similarly, the research shows that religion has considerable effects on restraining unethical behaviors. In particular, Hamdi and Zarai (2013) report that executives employed in Islamic financial institutions are less likely to engage in earnings management. Shariah-compliant firms are also subject to greater scrutiny from external institutions and investors to ensure that their business conduct is within Shariah principles. In sum, we argue that Shariah-compliant firms face greater demands to conduct ethical activities and to provide transparent and reliable financial reporting. Accordingly, we expect membership in a Shariah index to have a positive effect on the quality of financial reporting. Hence, we propose:

Hypothesis 2a: *Membership in a Shariah index is positively associated with the degree of earnings quality.*

Nevertheless, the current Shariah screening process might not fully conform to the true spirit of Islam (El-Gamal 2006). The process might only concentrate on negative aspects of business activities by ensuring that Shariah-compliant firms are not engaging in prohibited

5 Beekun and Badawi (2005) argue that the growth in Islamic-based investment is due to (i) the growing number of affluent investors based in Muslim countries; (ii) the move towards a greater Islamic trading bloc by a number of Islamic countries; (iii) the immigration of a large number of Muslims across the world; and (iv) a greater need for investment diversity, including investment based on religion, as a result of globalization.

6 Consistent with the Islamic accountability perspective, managers should safeguard investors' investments because of the trust between them, and, in doing so, conduct business activities in an ethical and transparent manner along the principles of equity, justice, and benevolence (Hassan and Harahap 2010).

activities.[7] In addition, the Shariah screening process basically tilts a portfolio toward *growth* stocks to the exclusion of *value* stocks. This tilt leads to a style bias that affects the long-term performance of the portfolio (see Hoepner et al. 2011). That is, in the long run the Shariah-inclined portfolio (or a growth-oriented one) will lag behind the overall market (see Malkiel 2003). Moreover, Cho et al. (2012) find that membership in an ethical index is far more affected by what firms say (ethical disclosure) than by what they actually do (ethical performance). Similarly, the decision to include firms in the Shariah index is extensively, if not purely, based on what firms disclose regarding their business activities and financial structure, with no effort to track Shariah performance across time.

In terms of both the legitimacy and the institutional theory, a number of external factors might affect the decision to engage in ethical practices such as Shariah-compliance, including a firm's financial and competitive situation, state, regulation body, and pressure groups (Bansal and Roth 2000; Christmann 2000; González-Benito and González-Benito 2006; Campbell 2007; Delmas and Toffel 2010). In particular, economic factors might plausibly motivate a firm's decision to seek inclusion in the Shariah-compliant index. The motivation might be to attract investment from Islamic investors and not because the firm wishes to abide by moral and ethical principles. Furthermore, inclusion in the Shariah-compliant index results from firms satisfying the screening requirements rather than from a conscious decision to conduct business in a Shariah-compliant manner. Specifically,

7 The screening process considers two aspects, business compliance and financial ratios, in order to determine the negative aspects of business activities (see Ashraf, 2015). The compliance screening process relates to both firms' main activities and their revenue allocation. That is, a firm should not engage in prohibited activities such as conventional finance (whose activities are interest-based); alcohol; weapons; arms and defence manufacturing; tobacco; non-halal food production, such as pork-related products; or the entertainment business, such as casinos and gambling (FTSE Group 2011). A firm that belongs to legitimate industries is also examined in terms of its revenue allocation. For instance, if a firm has a business in a non-halal activity, this is also considered inappropriate according to Shariah principles. In addition, even when a firm's activities are acceptable but it engages in trade debt either as a borrower or lender, this is deemed unacceptable. Examination of financial ratios – the second part of the Shariah screening process – is aimed at detecting non-Shariah compliant financing and earnings. The financial ratio screening concentrates on a firm's leverage, liquidity, interest, and non-permissible income.

inclusion in such an index could merely mean that firms do not do anything prohibited under Shariah law.[8] Empirically, using country-level data, Callen et al. (2011) find that the propensity to manage earnings is not related to religion. Hence, on the basis of this argument, we expect that membership in a Shariah index has a negative effect on the quality of financial reporting. Accordingly, our alternative hypothesis is as follows:

Hypothesis 2b: *Membership in a Shariah index is negatively associated with the degree of earnings quality.*

3 Research design

3.1 The data

We construct the sample by using the Thomson Reuters Asset4 (ASSET4) database that covers ten European Union countries for the period from 2003 to 2013. These countries are Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Spain, Sweden, and the United Kingdom. The degree of CSR engagement is measured by using the environmental and social performance scores in the Thomson Reuters ASSET4 database. This database collates 900 evaluation points for each firm based on data that must be objective and available to the public. The evaluation points are classified either as drivers or outcomes. While drivers assess firms' policies concerning the issues relating to human rights, emissions reduction, and shareholder rights, the outcomes evaluate quantitative results such as the remuneration package, personnel turnover, and green-house gas emissions. These drivers and outcomes are then used as inputs in a default equal-weighted framework to calculate 250 key performance indicators (KPIs). Further, the 250 KIPs are organized into 18 categories within four pillars: (i) economic performance scores, (ii) environmental performance scores, (iii)

8 For instance, major energy firms are included in international Shariah indexes due to the fact that their operating activities are permissible under the Shariah law but not for religious reasons.

social performance scores, and (iv) corporate governance performance scores (see Appendix A for details of the pillars and categories). For our empirical analysis, following Cheng et al. (2012), we calculate the CSR engagement by using the equally weighted average of the annual performance scores of the environmental and social pillars.

Accounting items are sourced from the Worldscope and Datastream databases. After matching the CSR data with the accounting data, our initial sample is 6,840 firm-year observations. Consistent with prior studies (Hong and Andersen 2011; Kim et al. 2012; Scholtens and Kang 2012), financial firms are excluded because of the unique nature of their reporting practices (N = 1,458 firm-years). In addition, firms with missing data are omitted from the sample (N = 1,441 firm-years). We also exclude the firm-years with extreme values or insufficient information to determine the earnings quality (N = 312 firm-years). Thus, the final sample of the study comprises 4,781 firm-year observations. Table 1 shows the distribution of all of the firm-year observations across countries and sectors of operations. Panel A of Table 1 indicates that the highest percentage of observations is from the United Kingdom (43.69%) followed by France (12.28%) and Germany (11.11%). Across the sectors of operation, Panel B of Table 1 shows that the Industrials sector represents the largest proportion in the sample, (29.20%) followed by Consumer Services (21.79%) and Consumer Goods (13.64%).

The data set for Shariah-compliant firms is sourced from the FTSE Shariah Europe Index.[9] A firm is classified as Shariah-compliant (non-Shariah-compliant) if it is included in (excluded from) the index.[10] As Table 1 shows, Shariah-compliant firms represent 29.66% (N = 1,418

9 Following the literature (Ashraf, 2015; Girard and Hassan, 2008), we use the FTSE Shariah Europe Index due to its broad coverage, consistency, and reliability. In term of the representativeness, as of 2015, the FTSE Shariah Europe Index has more than 300 Shariah-compliant constituents with a market capitalization of over USD 4 trillion dollars (FTSE, 2015).

10 Given that our sample is constructed from ASSET4, firms included in the sample may not be screened by FTSE to determine their Shariah status. Hence, empirical analysis between CSR firms and Shariah firms could be overstated. To resolve this issue, we make sure that all sample firms are also included in the

firm-years) and the remaining 70.34% (N = 3363 firm-years) of the sample are non-Shariah-compliant.

(Insert Table 1 here)

3.2 Measuring earnings quality

A number of approaches are used in the literature to estimate earnings quality. In this study, we use the discretionary accruals as a proxy for earnings quality. The literature has used this measure of earnings quality extensively (Jones 1991; Dechow et al 1995; DeFond & Subramanyam 1998; Kothari et al 2005). Discretionary accruals are estimated using the modified Jones model adjusted for performance (Dechow et al 1995; Kothari et al 2005). The literature discusses the strengths and drawbacks of this model (Guy et al 1996; Young 1999; Thomas & Zhang 2001; Lo 2008; Dechow et al 2010; DeFond 2010). Despite its shortcomings, there is no alternative model that has a superior solution to address the issue of estimating discretionary accruals (Botsari & Meeks 2008).

This study uses the cross-sectional approach to the modified Jones model instead of the firm-specific time-series approach. Bartov et al. (2000) report better performance from the cross-sectional approach in detecting earnings manipulations. Furthermore, the cross-sectional approach assists in maximizing the sample size and mitigating the issue of survivorship bias that occurs with the time-series model (DeFond & Subramanyam 1998; DeFond & Subramanyam 1998; Peasnell et al 2005; Dargenidou et al 2014). In addition, Subramanyam (1996) shows that the cross-sectional model provides more accurate parameter estimates than the time-series one because of the larger number of freedom

FTSE All-World index, as firms included in this index are eligible for the FTSE Shariah Index screening. This ensures that all firms are screened by the Shariah process in order to determine whether they are Shariah-compliant or not.

degrees. Following Teoh et al. (1998), this study focuses on the current discretionary accruals rather than the total discretionary accruals.[11]

When estimating the current discretionary accruals, we first compute the total current accruals (TCA_{it}) for firm i at year t as follows:

$$TCA_{it} = (\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STDebt_{it}) \quad (1)$$

where ΔCA_{it} is the change in current assets, $\Delta Cash_{it}$ is the change in cash and the cash equivalent, ΔCL_{it} is the change in current liabilities, and $\Delta STDebt_{it}$ is the change in short-term debt. Second, we run the following regression using an ordinary least squares for all sample firms in each industry for which at least ten observations are available in year *t*:

$$\frac{TCA_{it}}{TA_{it-1}} = \alpha_0\left(\frac{1}{TA_{it-1}}\right) + \alpha_1\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}}\right) + \alpha_2\left(\frac{EARN_{it-1}}{TA_{it-1}}\right) + \varepsilon_{it} \quad (2)$$

where TCA_{it} is the total current accruals for firm i at year t, ΔREV_{it} is the change in net revenues in year *t* from year *t-1*, ΔREC_{it} is the change in net receivables in year *t* from year *t-1*, $EARN_{it-1}$ is the income before extraordinary items for firm *i* at year *t-1*. We deflate each variable by the lagged value of firm *i*'s total assets (TA_{it-1}) to correct for heteroscedasticity.

Third, we calculate the non-discretionary ($NDAC_{i,t}$) component of its total current accruals for each firm by using the industry- and year-specific estimates of α_0 , α_1 , and α_2 as follows:

$$NDAC_{i,t} = \hat{\alpha}_0\left(\frac{1}{TA_{it-1}}\right) + \hat{\alpha}_1\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}}\right) + \hat{\alpha}_2\left(\frac{EARN_{it-1}}{TA_{it-1}}\right) \quad (3)$$

11 Becker et al. (1998) content that, on average, managers have greater discretion over current accruals than over total accruals.

Fourth, the current discretionary accruals ($DAC_{i,t}$) component for each firm *i* and year *t* is computed by subtracting the non-discretionary portion ($NDAC_{i,t}$) from the total current accruals (TCA_{it}):

$$DAC_{i,t} = \frac{TCA_{it}}{TA_{it-1}} - NDAC_{i,t} \quad (4)$$

In this study, we use both the absolute and the signed value of the current discretionary accruals as a proxy for earnings quality. That is, the absolute (*EQ1*), positive (*EQ1+*), and negative (*EQ1-*) values of the current discretionary accruals are considered in the empirical analysis as proxies for the combined effect and the income-increasing or income-decreasing earnings management, respectively (Warfield et al 1995; DeFond & Park 1997; Klein 2002; Sun et al 2010; Kim et al 2012). Ceteris paribus, in the case of the combined effect, the higher the absolute value of the discretionary accruals the higher the degree of earnings management is, hence the lower the earnings quality (*EQ1*). For the signed value, the higher (lower) the positive (negative) value of the discretionary accruals the higher the degree of earnings management is, hence the lower the earnings quality (*EQ1+* and *EQ1-*).

3.3 Empirical models

The first aim of the study is to examine the relation between CSR and earnings quality. In examining our first hypothesis, we estimate the following model:

$$EQ = \alpha_0 + \beta_1 CSR_{it} + \sum_{k=1}^{7} \beta_k \, Controls_{it} + \varepsilon_t \quad (3)$$

where *EQ* is either *EQ1*, *EQ1+*, or *EQ1-*. The *CSR* is the equally weighted average annual performance score of ASSET4's environmental and the social pillars. A number of variables are included in the regression model in order to control for the firms' characteristics that could affect the extent of the CSR and earnings quality. Following Kim et al. (2012), we include corporate governance (*CG*) in our model because *CG* is a distinct construct from CSR, and both have an influence on the firms' behavior. We use the scores of ASSET4's corporate governance pillar to control for the effect of *CG*. Other firm-specific control variables include the firms' size (*SIZE*), which is the natural logarithm of the market value of the equity; market-to-book equity ratio (*MB*), measured as the market value of equity divided by the book value of equity; profitability (*ROA*), measured as income before extraordinary items divided by total assets; leverage (*LEV*), calculated as long-term debt scaled by total assets; ownership concentration (*CLOSE*) that is the percentage of closely held shares as reported by Worldscope, and the Big 4 auditors (*Auditors*) that equals one if a firm is audited by a Big 4 auditor and zero otherwise. For ease of reading, we summarize the variable definitions in Appendix B.

The second aim of this study is to assess the effect of membership in a Shariah index on earnings quality. The following model is estimated to examine our hypothesis:

$$EQ = \alpha_0 + \beta_1 CSR_{it} + \beta_2 Shariah_{it} + \sum_{k=1}^{7} \beta_k \, Controls + \varepsilon_t \quad (4)$$

where *Shariah* is an indicator variable that equals one if the firm is in the FTSE Shariah Europe Index, and zero otherwise. We use the same control variables as in Equation 3.

Industry and country fixed effects are included in all of the regressions to account for variations across industries and countries. In addition, we control for the year fixed effect to account for annual changes in the CSR and earnings quality. All continuous variables are

truncated at the 1 and 99% levels to mitigate the influence of outliers. Further, all test statistics and significance levels are estimated with firm and year level clustered errors.[12]

4 Main results

4.1 Descriptive statistics

Table 2 presents the descriptive statistics for the full sample. Panel A shows that the mean of *EQ1* is 0.120.[13] The *CSR* and *CG* scores both range between zero and one, and they have a mean of 0.679 and 0.590, respectively. As for the control variables, the mean values of *MB* and *ROA* are 3.190 and 0.056, respectively, and they indicate that the firms in our sample experience high growth opportunities. On average, insider investors hold 26% of the outstanding shares. Panel B of Table 2 shows that one of the Big 4 audit 93.58% (N = 4474) of the firms in the sample. Furthermore, 29.66% of our sample firms (N = 1418) are CSR firms included in the FTSE Shariah Europe Index, and the remaining 70.87% (N = 2572) are CSR firms that are not Shariah-compliant.

Panels C and D of Table 2 provide the descriptive statistics for the subsample of CSR firms that are Shariah-compliant and the subsample of CSR firms that are not Shariah-compliant. We define CSR and Shariah-compliant firms as firms that are included in the FTSE Shariah Europe Index and vice versa for the CSR and non-Shariah-compliant firms. The mean values of *EQ1* and *EQ1+* are higher for CSR and Shariah-compliant firms (0.119 and 0.126, respectively) relative to CSR firms that are not Shariah-compliant (0.100 and

12 We also ran the regression model with firm-level clustered errors only at the firm and the year level. The results are qualitatively similar to those based on the regression model adjusted for standard errors by a two-dimensional cluster at the firm and the year level. For brevity, we do not tabulate the results using these regression models.

13 In untabulated results, the unsigned discretionary accruals (*DA*) have a mean value of 0.009; this is comparable with the findings of other studies, such as Kim et al. (2012) and Klein (2002).

0.098 respectively).[14] In contrast, the mean of *EQ1-* for the CSR and Shariah-compliant firms (-0.110) is lower than that for CSR firms that are not Shariah-compliant (-0.103). The results show that in terms of the average scores for *CSR*, CSR and Shariah-compliant firms have a mean value (0.788) that is higher than the CSR and non-Shariah-compliant firms (0.633). These results indicate that the former are more likely to engage in CSR activities. Moreover, the mean value of *CG* scores is higher for CSR and Shariah-compliant firms relative to CSR firms that are not Shariah-compliant. In addition, Panel C shows that CSR and Shariah-compliant firms are larger and have lower leverage and better earnings performance than CSR firms that are not Shariah-compliant. Panel D shows that 94.57% (93.16%) of the CSR and Shariah-compliant firms (CSR and non-Shariah-compliant firms) are audited by a Big 4 accounting firm.

(Insert Table 2 here)

Table 3 presents the pairwise correlation coefficients for the variables. The table shows that all correlation values are below the critical value of 0.80.[15] The result indicates that *CSR* is significantly and negatively correlated with *EQ1* at the 1% level. Therefore, firms with high *CSR* scores are less likely to engage in earnings manipulation through the discretionary accruals. We also observe that *CSR* is positively associated with *CG*. There is also a positive correlation between *CSR* and *Shariah*. These findings indicate that Shariah-compliant firms are more likely to engage in CSR activities. However, *Shariah* also correlates significantly and positively with *EQ1*, which indicates that CSR Shariah-compliant firms are more likely to engage in earnings manipulation than CSR firms that are not Shariah-

14 The untabulated result shows that the mean value of discretionary accruals (*DA*) for CSR firms that are Shariah-compliant (CSR firms that are non-Shariah-compliant) is 0.017 (0.006), which indicates that both sample groups exhibit income-increasing accruals.

15 We also run the VIF factor to check for multicollinearity among the explanatory variables. The untabulated results show that there are no VIFs above 2.0.

compliant. We also observe that *CSR* is positively (negatively) correlated with *SIZE* and *LEV* (*MB*, *ROA*, and *CLOSE*).

(Insert Table 3 here)

4.2 Multivariate results

Table 4 presents the regression results for the earnings quality on the CSR. We represent earnings quality with the *EQ1*, *EQ1+*, or *EQ1-*. The results show that there is a negative association between *CSR* and *EQ1*. In particular, the estimated *CSR* coefficient is negative (-0.049) and highly significant ($p < 0.01$), and it indicates that firms with a high *CSR* score are less likely to manipulate earnings. We find similar results for the signed negative (*EQ1-*) and positive (*EQ1+*) regressions. These results show that firms with a high CSR score are less likely to engage in either income-decreasing or income-increasing earnings manipulation. Our findings support hypothesis 1a that the link between CSR and earnings quality is motivated by moral obligations. That is, the firms' desire to be transparent and trustworthy in order to serve the interests of all stakeholders motivates their CSR engagement. This finding also supports the empirical results in Hong and Anderson (2011) and Kim et al. (2012).[16]

With respect to control explanatory variables, the results show that *ROA* and *MB* have a significant and positive relation with *EQ1* (0.111 and 0.005; $p < 0.01$ and $p < 0.01$, respectively. These results show that firms with better earnings performance and higher growth opportunities are more likely to engage in earnings manipulation. We also observe that insider ownership (*CLOSE)* is significantly and positively associated with *EQ1* (0.031; $p < 0.01$), and it shows that the firms closely held by investors are more likely to manage

16 We also investigate the association between individual components of CSR and earnings quality. We use individual scores for each social (*SOCI*) and environmental performance pillar (*EVNI*) as proxies for *CSR*. These components have been highlighted as important CSR aspects that might influence firms' behaviors (Stanwick and Stanwick 1998; Snider et al. 2003; Lee 2008; Huseynov and Klamm 2012). The untabulated results show that social and environmental performance pillars each has a negative and highly significant effect on earnings quality.

earnings through accruals. In addition, the coefficients for *MB* are positively significant in the case of the *EQ1+* model and negatively significant in the case of the *EQ1-* model. These coefficients indicate that firms with better performance and higher growth opportunities are more likely to engage in earnings manipulation through accruals.

(Insert Table 4 here)

Table 5 presents the effect of the CSR and membership in a Shariah index on earnings quality. Similar to the above results, the *CSR* coefficient is negative and highly significant (-0.053; $p < 0.01$), which shows that CSR firms are less likely to engage in earnings manipulation. However, the *Shariah* coefficient is positive and highly significant (0.018; $p < 0.01$). This significance suggests that membership in a Shariah index does not enhance the quality of financial reporting. These results show that, whereas CSR is significant in constraining earnings manipulation, membership in a Shariah index has the opposite effect. Hence, membership in a Shariah index might serve as a legitimacy mechanism to conform to stakeholders' expectations and does not play an important role in ensuring the firms' ethical practices. The regression result for the signed discretionary accruals shows a positive and highly significant coefficient (0.028; $p < 0.01$) for the *EQ1+* model. This coefficient shows that Shariah-compliant firms are more likely to engage in income-increasing accruals. Consequently, our findings support the argument that membership in a Shariah index is used only as a label and perception tool to attract investment and does not enhance financial reporting. This is consistent with the view that the inclusion of a firm in the index does not necessarily constitute a religious objective.

(Insert Table 5 here)

Further, we use the individual scores of each social (*SOCI*) and environmental performance (*ENVI*) pillar as a proxy for *CSR* in order to identify which CSR pillar is

associated with quality financial reporting. In doing so, we re-estimate our base regression models by replacing *CSR* with either $SOCI$ or $ENVI$. Table 6 shows that the coefficients for both *SOCI* and *ENVI* are negative (-0.044 and -0.036 for *SOCI* and *ENVI*, respectively) and highly significant at the 1% level. These results hold even after adding the Shariah index variable. Our results indicate that firms with higher scores for social and environmental performance demonstrate lower degrees of earnings management.

(Insert Table 6 here)

5 Additional analyses

5.1 Label vis-a-vis serious adopters of ethical codes

In this section, we empirically examine whether the firms use ethical and socially responsible investments as a label to enhance their reputation or whether they do so as serious adopters. To accomplish this examination, we classify firms into four categories: (i) *HCSR_Shariah*: Shariah-compliant firms with a CSR mean above the sample median; (ii) *HCSR_Non-Shariah*: non-Shariah-compliant firms with a CSR mean above the sample median; (iii) *LCSR_Shariah*: Shariah-compliant firms with a CSR mean below the sample median; and (iv) *LCSR_Non-Shariah*: non-Shariah-compliant firms with a CSR mean below the sample median. Table 7 shows that the *HCSR_Non-Shariah* coefficient is negative and highly significant (-0.017; $p < 0.01$), whereas the *LCSR_Shariah* coefficient is positive and significant (0.015; $p < 0.05$). These coefficients provide further support for the assertion that high CSR firms that are not Shariah-compliant are less likely to engage in earnings manipulation. In contrast, low CSR firms that are also Shariah-compliant are more likely to manage earnings. Hence, we consider firms with a high CSR rating as serious adopters of

ethical codes, whereas firms with a high CSR rating and Shariah-compliant are more likely to use ethical codes as a label to manage their reputations in order to attract investments.

(Insert Table 7 here)

5.2 Alternative EQ metrics

We also re-estimate the regression models with four alternative earnings quality metrics in order to examine whether our results are robust to these different accruals measures. First, we use the total discretionary accruals instead of the current discretionary accruals in the modified Jones model adjusted for performance (*EQ2*). Second, following DeFond and Subramanyam (1998), we use the absolute value of the abnormal accruals (*EQ3*) in the modified Jones model without adjusting for performance. Third, following Baxter and Cotter (2009), we use a modified version of the Dechow and Dichev (2002) accruals estimation errors model (*EQ4*). And, the fourth measure is based on the abnormal working capital accruals model (*EQ5*) introduced by DeFond and Park (2001).

The number of observations used in each model varies owing to additional data requirements for estimating the alternative metrics of accruals quality. In general, these alternative tests yield the same results as those obtained using *EQ1*. Panel A of Table 8 shows that CSR has significantly negative coefficients in the regression models of *EQ2* (-0.053; $p < 0.01$), *EQ3* (-0.039; $p < 0.01$), *EQ4* (-0.013; $p < 0.05$), and *EQ5* (-0.010; $p < 0.05$) that support the view of transparent financial reporting and moral obligations. These coefficients indicate a positive relation between CSR and earnings quality. We also use these alternative accruals metrics to examine the effect of membership in a Shariah index on earnings quality. Panel B of Table 8 shows that the estimated coefficients for *Shariah* are positive and significant in the case of *EQ2* (0.013; $p < 0.05$) and *EQ4* (-0.009; $p < 0.01$); these are similar to the main analysis. These coefficients show that membership in a Shariah index does not

play a significant role in ensuring the moral obligations of Shariah-compliant firms in terms of reporting high quality earnings information.

(Insert Table 8 here)

5.3 Home-country characteristics

Home-country characteristics could also explain the variations in CSR engagement and accounting practices (La Porta et al. 1998; Hofstede 2001; Hope 2003; Bushman et al. 2004; Jackson and Apostolakou 2010; e.g. Ioannou and Serafeim 2012; Atwood et al. 2012). To ensure that our main results are robust, we consider two important institutional factors: cultural values and market economics. Following the literature (Hope 2003; Kim and Kim 2010; Elshandidy et al. 2014), we use Hofstede's cultural dimensions as additional determinants in the empirical analysis. Hofstede's cultural dimensions consist of (i) uncertainty avoidance (UA); (ii) individualism (IND); (iii) masculinity (MAS); (iv) power distance (PD); and (v) long-term/short-term orientation (LTO)[17] (Hofstede 1991; Hofstede 2001). Panel A of Table 9 shows the regression results of our model after controlling for the potential effects of Hofstede's cultural dimensions. In general, these results are consistent with those obtained in the main analysis, that is, these results also support the view that the moral obligation in CSR and confirm the insignificance of membership in a Shariah index in influencing the firms' moral imperative.

Finally, we also include firms' home-country characteristics based on the *varieties of capitalism* perspective proposed by Hall and Soskice (2001). Hall and Soskice classify countries into two distinct types of institutional economies: coordinated market economies (CMEs) that comprise Continental European countries and Japan where the organized

17 The definitions of Hofstede's cultural dimensions are in Appendix B.

interests such as business unions and associations play dominant roles in coordinating economic activities, and liberal market economies (LMEs) that comprise the United Kingdom and the United States where the market plays the dominant role.[18] We therefore partition our sample firms into two groups: CMEs are firms publicly traded in Continental European countries (Belgium, Demark, Finland, France, Germany, Italy, Netherlands, Spain, and Sweden), and LMEs are firms traded in the UK. In Panel B of Table 9, the *CSR* coefficient is negative and weakly significant for CMEs (-0.027; $p < 0.10$), whereas it is negative and highly significant for LMEs (0.091; $p < 0.01$). In the Chow test, the difference in the *CSR* coefficient between CMEs and LMEs (-0.081) is significant at the 1% level. This result shows that CSR firms domiciled in LMEs are less likely to manipulate earnings than those in CMEs; this is consistent with the results reported in the research (Hong and Andersen 2011; Kim et al. 2012). However, the *Shariah* coefficients are positive for both CMEs and LMEs but only highly significant for the former. This result is also consistent with our previous findings and shows that for both groups, the firms use membership in a Shariah index only as a legitimacy tool to attract investment.

(Insert Table 9 here)

6 Conclusion

This study examines the effect of two sources of ethical principles, CSR and membership in a Shariah index, on the quality of financial reporting. We expect that opportunistic behavior or moral obligation drives the firms' engagement in ethical activities. Our empirical results show that firms engaging in CSR activities are less likely to manipulate earnings. These results are robust when using each main component of CSR as well as alternative earnings

18 CMEs are characterized by weak markets for firms' control, ownership by large investors, long-term debt finance, strong interfirm cooperation, and rather rigid labor markets, whereas LMEs are characterized by active markets for control, dispersed ownership, equity financing, weak interfirm cooperation, and flexible labor markets (Jackson and Apostolakou 2010; Munari et al. 2010).

quality metrics. In contrast, membership in a Shariah index has the opposite effect on earnings quality. This finding indicates that membership does not play an important role in ensuring managers' ethical behavior. This result supports the idea that the current Shariah screening process does not fully conform to the underlying Islamic principles and concentrates primarily on negative screening rather than social welfare and transparency.

Furthermore, the inclusion in a Shariah-compliant index plausibly results from firms satisfying the screening criteria rather than from a conscious decision to conduct business in a Shariah-compliant manner. Membership basically implies that the firms do not do anything prohibited under Shariah law. Another plausible explanation for the variance between the two ethical sources could be that CSR rating agencies provide comprehensive details regarding CSR information that is relevant to investors in assessing every aspect of the firms' CSR performance. The Shariah screening process, in contrast, is less transparent in that the process provides only the final outcome without explaining in detail the aspects that affect the decision to include a firm in, or exclude it from, the index. This in turn limits investors' ability to track the firm's Shariah performance and to predict the possibility of its Shariah-compliance in the future.

Finally, our study is subject to the following caveats. First, similar to the CSR scores provided by CSR rating agencies, the possibility exists that corporate CSR scores might not accurately provide insight regarding actual CSR engagement; therefore, this might affect the CSR measurement. Second, our results could be interpreted with alternative explanations. For example, firms with better quality financial reporting might be more likely to engage in CSR or that a firm's corporate governance might simultaneously determine its CSR performance and the manager's tendency to manipulate earnings. Similarly, a firm's decision to seek inclusion in the Shariah-compliant index might be the result of worse earnings quality and hence, firms have a motivation to "bond" to stronger ethical principles to attract more

investment. Despite this limitation, our findings provide a better understanding of corporate financial reporting practices and behaviors and the ethical principles that are value based (i.e., related to religion). Thus, CSR might be of interest to standard setters, regulatory bodies, investors, and academics involved in the field of ethical and Islamic business. In particular, our study provides robust support for the view that a moral imperative motivates firms to engage in CSR activities. We show that an ethical obligation rather than managerial opportunism drives CSR. This finding shows that CSR plays an important role in companies' decisions. In addition, this study shows the ineffectiveness of membership in a Shariah index in constraining opportunistic behavior and enhancing the ethical codes for conducting business. Further research could examine this issue by including the effect of other institutional factors on CSR and religious moral codes. In addition, assessing the effect of CSR performance on the quality of financial reporting by privately held firms could be an interesting avenue for future research.

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Appendix A: Description of Asset4's pillars and categories

Pillars	Categories
Economic performance	Client loyalty Performance Shareholders loyalty
Environmental performance	Resource reduction Emission reduction Product innovation
Social performance	Employment quality Health and safety Training and development Diversity Human rights Community Product responsibility
Corporate governance performance	Board structure Compensation policy Board functions Shareholders rights Vision and strategy

Source: Thomson Reuters Datastream

Appendix B: Variable definitions

Variable	Description	Definition
$EQ1$	The absolute value of current discretionary accruals	Discretionary accruals are calculated through the cross-sectional modified Jones model adjusted for performance
CSR	CSR scores	The average scores of ASSET4's environmental pillar and social pillar
$Shariah$	Membership in a Shariah index	An indicator variable that equals one if the firm is included in the FTSE Shariah Europe Index and zero otherwise
CG	Corporate governance scores	The scores of ASSET4's corporate governance pillar
$SIZE$	Firm size	The natural logarithm of the market value of equity
MB	Firm growth	Market-to-book equity ratio measured as the market value of equity divided by the book value of equity
ROA	Profitability	Measured as income before extraordinary items divided by total assets
LEV	Leverage	Calculated as long-term debt scaled by total assets
$CLOSE$	Ownership concentration	The percentage of closely held shares as reported by Worldscope
$Auditors$	Big4 auditors	An indicator variable that equals one when a firm is audited by a Big 4 auditor and zero otherwise
UA	Uncertainty avoidance	Society's level of tolerance with uncertainty. A low uncertainty culture indicates that a culture has more rules and standards imposed on individuals
IND	Individualism	The extent to which individuals value their self-interest over the collective entity
MAS	Masculinity	The role of gender in society. A masculine culture refers to a society that is assertive, tough, and concentrated on material success, whereas a feminine culture focuses more on human relation and quality of life
PD	Power distance	The level of hierarchy in a society. Large power distance indicates that there are different levels of power status in the society and power positions are vertically stratified
LTO	Long-term orientation	Implies future-oriented value versus past- and present-oriented values (short-term orientation)

Table 1 Sample distribution

	CSR firms (full sample)		CSR Shariah-compliant firms		CSR Non-Shariah-compliant firms	
	N	%	*N*	%	*N*	%
Panel A: Country of Domicile						
Belgium	144	3.01	51	3.60	93	2.77
Denmark	179	3.74	59	4.16	120	3.57
Finland	229	4.79	93	6.56	136	4.04
France	587	12.28	270	19.04	317	9.43
Germany	531	11.11	220	15.51	311	9.25
Italy	266	5.56	74	5.22	192	5.71
Netherlands	222	4.64	79	5.57	143	4.25
Spain	284	5.94	56	3.95	228	6.78
Sweden	250	5.23	92	6.49	158	4.70
United Kingdom	2089	43.69	424	29.90	1665	49.51
Total	4781	100.00	1418	100.00	3363	100.00
Panel B: Sector of Operations						
Oil and gas	332	6.94	145	10.23	187	5.56
Basic materials	424	8.87	261	18.41	163	4.85
Industrials	1396	29.20	332	23.41	1064	31.64
Consumer goods	652	13.64	156	11.00	496	14.75
Health care	294	6.15	108	7.62	186	5.53
Consumer services	1042	21.79	186	13.12	856	25.45
Telecommunications	138	2.89	49	3.46	89	2.65
Utilities	256	5.35	92	6.49	164	4.88
Technology	247	5.17	89	6.28	158	4.70
Total	4781	100.00	1418	100.00	3363	100.00

Note: The CSR firms are the full sample based on the Thomson Reuters ASSET4 database; CSR Shariah-compliant firms are the firms included in both the Thomson Reuters ASSET4 database and the FTSE Shariah Europe Index; CSR non-Shariah-compliant firms are firms included in the Thomson Reuters ASSET4 database, but not in the FTSE Shariah Europe Index.

Table 2 Descriptive statistics

Panel A: Continuous variables of the full sample

Variable	*N*	Mean	Median	SD	Min	Max	25th Percentile	75th Percentile
EQ1	4781	0.106	0.055	0.146	0.000	0.991	0.019	0.127
EQ1+	2569	0.106	0.051	0.157	0.000	0.991	0.015	0.123
EQ1-	2212	-0.105	-0.059	0.132	-0.929	0.000	-0.131	-0.024
CSR	4781	0.679	0.756	0.246	0.000	0.978	0.506	0.895
CG	4781	0.591	0.642	0.253	0.000	0.973	0.403	0.803
SIZE	4781	15.246	15.161	1.421	9.585	19.375	14.269	16.123
MB	4781	3.190	2.152	23.004	-390.814	1080.450	1.302	3.528
ROA	4781	0.056	0.050	0.097	-1.323	2.259	0.024	0.085
LEV	4781	0.254	0.238	0.174	0.000	2.280	0.136	0.355
CLOSE	4781	0.261	0.209	0.230	0.000	1.000	0.054	0.431

Panel B: Dichotomous variables of the full sample

Variable	Frequency of 1's	%	Frequency of 0's	%
Auditors	4474	93.58	307	6.42
Shariah	1418	29.66	3363	70.34

Panel C: CSR Shariah-compliant versus CSR non-Shariah-compliant firms

	CSR Shariah-compliant firms				CSR non-Shariah-compliant firms			
Variable	*N*	Mean	Median	SD	*N*	Mean	Median	SD
EQ1	1418	0.014	0.000	0.201	3363	0.006	0.000	0.170
EQ1+	1418	0.119	0.059	0.163	3363	0.100	0.053	0.137
EQ1-	748	0.126	0.056	0.178	1821	0.098	0.048	0.146
CSR	670	-0.110	-0.062	0.145	1542	-0.103	-0.058	0.126
CG	1418	0.788	0.858	0.184	3363	0.633	0.684	0.255
SIZE	1418	0.613	0.667	0.253	3363	0.581	0.632	0.252
MB	1418	16.127	15.896	1.200	3363	14.874	14.728	1.342
ROA	1418	2.723	2.133	2.697	3363	3.387	2.174	27.371
LEV	1418	0.062	0.054	0.079	3363	0.053	0.048	0.103
CLOSE	1418	0.209	0.211	0.109	3363	0.273	0.257	0.192

Panel D: Dichotomous variables: CSR Shariah-compliant versus CSR non-Shariah-compliant firms

	CSR Shariah-compliant firms		CSR non-Shariah-compliant firms	
	1's	0's	1's	0's
Variable	%	%	%	%
Auditors	1,341	77	3,133	230
	94.57	5.43	93.16	6.84

Note: The variable definitions are in Appendix B.

Table 3 Correlation matrix

	EQ1	*CSR*	*Shariah*	*CG*	*SIZE*	*MB*	*ROA*	*LEV*	*CLOSE*	*Auditors*
EQ1	1									
CSR	-0.0467***	1								
Shariah	0.0575***	0.2877***	1							
CG	-0.0161	0.3784***	0.0566***	1						
SIZE	0.0466***	0.5033***	0.4025***	0.1091***	1					
MB	0.0177	-0.0368**	-0.0132	-0.0355**	0.0100	1				
ROA	0.0971***	-0.0669***	0.0381***	0.0005	0.1408***	0.1805***	1			
LEV	-0.0233	0.0494***	-0.1690***	-0.0242*	0.0286**	-0.0406***	-0.2317***	1		
CLOSE	0.0336**	-0.1124***	-0.0149	-0.4046***	0.0174	0.0346**	-0.0091	0.0400***	1	
Auditors	-0.0608***	0.0364***	0.0263*	0.1221***	-0.0285**	0.0374***	0.0512***	-0.0176	-0.1273***	1

Note: The variable definitions are in Appendix B. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 4
The effect of CSR on earnings quality

	EQ1 Coeff. (t-stat)	*EQ1+* Coeff. (t-stat)	*EQ1-* Coeff. (t-stat)
CSR	-0.049*** (-4.27)	-0.034* (-1.87)	0.067*** (4.81)
CG	0.031** (2.35)	0.021 (1.08)	-0.044** (-2.54)
SIZE	0.000 (0.21)	0.001 (0.25)	0.001 (0.67)
MB	0.000 (0.82)	0.000 (0.10)	-0.000 (-1.57)
ROA	0.118*** (4.00)	0.116** (2.43)	-0.121*** (-3.67)
LEV	-0.000 (-0.01)	-0.003 (-0.10)	-0.001 (-0.02)
CLOSE	0.031*** (3.02)	0.022 (1.52)	-0.038*** (-2.69)
Auditors	0.007 (0.64)	0.007 (0.45)	-0.014 (-0.92)
Constant	0.127*** (4.14)	0.111** (2.39)	-0.172*** (-4.13)
Country/ Industry/ Year effects	*Included*	*Included*	*Included*
Adj. R^2	0.141	0.120	0.199
F	19.836***	10.382***	11.812***
N	4781	2569	2212

Note: The variable definitions are in Appendix B. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 5
The effect of CSR and membership in a Shariah index on earnings quality.

	EQ1 Coeff. (t-stat)	*EQ1+* Coeff. (t-stat)	*EQ1-* Coeff. (t-stat)
CSR	-0.053*** (-4.59)	-0.040** (-2.23)	0.068*** (4.87)
Shariah	0.018*** (3.28)	0.028*** (3.39)	-0.006 (-0.87)
CG	0.031** (2.32)	0.021 (1.06)	-0.043** (-2.53)
SIZE	-0.001 (-0.80)	-0.002 (-0.74)	0.002 (0.89)
MB	0.000 (0.85)	0.000 (0.12)	-0.000 (-1.57)
ROA	0.119*** (4.07)	0.120** (2.53)	-0.121*** (-3.67)
LEV	0.007 (0.40)	0.011 (0.40)	-0.003 (-0.10)
CLOSE	0.031*** (3.10)	0.022 (1.57)	-0.038*** (-2.71)
Auditors	0.006 (0.49)	0.004 (0.25)	-0.014 (-0.89)
Constant	0.148*** (4.72)	0.137*** (2.91)	-0.179*** (-4.24)
Country/ Industry/ Year effects	*Included*	*Included*	*Included*
Adj. R^2	0.143	0.124	0.199
F	19.416***	10.263***	11.494***
N	4781	2569	2212

Note: The variable definitions are in Appendix B. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 6
Analysis based on CSR Pillars

	EQ1 Coeff. (t-stat)	*EQ1* Coeff. (t-stat)	*EQ1* Coeff. (t-stat)	*EQ1* Coeff. (t-stat)
SOCI	-0.044***		-0.047***	
	(-4.00)		(-4.31)	
ENVI		-0.036***		-0.038***
		(-3.65)		(-3.89)
Shariah			0.017***	0.017***
			(3.25)	(3.14)
Controls	*Included*	*Included*	*Included*	*Included*
Country/ Industry/ Year effects	*Included*	*Included*	*Included*	*Included*
Adj. R^2	0.140	0.140	0.142	0.141
F	19.831***	19.785***	19.410***	19.352***
N	4781	4781	4781	4781

Note: The *EQ1* is the absolute value of current discretionary accruals calculated with the modified Jones model adjusted for performance; *SOCI* is the scores of ASSET4's social pillar; *ENVI* is the scores of ASSET4's environmental pillar; *Shariah* is an indicator variable that that equals one if the firm is included in the FTSE Shariah Europe Index, and zero otherwise. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 7
Analysis based on *label* or *serious* adopters of ethical codes

	EQ1 Coeff. (t-stat)	*EQ1* Coeff. (t-stat)	*EQ1* Coeff. (t-stat)	*EQ1* Coeff. (t-stat)
HCSRShariah	0.010			
	(1.60)			
HCSRNon-Shariah		-0.017***		
		(-3.78)		
LCSRShariah			0.015**	
			(2.05)	
LCSRNon-Shariah				0.004
				(0.86)
Controls	*Included*	*Included*	*Included*	*Included*
Country/ Industry/ Year effects	*Included*	*Included*	*Included*	*Included*
Adj. R^2	0.138	0.139	0.138	0.137
F	19.701***	19.824***	19.724***	19.683***
N	4781	4781	4781	4781

Note: The *EQ1* is the absolute value of current discretionary accruals calculated with the modified Jones model adjusted for performance; *HCSRShariah* is a dummy variable that equals one if the firm has CSR mean above the sample median as well as it is Shariah-compliant, and zero otherwise; *HCSRNon-Shariah* is a dummy variable that equals one if the firm has CSR mean above the sample median and it is not Shariah-compliant, and zero otherwise; *LCSRShariah* is a dummy variable that equals one if the firm has CSR mean below the sample median as well as it is Shariah-compliant, and zero otherwise; *LCSRNon-Shariah* is a dummy variable that equals one if the firm has CSR mean below the sample median and it is not Shariah-compliant, and zero otherwise. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 8
Robustness Analysis

Panel A: The effect of CSR on alternative earnings quality metrics				
	EQ2	*EQ3*	*EQ4*	*EQ5*
	Coeff.	Coeff.	Coeff.	Coeff.
	(t-stat)	(t-stat)	(t-stat)	(t-stat)
CSR	-0.053***	-0.039***	-0.013**	-0.010**
	(-4.38)	(-2.94)	(-2.01)	(-1.96)
Controls	*Included*	*Included*	*Included*	*Included*
Country/ Industry/ Year effects	*Included*	*Included*	*Included*	*Included*
Adj. R^2	0.098	0.110	0.144	0.083
F	13.091***	10.352***	11.405***	7.432***
N	4781	4595	3824	4583
Panel B: The effect of CSR and membership in a Shariah index on alternative earnings quality metrics				
	EQ2	*EQ3*	*EQ4*	*EQ5*
CSR	-0.056***	-0.039***	-0.013**	-0.010**
	(-4.61)	(-2.96)	(-2.01)	(-1.96)
Shariah	0.013**	0.008	0.009***	-0.002
	(2.13)	(1.17)	(2.92)	(-1.16)
Controls	*Included*	*Included*	*Included*	*Included*
Country/ Industry/ Year effects	*Included*	*Included*	*Included*	*Included*
Adj. R^2	0.099	0.110	0.147	0.083
F	12.807***	10.091***	11.168***	7.314***
N	4781	4595	3824	4583

Note: The *EQ1* is the absolute value of current discretionary accruals calculated with the modified Jones model adjusted for performance; *EQ2* is the absolute value of total discretionary accruals calculated with the modified Jones model adjusted for performance; *EQ3* is the absolute value of abnormal accruals calculated with the modified Jones model excluding ROA; *EQ4* is the absolute value of the residuals calculated with the modified Dechow and Dichev (2002) accruals estimation errors model; *EQ5* is the absolute value of abnormal working capital accruals calculated with the DeFond and Park's (2001) model; CSR is the average scores of ASSET4's environmental pillar and social pillar; $Shariah$ is an indicator variable that equals one if the firm is included in FTSE Shariah Europe Index, and zero otherwise. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.

Table 9

Analyses based on firms' home-country characteristics

Panel A: Hofstede's cultural dimensions.

	EQ1 Coeff. (t-stat)	*EQ1* Coeff. (t-stat)
CSR	-0.045***	-0.048***
	(-3.87)	(-4.20)
Shariah		0.018***
		(3.38)
UA	-0.004***	-0.004***
	(-6.61)	(-6.45)
IND	-0.003***	-0.002***
	(-3.44)	(-3.24)
MAS	0.001**	0.001**
	(2.34)	(2.10)
PD	0.007***	0.007***
	(9.34)	(9.19)
LTO	0.003***	0.003***
	(4.39)	(4.01)
Controls	*Included*	*Included*
Industry/ Year effects	*Included*	*Included*
Adj. R^2	0.132	0.134
F	20.887***	20.363***
N	4781	4781

Panel B: Comparison between CMEs and LMEs.

	EQ1			*EQ1*		
	CMEs	*LMEs*	*Difference*	*CMEs*	*LMEs*	*Difference*
CSR	-0.027*	-0.091***	-0.081***	-0.031*	-0.093***	-0.057**
	(-1.68)	(-5.43)		(-1.94)	(-5.56)	
Shariah				0.022***	0.011	-0.005
				(3.00)	(1.49)	
Controls	*Included*	*Included*		*Included*	*Included*	
Industry/ Year effects	*Included*	*Included*		*Included*	*Included*	
Adj. R^2	0.138	0.196		0.141	0.197	
F	10.791	20.065		10.548	19.388	
N	2692	2089		2692	2089	

Note: The variable definitions are in Appendix B. The *CMEs* represent coordinated market economies for Continental Europe (Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Spain, and Sweden); *LMEs* represent liberal market economies (United Kingdom). *Differences* are the coefficient difference between *CMEs* and *LMEs* based on the Chow test. All test statistics and significant levels are estimated based on the standard errors adjusted by a two-dimensional cluster at the firm and year level. The *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01% levels, respectively.