The Market Uncertainty of Ethically Compliant Equity: An Integrated Screening Approach

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Abstract

This study investigates the uncertainty of market returns for ethically compliant equity using a comprehensive ethical screening methodology. The analysis also compares the effect of different ethical screening criteria on firm uncertainty. We develop a comprehensive ethical screening framework that fulfils the intrinsic value of the Islamic religion and responds to contemporary ethical challenges. Using the comprehensive framework, a global sample of non-financial companies are screened for their fulfilment of religious and ethical values. The framework is not only focused on basic screening methodologies that are currently used in the Islamic finance industry but also covers the aspect of environmental, social and governance (ESG) performance, as well as firms' earnings qualities. The analysis reveals that ethically compliant firms display lower uncertainty than non-ethically compliant firms. The level of firm uncertainty is also different between the screening stages, where firms screened using a more comprehensive ethical approach are exposed to lower uncertainty. The results are robust to various estimations and consistent during the 2008 financial crisis.

Keywords: Ethical screening, Religious screening, Ethical compliance, Uncertainty, Volatility, Returns stability

1. Introduction

The influence of ethics on firm performance is a fundamental issue that has stimulated numerous debates in academia as well as the finance industry, both locally and internationally. The importance of ethics in the corporation has gained prominence in the wake of the 2008 global financial crisis. One of the mechanisms to analyse corporate ethical performance is through an ethical screening procedure. This approach allows the market to select and distinguish corporations not just according to their financial performance, but also based on the corporate ethical functioning. However, whether ethical screening signals stability at the firm level is an important question that is still relatively unexplored in the literature. Bartram et al. (2015) noted that there is insufficient work on the fundamental determinants of volatility at the firm level. Prior literature has also yet to find unanimous agreement on the portfolio performance of current ethical screening (Nainggolan et al., 2016). Capelle-Blancard and Mojon (2014) found that, as of 2011, more than fifty studies using similar methodologies examined the performance of ethical funds and almost unanimously demonstrated that the financial performance of ethical investment funds is comparable to their conventional peers. This has led to another question: Are existing ethical screening methodologies efficient in providing the investor with a list of firms with high ethical compliance and with better financial performance?

Corresponding to the above issue, this study develops a comprehensive ethical screening framework and analyses the stability of the market returns of ethically compliant firms as compared to non-ethically compliant firms. We investigate firm market uncertainty according to the stages of the ethical screening framework. We define the stages of ethical compliance using three potential sources of firm ethical behaviour, namely, religious screening, earnings quality, and ESG (environment, social, and governance) performances. The religious screening excludes companies with lines of business and financial ratios that are incompatible with *Shariah* or Islamic investment rules. In other words, it is the adherence to an ethical code that relates to the Islamic religion (Alsaadi et al., 2016). The second and third stages are positive screening; these two stages screen firms based on a specific threshold in relation to the firm's ethical practices of earnings quality and ESG performances, respectively.

Our study is related to prior work empirically examining the risk and performance of ethically compliant firms as compared to non-ethically complainant firms (Abdelsalam et al., 2014; Al-Awadhi and Dempsey, 2017; Al-Khazali et al., 2017; Alaoui et al., 2016; Arshad et

al., 2016; Ashraf et al., 2017; Ashraf and Khawaja, 2016; Capelle-Blancard and Mojon, 2014; Charles et al., 2015; Erragragui and Revelli, 2016; Humphrey and Lee, 2011; Lee et al., 2010; Nainggolan et al., 2016; Nasr et al., 2016; Renneboog et al., 2008). Ethically compliant firms in these studies are defined as either *Shariah*-compliant investments or socially responsible investments (SRI). We extend their work by integrating the screening process of these two prominent ethical investments into a more comprehensive screening methodology. Erragragui and Revelli (2016) test the cost of having social performance for a *Shariah* (religious) compliant index. Within a similar line of literature, our paper develops a comprehensive screening with additional measures for earnings quality and ESG into the screening framework. We also examine and offer new evidence on firm uncertainty at different stages of the screening. Furthermore, as prior literature mostly focuses on examining the portfolio level, this paper conducts the analysis at the firm level using a global sample that is not limited to a particular index.

The literature analysing the performance of ethical investments is inconclusive. In general, ethical funds either provide no significant difference from conventional funds or fail to exhibit better performance (Abdelsalam et al., 2014). To date, the empirical studies have mostly examined the performance of ethical investments from the perspective of *Shariah*-compliant equities (Alam, 2010; Arshad et al., 2016; Ashraf et al., 2017; Jawadi et al., 2014; Nasr et al., 2016; Umar, 2017) or socially responsible funds (Capelle-Blancard Mojon, 2014; Humphrey and Lee, 2011; Lee et al., 2010; Renneboog et al., 2008; Trinks and Scholtens, 2017). Only limited studies such as Erragragui and Revelli (2016) have tried to see the effects of ESG performance on *Shariah*-compliant indexes. However, they exclude the ethical component of earnings quality, and the analysis is limited to the existing *Shariah*-compliant index in the U.S. This study intends to fill this gap by conducting a firm-level analysis to examine the market stability of ethically compliant firms utilising a global dataset.

Prior literature has proposed that compliance with religious practices is another possible driver of firm performance (Al-Khazali et al., 2017). However, Alsaadi et al. (2016) find that firms listed on a religious index appear to have a positive relationship with earnings manipulation. In contrast, firms with a high degree of ESG scores are less likely to manage earnings. These findings support the notion that the current *Shariah* screening procedure does not entirely correspond to the primary Islamic principles (Alsaadi et al., 2016), which are the *Maqasid* (objectives) of the *Shariah*. The majority of the Islamic funds' current screening practices ignore the intrinsic *Shariah* values of equity, justice and fairness as embodied in social

responsibility funds (Abdelsalam et al., 2014; Naughton and Naughton, 2000). The current screening processes focus on negative screening, and are inconsistent among different funds (Derigs and Marzban, 2008; Ho, 2015). As a result, firms that satisfy the screening criteria are merely free from any prohibited elements under *Shariah* rather than being involved in an intentional decision to conduct business in a *Shariah*-compliant manner (Alsaadi et al., 2016). Ashraf and Khawaja (2016) provide evidence that different *Shariah* screening criteria affect both portfolio composition and return performance.

This study develops the connection between ethics and firm uncertainty using the theoretical framework that connects the ethical influences on corporate behaviour and market responses (Donker et al., 2008). This relationship is supported by stakeholder and legitimacy theories (Fernando and Lawrence, 2014; Freeman, 2001; Suchman, 1995) and evidence in empirical analysis (Gregory et al., 2014; Lins et al., 2017; S. Mishra and Modi, 2013; Sassen et al., 2016). Corporations that contribute to the well-being of their stakeholders will receive a positive response from the market. The benefit can be tangible, such as cost reduction, or intangible, such as an increase in employee motivation. The theory maintains that by engaging in ethical programs, companies establish trust and long-term relationships with their stakeholders that translate into good reputation and higher earnings. Hence, firms with high ethical standards are expected to present higher performance stability.

Using a comprehensive sample of globally listed corporations for the period of 2007 to 2016, the primary empirical results using two-stage leased squares find that ethically compliant firms measured by comprehensive ethical screening display lower uncertainty based on market measures. The findings are also consistent in the robustness analyses using matched pair samples derived from a propensity score matching technique. Moreover, the results of the multi-stage screening analysis show an increase in firm stability in the higher screening stage. The findings report a consistent increase in the negative relationship between ethically compliant firms and their market volatility. The results indicate that the higher the screening intensity, the lower the market uncertainty, and this is consistent with the theoretical assumptions.

This study extends the previous literature in several aspects. First, it develops a new, comprehensive Shariah compliant ethical screening framework using religious, moral and ethical values. In addition to the basic religious screening, currently applied in the market, our framework integrates additional phases of screening, which exclude companies with low

earnings quality and low ESG performance. The application of this screening framework will identify unique, ethically compliant firms that have sound financial features, are friendly to the environment, contribute to social well-being, and have high moral standards. This integration implies a considerable market and policy implications for the ethical Islamic finance industry.

Second, the analysis provides the first evidence of the uncertainty of ethically compliant Islamic equity at the firm level identified using comprehensive screening. The previous literature has mostly analysed the performance of ethical investment at the portfolio or index level (Arshad et al., 2016; Ashraf et al., 2017; Charles et al., 2015; Chen and Ngo, 2017; Jawadi et al., 2014; Lee et al., 2010; Nasr et al., 2016). However, the index-level analysis is subjected to portfolio theory. The screening criteria, which are based on negative screening, will restrict the investment universe, resulting in less efficient portfolios. Consequently, ethical funds will have lower returns and higher idiosyncratic risk compared to their conventional counterparts (Humphrey and Lee, 2011). In addition, a direct comparison of different ethical screening standards at the portfolio or index level will lead to biased inferences as a result of different investment universes, the methodology of index calculation, and the rebalancing timing of the index (Ashraf and Khawaja, 2016).

Third, this study compares the consequences of screening stringency and intensity measured by the different stages of ethical screening. The findings provide evidence of the importance of incorporating additional screening criteria based on ethical, social and moral values. As an implication, the proposed comprehensive screening framework will benefit both religious and ethical investors by providing access to Shariah compliant and highly ethical investments with stable returns. The integration of the ethical elements of earnings quality and ESG standards will also improve the quality of existing Islamic screening frameorks by increasing transparency and mitigating information asymmetry. Finally, we also uncover the central stakeholder components that contribute to lower uncertainty.

The paper is structured as follows: Section 2 discusses the background of ethical screening. Section 3 presents the underpinning theory and hypothesis development. Section 4 describes the research design, including the construction of comprehensive ethical screening, the sample selection procedure, the empirical model, and the variable measurements. The empirical results are presented in Section 5, and Section 6 gives the conclusion.

2. Background: Why Comprehensive Ethical Screening?

According to *Shariah*, a common stock is a legitimate investment instrument as it is akin to the concept of *Mudarabah*, or profit and loss sharing (Naughton and Naughton, 2000).[1] However, there are many other factors related to common stock investments that are contradictory to *Shariah* principles. One of the significant issues involves the nature of the business and the financial components of the corporations. To overcome this issue, Islamic scholars developed *Shariah* screening standards to exclude non-compliant companies according to *Shariah* rules. As the rules for equity screening were not explicitly described in the primary sources of Islamic law (the Quran and Hadith), Muslim scholars developed the *Shariah* screening methodology based on the principles of analogy (*qiyas*) (Ashraf and Khawaja, 2016). This method involved a complex process of *ijtihad* (literally meaning 'effort' or 'self-exertion') to transform the historical and verbal sources of *Shariah* into a well-defined quantitative standard for stock screening (Ashraf and Khawaja, 2016). Since this process is subject to the personal interpretation of Muslim scholars, the current screening rulings are not uniform and have resulted in numerous different adaptations of *Shariah* screening standards.

Currently, there are about 34 prominent *Shariah* screening users in the world (Ho, 2015). Inconsistency in the *Shariah* screening process has created challenges to fund managers and index providers in deciding on which *Shariah* guidelines to use and the frequency of portfolio rebalancing (Ashraf and Khawaja, 2016). Ho (2015) noted that this factor could prevent the Islamic finance industry from achieving its real potential. Despite these challenges, the inconsistencies of the screening methodologies do not represent a weakness but rather reflect the sense of flexibility in *Shariah* law (Abdul Rahman et al., 2010). This factor has allowed for adjustments to be made, reflecting the different economic, political, and social systems practised in the countries. Ashraf and Khawaja (2016) also noted that the deviations of *Shariah* screening standards are not significant, except for the calculation of financial components and the tolerance benchmark.

In general, the current *Shariah* screening comprises two main steps: The first is excluding companies that are involved in a line of business that is prohibited according to *Shariah*. The non-permissible business activities are tobacco, pork production, alcohol, arms, interest-based conventional financial services, real estate, interest-based leasing companies,

[1] Common stocks have been approved as a lawful instrument for investment by the Council of the Islamic Fiqh Academy (CIFA) at its seventh meeting in 1993 (Naughton and Naughton 2000).

media and advertising-related business, entertainment, gambling, alcohol-serving hotels and motels, and restaurants and bars. The second step is to screen the companies based on their financial ratios to exclude firms that are associated with *Riba* (interest) and *Gharar* (excessive uncertainty). This quantitative screening is divided into four main criteria: debt screening, liquidity screening, interest screening, and non-permissible income screening.

It is clear that the provision of interest-based conventional financial services, gambling services, pork products or alcohol and involvement in *Riba* are expressly forbidden. However, there are a number of other business activities that contradict the general principles of *Shariah* but are not included as a screening criterion, for instance, issues relating to environmental degradation, health and safety, and human rights. Naughton and Naughton (2000) discussed this concern and noted that these controversial issues are not included in the current screening criteria because some scholars consider them discouraged but not forbidden. Based on this stance, even though there is merit in avoiding such activities, it is entirely an individual choice on whether to engage in or refrain from such discouraged activities (Naughton and Naughton, 2000). This current practice is contradictory to the investors' views and apparently violates the intrinsic *Shariah* values of equity, justice and fairness (Abdelsalam et al., 2014; Naughton and Naughton, 2000) which prohibits harming the environment

Moreover, some firms that are listed in the current religious index exhibit a positive relationship with the unethical behaviour of earnings manipulation (Alsaadi et al., 2016), which also in contrast with the Shariah intrinsic values of transparency and honesty. In sum, the current screening process is inconsistent among the current Shariah-compliant indices, excludes the social welfare perspective, is less transparent, and is based solely on negative screening (Alsaadi et al., 2016; Derigs and Marzban, 2008; Ho, 2015). As such, prior literature consistently points out the need for the harmonisation of *Shariah* screening standards and the incorporation of ethical and social responsibility elements in the current screening criteria (Abdelsalam et al., 2014; Alsaadi et al., 2016; Ashraf and Khawaja, 2016; Naughton and Naughton, 2000).

3. Theory and Hypothesis Development

3.1. The Theoretical Connection between Ethics and Corporate Functioning

The connection between ethical practices and corporate functioning can be explained using both legitimacy and stakeholder theories. Legitimacy theory describes the purpose of organisations pursuing ethical conduct. This theory assumes the existence of a fiduciary

relationship or a 'social contract' between the corporation and the members of the society in which the firm operates (Deegan, 2002). Complying with the social contract is essential for firm performance. The act of corporations gaining legitimacy will promote ethical practices by first, promoting transparent accounting practices (i.e., disclosures and earnings quality), and second, by embedding ethical programs (i.e., emissions reduction) as part of the corporate goals. The intention of corporations pursuing legitimacy through ethical practices is mainly to safeguard the continuity of their business, gain credibility for their corporate image, and ensure continuous support from society. Gaining legitimacy leads to stability, persistence, and a desirable image because audiences are more likely to supply resources to legitimate organisations and view them as more worthy, meaningful, predictable, and trustworthy (Suchman, 1995).

Consistent with the above, stakeholder theory clarifies the method to formulate corporate ethical responsibility and differentiate the needs according to specific groups. Stakeholder theory addresses the ethical and moral obligation of corporations to respond to the rights of individuals and groups that are affected by the actions of the corporation, which is the stakeholders. According to Freeman (2001), stakeholders are a "group or individual who can affect or is affected by the corporation", and they are groups that are vital to the survival and success of the corporation. This group includes not only the shareholders and the management as agents, but also suppliers, customers, employees, and the local community, including the competitors and the government in the narrow sense. The theory upholds that "each of these groups has a right, and therefore must take part in determining the direction of the firm in which they have a stake." Similar to legitimacy theory, the responsibility of a corporation towards its stakeholders is based on the concept of the fiduciary relationship or 'trust'. For instance, the employees usually have their livelihood at stake; therefore, in return for their loyalty, the corporation is expected to provide for them and support them during difficult times. Responding to the specific needs of the subgroup in society is fundamental because each stakeholder has different or sometimes conflicting expectations towards corporations, which might contribute to a different outcome (Chen and Roberts, 2010).

Both legitimacy and stakeholder theories are directly or indirectly related to each other as both explain why organisations embrace a particular ethical strategy (Fernando and Lawrence, 2014). In legitimacy theory, the actions of organisations are viewed as legitimate from the viewpoint of social norms where the society is considered as a whole without identifying separate individuals or groups. Stakeholder theory, on the other hand, recognises

the different expectations towards corporations from various constituents in society. Hence, both of these theories explain the connection between ethics and corporate behaviour and the crucial effect of ethical practice on firm performance.

Donker et al. (2008) suggest that the theoretical connection between ethics and firm performance exists as ethics influences corporate behaviour and market response, which ultimately leads to an increase in firm value. Corporate ethical practices convey information about corporate 'commitments' towards society, which leads to a positive response from the internal and external stakeholders (i.e., the employees and the customers). Karim et al.(2016) support this argument and report a positive market reaction on the first day after the announcements of the lists of ethically compliant firms. The market responds positively to corporations that are concerned about the well-being of society, consumers, and employees. For instance, after demonstrating appropriate production procedures and after-sales service, the market will reward the firms with loyal customers as well as suppliers inclined to deliver goods and services at a lower cost (Donker et al., 2008).

Karim et al. (2016) explained that performing ethically will result in tangible and intangible benefits. By implementing environmental programs for energy reduction, companies can gain financial benefits from cost reduction, which translates into higher earnings. The intangible benefit can come from an increase in reputation and employee motivation. By engaging in ethical programs, corporations establish trust and bond with their stakeholders through the development of a reputation and long-term firm value.

The empirical research also supports the theoretical relationship between ethics and firm performance. Gregory et al.(2014) find that firms that engage in ESG indicate positive market response and a higher expected growth rate in the long run. Companies with high ESG performance also appear to have lower total and idiosyncratic risk, and thus have a potentially positive impact on firm value (Mishra and Modi, 2013; Sassen et al., 2016). Firms with a high ESG rating also demonstrated better performance during the 2008 financial crisis. Specifically, high-ESG firms indicated four to seven percentage points higher returns, with higher profitability, growth, and sales than firms with low ESG (Lins et al., 2017). This evidence suggests that by being involved in ESG activities, firms develop trust with their stakeholders and investors, and the impact is more pronounced during periods of economic downturn and low trust measured by high macro-level uncertainty.

3.2. Ethical Screening and Stock Performance

The common forms of ethical investments can be divided into *Shariah*-compliant investments and socially responsible investments (SRI). As with any other investment, the objective of these investments is to provide lower uncertainty and better returns to investors. In this regard, previous studies have conducted extensive analyses to measure the performance of ethical investments. However, the empirical evidence thus far has been unable to provide unanimous conclusions. Moreover, the analyses were usually conducted at the portfolio or index level.

In the GCC, *Shariah*-compliant stocks reported higher returns and lower liquidity as compared to conventional stocks (Al-Awadhi and Dempsey, 2017). The analysis of Dow Jones global index series suggested some meaningful results. Islamic indices exhibit higher performance and are associated with higher risk (Charles et al., 2015). Umar (2017) reported that, on a standalone basis, Islamic indices exhibit desirable performance in both the short term and the long term. However, in comparison, conventional indices demonstrate better performance in the long term. Using uniquely constructed portfolios Ashraf and Khawaja (2016) reported that *Shariah*-compliant portfolios indicate lower risk compared to conventional portfolios.

A small number of studies present evidence at the firm level. Chen and Ngo (2017) report that firms categorised as *Shariah*-compliant experience a significant change in their value. They found that firms included in the *Shariah*-compliant index observe permanent favourable price and liquidity effects while Shariah-index excluded firms that maintain negative price and liquidity effects. Within the scope of capital structure theory, Alaoui *et al.* 2016) analyse the impact of debt screening on firm market risk and performance at both the portfolio and firm levels. They find that *Shariah*-compliant stocks show significantly lower systematic risk, especially during the global financial crisis, but they do not necessarily provide better returns.

Using an extensive sample of indices from twelve different index providers, Ho *et al.* (2014) show that Islamic indices outperform their conventional counterparts during the crisis periods. However, during non-crisis periods, the performance is generally comparable. *Shariah*-compliant stock indicates better performance exhibited in lower uncertainty during the economic downturn but slightly underperforms during an economic boom (Alam, 2010). This finding is also supported by Jawadi et al. (2014), who find that *Shariah*-compliant indices in specific regions outperform during the subprime crisis and in turbulent times. Similarly, the

Islamic equity portfolio exhibits higher risk-adjusted returns than the market portfolio during the sub-period of 2007 to 2009 (Ashraf et al., 2017).

Most of the above analysis supports that ethical investments are able to provide better returns to investors, especially during crises. However, Nasr *et al.* (2016) examine the statistical properties and uncertainty of the Dow Jones Islamic Stock Market Index (DJIM) and report that it possesses all the formalised facts and the expected performance of conventional asset classes. Provided with this evidence, they disagree with the impression that investments in the Islamic index can offer protection against extreme market fluctuations such as during a crisis. However, this position is questionable since the paper did not perform a comparative analysis.

The findings for SRI have reported mixed results. SRI funds show comparable performance with conventional funds, which might be due to the lower diversification of SRI as a result of the screening process (Humphrey and Lee, 2011). Renneboog, Ter and Zhang (2008) report similar results for France, Japan and Sweden, where the risk-adjusted returns of SRI funds are not statistically significant from conventional funds. However, in the US, the UK, and many continental European and Asia-Pacific countries, SRI reports a lower performance for their domestic benchmarks. Similarly, Trinks and Scholtens (2017) report lower risk-adjusted returns in SRI stocks, which suggests that there are opportunity costs to negative screening. The inconsistent results in the performance of SRI might be due to the bias in the portfolio-level analysis. As mentioned, research at the portfolio or index level is bound to the conventional portfolio theory of diversification. SRI represents a less diversified portfolio of relatively fewer industries and is limited to companies with high ESG performance. As such, the analysis at the firm level employed in this study will not suffer from this problem.

3.3. Hypotheses Development

The previously summarised empirical evidence reveals that ethically compliant equities demonstrate some variance in their performance, especially during periods of uncertainty. This study incorporates the *Shariah* or religious screening criteria and ESG screening measures with an additional screen for earnings quality. Erragragui and Revelli (2016) report that adding ESG performance to *Shariah*-compliant stocks results in higher portfolio performance as compared with the SRI portfolio alone. In sum, the above theoretical views and empirical evidence clearly support the potential positive impact of ethics on firms' short-term and long-term performance.

Ethical practices affect internal corporate behaviour by establishing responsible management and lead to positive market responses as the companies act in line with social

preferences. Ethical screening that is established based on religious and moral values is a systematic process that identifies ethically performing firms according to the classified benchmark. Ethically compliant firms convey information about the corporate commitments towards their stakeholders, which includes society as a whole. These firms contribute to their internal performance by responding to the needs of their stakeholders (i.e., leading to motivated and loyal employees). The firms' ethical practices, such as environmentally friendly projects, will help them to gain social legitimacy, which drives a positive market response. As a result of a positive market response and management responsibility, it is expected that highly ethically compliant firms will demonstrate higher performance, which is depicted as stable market performance. Therefore, this study expects that ethically compliant firms will exhibit lower uncertainty in their market returns. Therefore, hypothesis 1 (H1) is constructed as follows:

H1: Ethically compliant firms screened using the comprehensive ethical screening framework which includes religious, earnings quality, and ESG criteria are likely to have lower uncertainty in market returns.

Second, the study additionally examines the impact of screening intensity and stringency on firm uncertainty. The concept of screening intensity is common in SRI funds that involve ESG screening. Screening intensity can be defined as the number of screens utilised by the companies to form the SRI funds. Using the Carhart performance model, the screening intensity of SRI funds shows lower systematic risk (Lee et al., 2010). In Islamic fund research, Nainggolan et al. (2016) find a positive relationship between fund performance and the number of accounting screens employed, but fail to observe a significant relationship between fund performance and the stringency of accounting screens. This finding indicates that screening intensity is somehow similar but different to the concept of screening stringency because the increase in the number of screening processes does not necessarily indicate that the screening criteria are more stringent.

In this paper, we examine the influence of screening intensity on firm uncertainty and also test the influence of screening stringency. Screening intensity is defined by screening stages, and screening stringency is measured by the percentage of the benchmark (see 4.1 for details). Specifically, to examine the efficiency of the additional ethical standard, the study splits the screening criteria into three different stages and compares the uncertainty of ethically compliant firms in each of the screening stages. Stage 1 is religious screening, Stage 2 is a

combination of basic religious screening and earnings quality, and Stage 3 is a comprehensive ethical screening that additionally screens for ethical industries and ESG performance. We postulate that as the screening intensity increases, the magnitude of the negative relationship becomes more significant. Therefore, hypothesis 2 (H2) is as follows:

H2: Compared to less intensive criteria, ethically compliant firms screened using more intensive screening criteria (higher stage) are likely to have a higher negative relationship with uncertainty (lower uncertainty) in market returns.

Further, as guided by stakeholder theory, the study additionally conducts tests to identify which components of the ESG factors are vital in contributing to a stable market return. To recap, stakeholder theory addresses the ethical and moral obligations of corporations to respond to the rights of stakeholders, which include the individuals and groups affected by the actions of the corporation. These groups are vital to the survival and success of the corporation. Thus, this study aims to provide an answer on which groups are statistically significant in contributing to lower uncertainty. The assumption is that ethically compliant firms that additionally comply with the specific ethical components that are central to a specific group of stakeholders will further result in lower uncertainty. We conduct this analysis through a series of extensive testing by interacting the ethical compliance indicator variable with the stakeholder component. Consequently, hypothesis 3 (H3) can be formulated as follows:

H3: Ethically compliant firms screened using comprehensive ethical screening (Stage 3) are likely to have lower uncertainty in market returns when the firms comply with the vital stakeholder need components.

4. Research Design

4.1. Ethical Screening Construction

Our comprehensive ethical screening is constructed based on three main stages. Stage 1 is religious screening; Stage 2 is earnings quality screening; and Stage 3 is environmental, social and governance (ESG) screening. The ethically compliant firms are identified by dummy variables: 1 if the company passed the screening criteria and 0 otherwise.

4.1.1. Stage 1: Basic Religious Screening

The study identifies the religious screening criteria and benchmarks based on three main steps. First, the study gathers a list of major global *Shariah* screening users and compares the *Shariah* screening methodologies applied by all identified users. Next, we derive a set of basic *Shariah*

screening methodologies based on two main categories: majority and stringent rule. The majority rule means that the screening benchmark is applied by a majority of the identified screening users. The stringent rule, on the other hand, refers to the strictest benchmark applied by the screening users. The majority method used in this paper is similar to one of the *Shariah*-compliant investment strategies proposed by Derigs and Marzban (2009). The majority rule is founded on the Islamic juristic principle, which states that *"the majority deserves to be treated as the whole thing"* (Derigs and Marzban, 2009). Thus, the *Shariah* screening methodology used in this paper does not refer to a particular screening methodology (i.e., the Dow Jones Islamic Index or AAOIFI) but is derived by comparing various screening methodologies applied in the market.

The study identifies 31 primary global Islamic finance users. The list and the details of methodologies are adopted from Ho (2015) and Derigs and Marzban (2008). We conduct a cross-check with the users' respective websites to ensure that the information is accurate and up to date. The basic *Shariah* screening involves two main steps. First, we exclude companies with non-permissible business activities according to the *Shariah* or qualitative screening. Second, we screen the company's financial aspect based on specific financial ratios or quantitative screening. The qualitative stage of screening excludes companies with non-permissible business activities according to *Shariah* rules. The study considers a type of business to be impermissible if it is stated as impermissible in one of the screening methodologies. The study manually matches the list of prohibited businesses to the NAICS industry's six-digit code.[2] A company is considered non-*Shariah* compliant if it is categorised under one of the identified industry codes.

In the second step of the primary screening, the quantitative screening, a company is considered *Shariah*-compliant if it exceeds the specific threshold of the financial components. Derigs and Marzban (2008) and Ho (2015) explain that the relevance of this type of screening is connected to the prohibition of interest (*Riba*), excessive uncertainty (*Gharar*) and the trading of money according to *Shariah* law. The quantitative screening can be divided into four main categories:

i. *Debt screen*. Receiving and paying interest is against *Shariah* rules; thus, the level of interest paid is proxied by the company's level of debt. The debt screen applied in this

[2] The NAICS codes are selected as they provide a greater level of detail about a firm's activity compared to the SIC codes.

study is that the portion of the debt from the company's total assets must not exceed 33% in both the majority and stringent rules.

ii. *Liquidity screen.* From a *Shariah* perspective, businesses should gain income only from the trading of physical goods (tangible assets). Income derived from liquid asset components such as cash and short-term investments are considered to be *Riba* and are impermissible. Therefore, *Shariah*-compliant companies should preserve a great extent of illiquid assets. The maximum permissible liquidity level of a company applied in this paper is defined by the receivable and cash to total assets not exceeding 50% in the majority rule and 30% in the stringent rule.

iii. *Interest screen.* Earnings from interest are explicitly condemned in the *Shariah*. However, companies cannot avoid being involved in banking transactions, either to manage their operating activities, cash flows, or other liquid assets. Interest screens are measured in two ways: the amount of interest income received or the amount of liquid assets (cash and interest-bearing securities). Since the information on interest income is not available for non-financial firms, we focus on the second measure, which is the total amount of cash and interest-bearing securities (proxied by short-term investments) to total assets. The benchmark is 33% for the majority rule and 30% for the stringent rule.

iv. *Non-permissible income screen.* This screening stage measures the level of additional income gained from non-*Shariah*-compliant activities. This stage applies in a case where the primary business of a company is *Shariah*-compliant, but the company is involved in some non-compliant activities or business segments. For instance, an airline company is generally considered as compliant, but the company might be involved in the serving and selling of alcohol. If the generated income from this activity exceeds the accepted threshold, the airline company is considered to be non-*Shariah*-compliant. In this stage, the scholars unanimously agree that the non-permissible income from any additional non-compliant income must not exceed 5% of the total revenue.

The information for the first three screening categories is obtained from the companies' accounting information in Refinitiv Datastream. For the non-permissible income screen, we acquire this information from the companies' segments on Orbis by Bureau van Dijk. As mentioned before, the financial ratios and benchmarks are selected based on common practices (applied by the majority of the users). In cases where we are unable to identify the majority, we choose the intermediate stringent criteria. For example, for the liquidity screen, the range

of the benchmark is from 33% to 70%. Therefore, the 50% benchmark is chosen for the majority screening.

4.1.2. Stage 2: Earnings Qualities Screening

The earnings quality measurement for each company is obtained from StarMine, which is gathered from Refinitiv Eikon. The earnings quality model developed by StarMine measures the degree to which past earnings are reliable and are expected to persist. The score is expressed in a percentile rank (1-100) based on the sustainability of company earnings, with 100 representing the highest rank and a better earnings quality. High-quality earnings reveal the sustainability of a company's current, past, and also future operating performance regardless of the level of generated income. Therefore, the earnings quality score provides more accurate and reliable measures to evaluate company performance and accounting quality. In this study, we use two important components for earnings quality: accruals and cash flow components.

StarMine measures accruals as the changes in operating assets and liabilities from the past four quarters to the most recent quarter. The changes are measured from eight different sources in both current and non-current operating assets and liabilities and are scaled by average assets. Meanwhile, the cash flow component is measured as the annualised free cash flow scaled by average assets. Company earnings are likely to persist when they have a high cash flow. In this paper, a company is considered to have an acceptable level of earnings quality when its accruals and cash flow components scores are above average (above 50%). This screening stage is essential as it is expected that companies with high earning quality have a lower likelihood of being involved in the unethical activity of accounting manipulation.

4.1.3. Stage 3: Ethical Industries, and Environmental, Social and Governance (ESG) Screening

The third screening stage is constructed by examining the methodology of four primary ethical index providers, namely FTSE4Goods Indices, Dow Jones Sustainability Indices, MSCI Global Social Responsibility Indices, and S&P Environmental and Socially Responsible Indices. This stage comprises two main criteria: ethical industries and ESG screening. In sum, these ethical indices exclude companies that are involved in immoral activities and business activities that can negatively affect the environment and society, including alcohol, gambling, tobacco, military weapons, firearms, nuclear power, fossil fuels, adult entertainment, and genetically modified organisms. Since religious screening (Stage 1) has excluded all immoral

business activities, this stage additionally excludes companies with activities that are detrimental to the environment, i.e. businesses that are involved in nuclear and fossil fuels.

In the second step of this stage, the companies' ESG performance measures are gathered from Asset4, which is available in the Refinitiv Datastream. This database provides scores for over 4000 active, publicly listed firms globally. For each firm, 750 data points of publicly available data are collected to form the 250 performance indicators. These performance indicators are further grouped into 18 categories within four main pillars: economic performance, environmental performance, social performance, and governance performance. For the screening, the analysis uses the overall ESG performance scores and applies a minimum of a 50% threshold. A company is categorised as having an acceptable ESG performance if it scores above this minimum threshold.[3] A summary of the comprehensive screening criteria and the stages is presented in Table 1.

[Table 1]

4.2. Data

The study constructs the sample by using the Asset4 global database, which covers 42 countries in the world for the ten-year period from 2007 to 2016. The Asset4 sample, covering ESG scores, accounting information, and stock and market price data, is gathered from Refinitiv Datastream. As mentioned above, we collect data for companies' business segments from Orbis by Bureau van Dijk and earnings quality from Refinitiv Eikon. In addition, as the sample covers a multi-country analysis, countries' economic and governance measures are collected from the World Bank database. The sample represents an unbalanced panel sample for market uncertainty from 2007 to 2016. The list of countries and the number of firms and observations in the sample are presented in Table 2.

The initial Asset4 global data for all active and inactive listed firms from 2007 to 2016 consists of 5060 firms with 49,280 observations. We exclude financial firms with NAICS industry codes from 5200 to 5399, and so the initial sample of non-financial firms is reduced to 4323 firms with 41,959 observations. The sample is additionally restricted to firms with available accounting data for religious screening, i.e., the financial composition screening. The accounting information required for this stage is total assets, total debts, earnings before interest

[3] This benchmark is similar to the ethical screening criteria set by FTSE4Goods. In FTSE4Goods, for emerging markets, a company needs to obtain an ESG rating of 2.5 over 5 or above to be added to the FTSE4Good Index Series.

and tax (EBIT), receivables, cash and cash equivalence, and short-term investments. This process reduces the sample to 4041 firms with 34,701 observations.

We gathered the weekly companies' stock prices and the local country index prices from 2007-2016 from Datastream for all listed firms with available accounting data. After calculating the market uncertainty based on the method explained in section 4.4, the available firm market uncertainty variables are merged with the screening information and the main control variables. The sample includes only countries with at least two firms. Through this selection process, the final sample comprises 2,339 companies from 42 countries with 19,518 firm-year observations.

4.3. Empirical Model

This study analyses the uncertainty of ethically compliant firms screened using our newly developed ethical screening framework. The objective is to provide evidence of whether firms with high ethical standards derived from comprehensive ethical screening provide more stable returns than firms with low ethical performance. As explained in section 4.1 above, the study constructs the list of ethically compliant firms by filtering firms according to the selected religious screening criteria, earnings quality screening and ESG screening. Ethical compliance is a dummy variable equal to 1 if the company passes the screening criteria and 0 otherwise.

As a result of the screening process, the ethically compliant firms belonging to specific industries are characterised by lower debt, low liquidity, low-interest income, better earnings quality, and high ESG performance. Due to the fact that all of these factors, especially the level of leverage, influence financial risk (Alaoui et al., 2016), the bidirectional relationship between ethically compliant firms and uncertainty in returns is intuitive. The level of a firm's financial risk (measured by the level of debts and liquidity) has a high impact on whether the firm will be included or excluded as an ethically compliant firm. Ethically compliant firms have a high probability of influencing firm risk or uncertainty and vice versa. As discussed by Ashraf et al. (2017), conventional financial theory suggests that leverage will have a direct impact on the level of a firm's returns, and the effect is conditional on current economic conditions. Importantly, the relationship between financial leverage and returns depends heavily on a company's investment and financing decisions, and these factors are endogenous. This implies that a firm's business activities and financial components contain risk-related information and, as such, ethically compliant firms are expected to have low uncertainty in their returns.

To account for this endogeneity issue, the study extracts the exogenous component of ethically compliant firms by constructing an instrumental variable (IV) that captures the natural trend of ethically compliant firms across all firms involved in similar types of activities and in similar locations.[4] For this purpose, the study follows the methodology in Faccio et al. (2011) and uses the fraction of ethically compliant firms to all firms in the same country and industry as the instrument (IV) for ethically compliant firms. These variables capture the country-industry effect, which is not directly related to firm uncertainty. To assess the relevance of the IV, a simple correlation analysis between the ethically compliant firms' variables and the instruments is conducted. The IVs are positively correlated with ethically compliant firms' variables with correlations from 0.40 to 0.64 and are significant at the 5% level. On the other hand, the correlation between the IV and the measures of firm uncertainty are negative, mostly insignificant and are all less than 0.14. These simple tests indicate that the instrument is orthogonal to the dependent variables but is heavily correlated with the independent variables of interest. Consequently, the IV meets the necessary conditions required for the identification of a valid instrument.

In particular, the relationship between ethically compliant firms and the measure of firm uncertainty is tested using the following procedure: in the first stage, the endogenous variable, which is the ethical compliance variable, is regressed on the instrument including the exogenous independent variables. The second stage uses the predicted value of ethically compliant firms from the first-stage regression as the independent variable of interest. The second-stage model is as follows:

$$Uncertainty_{it} = \alpha_0 + \beta_1 \widehat{EthicalFirms}_{it} + \sum_{i=1}^{n} \beta_i \, Controls_{it} + YearFE + IndustryFE + \varepsilon_{it} \quad (1)$$

Where:

Uncertainty = measures of market uncertainty.

[4] The study uses pooled 2SLS because the model is exactly identified, and the measurement of ethical funds is a dummy variable that is a time-invariant variable. Within these constraints, GMM, fixed effects and random effects estimators are not efficient enough to fulfil the objective of this paper.

Ethical firms = predicted value of ethically compliant firms.

Controls = a list of identified firm and country observable determinants of firm uncertainty.

YearFE = year fixed effects

IndustryFE = industry (2-digit NAICS industry codes) fixed effects.

The definition of variables is discussed below in detail. All tests use robust regressions and are clustered by the firm to exploit information in the cross-sectional and time-series nature of the data and to control for heteroskedasticity and the serial correlation in firm time series observations.

4.4. Measuring Firm Uncertainty

The main measure of market uncertainty employed in this paper is idiosyncratic volatility (Idio_volt). Idio_volt is the firm's idiosyncratic volatility measured as the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). To derive the idiosyncratic volatility, we first estimate the firms' weekly stock returns calculated using the following formula:

$$Return_t = \ln(Price_t) - \ln(Price_{t-1}) \quad (2)$$

Next, the idiosyncratic risk is estimated using the market model regression augmented using the Fama–French three-factor[5] model as follows:

$$Return_t = \alpha + \beta_1 Market\ Return_t + \beta_2 SMB_t + \beta_3 HML_t + \varepsilon_t \quad (3)$$

Where:

$Return_{it}$ = firm's weekly stock returns calculated using formula (2)

$Market\ Return_t$ = weekly index return for each country calculated using formula[6] (2)

SMB = Fama-French returns factors, where SMB stands for "Small Minus Big" (in terms of market capitalization)

[5] See Fama and French (1993) for a complete description of these factor returns. The study constructs our own measure of Fama-French factors (SMB and HML) for each country using our extensive collection of weekly firm stock price.

[6] We use the main stock index for each country as a proxy for country market index. In a case where the country's main stock index is not available, we replace this with the MSCI country index.

HML = Fama-French returns factors, where HML stands for “High Minus Low” (in terms of the book to market ratio)

Model (3) is calculated for each company on a yearly basis. The study then predicts the residual derived from the regression of this model. Hence, idiosyncratic volatility is the standard deviation of the residuals from this model. Finally, following Sila et al. (2016), we multiply idiosyncratic volatility by the square root of 250 to annualise these variables.

4.5. Main Control Variables

This paper identifies a set of main control variables based on previous literature that analyses firm risk behaviour. The control variables are divided into two categories: First, the variables that measure firm characteristics, which are profitability, size, leverage, sales growth, age, and Big4 auditors; secondly, as the sample covers multiple countries, the model additionally controls for the influence of the country’s characteristics to moderate the heterogeneity bias that might exist in the multi-country analysis. The country variables are GDP growth, market size, inflation, and regulatory quality.

In particular, the first control variable, which is (1) Profitability is the ratio of EBIT to total assets (ROA), is included to cater for the differences in management quality because a firm’s risky behaviour could be the result of poor management ability rather than the internal policy of the firm. (2) Company size (Size) is measured by the natural logarithm of firm total assets (the sum of fixed assets and current assets). (3) Leverage is the ratio of total debt (current and noncurrent liabilities) to total assets. (4) Sales growth is the annual growth rate of sales. Company size, leverage, and sales growth are included to control for the variation of main firm characteristics. (5) Age (Age) is defined as the natural logarithm of 1 + the number of years since incorporation. Age will control for differences in the firm’s business cycle because the firm’s risky investment behaviour is likely to decline with firm age (Faccio et al., 2011). (6) The company’s big four auditors (Big4) is a dummy variable equal to 1 if the firm auditor is one of the big four audit companies (Deloitte, Price Waterhouse, Ernst & Young, and KPMG). This variable serves as one of the corporate control mechanisms, and firms using one of the big four audit companies are likely to have higher accounting quality and stable returns.

For the country variable, (7) GDP growth is measured by the annual change in the estimated GDP of a given country at constant 2005 prices. This variable will control for economic development in the country, which has a high tendency to have a direct influence on the performance of the firm. (8) The market size of listed firms (Market size) is the equity

market capitalization of listed firms in the country as a percentage of total GDP. (9) Inflation is measured by the consumer price index, which represents the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. (10) Regulatory quality is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is expressed as a percentile rank and indicates the country's rank among all countries, with a rank of 0 corresponding to countries with the lowest regulatory quality and 100 to countries with the highest regulatory quality.

5. Empirical Results

5.1. Descriptive Statistics

Table 2 reports the distribution of the samples comprising the number of firms and observations according to the countries. The sample encompasses 2,339 companies with 19,518 firm-year observations from 42 countries covering the period from 2007 to 2016. There are three countries that represent a significant fraction of the observations in the sample: the United States (21.35%), Japan (14.92%), and Australia (11.51%). The distribution of observations is intuitive since these countries are developed nations with a high number of publicly listed corporations.

Table 3 reports the descriptive statistics for the dependent, independent, and main control variables used in the regression analysis for the main samples. The second part of the table presents the firm characteristics for ethically compliant firms in all screening stages. The first two rows present the descriptive figures of the main dependent variables, followed by the dummy variables for ethically compliant firms and the main control variables. The descriptive figures for the main sample show that, on average, almost half of the sample size is ethically compliant firms, and the number gradually drops corresponding with the screening stages. The descriptive results show that only a small portion of firms experience profit. The results indicate an average 32% sales growth, while 67% are audited by Big4 auditors. In addition, the majority of the firms in the sample come from countries with good governance and high regulatory quality, with an average score of over 80%.

[Table 2]

In the descriptive statistics for the ethical screening stages, ethically compliant firms based on Stage 1- Majority (ES1-Majority) screening show that firms categorised under this

category have comparable market uncertainty, but are subject to slightly higher profitability and lower leverage and sales growth compared to the rest of the sample. These figures are comparable for Stage 1- Stringent (ES1-Stringent). For Stage 2 (both ES2- Majority and ES2-Stringent), ethically compliant firms indicate low market uncertainty, as well as lower profitability, leverage and sales growth compared to the full sample and the previous screening stage. Ethically compliant firms in the comprehensive screening criteria demonstrate lower uncertainty, leverage, and sales growth compared to the previous stage and the overall sample. However, these firms indicate higher asset size and comparable average profitability. The results for the descriptive statistics reveal that the ethically compliant firms based on the comprehensive criteria are likely to have stable earnings, larger assets, and lower leverage. These findings provide a primary indication of the efficiency of the comprehensive screening criteria for screening high-performing firms.

The number of firms and observations for ethically compliant firms is displayed at the heading of each screening stage. In stage 1, the basic religious screening, a high number of firms pass from the total sample, which is around 62% to 70%. The number of ethically compliant firms slightly decreases as the screening process became more intense and stringent. In stage 2m the basic and earnings quality screening, more than half of the companies in the sample are unable to pass. The number of ethically compliant firms in this stage is around 46% to 56%. For stage 3, the comprehensive ethical screening that covers religious, earnings quality and ethical screening, at least 19% of the firms are ethically compliant firms. Specifically, after applying a comprehensive screening methodology, the ethically compliant firms are 728 (31%) for the majority benchmark and 592 (25%) for the stringent benchmark.

[Table 3]

Overall, the fraction of ethically compliant firms from the total number of firms in the sample is significant for empirical estimations. However, this percentage is based on the number of ethically compliant firms among the number of firms in the full sample. The percentage of observation in each screening stage to the total observation is much lower than this, from 7% to 49% (refer to the mean value of ES1 to ES3 in the descriptive table). This is because the screening process is conducted based on the annual accounting data, and the list of firms that manage to pass the screening criteria varies according to their current performance. Thus, to overcome a potential bias in the estimation, this study runs an additional test using a matching sample derived from the propensity score matching method.

Table 4 reports the Pearson correlation coefficient matrix for the test and main control variables. The results indicate that the correlation between ethically compliant firms and market uncertainty is consistent (i.e., negative and significant), which conforms to our hypothesis. The results provide the primary insight that firms with higher levels of ethical practices are expected to experience stable market returns. However, the multivariate analysis using 2SLS that tackles the endogeneity issue is likely to provide more reliable inferences about this relationship. The correlations of Size, Big4 and Age are negatively associated with firm uncertainty, indicating consistent results with previous literature. All of the control variables except GDP growth show a significant correlation with the dependent variable, thus indicating that these variables are vital to be included in the model. In sum, the correlation coefficients among the independent variables are within tolerable limits and reject the likelihood of having multicollinearity.

[Table 4]

5.2. Main Results

In this section, the study runs a multivariate analysis to test whether ethically compliant firms that are compliant with religious screening and are characterised by high ethical standards have a significant relationship with firm uncertainty. The analysis uses idiosyncratic volatility (Idio_volt) derived from the standard error of a market model as the measure of uncertainty. This measure represents the uncertainty or instability of firm returns. Ethical compliance variables are the dummy variables that are equal to 1 if the firm passes the screening criteria and 0 otherwise. This measure is represented by three stages: Stage 1-Religious, Stage 2-Religious + EQ (earnings quality), and Stage 3- Religious + EQ + ESG. Stage 3 is the comprehensive screening that covers religious, earnings quality, ethical industries, and ESG performance. In addition, the screening criteria are divided into two types: majority and stringent criteria. As explained in 4.1.1 above, the difference between the majority and stringent criteria is only in the first stage of the religious screening. The objective of including two types of criteria is to capture the impact of different religious screening requirements as this stage encompasses a very diverse methodology. As evidenced by the previous empirical research on the impact of ethics on firm risk and returns, it is expected that ethically compliant firms will demonstrate lower uncertainty and the level of stability in the returns will increase as the ethical standard rises.

5.2.1. Comprehensive Ethical Screening and Market Uncertainty

Table 5 reports the primary results of the market uncertainty analysis for different screening stages. The majority criteria are reported in models 1-3, and the stringent criteria are in models 4-6. Ethically compliant firms based on the comprehensive screening show lower market uncertainty in both the majority and stringent criteria (model 3 and model 6). The findings are consistent with the previous literature reporting lower total and idiosyncratic uncertainty for companies with high ESG performance (S. Mishra and Modi, 2013; Sassen et al., 2016). Stage 1- Religious screening shows a negative relationship (-0.0292) with Idio_volt and a significant 10% for the majority criteria. The negative coefficient increase in Stage 2 (-0.119) and a further increase in Stage 3 (-0.137) are significant at 1%. The finding for stringent criteria depicts a similar trend, except for Stage 1. The inconsistent result for Stage 1 suggests some weakness in the basic religious screening, and the additional layer in the comprehensive screening is vital. Overall, the results provide clear and uniform evidence that the comprehensive ethical screening provides a more efficient methodology. Thus, firms that are screened using this methodology demonstrate lower uncertainty using the market measures.

In this market model, all firm-level control variables report a significant influence on Idio_volt with the expected signs. Profitability, Size, Age, and Big4 indicate a negative influence on Idio_volt. As explained above, it is expected that experienced firms with high profits, stable resources, and better audit quality have lower uncertainty. Leverage and Sales growth, on the other hand, are positive with Idio_volt, which is consistent with the conventional financial theory that high debt will lead to high financial uncertainty. Sales growth, reflecting the level of firm investment activity, is thus likely to have a positive relationship with market uncertainty.

[Table 5]

As above, the study also tests the relevance of the IV in the market model. The results of the first-stage regression indicate that our position stands and that the IV is valid. The p-value of Wooldridge's (1995) score test confirms that the estimations are endogenous and the relevance of using 2SLS estimation, except for models 1 and 3 (ethical screening stage 1). Even though the model is not endogenous, the 2SLS estimator will still provide an efficient estimator. The disparity in the results might be due to the unobservable heterogeneity and selection bias in the sample. This study tackles this issue using a propensity score matching research design, which will be explained in the next subsection.

5.2.2. Comprehensive Ethical Screening and Market Uncertainty: The Impact of Stringent Screening

As discussed in 4.1 above, we construct the comprehensive ethical screening in two categories: majority screening and stringent screening. To understand the impact of these screening categories on firm market uncertainty, we need to comprehend the technical aspect of the screening process. Initially, the difference between the majority and stringent screening is in the basic religious screening (i.e., Stage 1), particularly for the financial aspect of the firm: the debt, liquidity and interest screening. Based on fundamental financial theory, a company's debt, liquidity and interest components directly impact its financial performance. The debt ratio indicates the proportion of a company's debts relative to its assets. A high ratio signifies that the company is highly leveraged and may be at risk of defaulting on its loans. The liquidity and interest ratios, on the other hand, demonstrate the company's ability to meet its short-term obligations. Thus, high liquidity is an indicator of financial health but also suggests that the company is not investing sufficiently. Taken together, high debt leads to high risk, while high liquidity denotes lower risk; these factors undoubtedly influence the company's market uncertainty. Technically, the Stage 1 screening process produces a unique category of firms that belong to specific industries and are characterised by lower debt, low liquidity, and low-interest income. The variation between the majority and stringent screening is on the percentage of the benchmark. The benchmark is more strict (i.e., lower) for the stringent screening compared to the majority screening. As a result, firms that comply with the stringent rules are theoretically characterized by lower risk and more efficient investment.

Comparing the results (majority versus stringent), as reported in the primary estimation (Table 5), we are able to recognize some significant variations. The coefficient of ethically compliant firms measured by Stage 1 is insignificant, thus indicating some inconsistent results for the basic screening. For Stage 2 of the stringent criteria, the results are consistent in that ethically compliant firms lead to lower market uncertainty with a negative coefficient of -0.119 and significant at 1%. The negative coefficient is further increased to -0.149 in Stage 3 (comprehensive screening), which is also higher compared to the -0.137 for the majority screening. Consequently, the findings suggest a twofold inference. First, the insignificant impact of stringent criteria on the firm's market uncertainty suggests a limitation of this criterion. The result proposes that solely relying on stringent rules might not be beneficial, particularly for investors screening for companies with stable market performance. This factor might be due to the stricter benchmark, which leads to only a few limited companies with

specific financial characteristics. Second, the findings nevertheless advocate an advantage of this criterion when it is combined with the ethical screening factors. Based on the magnitude of the coefficient, we find that the impact of comprehensive screening is more pronounced for the stringent benchmark. Hence, the stringent criteria are more prominent in screening for ethically compliant firms with stable market returns. In other words, firms characterized by lower risk and efficient investment demonstrate lower market uncertainty when they are ethically compliant.

5.2.3. Testing the Impact of the Stakeholder Components

The above results thus far are consistent with our hypothesis proposing a negative relationship between ethically compliant firms and market uncertainty. We further investigate more deeply to uncover the central ethical components contributing to lower market uncertainty. Utilising the availability of extensive data on the ESG sub-scores, the analysis performs a series of tests on hypothesis 3 by employing the following model:

$$\begin{aligned} Uncertainty_{it} &= \alpha_0 + \beta_1 \widehat{EthicalFirms_{it}} + \beta_2 Stakeholder_{it} \\ &+ \beta_3 \widehat{EthicalFirms_{it}} \times Stakeholder_{it} + \sum_{i=1}^{n} \beta_i \, Controls_{it} \\ &+ YearFE + IndustryFE \; + \varepsilon_{it} \end{aligned} \quad (4)$$

Where $\beta_2 \widehat{EthicalFirms_{it}} \times Stakeholder_{it}$ is the interaction between the indicator of ethically compliant firms (Stage 3- Majority) and the stakeholder variable. Using the ESG data points from Asset4, we identify vital ESG scores and categorise the variables into stakeholder groups. The study runs Eq. (4) separately for each identified score. The aim is to uncover which groups or components within the stakeholders are central to corporate financial stability.

[Table 6]

[Table 7]

In total, the tests manage to observe 14 significant stakeholder components with negative coefficients. Table 6 reports the summary of the significant stakeholder variables. As presented in Table 7 (Panel A and B), we find that the interaction between the indicator of ethically compliant firms and these stakeholder components shows negative relationships with

market uncertainty. The results indicate that ethically compliant firms screened using the comprehensive ethical screening demonstrate lower uncertainty in market returns when the firms comply with the vital stakeholder components, which is consistent with hypothesis 3. In answering the question of which stakeholder groups are essential for corporate performance, the empirical test reveals that the shareholders, managers, board of directors, employees, and community are vital for corporate survival. In addition, specific governance committees, such as the audit, compensation, and nomination committees, also contribute to lower uncertainty. As in Table 7, our thorough empirical tests show that the shareholders are more concerned with implementing shareholder loyalty policies, including processes to avoid the misuse of inside information. The management's interest is in the company's compensation policy, and whether the compensation is linked to the performance of the firm. The board of directors component is concerned with the main governance issues, including board size, board independence, and board experience. The central factors are the company's management commitment and effectiveness towards following the best practice of corporate governance by having the capacity to have an effective board and the ability to attract and retain executives and board members. Ethical companies with independent governance committees (i.e., audit, nomination, compensation) indicate lower uncertainty. For employees, the existence of a competitive employee benefits policy is important. Finally, the community is more concerned with the rights of indigenous people and monetary contributions.

5.2.4. Comprehensive Ethical Screening: Matched Sample

The descriptive statistics in section 5.1 show that the average number of firms in the sample categorised as ethically compliant is quite small, especially in the comprehensive screening stage. Therefore, to correct the estimation of the treatment effect (ethical screening criteria) for unobservable heterogeneity and sample selection bias, this study additionally constructs matched pair samples using the propensity score matched pairs research technique. The matched pair samples in all screening stages are constructed on the basis of observable firm-level characteristics. This full-dimensional matching approach is more robust as it will relax the assumptions in classical OLS estimation (Hooghiemstra et al., 2015).

In the first step, the study runs a probit model in which the dependent variable is the indicator of ethically compliant firms. The idea of this method is to match firms that pass the screening criteria with firms that have the closest propensity to be classified as ethically compliant firms but do not actually pass the screening criteria. This method will remove the

heterogeneity bias between ethically compliant firms and non-ethically compliant firms, which is the major causing factor for potential endogeneity in the estimation (see section 4.3). As there are six ethical screening categories, the study constructs six matched pair samples for the regression analysis. More specifically, the dependent variable is the six indicators of ethically compliant firms: ES1, ES2, and ES3 for the majority and stringent benchmarks. The regressors are the variables that are hypothesised to be associated with the screening stages (the treatment) and firm uncertainty (the outcome). These include profitability, leverage, sales growth, firm age, Big4, and also the liquidity and interest ratios. The liquidity ratio is defined as total liquid assets (cash plus debtor) divided by total assets, while the interest ratio is the ratio of interest-bearing security (proxied by cash and short-term investment) to total assets. Leverage, liquidity, and interest ratio are included in the model as these are the main variables for the screening criteria (see section 4.1), and the other firms-level variables are likely to have a significant association with the treatment and the outcome of our analysis.

The study then predicts the propensity scores based on the abovementioned firm-level characteristics and uses a nearest-neighbour matching approach with a calliper constraint to construct matched pairs. Following Shipman et al. (2017) and Hooghiemstra et al. (2015), the analysis uses a maximum calliper difference of 0.01 and removes the dissimilar matched pairs to acquire better control for potentially confounding factors. The final sample covers 1,625 (majority benchmark) and 1,240 (stringent-benchmark) matched pairs.

Next, the study runs a multivariate analysis to compare the firm uncertainty between the ethically and non-ethically compliant firms using the matched sample. Prior to the final estimation, the study conducts endogeneity tests using Wooldridge's (1995) score test and confirms that there is no endogeneity in the estimation using the matched sample. Thus, the analysis employs OLS regression, and the results are presented in Table 8.

[Table 8]

The findings show that firms that are categorised as ethically compliant based on the comprehensive screening demonstrate lower market uncertainty (with robust p-values between 0.05 to 0.01). The results for other screening stages are not significant, and the findings are consistent for the majority and stringent criteria. These findings support the main hypothesis and provide robust evidence for the efficiency and reliability of the comprehensive screening framework as compared to the current screening practices. The findings also verify that the primary estimations are valid and do not suffer from heterogeneity or selection bias.

5.3. Robustness Tests

The study performs six additional robustness analyses to provide support for the primary results.

5.3.1. Alternative Measures of Firm Uncertainty

The study replicates the model in the primary analysis and exploits alternative measures of firm market uncertainty to support the main findings. The standard deviation of a company's weekly stock returns (Total_volt) is the alternative measure of market uncertainty. The total uncertainty is defined as the standard deviation of a firm's weekly stock returns over the last year. The results show that the relationship of ethically compliant firms with uncertainty at all stages for the alternative market measures supports the primary estimations. The results depict consistent negative coefficients with a similar trend, wherein the negative coefficient increases as the screening criteria increases, thus maintaining the finding of the primary results and hypotheses 1 and 2.

5.3.2. The Impact of Countries with High Religiosity

Social norms theory and prior research predict that firms located in areas with high levels of religiosity are inclined to have high ethical values that lead to more stable returns. The literature clearly agrees that religion is a vital social mechanism that can strongly influence the decisions and actions of individuals or groups in making economic decisions as well as social interactions (Chircop et al., 2017; Kanagaretnam et al., 2015; Kennedy and Lawton, 1998; Weaver and Agle, 2002). The level of religiosity in a particular area is expected to influence corporate behaviour because religion is a part of social norms or the culture of a particular society. Religion is also a source of morality and ethics and can lead to a fear of uncertainty. Therefore, it is vital to check that the influence of ethically compliant firms is not affected by the culture maintained in the area surrounding the firms. To test this assumption, the study re-estimates the main model and controls for countries with high religiosity.

The level of religiosity in a country is measured by the percentage of respondents who indicate that religion is important (or rather, important to themselves), which is gathered from the World Values Survey. From this religiosity score, high religiosity is measured by a dummy variable equal to 1 if the religiosity score in the country in which the firm is located is above

the median score in the sample and 0 otherwise.[7] The results show that the results of all screening stages remain consistent even after controlling for countries with high levels of religiosity. High religiosity also indicates a significant negative relationship with market uncertainty, which is consistent with prior studies. These findings indicate that the negative relationship between ethically compliant firms and the measures of firm uncertainty is resilient to the impact of the culture in the country where the firm is located.

5.3.3. The Impact of Types of Controlling Shareholders

The corporate governance theory states that controlling shareholders play an important role in influencing corporate performance. Shareholders can influence the firm by being involved in strategic corporate decisions and determining how management is monitored and compensated (Jensen and Meckling, 1976; Zou and Adams, 2008). This corporate governance system functions as a mechanism to reduce agency costs (Jensen and Meckling, 1976). Thus, the prior literature demonstrates that monitoring behaviour is affected by the identity and characteristics of the shareholders (Boubakri et al., 2013; Dong et al., 2014; Maury and Pajuste, 2005). Different owners are likely to have different objectives and ways of exercising their power and rights (Hope, 2013; Zou and Adams, 2008). Therefore, it is crucial to analyse the impact of shareholder types. Following these arguments, the study conducts an additional test involving shareholder characteristics. The aim is to provide evidence that the influence of ethical screening is robust and is not affected by shareholder preferences.

The analysis includes various types of largest ultimate controlling shareholders as additional control variables. The result shows that the ethically compliant firms in all screening stages report a consistent coefficient in all models, even after controlling for the types of ownership. The findings sustain our position that uncertainty will decrease as the screening requirement becomes more intense and stringent. In sum, managerial ownership and institutional ownership show significant results and the direction of the coefficients is in line with the literature. Managerial ownership indicates lower uncertainty in all models. Stock ownership by management can increase their motivation to work to raise the value of the firm

[7] The literature suggests that religiosity is reverse-causing firm performance. As such, the estimation uses an instrumental variable to tackle the possible endogeneity issue. The instrumental variable for high religiosity is religious democracy, defined as the percentage of respondents who indicate that one of the essential components of a country's democracy is when the religious authorities have the power to interpret the law. This variable is also from WVS and is transformed into a dummy variable using the same procedure as the high religiosity variable.

(Hermalin and Weisbach, 1991) and lead to stable returns. The percentage of institutional ownership also presents a consistent, negative coefficient in the market model.

5.3.4. The Impact of Investment Characteristics of Controlling Shareholders

Prior literature finds that companies controlled by diversified shareholders are reported to have higher uncertainty in their returns (Faccio et al., 2011; García-Kuhnert et al., 2015; Mishra, 2011). The assumption is that the investment preferences of the controlling shareholders will influence the shareholders' controlling behaviour and the firm's investment policy. As such, the study examines whether the results hold after controlling for shareholder investment styles measured by the shareholder portfolio diversification. This variable is defined as the natural logarithm of the number of companies owned by the firm's largest ultimate shareholder. Based on the analysis, it is clear that the results are comparable to the findings in the main estimations.

5.3.5. The Impact of the Financial Crisis

Ethically compliant firms measured by the religious screening are found to provide higher stability during the recent 2008 financial crisis (Alam, 2010; Alaoui et al., 2016; Ashraf et al., 2017; Ho et al., 2014; Jawadi et al., 2014). Prior literature also suggests comparable results for firms with high ESG performance (Lins et al., 2017). The association between ethics and the financial crisis is indirectly explained in stakeholder and legitimacy theories. These theories state that ethical practices by corporations develop a form of 'trust' between the companies and their stakeholders. Lins et al. (2017) explain that this form of trust is likely to be more vital and apparent in the period of low trust in the market, which can be witnessed during high uncertainty or the financial crisis.

The study tests this assumption and addresses the impact of the financial crisis on the primary analysis by conducting a separate analysis for the crisis periods (years 2007-2009). Specifically, the overall sample is divided into crisis periods (years 2007-2009) and post-crisis periods (years 2010-2016), and the study re-estimates the main model in both sample periods separately. The results show that the crisis sample exhibits consistent results, where the coefficient of ethically compliant firms remains significant and negative, similar to the full sample effect. The findings for post-crisis periods also depict similar results to the crisis periods and the primary estimation. To further strengthen the test, we interact the crisis variable with the ethically compliant indicator variables, and include the crisis and interaction variables in the model. The results indicate that the ethically compliant variable remains negative and significant while the interaction terms are insignificant. This additional test suggests that the

crisis does not significantly impact ethically compliant firms, implying that ethically compliant firms are more resilient to the crisis. These findings support the claim that corporations with high ethical standards are less severely affected by the financial crisis, which is comparable to prior literature and the above theoretical conjecture.

5.3.6. Testing Using the Lead-Lag Approach

Financial events that affect the return uncertainty might emerge around the end of the financial year. To capture the impact that might occur during the interval period, the study further conducts a test using the lag of the ethically compliant indicator variable. We find that the results remain consistent, indicating that ethically compliant firms are significantly associated with lower uncertainty after including the possible impact during the intermission period. By considering the lagged value, the analysis further rejects the possibility of endogeneity due to simultaneity. Hence, the results provide evidence of robust findings and strengthen the main estimation using 2SLS.

6. Conclusion

This paper examines the market uncertainty of ethically compliant equity identified using a newly developed comprehensive ethical screening methodology. The firm market uncertainty is defined as idiosyncratic volatility. Specifically, the study tries to fulfil three main objectives. First, develops a comprehensive framework to be used in screening a global sample of firms for their ethical compliance. Second, examines whether the ethically compliant firms based on this comprehensive screening criteria exhibit more stable returns. Finally, identifies and tests the impact of specific stakeholder components that are vital to a firm's stability.

This study develops a comprehensive ethical screening framework that comprises three main stages, which are more intense and stringent than the existing religious and ethical screening procedure. The proposed comprehensive ethical framework is a combination of the current religious and socially responsible criteria, with an additional layer that accounts for the firm's earnings quality. The three-level comprehensive ethical screening is designed to capture a unique set of companies that are not only compliant with the major religious rules but also embrace high ethical standards. These unique, ethically compliant firms are expected to provide more stable returns to investors and thus positively contribute to the economy and social well-being. This notion is apparently supported by previous literature examining the impact of ethics on firm performance.

In sum, the empirical results support the position that ethics leads to better firm performance in terms of returns stability. The results suggest that the newly proposed comprehensive ethical screening is more efficient than existing religious and ethical screening methodologies in screening for highly ethical and low-risk companies. The comparative analysis reveals that ethically compliant firms exhibit lower performance uncertainty as the screening process becomes more intense and stringent. The analysis further reveals that ethically compliant firms that are additionally observed to have vital stakeholder components demonstrate lower uncertainty. Ethically compliant firms also report better performance during the crisis period, which is consistent with the theory and previous empirical findings. In the matched pair sample analysis, only ethically compliant firms based on the comprehensive criteria demonstrate significantly low uncertainty, while the other screening stages are insignificant. These findings strengthen the main hypothesis of this study, and hence, support the reliability of the proposed comprehensive screening framework.

This pioneering study offers some policy implications. For academics and researchers, future studies should account for ethical practices, such as earnings quality and ESG performance, and also social norms as a salient determinant of corporate outcomes. Therefore, researchers need to consider factors beyond financial characteristics when analysing the instability of asset prices. For practitioners and regulators, the findings demonstrate that the integration of earnings quality and ESG standards increases firm performance and transparency and mitigates information asymmetry. Therefore, an effective way to foster a country's economic development is to encourage firm growth by providing them with incentives to invest in ethical activities and protect the interests of their stakeholders. Regulatory authorities can design training programs and disclosure requirements that facilitate the adoption of this screening framework. For investors and portfolio managers, the comprehensive framework will facilitate the selection of high-performing ethical stock. Hence, religious investors will have the opportunity to engage in socially responsible investment without challenging religious views and enabling them to fulfil the intrinsic values of religion. Both religious and ethical investors can benefit from the stable performance offered by firms with comprehensive ethical compliance.

This line of study can be expanded in a number of ways. The performance of the proposed comprehensive ethical framework can be tested on a larger sample using a different empirical methodology. Future studies can additionally tackle the impact of other ethical elements, such as excessive risk and narrative quality screening. Finally, following Derigs and

Marzban (2009), the study acknowledges that the new proposed comprehensive ethical screening is justified and developed based on religious practices, moral values and reasoning. Therefore, the practicability, effectiveness, and verdict regarding compliance need to be verified and judged by scholars.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Tables, and Results

Table 1: Summary of Comprehensive Ethical Screening Criteria

Stages/ Types	Description	Stage 1: Basic Religious	Stage 2: Religious + EQ	Stage 3: Religious + EQ + Ethics
Religious industries	Excludes: Tobacco, pork production, alcohol, arms, interest-based conventional financial services, real estate, leasing companies, gambling, alcohol-serving hotels and motels, restaurant & bar.	✓	✓	✓
Financial ratios	1. Debt to total asset (majority: <33%; stringent: <33%) 2. Receivable + Cash to total assets (majority: <50%; stringent: <33%) 3. Cash + interest-bearing securities to total assets (majority: <33%; stringent: <30%) 4. Income from non-permissible segments to total revenue (majority: <5%; stringent: <5%)	✓	✓	✓
Earnings quality	Earnings quality score above 50% for accruals and cash flow components.		✓	✓
Ethical industries	Additionally excludes fossil and nuclear			✓
ESG	ESG overall score Above 50%			✓

Table 2: Country distribution of observations

No	Country	Firms	Obs.	Percent
1	Australia	244	2,247	11.51
2	Austria	9	90	0.46
3	Belgium	16	153	0.78
4	Brazil	54	462	2.37
5	Canada	152	1,351	6.92
6	Chile	16	144	0.74
7	China	41	341	1.75
8	Colombia	5	43	0.22
9	Egypt	5	47	0.24
10	France	75	725	3.71
11	Germany	66	626	3.21
12	Greece	9	81	0.42
13	Hong Kong	37	351	1.8
14	Hungary	3	19	0.1
15	India	64	624	3.2
16	Indonesia	26	219	1.12
17	Ireland	10	90	0.46
18	Israel	9	80	0.41
19	Italy	24	185	0.95
20	Japan	331	2,912	14.92
21	Korea (Republic of)	79	750	3.84
22	Luxembourg	3	27	0.14
23	Malaysia	29	255	1.31
24	Mexico	26	209	1.07
25	Netherlands	23	197	1.01

26	New Zealand	18	106	0.54
27	Norway	15	127	0.65
28	Philippines	12	108	0.55
29	Poland	17	149	0.76
30	Portugal	7	63	0.32
31	Qatar	2	10	0.05
32	Russian Federation	28	190	0.97
33	Saudi Arabia	3	24	0.12
34	Singapore	22	207	1.06
35	South Africa	73	704	3.61
36	Spain	30	247	1.27
37	Switzerland	45	443	2.27
38	Thailand	21	196	1
39	Turkey	17	148	0.76
40	United Arab Emirates	2	12	0.06
41	United Kingdom	197	389	1.99
42	United States	474	4,167	21.35
	Total	2,339	19,518	100

Table 3: Descriptive Statistics for the overall sample and each ethical screening stages.

Full Sample	**Mean**	**Median**	**Std. Dev.**
Idio_volt	0.7292	0.6271	0.3973
ES1-Majority	0.5015	1.0000	0.5000
ES1-Stringent	0.3991	0.0000	0.4897
ES2-Majority	0.1940	0.0000	0.3955
ES2-Stringent	0.1479	0.0000	0.3550
ES3-Majority	0.0873	0.0000	0.2823
ES3-Stringent	0.0667	0.0000	0.2495
Profitability	0.0180	0.0038	0.2761
Size	15.2240	15.3638	1.7666
Leverage	0.2475	0.2333	0.1934
Sales growth	0.3225	0.0557	4.8630
Age	3.5132	3.5835	0.9499
Big4	0.6715	1.0000	0.4697
GDP growth	0.0008	0.0000	0.0173
Market size	117.4267	95.1436	136.1503
Inflation	2.3531	1.8201	2.4247
Regulatory quality	83.2776	87.6777	16.1371

Ethical Screening Stages	**Mean**	**Median**	**Std. Dev.**
ES1 -Majority: Religious		**Firms = 1645, Obs. = 9789**	
Idio_volt	0.7129	0.6219	0.3687
Profitability	0.0317	0.0066	0.2457
Size	15.2764	15.3356	1.7082
Leverage	0.1692	0.1823	0.1014
Sales growth	0.3316	0.0550	5.6796
Age	3.5801	3.6889	0.9540
Big4	0.6842	1.0000	0.4648
ES1 -Stringent: Religious		**Firms = 1460, Obs. = 7790**	
Idio_volt	0.7144	0.6186	0.3798
Profitability	0.0321	0.0056	0.2582
Size	15.3704	15.4370	1.7522
Leverage	0.1772	0.1931	0.1001
Sales growth	0.3777	0.0510	6.3323
Age	3.5544	3.6376	0.9626
Big4	0.6910	1.0000	0.4621

ES2 -Majority: Religious + EQ		**Firms = 1315, Obs. = 3787**	
Idio_volt	0.6771	0.6037	0.3307
Profitability	0.0201	0.0040	0.1997
Size	15.3333	15.3434	1.6321
Leverage	0.1656	0.1763	0.0999
Sales growth	0.1676	0.0609	2.8698
Age	3.5808	3.6636	0.9572
Big4	0.7045	1.0000	0.4563
ES2 -Stringent: Religious + EQ		**Firms = 1082, Obs. = 2286**	
Idio_volt	0.6727	0.5941	0.3373
Profitability	0.0166	0.0015	0.2072
Size	15.4552	15.4641	1.6713
Leverage	0.1764	0.1889	0.0983
Sales growth	0.1829	0.0565	3.2818
Age	3.5640	3.6109	0.9711
Big4	0.7024	1.0000	0.4573
ES3 -Majority: Religious+EQ+ESG		**Firms = 728, Obs. = 1704**	
Idio_volt	0.5904	0.5369	0.2491
Profitability	0.0264	0.0058	0.1866
Size	16.0787	16.0280	1.3487
Leverage	0.1768	0.1861	0.0923
Sales growth	0.0793	0.0607	0.2055
Age	3.8214	3.9890	0.9189
Big4	0.7670	1.0000	0.4229
ES3 -Stringent: Religious+EQ+ESG		**Firms = 592, Obs. = 1302**	
Idio_volt	0.5853	0.5284	0.2541
Profitability	0.0246	0.0035	0.1890
Size	16.2206	16.1851	1.3716
Leverage	0.1883	0.2007	0.0894
Sales growth	0.0754	0.0565	0.2086
Age	3.8030	3.9703	0.9519
Big4	0.7611	1.0000	0.4266

This table reports the descriptive statistics for the main dependent and independent variables. The dependent variable: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represent the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

Table 4: Correlation Matrix

Market Uncertainty

	Idio_volt	**ES1-Majority**	**ES1-Stringent**	**ES2-Majority**	**ES2-Stringent**	**ES3-Majority**	**ES3-Stringent**	**Profitability**	**Size**	**Leverage**	**Sales growth**
Idio_volt	1.0000										
ES1-Majority	-0.0410*	1.0000									
ES1-Stringent	-0.0303*	0.8125*	1.0000								
ES2-Majority	-0.0643*	0.4891*	0.3637*	1.0000							
ES2-Stringent	-0.0592*	0.4153*	0.5111*	0.8490*	1.0000						
ES3-Majority	-0.1081*	0.3083*	0.2305*	0.6304*	0.5369*	1.0000					
ES3-Stringent	-0.0968*	0.2665*	0.3280*	0.5449*	0.6418*	0.8644*	1.0000				
Profitability	-0.0218*	0.0495*	0.0415*	0.0036	-0.0022	0.0094	0.0063	1.0000			
Size	-0.4496*	0.0298*	0.0676*	0.0304*	0.0545*	0.1496*	0.1508*	-0.0348*	1.0000		
Leverage	-0.0145*	-0.4061*	-0.2964*	-0.2078*	-0.1533*	-0.1131*	-0.0818*	-0.1107*	0.2642*	1.0000	
Sales growth	0.0775*	0.0019	0.0093	-0.0156*	-0.0120	-0.0155*	-0.0136	0.0277*	-0.0923*	-0.0340*	1.0000
Age	-0.2477*	0.0706*	0.0353*	0.0349*	0.0223*	0.1004*	0.0816*	-0.0325*	0.2864*	0.0448*	-0.0554*
Big4	-0.1135*	0.0272*	0.0339*	0.0345*	0.0274*	0.0629*	0.0510*	0.0120	0.0621*	0.0029	-0.0103
GDP growth	-0.0050	-0.0047	-0.0034	-0.0109	-0.0058	-0.0126	-0.0100	-0.0102	0.0028	0.0054	-0.0027
Market size	-0.0467*	-0.0451*	-0.0327*	-0.0121	-0.0087	-0.0251*	-0.0231*	-0.0084	0.0019	-0.0241*	0.0168*
Inflation	0.1624*	-0.0369*	0.0067	-0.0146*	0.0066	-0.0276*	-0.0164*	0.0293*	-0.1311*	0.0132	0.0200*
Regulatory quality	0.0166*	0.0521*	0.0378*	0.0353*	0.0264*	0.0567*	0.0489*	0.0586*	-0.1012*	-0.0712*	0.0271*

	Age	**Big4**	**GDP growth**	**Market size**	**Inflation**	**Regulatory quality**
Age	1.0000					
Big4	0.0114	1.0000				
GDP growth	-0.0147*	-0.0202*	1.0000			
Market size	-0.0243*	0.1266*	-0.0121	1.0000		
Inflation	-0.1435*	-0.1557*	0.0244*	0.0303*	1.0000	
Regulatory quality	0.0370*	0.2986*	-0.0462*	0.1952*	-0.5974*	1.0000

This table reports the Pearson correlation matrix for the test and main control variables. The dependent variable: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). ES1 (Majority/Stringent), ES2 (Majority/Stringent), and ES3 (Majority/ Stringent) refer to ethical screening stage 1, 2, and 3 screening criteria based on the majority or stringent benchmark respectively. *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represent the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality.

Table 5: Ethical screening and market uncertainty

Market Uncertainty	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
(ES1) Stage 1: Basic religious	-0.0292*					
	(0.0177)					
(ES2) Stage 2: Religious + Earnings Quality		-0.119***				
		(0.0293)				
(ES3) Stage 3: Religious + Earnings Quality + ESG			-0.137***			
			(0.0413)			
Stringent Screening						
(ES1) Stage 1: Basic religious				-0.0284		
				(0.0175)		
(ES2) Stage 2: Religious + Earnings Quality					-0.119***	
					(0.0313)	
(ES3) Stage 3: Religious + Earnings Quality + ESG						-0.149***
						(0.0476)
Profitability	-0.107***	-0.109***	-0.108***	-0.108***	-0.110***	-0.108***
	(0.0232)	(0.0232)	(0.0231)	(0.0232)	(0.0235)	(0.0232)
Size	-0.0839***	-0.0828***	-0.0809***	-0.0836***	-0.0824***	-0.0810***
	(0.0034)	(0.0034)	(0.0037)	(0.0035)	(0.0034)	(0.0037)
Leverage	0.235***	0.212***	0.239***	0.243***	0.226***	0.244***
	(0.0357)	(0.0327)	(0.0309)	(0.0330)	(0.0312)	(0.0303)
Sales Growth	0.00132*	0.00122*	0.00132**	0.00134**	0.00126*	0.00132**
	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Age	-0.0404***	-0.0405***	-0.0393***	-0.0408***	-0.0410***	-0.0400***
	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0047)
Big4	-0.0379***	-0.0352***	-0.0346***	-0.0380***	-0.0369***	-0.0359***
	(0.0092)	(0.0092)	(0.0093)	(0.0093)	(0.0093)	(0.0093)
GDP Growth	-0.126	-0.144	-0.130	-0.127	-0.133	-0.127
	(0.0903)	(0.0931)	(0.0929)	(0.0900)	(0.0912)	(0.0923)
Market Size	0.000002	-0.000002	-0.000006	0.000002	-0.000002	-0.000005

	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Inflation	0.0051***	0.0058***	0.0061***	0.0055***	0.0063***	0.0062***
	(0.0019)	(0.0020)	(0.0020)	(0.0019)	(0.0020)	(0.0020)
Regulatory Quality	-0.0002	-0.00008	0.00003	-0.0002	-0.00004	0.00003
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	2.006***	1.995***	1.927***	1.995***	1.978***	1.929***
	(0.0755)	(0.0773)	(0.0805)	(0.0756)	(0.0776)	(0.0810)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19518	19518	19518	19518	19518	19518
First Stage Regressions:						
Ethically-compliant firms industry-country average	0.8769***	0.8913***	0.9182***	0.9229***	0.9175***	0.9364***
	(0.0080)	(0.0173)	(0.0277)	(0.0078)	(0.0192)	(0.0315)
Partial R^2 of excluded instruments	0.3003	0.1354	0.1139	0.2991	0.1504	0.1162
F-test of excluded instruments	3951.54	2564.01	1074.58	5214.57	2299.71	953.059
Wooldridge's (1995) score test (p-values)	0.3083	0.0001	0.0016	0.1847	0.0002	0.0023

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represent the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Table 6: Stakeholders groups and sub-components that are vital in contributing to lower market uncertainty

Stakeholders and Sub Components	Variable Definition	Variable Name
Shareholder		
Shareholder rights policy: equal voting right	Indicator variable equal to 1 if the company comply with regulations regarding equal voting rights principles and 0 otherwise.	SHRIGHT
Shareholder loyalty: implementation	Percentage score of the company implementation of its shareholder loyalty policy through a public commitment from a senior management or board member, and having the processes in place to avoid the misuse of inside information.	SHLOYALTY
Management		
CEO compensation	Indicator variable equal to 1 if the CEO's compensation linked to total shareholder return (TSR) and 0 otherwise.	CEOCOM
Compensation policy	Indicator variable equal to 1 if the company have a performance oriented compensation policy and 0 otherwise	COMPOLICY
Board of Directors		
Board size	Indicator variable equal to 1 if the company have a policy regarding the size of its board and 0 otherwise.	BODSIZE
Board independence	Indicator variable equal to 1 if the company comply with regulations regarding board independence and 0 otherwise.	BODIND
Board experience	Indicator variable equal to 1 if the company have a policy regarding the adequate experience on its board and 0 otherwise.	BODEXP
Audit Committee		
Audit committee independence	Percentage of independent board members on the audit committee as stipulated by the company.	AUDITIND
Audit committee expertise	Percentage score if the company have an audit committee with at least three members and at least one "financial expert" within the meaning of Sarbanes-Oxley	AUDITEXP
Nomination Committee		
Nomination committee independence	Percentage score if the company monitor the board functions through the establishment of a nomination committee.	NOMICOM
Compensation Committee		
Compensation committee independence	Percentage of independent board members on the compensation committee as stipulated by the company.	COMPCOM
Employee		
Employment benefits	Indicator variable equal to 1 if the company have a competitive employee benefits policy and 0 otherwise.	EMPBENEFIT
Community		
Indigenous people	Indicator variable equal to 1 if the company have a policy to respect the rights of indigenous people and 0 otherwise.	INDIGENOUS
Total donations	Total amount of all donations divided by net sales or revenue.	DONATION

Table 7 (Panel A): Ethical screening and market uncertainty: the impact of the stakeholder components

Market Uncertainty	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt	(7) Idio_volt
ES3-Majority	0.00190	0.143	-0.0400	0.191	0.173	0.0920	0.0165
	(0.0816)	(0.124)	(0.0482)	(0.124)	(0.124)	(0.128)	(0.0600)
SHRIGHT	0.134***						
	(0.0354)						
ES3-Majority*SHRIGHT	-0.215*						
	(0.119)						
SHLOYALTY		0.0006**					
		(0.0003)					
ES3-Majority*SHLOYALTY		-0.0046**					
		(0.0019)					
CEOCOM			0.0017				
			(0.0228)				
ES3-Majority*CEOCOM			-0.222**				
			(0.0917)				
COMPOLICY				0.0023			
				(0.0191)			
ES3-Majority*COMPOLICY				-0.374***			
				(0.141)			
BODSIZE					0.0618***		
					(0.0213)		
ES3-Majority*BODSIZE					-0.386***		
					(0.143)		
BODIND						0.0333	
						(0.0248)	
ES3-Majority*BODIND						-0.300**	
						(0.137)	
BODEXP							0.0064
							(0.0166)
ES3-Majority*BODEXP							-0.229***
							(0.0871)
Profitability	-0.120	-0.0619**	-0.0604**	-0.0612**	-0.0612**	-0.0626**	-0.0610**
	(0.0854)	(0.0252)	(0.0254)	(0.0253)	(0.0251)	(0.0261)	(0.0254)
Size	-0.0625***	-0.0785***	-0.0777***	-0.0783***	-0.0787***	-0.0836***	-0.0778***

	(0.0057)	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0047)	(0.0040)
Leverage	0.204***	0.136***	0.141***	0.145***	0.139***	0.0866**	0.139***
	(0.0546)	(0.0343)	(0.0341)	(0.0340)	(0.0340)	(0.0416)	(0.0340)
Sales Growth	0.00503	0.00142***	0.00151***	0.0015***	0.0015***	0.0011	0.00149***
	(0.0032)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0009)	(0.0005)
Age	-0.0223***	-0.0426***	-0.0430***	-0.0425***	-0.0416***	-0.0412***	-0.0431***
	(0.0075)	(0.0051)	(0.0051)	(0.0051)	(0.0051)	(0.0062)	(0.0052)
Big4	-0.0313*	-0.0325***	-0.0248**	-0.0234**	-0.0337***	-0.0328**	-0.0264***
	(0.0177)	(0.0097)	(0.0098)	(0.0101)	(0.0097)	(0.0139)	(0.0098)
GDP Growth	-0.518***	-0.252**	-0.254**	-0.258**	-0.252**	-0.388**	-0.258**
	(0.111)	(0.126)	(0.126)	(0.126)	(0.124)	(0.190)	(0.125)
Market Size	0.0000	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0002***	-0.0001***
	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Inflation	0.0170***	0.0145***	0.0180***	0.0184***	0.0151***	0.0244***	0.0177***
	(0.0048)	(0.0022)	(0.0023)	(0.0023)	(0.0022)	(0.0036)	(0.0023)
Regulatory Quality	0.0007	0.0012***	0.0019***	0.0019***	0.0013***	0.0022***	0.0018***
	(0.0009)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0004)
Intercept	1.482***	1.822***	1.777***	1.780***	1.809***	1.818***	1.786***
	(0.112)	(0.0696)	(0.0715)	(0.0694)	(0.0702)	(0.0867)	(0.0694)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	3123	16133	16132	16132	16132	11571	16132

Table 7 (Panel B): Ethical screening and market uncertainty: the impact of the stakeholder components

Market Uncertainty	(8) Idio_volt	(9) Idio_volt	(10) Idio_volt	(11) Idio_volt	(12) Idio_volt	(13) Idio_volt	(14) Idio_volt
ES3-Majority	-0.0031	0.0603	0.177	-0.0182	0.161	-0.0127	1.686*
	(0.0810)	(0.0991)	(0.132)	(0.0796)	(0.114)	(0.0434)	(0.870)
AUDITIND	-0.00007						
	(0.0003)						
ES3-Majority*AUDITIND	-0.0030*						
	(0.0016)						
AUDITEXP		-0.0005*					
		(0.0003)					
ES3-Majority*AUDITEXP		-0.0032*					

		(0.0017)					
NOMICOM			-0.0005*				
			(0.0003)				
ES3-Majority*NOMICOM			-0.0049**				
			(0.0021)				
COMPCOM				-0.0003			
				(0.0004)			
ES3-Majority*COMPCOM				-0.0031*			
				(0.0016)			
EMPBENEFIT					-0.0668***		
					(0.0229)		
ES3-Majority*EMPBENEFIT					-0.319**		
					(0.142)		
INDIGENOUS						0.450***	
						(0.0602)	
ES3-Majority*INDIGENOUS						-0.612***	
						(0.203)	
DONATION							0.0109***
							(0.0030)
ES3-Majority*DONATION							-0.0386**
							(0.0189)
Profitability	-0.0602**	-0.0605**	-0.0619**	-0.0596**	-0.0607**	-0.0664**	0.0205
	(0.0253)	(0.0254)	(0.0251)	(0.0250)	(0.0253)	(0.0268)	(0.0437)
Size	-0.0785***	-0.0777***	-0.0782***	-0.0800***	-0.0724***	-0.0906***	-0.0497***
	(0.0041)	(0.0040)	(0.0040)	(0.0044)	(0.0041)	(0.0045)	(0.0060)
Leverage	0.132***	0.148***	0.149***	0.0832**	0.151***	0.178***	0.0807
	(0.0353)	(0.0338)	(0.0339)	(0.0398)	(0.0346)	(0.0342)	(0.0528)
Sales Growth	0.0012**	0.0015***	0.0015***	0.0012***	0.0015***	0.0015***	0.0058**
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0027)
Age	-0.0429***	-0.0455***	-0.0451***	-0.0427***	-0.0438***	-0.0415***	-0.0391***
	(0.0054)	(0.0053)	(0.0052)	(0.0060)	(0.0052)	(0.0053)	(0.0068)
Big4	-0.0308***	-0.0227**	-0.0234**	-0.0138	-0.0202**	-0.0363***	-0.0337**
	(0.0100)	(0.00970)	(0.00981)	(0.0125)	(0.00999)	(0.0101)	(0.0133)
GDP Growth	-0.242*	-0.262**	-0.255**	-0.319**	-0.262**	-0.310**	-0.352**
	(0.133)	(0.129)	(0.127)	(0.151)	(0.132)	(0.123)	(0.150)

Market Size	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0000*	-0.0000*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Inflation	0.0174***	0.0203***	0.0196***	0.0183***	0.0210***	0.00486**	0.00387
	(0.0024)	(0.0024)	(0.0023)	(0.0028)	(0.0025)	(0.0024)	(0.0028)
Regulatory Quality	0.0018***	0.0021***	0.0021***	0.0021***	0.0020***	-0.0002	-0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Intercept	1.805***	1.779***	1.791***	1.807***	1.704***	2.132***	1.039***
	(0.0710)	(0.0692)	(0.0708)	(0.0786)	(0.0712)	(0.0828)	(0.186)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	15289	16132	16132	12319	16133	16133	6580

This table reports 2SLS regression results. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables: *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 3-Majority* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the majority religious screening, earnings quality screening and ESG screening. *SHRIGHT, SHLOYALTY, CEOCOM, COMPOLICY, BODSIZE, BODIND BODEXP, AUDITIND, AUDITEXP, NOMICOM, COMPCOM, EMPBENEFIT, INDIGENOUS, and DONATION* are the stakeholder variables (definition in Table 6). *ES3-Majority*(x)* is the interaction between the comprehensive ethical screening and the stakeholder variables. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represent the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm.

Table 8: Ethical screening and market uncertainty using the matched sample.

Market Uncertainty	(1) Idio_volt	(2) Idio_volt	(3) Idio_volt	(4) Idio_volt	(5) Idio_volt	(6) Idio_volt
Majority Screening						
(ES1) Stage 1: Basic religious	-0.00581					
	(0.00899)					
(ES2) Stage 2: Religious + Earnings Quality		-0.0102				
		(0.00710)				
(ES3) Stage 3: Religious + Earnings Quality + ESG			-0.0238***			
			(0.00781)			

Stringent Screening						
(ES1) Stage 1: Basic religious				0.0128		
				(0.00850)		
(ES2) Stage 2: Religious + Earnings Quality					-0.00928	
					(0.00841)	
(ES13) Stage 3: Religious + Earnings Quality + ESG						-0.0267***
						(0.00905)
Profitability	-0.173***	-0.134***	-0.0670**	-0.148***	-0.147***	-0.0851**
	(0.0454)	(0.0297)	(0.0297)	(0.0313)	(0.0383)	(0.0337)
Size	-0.0777***	-0.0723***	-0.0543***	-0.0691***	-0.0737***	-0.0488***
	(0.0041)	(0.0038)	(0.0044)	(0.0041)	(0.0042)	(0.0045)
Leverage	0.243***	0.168***	0.186***	0.153***	0.129***	0.126**
	(0.0420)	(0.0431)	(0.0492)	(0.0410)	(0.0476)	(0.0492)
Sales Growth	0.0025	0.0078***	0.0360*	0.000660	0.00461***	0.0217
	(0.0017)	(0.0024)	(0.0188)	(0.0011)	(0.0013)	(0.0160)
Age	-0.0310***	-0.0340***	-0.0339***	-0.0337***	-0.0304***	-0.0344***
	(0.0055)	(0.0054)	(0.0062)	(0.0057)	(0.0060)	(0.0067)
Big4	-0.0228**	-0.0236**	-0.0297**	-0.0307***	-0.0279**	-0.0388***
	(0.0112)	(0.0111)	(0.0120)	(0.0108)	(0.0127)	(0.0131)
GDP Growth	-0.576***	-0.214	-0.753	-0.209	-0.424**	-2.005***
	(0.166)	(0.371)	(0.557)	(0.271)	(0.173)	(0.688)
Market Size	-0.000007	-0.000008	0.00002	-0.00006	-0.00002	-0.00003
	(0.00004)	(0.00005)	(0.00005)	(0.00004)	(0.00005)	(0.00005)
Inflation	0.0056**	0.0090***	0.0079***	0.0084***	0.0117***	0.0123***
	(0.0025)	(0.0026)	(0.0028)	(0.0025)	(0.0029)	(0.0032)
Regulatory Quality	-0.0004	0.0002	-0.0001	-0.0002	0.0005	0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0006)
Intercept	1.871***	1.769***	1.599***	1.715***	1.783***	1.460***
	(0.0993)	(0.0893)	(0.0999)	(0.0833)	(0.0957)	(0.124)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	6524	7218	3250	6802	5424	2480

This table reports OLS regression results for market uncertainty using the matched sample. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels. The dependent variables *Idio_volt* is the standard deviation of the residuals from the market model regression augmented with Fama-French return factors (SMB, HML). *Stage 1* is a dummy variable

equal to1 if the company passed the religious screening and 0 otherwise. *Stage 2* is a dummy variable equal to 1 if the company passed the religious screening and the earnings quality screening. *Stage 3* is the comprehensive ethical screening measure as a dummy variable equal to 1 if the company passed the religious screening, earnings quality screening and ESG screening. *Profitability* is the return on assets define as the ratio of EBIT to total assets. *Size* is the natural log of firm total assets. *Leverage* is the ratio of total debt to total assets. *Sales Growth* is the annual growth rate of sales. *Age* is the natural log of 1 + the number of years since incorporation. *Big4* is a dummy equal to 1 if the firm auditor is the big four audit companies. *GDP Growth* is the annual change in the estimated GDP of a given country, at constant 2005 prices, is expressed as a percentage increase or decrease. *Market Size* is the equity market capitalization as a percentage of total GDP. *Inflation* is measured by the consumer price index that represent the annual percentage change in the cost of acquiring a basket of goods and services to the average consumer. *Regulatory Quality* is a country governance variable that measures the ability of the government to formulate and implement sound policies and regulations that allow and support private sector development. This variable is express in percentile rank indicates the country's rank among all countries with 0 corresponding to countries with lowest regulatory quality, and 100 to highest regulatory quality. Industry country average of ethically-compliant firms is the instrumental variable for the ethical screening variables; in each screening stages, the estimation calculates the average number of ethical compliance firms in the same country and industry. All test include industry and year fixed-effects. Standard errors are reported in parentheses below coefficient estimates. Standard errors are computed using the robust method and clustered by firm