Paper#: K222

Corporate Social Responsibility, Shariah-Compliant and Earnings Management

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Abstract

This paper aims to investigate the relationship between Corporate Social Responsibility (CSR) and financial reporting quality. It also investigates the effect of Shariah screening processes on the relationship between CSR and financial reporting quality. This study uses discretionary accruals (DA) as a proxy of EM. The sample is constructed based on Thomson Reuters ASSET4 and FTSE Shariah index, having a sample of 4085 firm-year observations domiciled in Europe for the period of 2003-2011. We find that there is a positive association between CSR and financial reporting quality. In addition, the model has been re-estimated using ASSET4's pillars and categories and we observe that both of social performance and environmental performance pillars do have an effect on enhancing the quality of financial reporting. Furthermore, the findings evidence that CSR in training and development, diversity, human right, community, resource reduction and emission reduction have a significant influence on mitigating a firm's opportunistic behaviour of managing earnings using accruals, and then increasing the quality of financial reporting. On the other hand, this study examines whether CSR firms that are Shariah-compliant engage in CSR as a moral obligations and behave ethically in terms of providing high-quality financial reporting compared to CSR firms that are not Shariah-compliant. We find that CSR firms that are not Shariah-compliant are less likely to manage earnings through accruals. The results suggest that Shariah screening processes appear to have no effect on mitigating the opportunistic behaviour of involving in CSR activities for the purpose of managing earnings. This finding does not support the argument that Shariah complaint firms conducting their activities in ethical and transparent manner. This study provides a new and far-reaching addition to prior literature by assessing the association between CSR and financial reporting quality, and the impact of Shariah screening processes on mitigating managerial opportunisms of engaging in CSR and EM activities. This also contributes to the growing discussion on CSR and financial reporting quality from an Islamic ethical perspective.

Keywords: Corporate social responsibility, Shariah-compliant investments, earnings management, transparency in financial reporting.

1. Introduction

The concept of corporate social responsibility (CSR), which reflects the relationships business organisations have with the surrounding society, has attracted much attention among academics and practitioners (Holder-Webb et al., 2009). CSR has an extensive impact in terms of encouraging business organisations to engage in social and environmental activities and report information about these activities to various interested parties. Corporations are facing significant pressure as a result of the growing awareness of the importance of the concept and practice of CSR. They risk losing stakeholders' support and approval if they do not undertake social and environmental activities, which in turn could negatively affect their survival chances. Prior studies (e.g., Alnajjar, 2000; Friedman and Miles, 2001; Gray et al., 1995; Owen et al., 1997; O'Dwyer and Gray, 1998; O'Dwyer, 2003; Patten, 1990; Toms, 2002) highlight the advantages of engaging in CSR activities, such as enhancing firms' reputations and transparency, a positive effect on a company's share price, reducing the external pressure on corporations, and managing the relationship between a companies and their stakeholders.

Despite the advantages of engaging in CSR, Prior studies argue that managers may have an incentive to use CSR as a strategic tool to compensate stakeholders and influence how they perceive the real future of the firm, distracting attention from any activity that reduce the quality of financial reporting (Hemingway and Maclagan, 2004). The study of DeMaCarty (2009) indicates that skilful managers may be able to profit personally through measuring CSR, and that this could be the reason for the positive association between CSR and financial performance found in prior empirical studies. Consequently, CSR may be adopted by firms in order to create an impression of transparency among the stakeholders and so legitimise their activities as well as gain stakeholder support (Kim et al., 2012). In this regards, engaging in CSR activities is driven from opportunistic behaviour rather than moral obligations.

The first aim of this paper is to examine the relationship between CSR and financial reporting quality. Specifically, it investigates whether firms that engage in social and environmental activities also behave ethically in terms of providing transparent and reliable information to investors. The second aim is to investigate the influence of religious ethical values on the relationship between CSR and financial reporting quality. In other words, do religious moral codes enhance the motivation of engaging in CSR to be driven more by moral imperative rather than opportunistic behaviour? Moreover, do these codes also play a significant role in mitigating aggressive financial reporting? Prior studies indicate that religion is a potential source that provides a set of ethical codes of conducting business activates (Conroy and Emerson, 2004; Longenecker et al., 2004; Weaver and Agle, 2002). A study of Noreen (1988) argues that opportunistic behaviour of business organisation cannot be mitigated only by agency contracts, however religion is one of enforcement tools that enhance moral behaviour in conducting firms' activities. Extant literature (Kennedy and Lawton, 1998 and Longenecker et al., 2004) examines the relationship between religion and the level of ethical judgment in business organisations and they find that religion has considerable effects on restrain unethical behaviours.

Islam has a similar and unique value to other religions in that its principles and norms guide all aspects of human life, including business activities. It treats the issue of economic development as part of the broader issue of total human development, and not simply as the ultimate objective of corporations (Ebrahim and Joo, 2001). Islamic principles stress the need for socioeconomic justice and a balance between the material and spiritual needs of all human beings. For example, the Islamic law asserts the importance of ethical responsibility by encouraging all activities that enhance human wellbeing (Halal activities) while discouraging

all harmful actions that might affect the welfare of the community. In addition, the investments of stakeholders should be safeguarded by managements of Islamic corporations as a result of the trust. Managers should look after shareholders' interests and employees' welfare as well as engaging only in permissible actions (Hassan and Harahap, 2010). They should also engage in societal well-being and conduct their activities in an ethical and transparent manner along the principles of equity, justice and benevolence (Hassan and Harahap, 2010). Islamic moral codes act as a monitoring tool that mitigate managerial opportunisms and reduce managerial incentives of manipulating financial reporting. In this regards, Lewis (2001) asserts that Islamic rules has formulated a comprehensive ethical systems that governing business activities and enforcing moral code such as justice, honesty and truthfulness.

Thus, the study also aims to investigate whether Islamic rules (Shariah principles) enhance the positive relationship between CSR and financial reporting quality. Specifically, Do CSR firms that are Shariah-compliant behave ethically in terms of providing high-quality financial reporting and delivering more transparent and reliable information to investors and how they compare in this with other, CSR firms that are not Shariah-compliant.

Using total discretionary accruals of the modified Jones model as proxy of financial reporting quality (earnings management), we find that firms with high CSR scores are less likely to manipulate earnings using accruals. The same results are observed using alternative accruals metrics namely: the current discretionary accruals of the modified Jones model, a modified version of the Dechow and Dichev (2002) accruals estimation errors model, and the abnormal working capital accruals model that introduced by DeFond and Park (2001). Examining the effect of CSR components, the results provide evidence of that CSR in health and safety, training and development, diversity, human right, community, product responsibility, resource reduction and emission reduction have a significant influence on mitigating a firm's opportunistic behaviour of managing earnings using accruals. With respect to the second objective of the study, the results show that there is a positive relationship between CSR and financial reporting quality for CSR firms that are not Shariah-compliant compared with CSR Shariah-compliant firms. This indicates that Shariah screening processes do not play a crucial role to ensure the ethical imperative of conducting business for Shariah-compliant firms.

The study is important as it extends prior literature by investigating the association between CSR and financial reporting quality, and the effect of Islamic Shariah principles on mitigating the motivation of CSR that could be driven by opportunistic behaviour and may have a negative impact on the quality of financial reporting. Thus, this study provides a new and far-reaching addition to prior literature by assessing whether CSR firms that operate according to Islamic Shariah actually deliver more transparent and reliable financial reporting. This contributes to the growing discussion on CSR and financial reporting quality from an Islamic ethical perspective. The study also provides a better understanding of corporate financial reporting practices and behaviour, religious ethical values and CSR that may be of interest to various standard setters, regulatory bodies, investors and academics involved in the field of ethical and Islamic business. It could also help various stakeholders understand how reliable and transparent financial reporting is, in the light of the relation between Islamic principles, CSR and financial reporting quality.

This paper is organised as follows: Section 2 discusses the literature review and hypothesis development. Section 3 discusses the research design. The study's results and findings are discussed in section 4. Finally, section 5 is the conclusion.

2. Related Literature and Hypotheses Development.

Financial reporting quality and CSR

Financial reporting is a way for managers to provide information about the firm's performance to various current and potential stakeholders that are interested in the firm's activities, such as investors, the government, professional institutions, lenders and employees. These various stakeholders would otherwise not have the authority to access this information as firm insiders have. Consequently, financial reporting is considered as the main resource used by investors to make their investment decisions. Earnings are the most significant component of financial reporting and can be used by insiders to influence the share price as well as to meet external regulations and contractual relationships. In addition, outside stakeholders use earnings to assess the uncertainty of future firm performance. However, a number of companies have affected as a result of accounting fraud, such as Enron, WorldCom, Tyco, Xerox, Olympus Corporation and Autonomy Corporation. This indicates that there is asymmetric information between managers and stakeholders, and that managers have incentives to use their discretion to hide misconduct in the carrying out of corporate activities, and then mislead stakeholders through earnings reporting (Chih et al., 2008). Managers can use the flexibility provided by generally accepted accounting principles to report earnings that are higher or lower than the true earnings (Prior et al., 2008). This use of discretion in computing earnings is known as earnings management (EM). The practice can lead to reduced quality of earning reporting, providing investors with information that is less transparent and reliable. As a result, it can mislead stakeholders, affecting their decisions.

EM is defined by Watts and Zimmerman (1978) as a process where managers use their discretionary powers to manage contractual objectives through accounting numbers. According to Healy and Wahlen (1999, p. 368), EM is employed to either "*mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers*". Gargouri et al. (2010) also argue that, based on positive accounting theory, managers can use accounting numbers to influence contractual outcomes, for example borrowing agreements, political costs and remuneration agreements, or to achieve other purposes such as the financial performance expected by financial analysts, avoiding reporting small losses or share offerings. In addition, some researchers have identified that there are three main incentives that motivate managers to engage in EM: capital markets, contractual arrangements and regulatory considerations (Healy and Wahlen, 1999; Prior et al., 2008). With respect to capital markets, managers will engage in EM for the purpose of influencing the share price, especially when further corporate action will be undertaken, such as stock issues (DuCharme et al., 2004). In terms of contractual arrangements, managers have an incentive to engage in EM so as to influence borrowing and compensation contracts in order to inhibit the violation of debt covenants (DeFond and Jiambalvo, 1994) or to increase bonus awards (Holthausen et al., 1995). Managers may also engage in EM as a result of external pressure on the firm from authorities regarding product prices and market share. Thus, managers may manage earnings to give the impression that their firms are less profitable than they actually are (Prior et al., 2008). Prior et al. (2008) also argue that achieving private benefits is the main reason why managers engage in EM and that, in the absence of this motivation, most will not undertake EM activities.

There are two common forms of EM. First, a firm can manage its earnings by modifying corporate actions, such as reducing discretionary costs (e.g. training and advertisements) to increase earnings. This action is known as real earnings manipulation and it influences the firm's true economic reality (Roychowdhury, 2006). However, Hong and Andersen (2011) argue that this type of EM is costly and can undermine firms' competitive power. The other type of EM is known as accrual-based EM and occurs when managers use their discretionary powers to adjust the accruals portion of the firm's earnings without making any change to real corporate activity (Dechow et al., 1995). For example, the estimation of a warranty liability can be changed to influence the accruals, which in turn affect the firm's earnings without having any real effect on cash flows in the future (Hong and Andersen, 2011).

Engaging in EM activities leads to the production of financial statements that do not represent the underlying firm's performance, which in turn affects the ability of stakeholders to govern firms (Leuz et al., 2003). Zahra et al., (2005) argue that managerial actions such as EM can change the reality of a firm's value and its financial position. Such real economic consequences have a negative impact on the decisions of current and potential interested parties, for example shareholders, employees, potential investors, lenders and so on. In addition, engaging in EM puts the firm at risk of losing stakeholder support which is often crucial to survival (Prior et al., 2008). Managers may come under threat from various stakeholders as a result of manipulating the firm's real value, which may affect the firm's reputation, and could result in the manager losing their job (Fombrun et al., 2000; Prior et al., 2008). However, managers have an incentive to use CSR as a strategic tool to compensate stakeholders and influence how they perceive the real future of the firm, distracting attention from any accounting-based or real EM activity. In this case, participating in CSR actions is driven more by opportunistic behaviour than moral imperative.

The number of stakeholders interested in organisations' CSR activities has increased significantly recently as a result of the attention paid to these activities by society in general. In addition, over the last few years, the number of companies participating in social and environmental activities, and reporting these activities, has grown dramatically (Brown and Deegan, 1998; Deegan and Gordon, 1996; Hooghiemstra, 2000). Carefully undertaking such activities in the right way is thought to bring significant social and economic returns to companies and positively influence their future economic performance (Deegan, 2002; Hummels and Timmer, 2004).

Prior studies (e.g., Alnajjar, 2000; Friedman and Miles, 2001; Gray et al., 1995; Owen et al., 1997; O'Dwyer and Gray, 1998; O'Dwyer, 2003; Patten, 1990; Toms, 2002) discuss the advantages that can be gained from involvement in CSR activities. They indicate that CSR practices help companies to enhance their reputation and transparency, as well as providing helpful information to various parties inside and outside the companies and helping them to make appropriate decisions about their investment. In addition, CSR can have a positive effect on a company's share price and can be used to manage the relationship between a company and its stakeholders. Furthermore, undertaking and reporting CSR activities reduces the external pressure on corporations to be more environmentally and socially responsible. However, failure to participate in such activities can harm a corporation's survival chances through a loss of stakeholder approval and support as well as external pressure that may be used to control business operations (Gerbens-Leenes et al., 2003; Lantos, 2002; Rondinelli and Berry, 2000).

Despite the advantages of engaging in CSR, it has been argued that managers may do so in order to pursuit their own self-interests rather than the interests of the firm's stakeholders (Carroll, 1979; Jensen and Meckling, 1976). In addition, Hemingway and Maclagan (2004)

argue that managers may get involved in CSR for the purpose of concealing the effects of misconduct in the firm's activities. It has also been claimed that ethical codes, such as CSR, can be used as window-dressing by managers, to enhance their careers and other personal objectives (Fritzsche, 1991).

In terms of agency theory, some prior studies have found that CSR can be used by managers as a tool to enhance their careers or achieve their personal objectives (McWilliams et al., 2006; Petrovits, 2006; Prior et al., 2008). DeMaCarty (2009) argues that skillful managers may be able to profit personally through measuring CSR, and that this could be the reason for the positive association between CSR and financial performance found in prior empirical studies. In addition, Kim et al. (2012) argue that CSR may be adopted by firms in order to create an impression of transparency among the stakeholders and so legitimise their activities and gain stakeholder support, when in fact they are engaging in accounting-based and real EM. In either case the CSR is being driven by opportunistic behaviour, whether to attain personal or firm objectives. Thus, according to this view, the relationship between CSR and financial reporting quality (EM) is a negative (positive) one. Therefore, we hypothesise that:

H1a: There is a negative (positive) relationship between CSR and financial reporting quality (EM).

On the contrary, some prior studies on CSR provide a theoretical framework that incorporates the ethical perspective of firms alongside the economic and legal perspectives (Carroll, 1979; Garriga and Mele, 2004). Carroll (1979) presents a sophisticated CSR model based on four CSR categories that society expects corporations to cover: economic, legal, ethical and discretionary. In terms of the economic category, a corporation should act efficiently and effectively in order to be profitable. For example, it should produce goods and services of a good quality and at a fair price that are desirable to the society, create new jobs and pay a fair wage to its employees, provide a reasonable return to its shareholders, and increase its growth and survival prospects (Matten and Moon, 2005). The legal category states that a corporation must operate according to the relevant legal framework; society expects that the corporation will meet its economic aims while following the regulations and laws of the country in which it does business (Jamali and Mirshak, 2007). Under the ethical category, a corporation is expected to be moral and abide by ethical principles that are not necessarily covered in their legal responsibilities (Solomon, 1994). Carroll (2008) indicates that the ethical category "*embraces a response to the spirit of laws and regulations and helps guide business actions in those decision arenas in which regulations are ill-defined or non-existent*". Therefore, the ethical category overcomes the limitations of the legal category and covers a broader set of responsibilities. Finally, the discretionary category refers to the corporation's contribution to society in charitable and voluntary terms. Discretionary responsibility assumes that a corporation should engage in activities for the betterment of the community and goes beyond the economic, legal and ethical responsibilities (Gitman and McDaniel, 2008). For example, discretionary responsibility may include providing educational scholarships and supporting educational organisations, supporting and sponsoring society events, enhancing employee welfare, or providing donations to charitable organisations (Coffey, 1998). Later, Carroll (2004) renamed this category as philanthropic responsibility.

In addition, Garriga and Melé (2004) state that the theories of CSR can be classified into four groups, namely instrumental, political, integrative and ethical theories. According to instrumental theories, CSR is seen as a strategic means of maximising wealth. Therefore, economic factors determine the relationship between a firm and the community. Consequently, engaging in CSR activities is accepted when it leads to the achievement of economic objectives (Mackey et al., 2007; McWilliams and Siegel, 2001). Political theories

underline the need for responsible use of business to power the political arena (Kim et al., 2012). Such theories concentrate on the power and position of a firm when studying the interaction between a firm and society, and hold that firms need to consider the community in order to formalise their development of society (Kim et al., 2012; Matten and Crane, 2005). Integrative theories suggest that a firm's existence and success is dependent on society, thus social demands need to be integrated into business actions as a way of interacting with society. Therefore, businesses use CSR as a tool to achieve social satisfaction in order to legitimise their actions and gain support from society (Agle et al, 1999; Kim et al., 2012; Swanson, 1995). Ethical theories view CSR as an ethical imperative or obligation and state that firms must accept this view and treat social responsibility above any other concern. According to ethical theories, engagement in CSR by firms is very important and must be driven by moral obligation rather than used as a tool to achieve or hide managers' opportunistic behaviour.

These theories suggest that firms benefit from conducting their business activities in a way that is honest, trustworthy and ethical, and therefore firms have a tendency to comply with high moral and ethical standards (Garriga and Melé, 2004; Jones, 1995; Kim et al., 2012). Kim et al. (2012) argue that firms that expend effort and resources in designing CSR programmes and implement these programmes in order to serve the ethical interests of stakeholders in society are likely to engage less in EM and provide transparent and reliable financial reporting to their various stakeholders. Therefore, if the moral imperative is the driver behind CSR, firms are expected to be more likely to provide high-quality earnings disclosure and limit EM, thereby enhancing the transparency of financial reporting. Therefore, we hypothesise that:

H1b: There is a positive (negative) relationship between CSR and financial reporting quality (EM).

The above discussion shows that CSR activities can be driven by either opportunistic behaviour or ethical considerations, and that the relationship between CSR and EM may be affected by the motivations behind CSR. There is only a little research (Chih et al., 2008; Hong and Andersen, 2011; Kim et al., 2012; Prior et al., 2008) examining the association between CSR and EM. The results of these studies are mixed.

Prior et al. (2008) investigate whether managers use CSR as a strategic tool to distract stakeholders from monitoring EM activities. They find a positive relationship between CSR and EM. They also claim that managers are more likely to engage in CSR activities for opportunistic reasons: to hide their behaviour and gain more support from stakeholders. Chih et al. (2008) examine the relationship between CSR and EM and find that, when earnings smoothing or earnings loss avoidance are used as proxies for EM, there is a negative association between CSR and EM. However, there is a positive relationship between CSR and earnings aggressiveness as a proxy for EM. They argue that, in the case of earnings smoothing and earnings loss avoidance, firms engaged in CSR are more concern about stakeholder management than increasing income. In addition, the authors reject their hypothesis that there is no relationship between CSR and EM. Hong and Andersen (2011) find a positive relationship between CSR and accruals quality. However, the relationship between CSR and real EM is found to be negative. Kim et al. (2012) investigate whether firms involved in CSR provide more transparent and higher quality financial reports than those that are less heavily engaged in CSR activities. They find that the former group are less likely to use discretionary accruals or manipulate real activities in order to manage earnings.

The majority of prior studies have examined the relationship between CSR and EM by making a comparison between those firms that engage in CSR and those that do not. Unlike previous research, this study investigates the relationship between CSR and financial reporting quality by focusing only on firms that considered as CSR firms on Thomson Reuters ASSET4. This study also examines the effect of religion as an additional motivation for CSR that in turn drives transparent financial reporting. It explores whether firms that carry out CSR and conduct their activities according to Islamic Shariah principles behave more ethically in limiting earnings manipulation, – thereby providing transparent and reliable financial information to stakeholders – than do non-Shariah-complaint firms engaged in CSR. This is discussed on the following section.

Religious Ethical Values

Prior studies indicate that religion is a potential source that provides a set of ethical codes of conducting business activates (Conroy and Emerson, 2004; Kennedy and Lawton, 1998; Longenecker et al., 2004; Weaver and Agle, 2002). A study of Noreen (1988) argues that opportunistic behaviour of business organisation cannot be mitigated only by agency contracts. However, he indicates that religion is one of enforcement tools that enhance moral behaviour in conducting firms' activities.

Extant literature (Kennedy and Lawton, 1998 and Longenecker et al., 2004) examine the relationship between religion and the level of ethical judgment in business organisations and they find that religion has considerable effects on restrain unethical behaviours. In terms of the impact of religion on mitigating EM, recent studies find a positive influence of religious ethical norms on earning quality. For instance, Dyreng et al. (2012) investigate whether firms with more religious influence are less likely to engage in aggressive financial reporting than firms with less religious influence. They find that companies that are religion-influenced 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 addition, McGuire et al. (2012) investigate the influence of religion on the quality of financial reporting. Based on the argument that religion reduce unethical practices in business organisation, they predict that firms headquarter in areas with strong religious norms are less likely to be involved in financial reporting irregularities. They find that firms that in religious area experience lower incidences of financial reporting irregularities. The authors also indicates that the association between religiosity and abnormal accruals is negative, while religiosity is positively associated with real earning management, suggestion that managers in religious region have a preference of engaging in real earning management over accruals manipulation. Furthermore, the study of Grullon et al. (2010) finds that firms in high religious area are less likely to practice aggressive EM, providing evidence that religiosity discourage unethical corporate behaviour. They also find firms headquartered in less religious counties are largely influenced by regulatory change designed to restrain option backdating, suggestion that religion and regulation perform as substitute mechanisms for control and monitoring business conduct. This study aims to extent prior study by investigating the effect of Islamic ethical norms (Shariah principles) on mitigating the opportunistic behaviour of engaging on CSR activities as well as restrain EM practice.

Islam has a similar and unique value to other religions in that its principles and norms guide all aspects of human life, including business activities. It treats the issue of economic development as part of the broader issue of total human development, and not simply as the ultimate objective of corporations (Ebrahim and Joo, 2001). The Islamic economic system

works according to Shariah, which is an ethical system based mainly on two Islamic resources, the Holy Quran and the Sunnah[1]. According to Shariah, societal welfare is extremely significant as it is one of the best ways of seeking the happiness of Allah (Suliman and Willett, 2003). In Islam, every human action (including business actions) should be directed towards achieving a good life (hayat taayyibah) and human wellbeing (Al-Falah). This stresses the need for socioeconomic justice and a balance between the material and spiritual needs of all human beings. The Shariah law asserts the importance of ethical responsibility by encouraging all activities that enhance human wellbeing (Halal activities) while discouraging all harmful actions that might affect the welfare of the community. For example, Islamic business organisations should not engage in business activities that are strictly prohibited (Haram) in Islamic Shari'ah, such as selling or producing alcoholic drinks, gambling, pork and unlawful activities. Engaging in these activities causes the risk of that the Islamic firms will lose their stakeholders' supports and approval which in turn negatively affect the corporations' survival. On the other hand, the investments of stakeholders should be safeguarded by managements of Islamic corporations as a result of the trust (Amanah). Managers should look after shareholders' interests and employees' welfare as well as engaging only in (Halal) actions. They should also engage in societal well-being and conduct their activities in an ethical and transparent manner along the principles of equity (qist), justice (adl) and benevolence (ihsan) (Hassan and Harahap, 2010). There is growing acceptance for investments that based on Islamic Shari'ah among Muslim and non-Muslim as a result of the principles of equity and justice. This in turn indicates that Islamic principles are universally applicable to all humankind.

Islamic institution is defined by Iqbal and Molyneux (2005, p. 119) as "*a nexus of contracts whose objective is to minimize transaction costs and maximize profit and return to investors subject to constraints that these objectives do not violate the right of any other party*". This definition meet the concept of stakeholder theory which asserts that business institutions are not expected to seek only the interest of their shareholders at the expense of other stakeholders, however, they must equally respect the welfare of both shareholders and other stakeholders in their society (Tag el-Din, 2005). In addition, Al-Zuhayli (2003, p. 350) promotes the socio-economic concept of Islamic institutions and he states that "*the primary goal of Islamic financial institutions is not profit-making, but the endorsement of social goals of socio-economic development and the alleviation of poverty. Islamic financial institutions attempt to link the economic and social development goals in a harmonised overall framework based on Islamic teachings. They avoid excessive speculative or untruthful transactions, which can have an adverse economic and social effect on the nation*".

It is clear that from the above statements, Islamic economic system differs from conventional economic system in that it is established according to the Shariah principles and philosophy that do not mainly concentrate on the maximising the economic value, however, it aims to incorporate the objectives of both profit and social responsibility at the same line. That because society welfare or human being is the principle objective of Islamic religion. In addition, firms operate according to Shariah principles are not only expected to operate in accordance with law and regulation of a country, in which they operate. However, they are expected to operate according to the concept of Magasid Al-Shari'ah (the objective of the Islamic law) and Maslahah (the principle of public interest), which both of them work towards the optimisation of society welfare. The Shariah law asserts the importance of ethical

[1] The sayings, actions and approvals of prophet Mohamed (peace upon him).

responsibility through encouraging all activities enhance the human wellbeing as well as avoid all harmful actions that affect the welfare of community.

Islamic economic system is much about the incorporation of the economic and legal aspect with religious, ethical and social aspects. Therefore, the four categories of CSR model of Carroll (1979) – i.e. the economic, legal, ethical, and discretionary categories- are relevant to Islamic economic system. However, Islamic religion is the factor that guides the principles and philosophy of Islamic economic movement in terms of these economic, legal, ethical and discretionary responsibilities.

It is very important to understand that, Islamic business institutions are not welfare or charitable organisations, and they must financially operate at effective and efficient ways. However, they must also not neglect other social and ethical obligations through focusing only on the profit maximisation goal (Rosly and Bakar, 2003). Consequently, Islamic Shariah emphases on the balance between profit and social goals, for example, firms operate according to Islamic Shariah principles are requested to provide sufficient returns to their shareholders; however, they are prohibited from providing excessive returns at the expenses of neglecting their ethical and social commitments and responsibilities to their other stakeholders (Ahmad, 2000).

According to the above argument, greater social, ethical and religious responsibilities have been placed upon Shariah-compliant firms in order to enhance economic development as well as distributing wealth and income equitably and achieving social justice. In order to a firm to be considered as Shariah-compliant firms, Muslim scholars have introduced the Shariah screening processes that detect any unacceptable activities according to Shariah principles. This shariah screening processes usually conducting by a board called Shariah Supervisory Boards whom their responsibilities are to ensure that a firm's activities have met the moral codes of Islamic rules. These screening processes are set up in two groups which are (i) business compliance, and (ii) financial ratio. The business screening process relate to both main activities and revenue allocation of firms. 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, and entertainment business (e.g. Casinos, Gambling) (FTSE, 2012). A firm that belong to the legitimate industries is also examined on the terms of its revenue allocation. For instance, if a firm that has a business activity in pork related products is considered as inappropriate according to Shariah principles. In addition, even when a firm's activities are acceptable but it engage in trade debt either as a borrower or lender is deemed unacceptable. Financial ratio is the second Shariah screening process and it aim to detect the non-shariah compliant financing and earnings. This is, the Shariah forbids interest or the use of cash as assets. However, due to the complex of global financial markets, it is difficult to find a firm that does not engage in interest bearing contracts. Consequently, some Muslims scholars (Al-Gamel, 2006) have introduced acceptable thresholds for the level of engaging in inappropriate practices. The financial ratio screen concentrates on a firm's leverage, liquidity, interest and non-permissible income. The common processes of this screen are: debt is less than 33% of total assets, cash and interest bearing items are less than 33% of total assets, account receivable and cash are less than 50% of total assets, and total interest and non-compliant activities income should not exceed 5% of total revenue (FTSE, 2012). Some index computes such financial ratio scaled by trailing 24-months average market capitalisation (Dow Jones, 2012).

In terms of transparency in business deals, transparency is one of ethical responsibilities according to the Islamic rules, and Shariah principles assert that business activities should be carried out in a transparent manner that every aspect of these activities is clarified to various

parties. (Ali and Al-Owaihan, 2008). It has been argued that disclosing more information about a firm's activities leads to mitigate information asymmetry and enhance a firm's transparency as well as reducing incentive of involving on earning manipulation and enable investors to detect such unethical behaviour (Jo and Kim, 2008; Healy and Palepu, 2001). This implies that a firm with full disclosure is more likely to provide a transparent corporate reporting that enable investors to make the right decisions regards their investments.The Islamic principles enhance the concept of the full disclosure, which asserts the importance of disclosing all necessary information that assists investors in the process of decision-making (Maali et al., 2006). Such a disclosure helps various investors to determine Shariah-compliant investments and increase their confidence regard investment decisions. Haniffa and Hudaib (2002) indicate that the concept of full disclosure is important in Islamic law as it provides the most reliable and relevant information that enables them to make investment decisions in terms of both economic and religious status. In addition, Islamic moral codes act as a monitoring tool that mitigate managerial opportunisms and reduce managerial incentives of manipulating financial reporting. In this regards, Lewis (2001) asserts that Islamic rules has formulated a comprehensive ethical systems that governing business activities and enforcing moral code such as justice, honesty and truthfulness.

In Islam, exploiting the contracting agreements by managers are prohibited as well as managing trust given to them by using unethical way such as EM. In this regards, Dadgar and Naderi (2009) argue that the equitable treatment and protection of right as well as transparent and responsible behaviour by mangers, play a considerable role in providing a more reliable financial reporting. Regarding to Islamic investments, Paul Hoff, Asia Pacific managing director for the FTSE group, states that " *the tents of lower leverage, transparency and no speculation for shariah-compliant securities is proving attractive to an increase number of investors searching for a new way of screening markets*" (Hua, 2009). Empirically, the study of Abdul-Rahman et al. (2012) investigates the effect of Islamic ethical principles and framework on accounting conservatism of firms listed in Bursa Malaysia. Using a sample of Shariah-compliant firms and non-Shariah-compliant firms, they find that Shariah-compliant firms have higher accounting conservative, concluding that religious ethical values reduce aggressive reporting practices and managerial opportunism. Based on the above discussion, we argue that Shariah-compliant firms face greater demands of conducting ethical activities as well as providing more transparent and reliable financial reporting as a result of their Shariah status. In addition, Shariah-compliant firms are also subject to greater regulatory scrutiny in order to determine any change in their Shariah-compliance. For instance, the Shariah screening processes, which are made compulsory for a company to be given a Shariah-compliant status, provide evidence that firms that are Shariah-compliant are subject to greater regulatory scrutiny. This in turn will enhance the reliable of information that provided by Shariah-compliant firms. Furthermore, Shariah status, obtained by firms, place greater social, ethical and religious responsibilities upon Shariah-compliant firms in order to enhance economic development as well as achieving social justice and equitable distribution of wealth. Moreover, Shariah-compliant status mirror a good corporate governance to various parties, as they expect that firms that are Shariah-compliant are more likely to posses greater truthfulness and be more transparent.

The Islamic moral codes is also expected to mitigate unethical behaviour as well as reduce the intention of mangers to engage in earnings manipulation and provide less reliable information, which in turn violate the concept of justice. This enhances Shariah-compliant firms to maintain higher standards of accountability in their reporting practices. The above argument provides evidence that Islamic moral codes have an impact on the relationship between CSR and financial reporting quality. In other words, engaging in CSR is driven more

by moral imperative rather than opportunistic behaviour as a result of Islamic norms conduct; and earning manipulation is mitigated as a consequence of Shariah principles. Therefore, we hypothesise that:

H2a: The Shariah principles enhance the positive (negative) relationship between CSR and financial reporting quality (earnings management).

Nevertheless, the current Shariah screening process is concentrating on negative screening that ensuring Shariah-compliant firms are not engaging on prohibited activities, and there is no attention has been paid for applying a positive screening process that consider social and environmental activities as well as transparent principles. These positive screening processes are fundamental in Islam and should be considered as a vital part of Shariah Screening process. In this case, a firm could meet the current Shariah screening process in order to attract more investors and to legitimate itself as Shariah-compliant firms, without paying attention to other Shariah principles such as social welfare and transparency. Therefore, the current Shariah screening processes might do not have an impact on the relationship between CSR and financial reporting quality. We hypothesise that:

H2b: The Shariah principles do not have an effect on relationship between CSR and financial reporting quality (earnings management).

3. Research design

The Data

As this study aims to investigate the association between CSR and financial reporting quality, and whether Islamic moral codes have an effect on the relation between CSR and financial reporting quality, we construct our sample based on Thomson Reuters Asset4 for European area. Asset4 is a Swiss-Based corporation that provide a service of CSR consulting and has been acquired by Thomson Reuters in 2009. It is established in 2003 and has collected data based on the environmental, social and governance (ESG) categories since 2002. Asset4 collects 900 evaluation points for each firm based on data that must be objective and available to the public. Afterward, these evaluation points are used as inputs to a default equal-weighted framework to calculate 250 key performance indicators (KPIs). Further to that, these 250 KIPs are organised into 18 categories[2] within four pillars, which are 1) economic performance scores, 2) environmental performance scores, 3) social performance scores and 4) corporate governance performance score.

The sample of the study covers European area and it is constructed based on Thomson Reuters Asset4 database. The primary sample is 8580 firm-year observations from 17 European countries. Consistent with prior studies (e.g. Kim et al., 2012; Scholtens and Kang, 2012; Hong and Andersen, 2011), 1920 firm-year observations of financial firms are excluded due to the unique nature of their reporting practices. In addition, firms with missing data are omitted from the sample (2575 firm-year observations). The final sample of the study comprises 4085 firm-year observations domiciled in Europe for the period of 2003-2011. Table 1 Panel A and B shows all firm-year observations distribution by country and year.

{Insert Table 1 here}

[2] For the categories, see Appendix 1.

Measuring Earnings Management

Many of recent EM studies use discretionary accruals as a proxy of earning management and the most popular model that are employed extensively in the literature is the modified Jones model (Jones, 1991; Dechow et al., 1995; DeFond and Subramanyam, 1998, Kothari et al., 2005). This study use discretionary accruals as a proxy for EM. Discretionary accruals can be expressed as the difference between actual accrual and expected accrual.

The model of Jones (1991) uses a regression analysis approach in order to separate discretionary accruals, through assuming that non-discretionary accruals is related to the changes in economic circumstances of firms which may create accruals. For example, explanatory variables, gross property, plant and equipment and the change in revenues, can reveal change in economic circumstances before manipulation of managements. To detect these economic circumstance, Jones (1991) model introduce the level of the gross property, plant and equipment as well as the change in revenues in order to do that. This model was introduced as time series model, however, DeFond and Jiambalvo (1994) and DeFond and Subramanyam (1998) modified Jones model through introducing a cross-sectional Jones model instead of time series. This model has been used widely in literature because it has less restrictive data requirements as well as its superior specification (Kim et al, 2012).

Kothari et al. (2005) argue that using Jones model or modified Jones models to estimate the discretionary accruals may produce misspecification in the models due to these models do not control the performance of firms. Therefore, they introduce a model that include return on asset (ROA) in the prior year as a regressor to the cross-sectional modified Jones model in order to control the effect of performance on estimating discretionary accruals. As this model enhance the reliability of inferences from accrual estimates (Kim et al., 2012), this model will be used in this study. The discretionary accruals will be estimated by the residual of the following model:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_0 \left[\frac{1}{A_{it-1}}\right] + \alpha_1 \left[\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right] + \alpha_2 \left[\frac{PPE_{it}}{A_{it-1}}\right] + a_3 \left[\frac{IBXI_{it-1}}{A_{it-1}}\right] + \varepsilon_{it}$$

Where:

TA_{it} the total accruals for a firm i at year t

ΔREV_{it} the change in net revenues in year t from year $t-1$

ΔREC_{it} the change in net receivables in year t from year $t-1$

PPE_{it} gross property, plant and equipment for a firm i at year t

BXI_{it-1} income before extraordinary for a firm i from year $t-1$; and

A_{it-1} total asset for a firm i at the end of year $t-1$

Total accruals are the difference between net income and net cash flows from operating activities (Sun et al., 2010). Following prior studies, the absolute value of discretionary accruals *(ABS_DA)* will be used in the study's analysis as a proxy for the mixed effect, as manager can engage in either income-increasing or income decreasing earning management (Warfield et al., 1995; DeFond and Park, 1997; Klein, 2002; Sun et al, 2010; Kim et al, 2012). Furthermore, the same model is used in this study using current discretionary accruals instead

of total discretionary accruals, as it has been argued that mangers have grater discretion over current accruals than total accruals (Becker et al., 1998).

Empirical Models

The aim of this study is to investigate the association between CSR and financial reporting quality; and whether Shariah moral codes enhance the positive association between CSR and financial reporting quality. Therefore, the following model is estimated to examine our hypotheses:

$$ABSDA_{it} = \alpha_0 + \alpha_1 ES_{it} + \alpha_2 Shariah_{it} + \alpha_3 CG_{it} + \alpha_4 Size_{it} + \alpha_5 MB_{it} + \alpha_6 ROA_{it} + \alpha_7 LEV_{it} + \alpha_8 CLOSE_{it} + \alpha_9 AUDIT_{it} + \varepsilon_t.$$

Where:

$ABSDA_{it}$	The absolute value of discretionary accruals (discretionary accruals are calculated through the cross-sectional modified Jones model adjusted for performance);
ES_{it}	The average scores of ASSET4's Environmental pillar and Social pillar;
$Shariah_{it}$	An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise;
CG_{it}	The scores of ASSETS's Corporate Governance Pillar;
$SIZE_{it}$	The natural logarithm of the market value of the equity;
MB_{it}	Market-to-book equity ratio measured as market value of equity divided by book value of equity;
ROA_{it}	Measured as income before extraordinary items divided by the total assets;
LEV_{it}	Leverage and it is calculated as long-term debt scaled by total assets;
$CLOSE_{it}$	The percentage of closely held share as reported by WorldScope;
$AUDIT_{it}$	The Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise.

In order to examine hypotheses two of the moderating role of Shariah moral codes in the relationship between CSR and financial reporting, we introduce an interaction variable of *Shariah* with *ES*. We estimate the following model, which include the interaction terms of *Shariah* and *ES*.

$$ABSDA_{it} = \alpha_0 + \alpha_1 ES_{it} + \alpha_2 Shariah_{it} + \alpha_3 ESG * Shariah + \alpha_4 CG_{it} + \alpha_5 Size_{it} + \alpha_6 MB_{it} + \alpha_7 ROA_{it} + \alpha_8 LEV_{it} + \alpha_9 CLOSE_{it} + \alpha_{10} AUDIT_{it} + \varepsilon_t.$$

A number of control variables are included in this study in order to control for firm characteristics that could affect the extent of EM and CSR performance, and to avoid the issue of correlated omitted variables. The first control variable is firm size. Previous studies

indicate that there is association between firm size and CSR (Chih et al., 2008; Prior et al., 2008). In addition, prior studies show that firm size is also correlated with EM (Pincus and Rajgopal, 2002; Roychowdhury, 2006). That because, larger firms have more potential for engaging in EM in order to reduce political costs or as a result of pressure that manger could face in order to report more predictable earning (Pincus and Rajgopal, 2002). Thus, firm size is included as a control variable in this study. Following prior studies, firm size is measured as the natural logarithm of the market value of equity (Kim et al., 2012).

Prior studies suggest that firm growth opportunity is related to EM (Abbott et al., 2004; Roychowdhury, 2006; Gargouri et al, 2010, Kim et al, 2012). Following these studies, the effect of firm growth is controlled in this study's model and it is measured as the Market-to-book equity ratio (market value of equity/book value of equity). Gargouri et al. (2010) argue that firm with a high market-to-book ratios are more likely to engage in EM and mange earning upwards because market reactions would be negative if sustained earning growth did not occur. Another control variable of this study is firm performance and it is measured as income before extraordinary items divided by the total assets (ROA) (Sun et al., 2010, Yip et al., 2011, Kim et al., 2012).

Prior studies also find a link between firm leverage and EM (DeFond and Jiambalvo, 1994; Dechow et al., 1996; Chih et al., 2008; Jiang et al., 2008; Prior et al., 2008; Sun et al., 2010; Kim et al., 2012). Jiang et al (2008) argue that the changes of leverage may have various influences on EM. The study of DeFond and Jiambalvo (1994) provides evidence which indicates that there are incentives for firm with a high leverage to engage in EM in order to avoid a debt covenant violation. Therefore, Leverage is included in this study to control its related incentives for EM. Following previous studies (Chih et al., 2008; Prir et al, 2008; Sun et al, 2010; Kim et al, 2012), leverage is calculated as long-term debt scaled by total assets.

It has been argued that, the extent EM may vary for companies that audited by larger auditing firms (Kim et al, 2012). Furthermore, Chih et al., (2008) claim that it is harder for managers to extensively engage in EM when their firms are audited by the Big Four (Five) auditors. Following the study of Kim et al. (2012), an indicator variable is included in this study's model for firms that audited by one of the Big 4 auditors. Big 4 auditors is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. In addition, following prior studies (Barth et al., 2008), the percentage of closely held share of the firm (CLOSE) is included as control variables in this study. CLOSE is the percentage of closely held share as reported by WorldScope.

4. RESULTS

Descriptive Statistics

Table 2 shows the distribution of firm-year observations by the ICB industry code. It shows that industrials sector represents the largest industry in the sample, (30.11%), followed by consumer services (22.06%,) and Consumer Goods (13.19%).

{Insert Table 2 here}

Table 3 represents descriptive statistics of the full sample. Panel A shows that the mean value of the absolute value of discretionary accruals (*ABDA*) is 0.119. Discretionary accruals (*DA*) has a mean value of 0.009, which is comparable with the prior studies' findings such as Kim et al, (2012) (*DA mean = 0.005*) and Klein (2002) (*DA mean = 0.004*). Environmental and Social (ES) scores and Corporate Governance (CG) scores all range between zero and one

and they have a mean of 0.660 and 0.562 respectively. The table also represents that the mean values of MB and ROA are 3.034 and 0.057 respectively, indicating that the firms in the sample have significant growth opportunities. On average, investors hold closely 27 % of the outstanding shares. Table 3 Panel B shows that 93.10 of the firms in the sample are audited by the Big 4 accounting firms. Furthermore, 31.68% of our sample firms, 1294 firm-year observations, are CSR firms that included in the FTES Shariah Europe index, while 68.32% of the sample, 2791 firm-year observations, is CSR firms that are not Shariah-compliant.

Panels C and D of Table 3 represent descriptive statistics of CSR firms that are Shariah-compliant and CSR firms that are not shariah-compliant. We define CSR firms Shariah-compliant as firms that are included in FTSE Shariah Europe index. Firms that not included in the index are classified as CSR non-Shariah-compliant firms. Panel C of table 3 shows that in terms of the average scores of Environmental and Social pillars (ES), CSR Shariah-compliant firms have a mean value (0.758) that is higher than the mean value of CSR non-Shariah-compliant firms (0.615), indicating that Shariah-compliant firms are more likely to engage in CSR activities. Moreover, the mean value of CG scores are larger for CSR Shariah-compliant firms relative to CSR firms that are not Shariah-compliant.

The table also shows that the mean value of discretionary accruals (DA) for CSR firms that are Shariah-compliant (CSR firms non-Shariah-compliant) is 0.012(0.007), indicating that both sample groups exhibit income-increasing accruals. The mean values of ABDA and PositiveDA are higher for CSR Shariah-compliant firms (0.135 and 0.139 and respectively) relative to CSR firms that are not shariah-compliant (0.111 and 0.108 respectively). In contrast, mean of NegativeDA for the CSR Shariah-compliant firms (-0.130) is lower than those for CSR firms that are not Shariah compliant (-0.115). In addition, Panel C shows that CSR Shariah-compliant firms are larger have lower leverage, have better earnings performance and higher growth opportunities than CSR firms that are not Shariah-compliant. Furthermore, in each sample group, investors hold closely around 27% of the outstanding shares. Panel D shows that 94.82% (92.30%) of CSR Shariah-compliant firms (CSR non-Shariah-compliant firms) are audited by the Big 4 accounting firms.

{Insert Table 3 here}

Panel E of Table 3 presents Pairwise correlation coefficient for the variables of the study. It shows that ES is significantly and negatively correlated with ABDA. This result indicates that firms with a high ES scores are less likely to engage in EM through discretionary accruals. We also observe that ES is positively associated with CG. There is also a positive correlation between ES and Shariah. This suggests that Shariah-compliant firms are more likely engage in CSR activities. However, Shariah also significantly and positively correlated with ABDA, suggesting that CSR Shariah-compliant firms are more likely to engage in EM compared to CSR firms that are not Shariah-compliant. We also observe that ES is positively (negatively) correlated with Size and Auditors (MB and Close). There is a significant and negative correlation between ABDA and LEV, indicating that firms with lower leverage are less likely to manipulate earnings.

Main Empirical results

Table 4 presents the results of regression analyses of discretionary accruals, and ABDA is regarded as the dependent variable and ES and other control variables are considered as the independent variables. The absolute value of discretionary accruals (ABDA) and positive as

well as negative discretionary accruals (PositiveDA and NegativeDA) are used to report the results of this model. The results show that there is a negative association between ES and ABDA. In particular, the estimated coefficient on ES (-0.054) is negatives and significant ($p < 0.01$), suggesting that firms with high ES scores are less likely to manipulate earnings using accruals. This finding is consistent with the hypothesis *H1b*. In addition, similar results are found in the regression of signed discretionary accruals (column 2 and 3). There is a negative and significant relation between ES and PositiveDA (-0.042; $p < 0.10$), indicating that firms with high ES scores are less likely to engage in income-increasing EM using discretionary accruals. We also find that ES is positively and significantly associated with NegativeDA (0.064; $p < 0.01$), suggesting that firms that have high scores of ES are less likely to engage in income-decreasing through accruals.

The results also show that ROA has a significant and positive relationship with ABDA (0.145; $p < 0.01$), suggestion that firms with a better earnings performance are, in general, more likely to engage in earnings manipulation. We also observe that Close is significantly and positively associated with ABDA (0.050; $p < 0.01$), indicating that firms closely held by investors are more likely to manage earnings through accruals.

The coefficient on Shariah is positive and significant (0.029; $p < 0.05$) in the PositiveDA regression, suggesting that CSR firms that are Shariah-compliant are more likely to engage in income-increasing EM using accruals. At the level of 5%, the coefficient for leverage (LEV) is positive and significant (0.034; $p < 0.05$) in the NegativeDA regression, indicating that firms with high leverage are less likely to engage in income-decreasing EM through accruals.

{Insert Table 4 here}

We also apply the model using current discretionary accruals instead of total discretionary accruals as prior studies argue that managers have greater discretion over current accruals than long-terms accruals. Panel B of table 4 shows the results of applying the model using current discretionary accruals. The alternative test yields the same results and we find that ES is significantly and negatively (positively) associated with ABDA and PositiveDA (NegativeDA) ($p < 0.01$, $p < 0.05$, $p < 0.01$) respectively). This evidence suggests that firms with high scores of ES are less likely to manage earnings or engage in upward or downward earnings. In sum, we conclude that the findings from the both models (total discretionary accruals and current accruals) support the *H1b* that there is a negative relationship between CSR and earnings management.

The second aim of this paper is to investigate the effect of Shariah morals code on the relationship between CSR and financial reporting quality, and whether CSR firms that are Shariah-compliant also behave ethically in terms of providing high-quality financial reporting and how they compare in this with other CSR firms that are not Shariah- compliant. To accomplish this aim, we partition our sample firms into two groups based on FTSE Shariah Europe index. Firms are classified as CSR Shariah-compliant firms if they are included in FTSE Shariah Europe index, while firms that are not included in the index are categorised as CSR firms that are not Shariah-compliant.

Panel A of Table 5 shows the regression results of each group of Shariah ethical values on the relationship between CSR and financial reporting quality. For CSR Shariah-compliant firms group, we observe that ES is positively, but insignificantly, correlated with ABDA, suggesting that there is no significant relationship between CSR and financial reporting quality for CSR firms that are Shariah-compliant. In contrast, for CSR non-Shariah-compliant group, there is a significant and negative relationship between ES and ABDA (-0.069, $p < 0.01$), indicating that for CSR non-Shariah-compliant group, there is a negative association

between CSR and earnings management, and CSR firms that are not Shariah-compliant are less likely to engage in EM through accruals. Furthermore, the coefficient differences in ES between the two groups are statistically significant ($p < 0.01$), indicating that there is a positive (negative) relationship between CSR and financial reporting quality (EM) for CSR firms that are not Shariah-compliant compared with CSR Shariah-compliant firms. This evidence supports (rejects) hypothesis *2b* (*2a*). Therefore it appears that the notion that the Shariah screening processes do not have an effect on the relationship between CSR and financial reporting quality. In addition, this paper investigates the effect of Shariah moral codes on the relationship between CSR and financial reporting quality. We examine whether Shariah principles have effects on conducting CSR activities as ethical imperative and avoiding managerial opportunisms such as EM. The interaction term between ES and Shariah is included in the regression model as shown in Panel B of Table 5 to reveal the effect of Shariah screening process on the relationship between CSR and financial reporting quality. The coefficient of ES is negative and significant (-0.067; $p < 0.01$), while the coefficient of the interaction term is positive (0.066) at the level 1%. This result can be interpreted that the relationship between CSR and earning management (discretionary accruals) is negative, however, the interaction of Shariah and ES reveal this association to be positive. This evidences that firms that are Shariah-compliant are more likely to get involved in CSR for the purpose of concealing the effects of earnings manipulations. Consequently, Shariah screening processes do not play a crucial role to ensure the ethical imperative of conducting business for Shariah-compliant firms. This finding also supports (rejects) hypothesis *2b* (*2a*), and it conclude that Shariah screening processes do not have an effect on the relationship between CSR and financial reporting quality.

{Insert Table 5 here}

Additional Empirical Analysis

This paper also investigates the association between CSR and financial reporting quality based on the individual scores of ASSET4's pillars. First, we use the individual scores of each social performance pillar and environmental performance pillar as a proxy of CSR in order to examine the effect of these two pillars on financial reporting quality. Table 6 presents the results of re-estimated model using social pillar and environment pillar as a proxy of CSR. In the case of ABDA regression using total discretionary accruals, Table 6 shows that there is a significant and negative association between Social Performance (*SOCI*) and ABDA (-0.042; $p < 0.01$). In addition, we observe the same results using current discretionary accruals as a proxy of ABDA. The association between SOCI and ABDA is statistically significant at 1%. In terms of the effect of environmental performance pillar (ENVI), we find that the coefficient on ENVI is significant and negative (-0.044; $p < 0.01$) in the ABDA regression. The similar results have been found in the re-estimated model using current discretionary accruals. This evidence suggests that both of social and environmental pillars play a crucial role in mitigating the opportunistic behaviour of firms to manipulate earnings through accruals.

This paper also examines the effect of individual ASSET4 categories in constraining a firm's earnings management. We use the seven categories of social performance pillar (i.e. employment quality (*EmpQua*), health and safety (*HeaSaf*), training and development (*TraDev*), diversity (*Div*), human rights (*HumRig*), community (*Com*) and product responsibility (*ProRes*)) as well as the three categories of environmental performance categories(i.e. resource reduction (*ResRed*), emission reduction (*EmiRed*), and product

innovation (*ProInn*)) as proxies of CSR. The model has been re-estimated to investigate the effect of each social and environmental category in mitigating a firm's earnings manipulations. With respect to total discretionary accruals models, Table 6 shows that the coefficient on TraDev, Div, and Com are significant and negative at the level of 5% in the ABDA regression. The HumRig category has also a significant and negative coefficient at the level of 10%. Furthermore, at the level of 1%, the coefficient of ResRed and EmiRed is significant and negative in the ABDA regression. We have similar results from current discretionary model. We find that the coefficients on Div, HumRig and Com are significant at the level of 1%. We also observe that the coefficients on HeaSaf and ProRes are statistically significant and negative ($p < 0.10$) in the ABDA of the current discretionary regression. However, the coefficients on EmpQua and ProInn are statistically insignificant. The results provide evidence of that CSR in health and safety, training and development, diversity, human right, community, product responsibility, resource reduction and emission reduction have a significant influence on mitigating a firm's opportunistic behaviour of managing earnings using accruals. However, CSR in employment quality and product innovation seem do not have an effect on constraining a firm's earning manipulation using accruals.

{Insert Table 6 here}

We also investigate the association between CSR and financial reporting quality based on the individual scores of ASSET4's pillars and categories for each group of CSR Shariah-compliant firms and CSR non-Shariah-compliant firms. Panel A of Table 7 shows the regression results of each group. In terms of social performance, we observe that SOCI, EmpQua and HeaSaf (TraDev, Div, HumRig, Com and ProRes) are positively (negatively), but insignificant, correlated with ABDA for CSR Shariah-compliant firms group, suggesting that there is no significant relationship between social performance -and its categories- and financial reporting quality for CSR firms that are Shariah-compliant. In compare to CSR non-Shariah-compliant group, we find that SOCI, HeaSaf, TraDev, Div, HumRig, Com and ProRes have negative coefficients (-0.059, $p < 0.01$; -0.036, $p < 0.01$; -0.031, $p < 0.01$; -0.037, $p < 0.01$; -0.024, $p < 0.05$; -0.032, $p < 0.01$; -0.018, $p < 0.10$ respectively) in the ABDA regression. However, the coefficient of EmpQua is statistically insignificant. This results indicate that for CSR non-Shariah-compliant group, Social performance and its categories (HeaSaf, TraDev, Div, HumRig, Com and ProRes) play a vital role to mitigate a firm's opportunistic behaviour of earnings manipulations using accruals. Moerovaer, we observe similar results for environmental performance as a proxy of CSR. We find that ENVI, ResRed, EmiRed and ProInn are positively, but insignificant, correlated with ABDA For CSR Shariah-compliant firms group, indicating that CSR in ENIV, ResRed, EmiRed and ProInn do not have an effect on constraining a firm's earnings manipulations. In contrast, for CSR non-Shariah-compliant group, we find that ENVI, ResRed and EmiRed have negative and significant coefficients (-0.051, $p < 0.01$; -0.046, $p < 0.01$; -0.054, $p< 0.01$ respectively) in the ABDA regression, indicating that for CSR non-Shariah-compliant group, Social performance and its categories (ResRed and EmiRed) have a significant influence on mitigating a firm's opportunistic behaviour of engaging in EM activities using accruals. Additionally, the coefficient difference in HeaSaf (0.062) between the two groups, CSR Shariah compliant firms and CSR non-Shariah-compliant firms, are statistically significant ($p < 0.01$). Where CSR Shariah-compliant group has an insignificant and positive coefficient (0.026), whereas CSR non-Sharah-compliant groups has a significant and negative coefficient (-0.036, $p < 0.01$), suggesting that CSR in HeaSaf has a considerable effect on constraining managerial opportunisms of managing earnings using accruals for CSR non-Shariah-compliant firms compared to CSR Shariah-compliant firms. In terms of environmental performance, the second table of Panel A of Table 7 shows that the coefficient differences

between the two groups are statistically significant in ENVI and its components ResRed, EmiRed and ProInn (0.084, $p < 0.01$; 0.074, $p < 0.01$; 0.080, $p < 0.01$; 0.024, $p < 0.05$ respectively). Where CSR Shariah-compliant group has an insignificant and positive coefficient in ENVI and its components ResRed, EmiRed and ProInn (0.032, 0.028, 0.026, 0.015 respectively), while CSR non-Sharah-compliant groups has a significant (insignificant) and negative coefficient (-0.051, $p < 0.01$; -0.046, $p < 0.01$; -0.054, $p < 0.01$ (-0.009)), indicating that CSR in ENVI and its categories (ResRed, EmiRed and ProInn) play a significant role on constraining managerial opportunisms of managing earnings using accruals for CSR non-Shariah-compliant firms in compare to CSR Shariah-compliant firms. This evidence also supports (rejects) hypothesis *2b* (*2a*), that Shariah screening processes do not have an effect on the relationship between CSR and financial reporting quality.

This paper also investigates the effect of the interaction term between Shariah and the individual ASSET4's social and environmental pillars as well as the individual component of each pillar. The model is re-estimated for each pillar and component after including the interaction term. Panel B of Table 7 shows the results. In Panel A, the coefficient of SOCI is negative and significant (-0.058; $p < 0.01$), while the coefficient of the interaction term is positive (0.066) at the level 10%. In addition, the coefficient of the component HeaSaf is also negative and significant (-0.033; $p < 0.01$), whereas the coefficient of the interaction term between HeaSaf and Shariah is positive and significant (0.056; $p < 0.01$). This result can be interpreted that the relationship between CSR in social performance, as well as its category HeaSaf, and earning management is negative, however, the interaction of Shariah and SOCI as well as HeaSaf reveal this association to be positive. This appears to suggest that Shariah-compliant firms are more likely to engage in social activities, specifically health and safety, for the purpose of concealing the effects of earnings manipulations. However, the interaction terms of Shariah with other components of social performance (i.e. EmpQua, TraDev, Div, HumRig, Com and ProRes) are statistically insignificant, indicating that there is no interaction between Shariah and social performance categories. The second table also shows that the coefficient of ENVI is negative and significant (-0.051; $p < 0.01$), while the coefficient of the interaction term is positive and significant (0.072, $p < 0.01$). Furthermore, the coefficient of the ResRed and EmiRed are also negative and significant (-0.048; -0.053 respectively) at the level of 1%, whereas the coefficient of the interaction terms are positive and significant (0.066; 0.069 respectively) at the level of 1%. However, the coefficient in ProInn is statistically insignificant, but the interaction terms between Shariah and ProInn is positive and significant (0.035; $p < 0.05$). These findings imply that firms that are Shariah-compliant are more likely to engage in environmental activities, in particular resource reduction, emission reduction and product innovation, plausibly for the purpose of concealing the effects of earnings manipulations. Consequently, our results conclude that Shariah screening processes do not play a crucial role to ensure the ethical imperative of conducting business for Shariah-compliant firms. These finding also supports (rejects) hypothesis *2b* (*2a*), and it support the notion that Shariah screening processes do not have an influence on the relationship between CSR and financial reporting quality.

{Insert Table 7 here}

Alternative accruals metrics

The model of the study has been re-estimated using three alternative accruals metrics in order to examine whether our results are robust to these different accruals measures. First, we employ the cross-sectional version of the modified Jones model (DeFond and Subramanyam, 1998) and before including ROA_{t-1} that augmented to the modified Jones model by Kothari

et al. (2005). We use the absolute value of the abnormal accruals (*ABSACJones*) of the modified Jones model.

Second, we employ a modified version of the Dechow and Dichev (2002) accruals estimation errors model used by Francis et al. (2005). This model suggests that accruals quality is determined by the extent to which working capital accruals map into operating cash flow realizations in past, present and future cash flows (Francis et al., 2005). The model is based on the idea that the quality of accruals and earnings is reduced by estimation errors in accruals and subsequent correction of these errors (Baxter and Cotter, 2009). However, this model is different from the modified jones models of discretionary accruals in that there is no attempt is made to distinguish between intentional accrual estimation errors and unintentional errors, as both errors indicate lower earnings quality (Dechow and Dichev, 2002; Francis et al., 2005; Baxter and Cotter, 2009). Therefore, the errors' source is not relevant in the Dechow and Dichev model. McNichols (2002) highlights a number of specific areas of weakness with this model and provide some recommendations to improve this model. For instance, the model fails to separately consider how the behaviour of discretionary accruals might affect the total accruals. She suggests that the including of the change in sales revenue and the level of property, plant and equipment to Dechow and Dichev's (2002) model decrease measurement error and therefore considerably increasing its explanatory power. These two variables are added in the study of Francis et al. (2005). Following Francis et al. (2005), we use the following cross-sectional modified model to estimate accruals quality. All variables in the equation are scaled by average total assets.

$$TCA_t = \alpha_0 + \alpha_1 CFO_{t-1+}\alpha_2 CFO_t + \alpha_3 CFO_{t+1} + \alpha_4 \Delta REV_t + \alpha_5 PPE_t + \varepsilon_t,$$

Where TCA_t= total current accruals in year t, i.e. Δcurrent assets - Δcurrent liabilities - Δcash + Δshort term debt; CFO_{t-1}= cash flow from operations in year $t-1$; CFO_t= cash flow from operations in year t; CFO_{t+1}= cash flow from operations in year $t+1$; ΔREV_t= change in revenues in year t from year $t-1$; PPE_t= gross property, plant and equipment at year t.

The residual of the equationε_t is an inverse measure of accruals quality. A greater residual indicates poorer accruals quality. Following the study of Baxter and Cotter (2009), we use the absolute value of the residual as a measure of accruals quality (ABSDD) .

The third measure is based on abnormal working capital accruals model that is introduced by DeFond and Park (2001):

$$AWCA_t = WC_t - \left[\left(\frac{WC_{t-1}}{S_{t-1}}\right) \times S_t\right]$$

Where $AWCA_t$= abnormal working capital accruals; WC_t= noncash working capital in the current year computed as (current assets – cash and short-term investments) – (current liabilities – short term debt); WC_{t-1}= noncash working capital in the last year; S_t = sales in the current year; S_{t-1} = sales in the last year.

Subsequently, the abnormal working capital accruals of the year are scaled by the average of total assets. The large values of abnormal working capital accruals $AWCA$ imply poorer earnings quality. $AWCA$ is different form the abnormal discretionary accruals of modified Jones models in that (Menon and Williams, 1004): first, $AWCA$ includes only current accruals rather than current and noncurrent components of accruals. Second, it uses firm-specific working capital from the prior period as the norm, while the abnormal accruals of modified Jones models based on a cross-sectional comparison of accruals growth of a firm

with other firms' growth in accruals in the same industry. Our empirical analysis focuses on the absolute value of abnormal working capital accruals (ABSAWCA).

To examine whether our results are robust to these three alternative measures of accruals quality, i.e. $ABSACJones$, $ABSDD$, and $ABSAWCA$, we re-estimated our models by replacing $ABSDA$ with the three alternative proxies of accruals quality as the dependent variables. In general, these alternative tests support the same results that are obtained using $ABSDA$ in Panel A and B of Table 4. As shown in Panel A of Table 8, we find that ES has significantly negative coefficients in the three regressions of $ABSACJones$ (-0.0509, $p < 0.01$), $ABSDD$ (-0.0150, $p < 0.05$), and $ABSAWCA$ (-0.0112, $p < 0.01$), consistent with the hypothesis $H1b$ that there is a positive (negative) relationship between CSR and financial reporting quality (EM). In addition, the re-estimated regression models of the comparison between CSR Shariah-compliant firms and CSR non-Shariah compliant firms yield virtually the same results reported in Panel A of Table 5. In the $ABSACJones$ regression, Panel B of Table 8 shows that ES has significantly positive coefficient in $ABSACJones$ for CSR Shariah-compliant group (0.0701, $p < 0.05$), whereas its coefficient is significantly negative for CSR firms that are not Shariah-compliant (-0.0835, $p < 0.01$). The coefficient differences in ES between the two groups are statistically significant ($p < 0.01$). From both $ABSDD$ and $ABSAWCA$ models, we also observe that ES has a positive, but insignificant, coefficient in both $ABSDD$(0.0132) and $ABSAWCA$(0.0006) regressions for CSR group that are Shariah-compliant, while its coefficients are significantly negative in $ABSDD$(-0.0286, $p < 0.01$) and $ABSAWCA$(-0.0139, $p < 0.01$) models for CSR non-Shariah-compliant group. Furthermore, for both models, the coefficients differences in ES between the two groups are statistically significant ($p < 0.05$), consistent again with the hypothesis *H2b*.

{Insert Table 8 here}

Conclusion

This study investigates the relationship between CSR and financial reporting quality, and whether Shariah ethical values have an influence on the relationship between CSR and financial reporting quality. Specifically, it investigates whether firms that have high scores of CSR are more likely to behave ethically in terms of providing high quality financial reporting. In addition, it aims to investigate whether CSR firms that are Shariah-compliant behave ethically in terms of providing high-quality financial reporting and delivering more transparent and reliable information to investors and how they compare in this with other, CSR firms that are not Shariah-compliant.

Our findings show that firms with high scores of SCR are less likely to engage in EM through accruals, indicating that firms with high scores of CSR behave ethically in terms of providing high-quality financial reporting and delivering more reliable information to investors. In addition, we find similar results when we employ the same model using current discretionary accruals as well as three different proxies of accruals quality. It also supports the notion that Shariah ethical values do not have an effect on the relationship between CSR and financial reporting quality, indicating that Shariah screening processes do not effectively work for the purpose of conducting business according to Islamic principles. Therefore, in terms of conducting business activities according to Islamic principles, there is a gap between what have been highlighted in theoretical framework and practices. In other words, previous literature emphasis on how a business should be conducted according to Shariah principles, while in practices, Shariah screening process concentrate only on negative screening rather than considering other Islamic principles such as social welfare and transparency. Furthermore, Shariah-compliant firms are more likely to meet the current Shariah screening

process for the purpose of attracting investors rather than following Islamic Shariah principles in terms of conducting business. Overall, our results support the conjecture that there is a negative relationship between CSR and earnings management, and that the current Shariah screening process do not play a significant role on enhancing ethical activities and mitigating managerial opportunisms.

The study's findings provide a better understanding of corporate financial reporting practices and behaviour, religious ethical values and CSR that may be of interest to various standard setters, regulatory bodies, investors and academics involved in the field of ethical and Islamic business. It could also help various stakeholders understand how reliable and transparent financial reporting is, in the light of the relation between Islamic principles, CSR and EM.

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Table 1 Sample Distribution

Panel A: Sample distribution by country

Country	Full Sample		CSR Shariah-Compliant Firms		CSR non-Shariah-Compliant firms	
	N	%	*N*	%	*N*	%
AUSTRIA	91	2.23	28	2.16	63	2.26
BELGIUM	110	2.69	44	3.4	66	2.36
CZECH REPUBLIC	9	0.22	4	0.31	5	0.18
DENMARK	143	3.5	66	5.1	77	2.76
FINLAND	183	4.48	72	5.56	111	3.98
FRANCE	443	10.84	242	18.7	201	7.2
GERMANY	398	9.74	181	13.99	217	7.77
GREECE	56	1.37	16	1.24	40	1.43
HUNGARY	8	0.2	5	0.39	3	0.11
IRELAND	85	2.08	0	0	85	3.05
ITALY	213	5.21	54	4.17	159	5.7
NETHERLANDS	179	4.38	77	5.95	102	3.65
POLAND	33	0.81	17	1.31	16	0.57
PORTUGAL	65	1.59	7	0.54	58	2.08
SPAIN	228	5.58	48	3.71	180	6.45
SWEEDN	194	4.75	111	8.58	83	2.97
UNITED KINGDOM	1,647	40.32	322	24.88	1,325	47.47
Total	4085	100.00	1294	100.00	2791	100.00

Panel B: Sample distribution by year

Year	Full Sample		CSR Shariah-Compliant Firms		CSR non-Shariah-Compliant firms	
	N	%	*N*	%	*N*	%
2003	222	5.43	83	6.41	139	4.98
2004	341	8.35	105	8.11	236	8.46
2005	412	10.09	131	10.12	281	10.07
2006	446	10.92	146	11.28	300	10.75
2007	465	11.38	153	11.82	312	11.18
2008	504	12.34	159	12.29	345	12.36
2009	552	13.51	171	13.21	381	13.65
2010	585	14.32	175	13.52	410	14.69
2011	558	13.66	171	13.21	387	13.87
Total	4085	100.00	1294	100.00	2791	100.00

Table 2: Sample Distribution by Industry.

Industry	Full Sample *N*	%	CSR Shariah-Compliant Firms *N*	%	CSR non-Shariah-Compliant firms *N*	%
Oil & Gas	294	7.2	136	10.51	158	5.66
Basic Materials	322	7.88	217	16.77	105	3.76
Industrials	1,230	30.11	358	27.67	872	31.24
Consumer Goods	539	13.19	153	11.82	386	13.83
Health Care	238	5.83	107	8.27	131	4.69
Consumer Services	901	22.06	110	8.5	791	28.34
Telecommunications	143	3.5	52	4.02	91	3.26
Utilities	227	5.56	96	7.42	131	4.69
Technology	191	4.68	65	5.02	126	4.51
Total	4085	100.00	1294	100.00	2791	100.00

Table 3: Descriptive Statistics

Panel A: Continuous variables

Variable	*N*	Mean	Median	SD	Min	Max	25th Percentile	75th Percentile
DA	4085	0.009	0.000	0.195	-0.929	0.991	-0.063	0.067
ABDA	4085	0.119	0.065	0.155	0.000	0.991	0.022	0.150
PositiveDA	2215	0.118	0.058	0.167	0.000	0.991	0.016	0.140
NegativeDA	1870	-0.120	-0.074	0.141	-0.929	0.000	-0.161	-0.028
ES	4085	0.660	0.732	0.254	0.067	0.978	0.457	0.888
CG	4085	0.562	0.605	0.259	0.013	0.973	0.364	0.779
Size	4085	15.190	15.099	1.400	9.962	19.375	14.215	16.060
MB	4085	3.034	2.175	21.899	-390.814	1080.450	1.317	3.553
ROA	4085	0.057	0.051	0.087	-1.135	1.127	0.025	0.085
LEV	4085	0.262	0.246	0.176	0.000	2.280	0.140	0.366
Close	4085	0.273	0.236	0.232	0.000	1.000	0.061	0.454

Panel B: Dichotomous variables

Variable	Frequency of 1's	%	Frequency of 0's	%
Auditors	3803	93.10	282	6.90
Shariah	1294	31.68	2791	68.32

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
DA	1294	0.012	0.000	0.224	2791	0.007	0.000	0.181
ABDA	1294	0.135	0.067	0.179	2791	0.111	0.065	0.143
PositiveDA	684	0.139	0.058	0.193	1531	0.108	0.058	0.153
NegativeDA	610	-0.130	-0.076	0.161	1260	-0.115	-0.072	0.130
ES	1294	0.758	0.848	0.218	2791	0.615	0.659	0.257
CG	1294	0.576	0.626	0.270	2791	0.556	0.598	0.253
Size	1294	16.111	15.921	1.187	2791	14.763	14.650	1.281
MB	1294	3.093	2.212	4.067	2791	3.007	2.148	26.350
ROA	1294	0.071	0.058	0.072	2791	0.051	0.048	0.092
LEV	1294	0.211	0.211	0.121	2791	0.285	0.272	0.192
Close	1294	0.276	0.226	0.244	2791	0.271	0.237	0.227

Panel D: Dichotomous variables by 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	1227	67	2576	215
	94.82	5.18	92.3	7.7

Panel E: Correlation matrix

	ABDA	ES	Shariah	CG	Size	MB	ROA	LEV	Close	Auditors
ABDA	1									
ES	-0.0418 ***	1								
Shariah	0.0705 ***	0.2613 ***	1							
CG	-0.0009	0.4068 ***	0.0374 **	1						
Size	0.0489 ***	0.5082 ***	0.4479 ***	0.1493 ***	1					
MB	0.0161	-0.0345 **	0.0018	-0.0309 **	0.0140	1				
ROA	0.1017 ***	-0.0696 ***	0.1094 ***	0.0010	0.1336 ***	0.1202 ***	1			
LEV	-0.0458 ***	0.0374 **	-0.1957 ***	-0.0185	0.0193	-0.0438 ***	-0.2424 ***	1		
Close	0.0322 **	-0.1013 ***	0.0100	-0.4343 ***	0.0188	0.0277 *	-0.0002	0.0481 ***	1	
Auditors	-0.0742 ***	0.0573 ***	0.0463 ***	0.1640 ***	0.0122	-0.0432 ***	0.0605 ***	-0.0204	-0.1537 ***	1

Note: $ABSDA$ is the absolute value of discretionary accruals of modified Jones model; ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4: Regression Results of Discretionary Accruals on CSR

Panel A: Total discretionary accruals.

	Total Discretionary Accruals					
	ABDA		PositiveDA		NegativeDA	
	Coefficient	(t-stat)	Coefficient	(t-stat)	Coefficient	(t-stat)
ES	-0.054	-3.79 ***	-0.042	-1.76 *	0.064	4.14 ***
Shariah	0.010	1.41	0.029	2.53 **	0.004	0.57
CG	0.028	1.71 *	0.014	0.53	-0.038	-2.08 **
Size	-0.001	-0.45	0.001	0.15	0.003	1.15
MB	0.000	-0.29	0.000	0.27	0.000	0.62
ROA	0.145	4.50 ***	0.082	1.60	-0.213	-5.98 ***
LEV	-0.024	-1.45	0.005	0.20	0.034	1.93 **
Close	0.050	3.70 ***	0.017	0.79	-0.061	-4.21 ***
Auditors	-0.004	-0.33	-0.030	-1.70 *	-0.009	-0.74
constant	0.130	3.06 ***	0.072	1.01	-0.205	-4.33 ***
Industry fixed effects	included		included		included	
Country fixed effects	included		included		included	
Year fixed effects	included		included		included	
N	4085		1582		2503	
Adj R^2	0.0935		0.0866		0.1800	
F-stat	11.27 ***		4.65 ***		14.40 ***	

Note: $ABSDA$ is the absolute value of total discretionary accruals of modified Jones model; $PositiveDA$ is the positive signed value of total discretionary accruals of modified Jones model; $NegativeDA$ is the negative signed value of total discretionary accruals of modified Jones model; ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Panel B: Current discretionary accruals.

	Current Accruals					
	ABDA		PositiveDA		NegativeDA	
	Coefficient	(t-stat)	Coefficient	(t-stat)	Coefficient	(t-stat)
ES	-0.051	-4.03 ***	-0.042	-2.22 **	0.062	3.74 ***
Shariah	0.005	0.83	0.018	2.02 **	0.015	1.85 *
CG	0.030	2.05 **	0.018	0.88	-0.038	-1.98 **
Size	-0.001	-0.46	-0.003	-1.00	-0.001	-0.35
MB	0.000	0.20	0.000	0.03	0.000	-0.28
ROA	0.157	5.47 ***	0.165	3.86 ***	-0.151	-4.10 ***
LEV	-0.007	-0.48	-0.005	-0.21	0.007	0.38
Close	0.035	2.92 ***	0.018	1.02	-0.050	-3.19 ***
Auditors	-0.003	-0.26	-0.009	-0.63	-0.013	-0.96
constant	0.147	3.88 ***	0.170	3.04 ***	-0.123	-2.46 **
Industry fixed effects	included		included		included	
Country fixed effects	included		included		included	
Year fixed effects	included		included		included	
N	4085		2215		1870	
Adj R^2	0.1301		0.1063		0.2055	
F-stat	15.90 ***		7.42 ***		12.79 ***	

Note: $ABSDA$ is the absolute value of current discretionary accruals of modified Jones model; $PositiveDA$ is the positive signed value of current discretionary accruals of modified Jones model; $NegativeDA$ is the negative signed value of current discretionary accruals of modified Jones model; ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 5: The Effect of Shariah Ethical Values on the Relationship of Discretionary Accruals on CSR.

Panel A: Regression results of CSR Shariah-compliant versus CSR non-Shariah-compliant firms.

	ABDA					
Variable	CSR Shariah-Compliant Firms		CSR non-Shariah-Compliant Firms		Diff	t-stat
	Coefficient	t-stat	Coefficient	t-stat		
ES	0.013	0.45	-0.069	-5.04 ***	0.083	3.04 ***
CG	0.003	0.11	0.041	2.51 **	-0.037	0.28
Size	-0.001	-0.27	0.001	0.29	-0.002	-1.34
MB	0.000	-0.03	0.000	0.19	0.000	-0.45
ROA	0.218	2.43 **	0.148	4.98 ***	0.070	1.13
LEV	0.014	0.29	-0.007	-0.47	0.020	1.08
Close	0.048	1.97 *	0.030	2.18 **	0.018	1.09
Auditors	-0.022	-0.97	-0.003	-0.28	-0.019	-0.94
Industry fixed effects	included		included			
Country fixed effects	included		included			
Year fixed effects	included		included			
N	1294		2791			
Adj R^2	0.1383		0.1251			
F-stat	6.32 ***		10.98 ***			

Note: $ABSDA$ is the absolute value of discretionary accruals of modified Jones model; ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Panel B: Regression results of the interaction effect of Shariah ethical values on the relationship of discretionary accruals on CSR.

	ABDA		PositiveDA		NegativeDA	
	Coefficient	(t-stat)	Coefficient	(t-stat)	Coefficient	(t-stat)
ES	-0.067	-4.86 ***	-0.056	-2.74 ***	0.080	4.51 ***
Shariah	-0.043	-2.50 **	-0.024	-0.95	0.073	3.24 ***
Shariah*ES	0.066	2.99 ***	0.058	1.78 *	-0.080	-2.76 ***
CG	0.027	1.90 *	0.016	0.79	-0.036	-1.84 *
Size	-0.001	-0.52	-0.003	-1.00	-0.001	-0.27
MB	0.000	0.20	0.000	0.03	0.000	-0.30
ROA	0.157	5.47 ***	0.164	3.83 ***	-0.152	-4.14 ***
LEV	-0.004	-0.31	-0.002	-0.11	0.004	0.23
Close	0.036	3.05 ***	0.019	1.10	-0.052	-3.33 ***
Auditors	-0.003	-0.31	-0.008	-0.58	-0.011	-0.75
constant	0.157	4.13 ***	0.178	3.17 ***	-0.137	-2.72 ***
Industry fixed effects	included		included		included	
Country fixed effects	included		included		included	
Year fixed effects	included		included		included	
N	4085		2215		1870	
Adj R^2	0.1318		0.1072		0.2083	
F-stat	15.76 ***		7.33 ***		12.71 ***	

Note: $ABSDA$ is the absolute value of discretionary accruals of modified Jones model; $PositiveDA$ is the positive signed value of discretionary accruals of modified Jones model; $NegativeDA$ is the negative signed value of discretionary accruals of modified Jones model; ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; $Sahriah * ES$ is an interaction variable of *Shariah* with *ES;* CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 6: Regression Results of Using ASSET4's Pillars and Categories.

	Total Discretionary Accruals		Current Accruals	
	ABDA		ABDA	
	Coeff. [t-stat]	Adj R^2 [F-stat]	Coeff. [t-stat]	Adj R^2 [F-stat]
SOCI	-0.038	0.092	-0.048	0.130
	[-2.69] ***	[11.11]	[-3.83] ***	[-15.90]
ENVI	-0.041	0.093	-0.031	0.129
	[-3.25] ***	[11.20]	[-2.75] ***	[15.70]
EmpQua	-0.006	0.091	-0.005	0.127
	[-0.53]	[10.92]	[-0.54]	[15.50]
HeaSaf	-0.009	0.091	-0.014	0.127
	[-0.81]	[10.93]	[-1.40]	[15.54]
TraDev	-0.026	0.092	-0.025	0.128
	[-2.07] **	[11.03]	[-2.23] **	[15.63]
Div	-0.021	0.091	-0.030	0.129
	[-1.98] **	[11.02]	[-3.22] ***	[15.78]
HumRig	-0.014	0.091	-0.023	0.128
	[-1.30]	[10.96]	[-2.43] **	[15.65]
Com	-0.022	0.091	-0.023	0.128
	[-1.98] **	[11.02]	[-2.38]	[15.65]
ProRes	-0.007	0.091	-0.013	0.127
	[-0.73]	[10.92]	[-1.45]	[15.55]
ResRed	-0.041	0.093	-0.030	0.129
	[-3.38] ***	[11.22]	[-2.79] ***	[15.71]
EmiRed	-0.046	0.094	-0.034	0.129
	[-3.81] ***	[11.30]	[-3.17] ***	[15.77]
ProInn	0.003	0.091	0.002	0.127
	[0.28]	[10.91]	[0.24]	[15.49]
N	4085		4085	
Control variables	included		included	
Industry fixed effects	included		included	
Country fixed effects	included		included	
Year fixed effects	included		included	

Note: *ABSDA* is the absolute value of total and current discretionary accruals of modified Jones model; *SOCI* is the scores of ASSET4's Social pillar; *ENVI* is the scores of ASSET4's Environmental pillar, *EmpQua* is the scores of employment quality category of ASSET4's Social pillar; *HeaSaf* is the scores of health and safety category of ASSET4's Social pillar; *TraDev* is the scores of training and development category of ASSET4's Social pillar; *Div* is the scores of diversity category of ASSET4's Social pillar; *HumRig* is the scores of human rights category of ASSET4's Social pillar; *Com* is the scores of community category of ASSET4's Social pillar; *ProRes* is the scores of product responsibility category of ASSET4's Social pillar; *ResRed* is the scores of resource reduction category of ASSET4's Environmental pillar; *EmiRed* is the scores of emission reduction category of ASSET4's Environmental pillar; *ProInn* is the scores of product innovation category of ASSET4's Environmental pillar. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 7: Regression Results of Using Asset4's Pillars and Categories.

Panel A: CSR Shariah-compliant versus CSR non-Shariah-compliant firms.

Variable	ABDA							
	CSR Shariah-		CSR non-			Diff	t-stat	
	Coefficient	t-stat	Coefficient	t-stat				
SOCI	-0.014	-0.53	-0.059	-4.59	***	0.044	1.60	
EmpQua	0.011	0.54	-0.015	-1.44		0.026	1.10	
HeaSaf	0.026	1.27	-0.036	-3.19	***	0.062	2.71	***
TraDev	-0.007	-0.25	-0.031	-2.73	***	0.025	1.22	
Div	-0.019	-0.93	-0.037	-3.56	***	0.018	0.84	
HumRig	-0.028	-1.36	-0.024	-2.46	**	-0.004	0.36	
Com	-0.014	-0.71	-0.032	-3.07	***	0.018	0.48	
ProRes	-0.003	-0.15	-0.018	-1.84	*	0.015	1.07	

Variable	ABDA							
	CSR Shariah-		CSR non-			Diff	t-stat	
	Coefficient	t-stat	Coefficient	t-stat				
ENVI	0.032	1.26	-0.051	-4.37	***	0.084	3.74	***
ResRed	0.028	1.11	-0.046	-4.10	***	0.074	3.26	***
EmiRed	0.026	1.06	-0.054	-4.75	***	0.080	3.47	***
ProInn	0.015	0.76	-0.009	-0.91		0.024	2.10	**

Note: *ABSDA* is the absolute value of total and current discretionary accruals of modified Jones model; *SOCI* is the scores of ASSET4's Social pillar; *ENVI* is the scores of ASSET4's Environmental pillar, *EmpQua* is the scores of employment quality category of ASSET4's Social pillar; *HeaSaf* is the scores of health and safety category of ASSET4's Social pillar; *TraDev* is the scores of training and development category of ASSET4's Social pillar; *Div* is the scores of diversity category of ASSET4's Social pillar; *HumRig* is the scores of human rights category of ASSET4's Social pillar; *Com* is the scores of community category of ASSET4's Social pillar; *ProRes* is the scores of product responsibility category of ASSET4's Social pillar; *ResRed* is the scores of resource reduction category of ASSET4's Environmental pillar; *EmiRed* is the scores of emission reduction category of ASSET4's Environmental pillar; *ProInn* is the scores of product innovation category of ASSET4's Environmental pillar. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Panel B: The interaction effect of Shariah ethical values on the relationship of discretionary accruals on CSR.

	ABDA							
Variables	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
SOCI	-0.058 ***							
Shariah	-0.023							
SOCI*Shariah	0.040 *							
EmpQua		-0.015						
Shariah		-0.014						
EmpQua*Shariah		0.028						
HeaSaf			-0.033 ***					
Shariah			-0.033 **					
HeaSaf*Shariah			0.056 ***					
TraDev				-0.035 ***				
Shariah				-0.020				
TraDev*Shariah				0.035				
Div					-0.039 ***			
Shariah					-0.009			
Div*Shariah					0.023			
HumRig						-0.029 ***		
Shariah						-0.005		
HumRig*Shariah						0.016		
Com							-0.031 ***	
Shariah							-0.005	
Com*Shariah							0.018	
ProRes								-0.022 **
Shariah								-0.010
ProRes*Shariah								0.023
Adj. R^2	0.1309	0.1270	0.1289	0.1283	0.1293	0.1282	0.1283	0.1275
N	4085							
Control variables	included							
Industry fixed effects	included							
Country fixed effects	included							
Year fixed effects	included							

	ABDA			
Variables	Coeff.	Coeff.	Coeff.	Coeff.
ENVI	-0.051 ***			
Shariah	-0.047 ***			
ENVI*Shariah	0.072 ***			
ResRed		-0.048 ***		
Shariah		-0.042 ***		
ResRed*Shariah		0.066 ***		
EmiRed			-0.053 ***	
Shariah			-0.044 ***	
EmiRed*Shariah			0.069 ***	
ProInn				-0.012
Shariah				-0.017
ProInn*Shariah				0.035 **
Adj. R^2	0.1312	0.1307	0.1316	0.1274
N	4085			
Control variables	included			
Industry fixed effects	included			
Country fixed effects	included			
Year fixed effects	included			

Note: *ABSDA* is the absolute value of total and current discretionary accruals of modified Jones model; *Shariah* is an indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; *SOCI* is the scores of ASSET4's Social pillar; *SOCI*Shariah* is an interaction variable of *SOCI* with *Shariah; ENVI* is the scores of ASSET4's Environmental pillar, *ENVI*Shariah* is an interaction variable of *ENVI* with *Shariah; EmpQua* is the scores of employment quality category of ASSET4's Social pillar; *EmpQua*Shariah* is an interaction variable of *EmpQua* with *Shariah; HeaSaf* is the scores of health and safety category of ASSET4's Social pillar; *HeaSaf*Shariah* is an interaction variable of *HeaSaf* with *Shariah; TraDev* is the scores of training and development category of ASSET4's Social pillar; *TraDev*Shariah* is an interaction variable of *TraDev* with *Shariah; Div* is the scores of diversity category of ASSET4's Social pillar; *Div*Shariah* is an interaction variable of *Div* with *Shariah; HumRig* is the scores of human rights category of ASSET4's Social pillar; *HumRig*Shariah* is an interaction variable of *HumRig* with *Shariah; Com* is the scores of community category of ASSET4's Social pillar; *Com*Shariah* is an interaction variable of *Com* with *Shariah; ProRes* is the scores of product responsibility category of ASSET4's Social pillar; *ProRes*Shariah* is an interaction variable of *ProRes* with *Shariah; ResRed* is the scores of resource reduction category of ASSET4's Environmental pillar; *ResRed*Shariah* is an interaction variable of *ResRed* with *Shariah; EmiRed* is the scores of emission reduction category of ASSET4's Environmental pillar; *EmiRed*Shariah* is an interaction variable of *miRed* with *Shariah; ProInn* is the scores of product innovation category of ASSET4's Environmental pillar; *ProInn*Shariah* is an interaction variable of *ProInn* with *Shariah.* *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 8: Regression results of the re-estimated models using alternative Accruals Metrics.

Panel A: The regression results of the alternative accruals metrics on CSR.

Variables	ABSACJones		ABSDD		ABSAWCA	
	Coefficient	(t-stat)	Coefficient	(t-stat)	Coefficient	(t-stat)
ES	-0.0509	-4.07 ***	-0.0150	-2.07 **	-0.0112	-2.79 ***
Shariah	0.0089	1.48	0.0083	2.43 **	-0.0033	-1.72 *
CG	0.0312	2.21 **	0.0113	1.39	0.0080	1.77 *
Size	-0.0010	-0.42	-0.0044	-3.19 ***	-0.0041	-5.61 ***
MB	0.0000	-0.10	0.0002	3.13 ***	0.0003	8.25 ***
ROA	0.0423	1.50	-0.0669	-4.25 ***	0.0161	1.77 *
LEV	-0.0331	-2.35 **	-0.0150	-1.98 **	-0.0220	-4.88 ***
Close	0.0403	3.46 ***	0.0148	2.17 **	0.0030	0.81
Auditors	-0.0076	-0.78	-0.0034	-0.61	-0.0064	-2.09 **
constant	0.1553	4.10 ***	0.1849	8.35 ***	0.1232	10.40 ***
Industry fixed effects	included		included		included	
Country fixed effects	included		included		included	
Year fixed effects	included		included		included	
N	4049		3706		4048	
Adj R^2	0.0897		0.1365		0.0691	
F-stat	10.73 ***		15.65 ***		8.33 ***	

Note: $ABSAJones$ is the absolute value of abnormal accruals of modified Jones model before including ROA; $ABSDD$ is the absolute value of the residuals of modified Dechow and Dichev (2002) accruals estimation errors model; $ABSAWCA$ is the absolute value of abnormal working capital accruals of DeFond and Park's (2001) model ;ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Panel B: CSR Shariah-compliant versus CSR non-Shariah-compliant firms.

	ABSACJones			ABSDD			ABSAWCA		
Variables	CSR Shariah	CSR non-Shariah		CSR Shariah	CSR non-Shariah		CSR Shariah	CSR non-Shariah	
	Coefficient [t-stat]	Coefficient [t-stat]	Diff [t-stat]	Coefficient [t-stat]	Coefficient [t-stat]	Diff [t-stat]	Coefficient [t-stat]	Coefficient [t-stat]	Diff [t-stat]
ES	0.0701	-0.0835	0.0566	0.0132	-0.0286	0.0419	0.0006	-0.0139	0.0146
	[2.38] **	[-6.20] ***	[4.20] ***	[0.98]	[-3.31] ***	[2.24] **	[0.10]	[-2.73] ***	[2.48] **
CG	-0.0080	0.0446	-0.0239	0.0028	0.0158	-0.0130	0.0129	0.0086	0.0042
	[-0.27]	[2.80] ***	[0.53]	[0.20]	[1.56]	[-0.29]	[2.05] **	[1.44]	[1.16]
Size	-0.0097	0.0036	-0.0124	-0.0078	-0.0030	-0.0048	-0.0047	-0.0040	-0.0007
	[-1.98] *	[1.33]	[-3.16] ***	[-3.38] ***	[-1.68] *	[-0.78]	[-4.47] ***	[-3.91] ***	[-0.97]
MB	0.0008	-0.00001	0.0007	0.0000	0.0002	-0.0002	0.0007	0.0003	0.0004
	[0.58]	[-0.09]	[0.52]	[-0.02]	[-3.31] ***	[-0.92]	[2.30] **	[7.34] ***	[1.37]
ROA	-0.0134	0.0584	-0.0425	0.1582	-0.1211	0.2793	-0.0136	0.0199	-0.0335
	[-0.15]	[2.01] **	[-0.46]	[3.99] ***	[-6.82] ***	[5.94] ***	[-0.68]	[1.82] *	[-0.83]
LEV	0.0679	-0.0476	0.0537	0.0197	-0.0102	0.0299	-0.0173	-0.0236	0.0063
	[1.47]	[-3.35] ***	[2.46] **	[0.96]	[-1.23]	[1.27]	[-1.77] *	[-4.41] ***	[1.33]
Close	0.0821	0.0224	0.0687	0.0120	0.0077	0.0043	0.0029	0.0058	-0.0029
	[3.46] ***	[1.67] *	[1.52]	[1.07]	[0.89]	[1.23]	[0.57]	[1.15]	[-0.26]
Auditors	-0.0419	-0.0010	-0.0529	0.0053	-0.0082	0.0135	-0.0047	-0.0054	0.0006
	[-1.91] *	[-0.09]	[-1.43]	[0.53]	[-1.17]	[1.23]	[-1.02]	[-1.30]	[-0.29]
constant	0.2282	0.1137		0.2190	0.1712		0.0969	0.1406	
	[2.77] ***	[2.71] ***		[5.78] ***	[6.12] ***		[5.63] ***	[8.65] ***	
Industry fixed effects	included			included			included		
Country fixed effects	included			included			included		
Year fixed effects	included			included			included		
N	1278	2771		1230	2476		1270	2778	
Adj R^2	0.1106	0.0827		0.2176	0.1344		0.0563	0.0761	
F-stat	5.07 ***	7.24		10.00 ***	10.86 ***		2.94 ***	6.72 ***	

Note: $ABSAJones$ is the absolute value of abnormal accruals of modified Jones model before including ROA; $ABSDD$ is the absolute value of the residuals of modified Dechow and Dichev (2002) accruals estimation errors model; $ABSAWCA$ is the absolute value of abnormal working capital accruals of DeFond and Park's (2001) model ;ES is the average scores of ASSET4's Environmental pillar and Social pillar; $Shariah$ is An indicator variable that takes a value of 1 if the firm is included in FTSE Shariah Europe Index, 0 otherwise; CG is the scores of ASSETS's Corporate Governance Pillar; $SIZE$ is the natural logarithm of the market value of the equity; MB is the market-to-book equity ratio measured as market value of equity divided by book value of equity; ROA is the income before extraordinary items divided by the total assets; LEV is the leverage and calculated as long-term debt scaled by total assets; $CLOSE$ is the percentage of closely held share as reported by WorldScope; $AUDIT$ is the Big 4 auditors, it is an indicator variable, which takes a value of 1 when a firm is audited by the Big 4 auditors and 0 otherwise. *, **, *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Appendix

Description of Assets4 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 & Safety Training & 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 Website.

Description of Asset4 Categories

Economic Performance	
Client Loyalty	The revenue/client loyalty category measures a company's management commitment and effectiveness towards generating sustainable and long-term revenue growth. It reflects a company's capacity to grow, while maintaining a loyal client base through satisfaction programmes and avoiding anti-competitive behaviours and price fixing.
Performance	The margins/performance category measures a company's management commitment and effectiveness towards maintaining a stable cost base. It reflects a company's capacity to improve its margins by increasing its performance (production process innovations) or by maintaining a loyal and productive employee and supplier base.
Shareholders Loyalty	The profitability/shareholders loyalty category measures a company's management commitment and effectiveness towards generating a high return on investments. It reflects a company's capacity to maintain a loyal shareholder base by generating sustainable returns through a focused and transparent long-term communications strategy with its shareholders.
Environmental Performance	
Resource Reduction	The resource reduction category measures a company's management commitment and effectiveness towards achieving an efficient use of natural resources in the production process. It reflects a company's capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.
Emission Reduction	The emission reduction category measures a company's management commitment and effectiveness towards reducing environmental emission in the production and operational processes. It reflects a company's capacity to reduce air emissions (greenhouse gases, F-gases, ozone-depleting substances, NOx and SOx, etc.), waste, hazardous waste, water discharges, spills or its impacts on biodiversity and to partner with environmental organisations to reduce the environmental impact of the company in the local or broader community.
Product Innovation	The product innovation category measures a company's management commitment and effectiveness towards supporting the research and development of eco-efficient products or services. It reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed, dematerialized products with extended durability.
Social Performance	
Employment Quality	The workforce/employment quality category measures a company's management commitment and effectiveness towards providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce loyalty and productivity by distributing rewarding and fair employment benefits, and by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs and maintaining relations with trade unions.
Health & Safety	The workforce/health & safety category measures a company's management commitment and effectiveness towards providing a healthy and safe workplace. It reflects a company's capacity to increase its

	workforce loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, well-being and stress level of all employees.
Training & Development	The workforce/training and development category measures a company's management commitment and effectiveness towards providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty and productivity by developing the workforce's skills, competences, employability and careers in an entrepreneurial environment.
Diversity	The workforce/diversity and opportunity category measures a company's management commitment and effectiveness towards maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce loyalty and productivity by promoting an effective life-work balance, a family friendly environment and equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation.
Human Rights	The society/human rights category measures a company's management commitment and effectiveness towards respecting the fundamental human rights conventions. It reflects a company's capacity to maintain its license to operate by guaranteeing the freedom of association and excluding child, forced or compulsory labour.
Community	The society/community category measures a company's management commitment and effectiveness towards maintaining the company's reputation within the general community (local, national and global). It reflects a company's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.).
Product Responsibility	The customer/product responsibility category measures a company's management commitment and effectiveness towards creating value-added products and services upholding the customer's security. It reflects a company's capacity to maintain its license to operate by producing quality goods and services integrating the customer's health and safety, and preserving its integrity and privacy also through accurate product information and labelling.
Corporate Governance Performance	
Board Structure	The board of directors/board structure category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to a well-balanced membership of the board. It reflects a company's capacity to ensure a critical exchange of ideas and an independent decision-making process through an experienced, diverse and independent board.
Compensation Policy	The board of directors/compensation policy category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to competitive and proportionate management compensation. It reflects a company's capacity to attract and retain executives and board members with the necessary skills by linking their compensation to individual or company-wide financial or extra-financial targets.
Board Functions	The board of directors/board functions category measures a company's

	management commitment and effectiveness towards following best practice corporate governance principles related to board activities and functions. It reflects a company's capacity to have an effective board by setting up the essential board committees with allocated tasks and responsibilities.
Shareholders Rights	The shareholders/shareholder rights category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to a shareholder policy and equal treatment of shareholders. It reflects a company's capacity to be attractive to minority shareholders by ensuring them equal rights and privileges and by limiting the use of anti-takeover devices.
Vision and Strategy	The integration/vision and strategy category measures a company's management commitment and effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects. It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

Source: Thomson Reuters DataStream Website.