Resilience of ethical and nonethical stock during COVID-19 crisis: a case of Indonesia Stock Exchange

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Abstract

Purpose – This study aims to empirically investigates the effect of the COVID-19 pandemic on ethical and nonethical stocks in Indonesia. Ethical stocks which are characterized by moral-based companies' activities and lower debt are expected to have better resilience during the COVID-19 crisis compared to nonethical stock.

Design/methodology/approach – This study observes 589 firms of ethical and nonethical stock during sample periods ranging from March 2, 2020 (first case announced) to June 30, 2021. Panel regression, with some control variables, was applied.

Findings – Testing firms in Indonesia revealed a significant difference in stock resilience, in which ethical stock has a better resilience compared to nonethical, with Islamic socially responsible investment (SRI) stock having the highest resilience, followed by Islamic stock and then SRI stock. This study documents a significant effect of some financial criteria on the stock resilience, namely, return market (RM), market capitalization (MCAP) and share turnover (TURN). Overall, after splitting the sample into different time horizons, this study consistently reveals that ethical firms have better resilience compared to nonethical stocks.

JEL classification – G21, G29

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Research limitations/implications – This study makes several contributions to the literature on Islamic finance, especially concerning Islamic screening with SRI factors. In practical terms, this study supports the argument that focusing on integrating environmental, social and governance criteria in sharia screening will improve the quality of Islamic firms. The "Islamic" label is not only a marketing label but also a quality certification.

Originality/value – This study can be used as a reference for developing Islamic finance more focused on sustainability issues including socioeconomic and human development by improving the quality of screening of Islamic firms. Therefore, this study suggests that the establishment of Islamic SRI index is very crucial and significant to promote ethical-based investment.

Keywords Ethical stock, Nonethical stock, SRI, Stock resilience

Paper type Research paper

1. Introduction

From the beginning of the global COVID-19 pandemic, especially during the February and March 2020, most of the worldwide capital markets indexes dropped and grew volatile. For example, for Dow Jones Industrial Average, the declining percentage was at 34% in February 2020, and experience large deviation from the stable benchmark market value (Uddin *et al.*, 2021). The continuation of pandemic and rapid outbreak of COVID-19 and its new variants caused even more serious market volatility and subsequently contributed to the short-term severe economic impacts that subsequently lead to increase in uncertainty and investors anxiety when it comes to investment as the pandemic impacting the economic activities including exchange rate volatility. Businesses and investors are concentrating on this issue whereby the COVID-19 severity will continue not only for short term but it will accelerate for long term as well given the outbreak of new variants that hit the markets slowly such as alpha, beta, gamma, delta and omicron. Thus, looking into this context, Aegon Asset Management (2020) reported that during the continuation of the pandemic time, socially responsible investment (SRI) is going to rule the investment world from both sides: businesses and investors.

The recent published literature revealed that one of sectors in the capital markets that showed steady performance during the COVID-19 pandemic was those companies involved in ethical based; the SRIs, environmental, social and governance (ESG) firms, and Exchange Traded Funds based on ESG. (Albuquerque *et al.*, 2020). This has brought to the question in classical views regarding the valuation in the capital markets involving assets decision making process. If the SRIs type of investment is going to rule the market in the coming years, given its stability in performance, this will hugely impact the businesses and we may notice large investment withdrawal from investors from non-SRIs focused firms and thus, forcing the firms to zoom their business into SRIs type of businesses to maintain existing investors and attract new investors (Chiappini and Vento, 2018; Nakai *et al.*, 2016; Qoyum *et al.*, 2021). The significant increases in trading of SRI-based stocks shows that the potential of SRIs in short and long terms could be a true game changer for investors to design a better strategy to lead their investment activities and ethical monitoring of those investment. The steady performance of SRIs stocks is not something new as some literature claimed that the SRI-based firm continuously recorded steady performance even before the pandemic (Kempf and Osthoff, 2007). Thus, it would still be fascinating to the market players to know how does the SRI- and non-SRI-based companies performed during the health crisis time and whether their performances are influenced by the SRI factors or vice versa.

Several studies documented why SRI firms tend to outperform compared to non-SRI firms (Albuquerque *et al.*, 2020; Siddiq and Javed, 2014; Kabir and Thai, 2017; Qoyum *et al.*, 2021). Usually sustainable businesses enhance their social representation image and manage to differentiate their business products with their counterparts. Thus, these type of companies increase customers loyalty toward the products and better brand loyalty via responsible business (Albuquerque *et al.*, 2020). The move resulted in multiplier effects such as reducing the business sensitivity or risk and increasing the profits level given if economic downturn happens. As revealed by Siddiq and Javed (2014), firms that practice responsible business tend to gain attention and attract managers who are highly ethical and practice good social responsibility and put higher priority to society value, needs and quality and translate that into managing business. This includes improving better employee motivation and productivity, respect society and customers.

Hence, in this study, related to the COVID-19 pandemic we choose to examine the effect of pandemic crisis on ethical and nonethical stock in Indonesia. The reason why this study examine ethical and nonethical firm's due to in the pandemic case, some literature such as Nofsinger and Varma (2014), Leite and Cortez (2015), and Lins *et al.* (2017) shows that the firms which are nonethical tend to face a higher exposure than ethical firms.

In addition, for Islamic stock that is also classified as ethical firm needs to make sure they are following the basic Shariah rules such as no *Riba* (prohibit from taking or giving interest rate), *Maysir* (gambling or speculation activities are prohibited), *Gharar* (uncertainty about the term of contract) and real economy (business activities emphasizing risks and rewards) (Thaker *et al.*, 2021). Similarly, non-Islamic firms (although they do not follow the Sharia rules and regulations) tend to focus on creating social impact and improve the quality of product and business which is consistent with Sustainable Development Goals (SDGs), and based on evidence from literature, SRI firms (whether they are Islamic or non-Islamic firms) emphasize on higher moral and ethical values, thereby always gaining maximum attention from investors who want to liquidate their funds for investment purpose. The reason why the ethical investment is encouraging due to the fact that the investors are not only getting profit from real economy activities but at the same time the investment are creating social impacts as well (Bennett and Iqbal, 2013). Given the importance of the environmental factors lends itself to ethically and sustainably investing, and subsequently creates an opportunity for investors to support these businesses in a significant way.

We choose Indonesia market as a sample because starting in 2019, Indonesia market has shown tremendous interest in SDG elements. For example, IDX has been recognized as part of Sustainable Stock Exchange on April 18, 2019 to lead and contribute to the problem-solving decisions related to SRI and ESG aspects. To further explore this element, Indonesian government had launched the ESG focused indices (launched on December 14, 2020) and SRI-KEHATI (launched on June 8, 2009). The establishment of these two parts was actually to boost the transparency of listed firms of ESG companies and drive the performance of ESG company's performance, achieve the targets of SGDs and enhance the investors' decision-making processes. The implementation of these decisions shows how serious is the Indonesian government when it comes to ESG (IDX, 2021).

In November 2021, during the UN Climate Change Conference (COP26) in Glasgow, President Jokowi's made clear in his statement whereby:

- in 2030, Indonesian forestry sector will be able to slow the deforestation matter and mangrove rehabilitation;
- develop further the energy sector by improving the current system such as electric vehicle, solar power plant, reuse new and renewable energy;
- continue to innovate in climate based financing involving hybrid and green financings; and finally
- sharing of technology from develop country (Aqil, 2021).

Our study comes at the right time given these developments, and it is fascinating to look at how those companies practice good SRIs as compared to those firms not practicing, especially during the pandemic times to see their sustainability. Ethical stock which is based on some screening criteria, such as ESG Standard, and also Islamic Standard, should have a better resilience compared to nonethical firms (Qoyum, 2021; Qoyum *et al.*, 2022). We claim our study contributes threefold. First, we add to the new evidence with regard to the resilience of SRIs/ESG during the health crisis time. Second, we also furnish with valuable information in decision-making to the investors/policymaker pertaining to firm's performance during the COVID-19 pandemic. Finally, we also claim that our study can be a true game changer as we are providing with pioneering results zooming into SRIs or ESG firm's performance when it comes to responsible investment during the COVID-19 pandemic. Although there are many studies highlighted (Nofsinger and Varma, 2014; Becchetti *et al.*, 2015; Nakai *et al.*, 2016; Chiappini and Vento, 2018), limited literature is available with regard to Islamic stocks, SRIs or ESG-based considering Asian market such as Indonesia during the COVID-19 crisis. Some literature published show that SRI firms perform better than non-SRI firms (such as Tripathi and Bhandari, 2016; Wu *et al.*, 2017; Risalvato *et al.*, 2019). Some are against the results (Chiappini and Vento, 2018; Lean and Pizzutilo, 2021). None of the studies incorporated Islamic firms who practices SRIs/ESG in their study, and our study add value to this part actually.

2. Literature review

Ethical stocks are shares that adhere to a set of specific investment criteria in selecting or excluding stocks based on criteria that can directly contribute to environmental, social and corporate governance sustainability. This involves engaging with community stakeholders focused on sustainability aspects that drive companies toward sustainability goals (Erragragui *et al.*, 2018; Renneboog *et al.*, 2008). Ethical stocks also refer to investment practices that align with norms related to environmental preservation and Islamic norms, involving portfolio allocation, trading practices, production processes, income distribution and environmental management (Erragragui *et al.*, 2018). Ethical values can be sourced on ESG-oriented or Islamic-based principles (Abdelsalam *et al.*, 2014; Bennett and Iqbal, 2013; Lesser *et al.*, 2016), in which Islamic equities can be classified into the ESG with a few differences (Azmi *et al.*, 2019). The screening mechanism of Islamic investing relies on religious norms in sharia (Islamic jurisprudence), whereas that of ESG considers many aspects on ESG issues. The ESG and SRI terms are also interchangeable (Dam and Scholtens, 2015).

Several prior studies have shown that ethical stocks exhibit strong resilience compared to nonethical stocks (Erragragui *et al.*, 2018; Jawadi *et al.*, 2014; Alam and Kabir, 2013; Renneboog *et al.*, 2008; Xu *et al.*, 2023). Previous research by BinMahfouz and Hassan (2012) examining the relative performance of ethical and conventional funds in Saudi Arabia indicate that funds managed with Islamic principles outperform those managed conventionally. This is supported by the argument that stocks managed with Islamic principles and norms exhibit lower levels of debt compared to conventional stocks, resulting in lower volatility during financial crises and ultimately leading to superior performance compared to conventional ones (Dewandaru *et al.*, 2014). Furthermore, ethical stocks demonstrate good resilience in facing crises through the implementation of environmentally and socially responsible behavior, which can reduce systematic risk, while strong violations of sustainability norms can influence the presence of systematic risk (Nofsinger and Varma, 2014; Oikonomou *et al.*, 2012). In addition, for its performance, a strand of literature also confirms empirical debate on the performance of ethical equities. The ESG stocks may outperform (Kabir and Thai, 2017; Qoyum *et al.*, 2021), underperform (Hong and Kacperczyk, 2009; Lesser *et al.*, 2016; Richey, 2017) or have no difference with (Ashraf and Khawaja, 2016; Humphrey *et al.*, 2012; Mollet and Ziegler, 2014; Xiao *et al.*, 2017) the market benchmark or their non-ESG peers.

Moreover, recent research by Xu *et al.* (2023) analyzing the relationship between ESG responsibility and stock returns in the context of crises and examining the impact of ethical stocks on stock price resilience yields results indicating that stocks with ethical indexes have a positive impact on stock returns during and after crises. Overall, the study reveals that companies with stock indexes adhering to social and environmental responsibility principles (ESG) help restore stock price resilience during crises and have stronger stock price resilience. Supported by Erragragui *et al.*'s (2018) research on the resilience comparison among ethical indexes in developed markets such as Australia, the USA, Japan, Canada and the UK, compared to emerging market stock exchanges such as South Africa, Brazil and India, using the capital asset pricing model-exponential-generalized autoregressive conditional heteroskedasticity multivariate model, it concludes that ethical indexes have lower systematic risk during bearish market periods. Similarly, SRI stock indexes have slightly more range in systematic risk but show high integration. Furthermore, earlier research by Ashraf and Mohammad (2014) examining the performance comparison of Islamic norm-based ethical stocks with conventional equity indexes using the logistic smoothing transition autoregressive model indicates that, in general, stocks with Islamic indexes have lower risk than conventional stocks, providing hedging opportunities during crises. Ethical stocks are deemed to have higher sensitivity to regional market conditions, and previous research has confirmed the absence of short-term volatility persistence in some ethical stock markets, such as in Indonesia, Malaysia and India (Alam and Kabir, 2013).

Previous research using vector autoregressive models to analyze the volatility spread between ethical stocks and conventional stocks during crises in the USA, Asia, Russia, Brazil and Argentina has indicated that Islamic financial stock indices (ethical stocks) serve as secure instruments for investors during crises compared to conventional stocks. This is attributed to changing patterns of significant volatility spread over time in all Islamic stock indices (Hkiri *et al.*, 2017). Supported by the study of Akhtar and Jahromi (2015) on the Malaysian stock market, the findings suggest that Islamic stocks exhibit high resilience and efficiency compared to conventional stocks, as evidenced by lower volatility levels resulting from financial ratio screening by Sharia-compliant stocks. Furthermore, research by Jawadi *et al.* (2014) and Nainggolan *et al.* (2016) supports previous analyses indicating that ethical stocks are considered safer and more resilient during and after crises, with lower uncertainty compared to conventional stocks. However, some studies suggest an interrelated relationship between ethical stocks and conventional stocks; Jawadi *et al.* (2015) argue that ethical stocks, while at a lower level, still share uncertainty with conventional stocks. Meanwhile, the study by Rizvi *et al.* (2015), examining the interconnected behavior of stock markets in the USA and the Asia-Pacific region, indicates that the low leverage of ethical stocks has a mitigating effect on their risk during global shocks, resulting in greater resilience during crises. Therefore, it can be concluded that ethical stocks exhibit good resilience compared to conventional stocks, attributed to their lower risk and significant volatility, enabling them to withstand unstable economic conditions.

The bright side of ethical finance during the Subprime Mortgage crisis can be elaborated by following explanations. The ethics-oriented firms rely on trust issues established by doing good on either stakeholders or investors at the firm level. It plays an essential role while the macro-level of trust is disrupted during the global financial crisis (Lins *et al.*, 2017). From shareholders' point of view, if the ESG-based firms are perceived as more reliable, they may be priced relatively higher than those less invested in socially responsible issues. Meanwhile, the stakeholders consisting of employees, consumers, suppliers and communities may assist the firms during the crisis due to good relations in the past.

Although most of the previous works evidence the strong performance and stability of ethical portfolios during the global financial crises, the recent inquiries reveal heterogeneous outcomes. On the one hand, Albuquerque *et al.* (2020), Sherif (2020), Dharani *et al.* (2021), Broadstock *et al.* (2021), Ding *et al.* (2021), Lee *et al.* (2021) and Omura *et al.* (2021) confirm that the ESG-oriented equities outperform the non-ESG counterparts during the COVID-19 pandemic. This emphasizes that the social-oriented firm strategy strengthens the relationship between the company and the stakeholders (i.e. employees, customers and communities) so that they are willing to support business continuity during the unprecedented crisis (Ding *et al.*, 2021). On the other hand, Salisu and Sikiru (2020), Bae *et al.* (2021), Pavlova and de Boyrie (2021), Demers *et al.* (2021), Gianfrate *et al.* (2021) and Hasan *et al.* (2021) challenge the role of the ESG values on distinguishing the performance between the prosocial firms and neglected social ones. Therefore, the screening process to establish ethical portfolios fails to provide immunity against the outbreak.

Reciprocally, the others notice that the ethical-based stocks have underperformance during the COVID-19 pandemic. Using market data in Japan, Takahashi and Yamada (2021) fail to verify the positive impact of ESG values on portfolio. Even, they discover that highly concentrated funds on the ESG stocks lead to negative abnormal returns on earlier pandemic times. This finding is amplified by Ali *et al.* (2021) who disclose that ethical stocks based on Islamic values are more volatile than conventional stocks in Indonesia Stock Exchange. To this point, all previous quests have not led to a convincing conclusion about the urgency of ethical values sourced from either the ESG or Islamic principles during a pandemic yet.

Because prior works examine the ESG and Islamic values separately, our intent is to combine both into one screening strategy so that we have an Islamic socially responsible portfolio. Empirically, the portfolio implies positive investment performance during the tranquil and subprime mortgage periods (Erragragui and Revelli, 2016; Erragraguy and Revelli, 2015; Qoyum *et al.*, 2021). To our knowledge, however, it is a lack of studies taking an interest on testing performance and resilience of the portfolio during the COVID-19 pandemic.

3. Research method

This research setting is on Indonesia Stock Exchange, in which the firm-specific and market data are obtained from Thomson & Reuters DataStream, whereas pandemic severity information was collected from Center for Systems Science and Engineering at Johns Hopkins University. We observe 589 firms during sample periods ranging from March 2, 2020 (first case announced) to June 30, 2021. The number of stocks classified is over industry and ethical values as shown in Table 1. Instead of daily data, we use a weekly interval for two reasons. First, the daily COVID-19 testing in Indonesia tends to be lower than the WHO recommendation even if it is compared with that in some countries (Malaysia, Philippines and Thailand) in the Southeast Asia (Olivia *et al.*, 2020). Consequently, daily confirmed case does not necessarily reflect pandemic severity. Second, another firm-level study (Ding *et al.*, 2021) used weekly interval to test a stock reaction to COVID-19 cases. In total, we have 37,478 observations varying over firms and weeks.

Our principal aim is to explore whether pandemic exposures can be distinguished between ethical and nonethical portfolios; we opt for regression technique initiated by Fama and MacBeth (1973) for two reasons. First, some previous works that conduct peer-to-peer comparison use the technique (Galema *et al.*, 2008; Hong and Kacperczyk, 2009). Because of combining cross-sectional and time-series data, the approach can explain both data

Industry classification	Islamic	Ethical stocks SRI	ISRI	Nonethical stocks	Total
AGR	13	2	1	4	20
BIC	48	2	1	16	67
CGI	39	4	4	1	48
FIN	3	6	0	67	76
IUT	55	3	3	9	70
MIN	31	1	1	9	42
MCI	32	2	2	9	45
PRB	58	3	3	9	73
TSI	113	2	2	31	148
Total	392	25	17	155	589

Notes: AGR = agriculture; BIC = basic industry and chemicals; CGI = consumer goods industry; FIN = finance; IUT = infrastructure, utility and transportation; MIN = mining; MCI = miscellaneous industry; PRB = property real estate, and building construction; TSI = trade, service and investment
Source: Authors' work

Table 1. The classification of stocks

variations and accommodate heterogeneity across firms or industries (Wooldridge, 2010). Integrating Fama and Macbeth factors is designed to consider additional variables that may elucidate variations in cross-sectional and serial stock returns. Disregarding this information introduces omitted variable bias, thereby impeding the resolution of endogeneity issues, consequently yielding a biased estimate of the marginal effect of the pandemic on stock performance (Ben-Ahmed *et al.*, 2022). Regression models can be expressed as follows:

$$RET_{it} = \beta_0 + \beta_1 C19_t + \sum_{s=1}^{5} \gamma_s Z_{s,it} + \iota_{ind} + \varepsilon_{it} \quad (1)$$

$$RET_{it} = \beta_0 + \beta_1 C19_t + \beta_2 IS_i + \beta_2 SR_i + \sum_{s=1}^{5} \gamma_s Z_{s,it} + \iota_{ind} + \varepsilon_{it} \quad (2)$$

$$RET_{it} = \beta_0 + \beta_1 C19_t + \beta_2 IS_i + \beta_3 SR_i + \beta_4 C19_i \times IS_i + \sum_{s=1}^{5} \gamma_s Z_{s,it} + \iota_{ind} + \varepsilon_{it} \quad (3)$$

$$RET_{it} = \beta_0 + \beta_1 C19_t + \beta_2 IS_i + \beta_3 SR_i + \beta_5 C19_t \times SR_i + \sum_{s=1}^{5} \gamma_s Z_{s,it} + \iota_{ind} + \varepsilon_{it} \quad (4)$$

$$RET_{it} = \beta_0 + \beta_1 C19_t + \beta_2 IS_i + \beta_3 SR_i + \beta_4 C19_t \times IS_i + \beta_5 C19_t \times SR_i$$
$$+\beta_6 C19_t \times IS_i \times SR_i + \sum_{s=1}^{5} \gamma_s Z_{s,it} + \iota_{ind} + \varepsilon_{it} \quad (5)$$

where RET_{it} is weekly return of stock *i* on the week *t*; $C19_t$ are the COVID-19 indicators consisting of CSS (case of COVID-19) and DTH (death cases); IS_i is Islamic dummy; SRI_i is socially responsible dummy; $Z_{s,it}$ are control variables (value-weighted market return [RM], market capitalization [MCAP], price-to-earnings ratio [PER], book-to-market ratio [BM] and stock turnover [TURN]); ι_{ind} is industry dummy; and ε_{it} are error terms (see Table 2 for detailed definition).

To address our research objectives, we have equations (1)–(5). Our main independent variables are the COVID-19 indicators which are the growth in confirmed cases and death (Ashraf, 2020) and their interactions with ethical stock's dummies. In terms of pandemic exposure testing, we differ from Omura *et al.* (2021) and Dharani *et al.* (2021) on some ways. First, their work is focused on cross-countries scope, ours focus is on a single country, Indonesia. Second, this research uses the epidemiological indicators, instead of event dummy (Dharani *et al.*, 2021). Third, we test three ethical fund categories: Islamic (IS), socially responsible (SR) and both combination stocks. Fourth, interaction method is used to examine the difference of stock return response to pandemic exposure between ethical and nonethical ones.

Referring to previous studies predicting stock return (Hanauer and Lauterbach, 2019; Narayan and Bannigidadmath, 2015; Sharma *et al.*, 2019), control variables are RM, MCAP, PER, BM and TURN. Because including few dummies, we prefer to estimate the models using random effect generalized least square (GLS). This method is in line with panel econometric consideration in which using within-estimator regression can eliminate time-invariant variables (IS and SR dummies), while applying common-effect regression may neglect unobservable factors that vary over firms. Standard error clustered within firms is also implemented to relax heteroskedasticity and autocorrelation problems.

Variables	Definition and calculation
RET	Weekly log return of a stock *i* at time *t*
IS	Islamic dummy: the stocks listed on the Indonesian Sharia Stock Index (ISSI) are marked with 1
SR	Choosing companies that adhere to sustainability values involves referring to the constituent indices published by the Indonesian Biodiversity Foundation (Yayasan SRI-KEHATI), as suggested by Qoyum *et al.* (2021). Established in 2009, this index is the longest-standing among others that encompass ESG issues, serving as a key reference for investors to assess sustainability sectors. We define socially responsible dummy: the stocks selected by the Indonesian Biodiversity Foundation (KEHATI). If the SR shares are equal to 1 otherwise is 0
CSS	CSS is a pandemic indicator referring to weekly growth of confirmed COVID-19 cases
DTH	In addition to the growth of active cases, another indicator of the pandemic's severity is the weekly growth of death cases
RM	The value-weighted market return is proxied by weekly return of Jakarta Composite Index
MCAP	Market capitalization (MCAP) is the multiplication between weekly stock price and outstanding share of each firm over sample periods, and it is transformed into a natural log form
PER	Price-to-earnings ratio is division between previous year's earnings per share and weekly stock price
BM	Book-to-market ratio is division between previous year's total shareholder equity and weekly market capitalization of each firm over sample periods
TURN	Share turnover is division between weekly mean of share's trading volume and weekly market capitalization of each firm over sample periods

Source: Authors' work

Table 2.
Detailed definition of all used variables

The effect of COVID-19 on stock return is determined on β_1 that is expected to be negatively significant. Meanwhile, β_4, β_5 and β_6 represent the magnitude difference between ethical (Islamic, SRI and Islamic SRI) and nonethical stocks. The positively significant β_4, β_5 or β_6 designate that the ethical stocks are more immune to the COVID-19 exposure than nonethical ones and vice versa. Rather, insignificant β_4, β_5 or β_6 indicate that either ethical or nonethical stocks have no distinct exposure to pandemic fierceness.

4. Result

4.1 Descriptive statistics

Table 3 reports the descriptive statistics of the overall sample, and of the two groups of firms, showing that, in terms of return performance, there is no significance different performance between ethical and nonethical firms (indicated by −0.103 which is insignificant statistically). It reveals that during the COVID-19 pandemic, firms face similar problems, because the crisis is systemic (Abdelsalam *et al.*, 2014; BinMahfouz and Hassan, 2013). Nevertheless, from another indicator, such as BM and TURN, the study reveals that ethical firms showed a better performance compared to nonethical firm. BM for ethical firms is 0.156, which is higher than BM for nonethical firm which is at 0.150. It reflects that ethical firm has better fundamental value as compared to nonethical firm. It may be caused by the high moral standard applied in the ethical firm, which will affect for a lower speculative transaction (El-Masry *et al.*, 2016; Erragragui and Revelli, 2016; Qoyum, 2020). Table 3 also shows that overall firms during the COVID-19 pandemic have a negative return, −0.369, meaning that the return of stock firm decreased.

Table 4 contains a correlation matrix of the variable used in this study. The table shows that the number of cases of COVID-19 and death number has negative correlation with return of IS and SR stocks. The table also demonstrates that case of COVID-19 has negative correlation with MCAP (−0.016), PER (−0.007) and TURN (−0.021), whereas it has positive correlation with BM (0.048). This correlation evidenced that COVID-19 pandemic causes the investor interest to invest their fund decreased, thus, caused PER decline, and simultaneously caused the higher BM.

4.2 Baseline estimations

The main regression is documented in Table 5. To determine the extent of pandemic exposure on stock performance, Column 1 contains relevant information. A comparison of the performance of ethical and nonethical stocks can be seen in Column 2. The extent to

			Overall			Ethical (A)		Nonethical (B)		DIFF
Variables	Obs	Mean	SD	Min.	Max.	Obs.	Mean	Obs.	Mean	(A − B)
CSS	36,372	38.30	151.03	1.549	1250					
DTH	35,493	24.33	111.71	2.003	1000					
RET	38,976	−0.369	9.057	−219.6	81.46	25,715	−0.181	10,657	−0.078	−0.103
MCAP	38,978	28.05	1.930	23.07	34.40	25,715	28.00	10,657	28.14	−0.140***
BM	38,978	0.154	0.165	0.000	2.34	25,715	0.156	10,657	0.150	0.006***
PER	38,978	4.198	17.161	−31.42	121.84	25,715	3.560	10,657	5.814	−2.254***
TURN	38,978	0.272	1.769	0.000	182.43	25,715	0.313	10,657	0.210	0.104***

Notes: All indicators are in percent, except MCAP. *, ** and *** denote significance at 10, 5 and 1%, respectively
Source: Authors' work

Table 3.
Descriptive statistics

Table 4.
Correlation matrix

Variables	RET	CSS	DTH	IS	SR	MCAP	BM	PER	TURN
RET	1.000								
CSS	−0.135	1.000							
DTH	−0.107	0.942	1.000						
IS	−0.004	−0.003	−0.002	1.000					
SR	−0.007	0.005	0.004	−0.005	1.000				
MCAP	0.025	−0.010	−0.016	−0.103	0.387	1.000			
BM	−0.035	0.048	0.062	0.030	−0.066	−0.352	1.000		
PER	0.012	−0.007	−0.007	−0.054	0.000	0.084	−0.105	1.000	
TURN	0.102	−0.021	−0.017	0.027	−0.008	−0.040	−0.016	0.028	1.000

Source: Authors' work

which screening mechanisms based on Islamic values, SRI and Islamic SRI can influence the exposure of the pandemic on stock performance is observed in Columns 3, 4 and 5, respectively.

Table 5 provides empirical evidence for overall sample consisting of ethical and nonethical firms. The table shows that growth of COVID-19 outbreak is negatively associated with stock performance in Indonesia. It is indicated by the coefficient, at −0.997 in Column 1, which the increase in 1% weekly confirmed cases diminishes 0.997% weekly stock performance on average. The SRI in Column 2, −0.778, is negatively significant at 1% so that it confirms the underperformance of socially responsible portfolio compared with its peer. Conversely, the coefficient of IS in Column 2, 0.165, is insignificant thus proving that the Islamic stocks is not different from non-Islamic counterpart. Meanwhile, the combination between IS and SRI (IS × SRI) brings potential performance (positive number) but does not appear significant statistically. This result is in line with some previous empirical studies such as those conducted by Abdullah *et al.* (2007), Arouri *et al.* (2013), El-Masry *et al.* (2016), Mansor and Bhatti (2016), Peillex and Ureche-Rangau (2012), Kabir and Thai (2017) and Qoyum *et al.* (2021) who found that embracing shariah principles can enhance the performance of ethical investment.

Other interesting investigation is related to the level of pandemic exposure. The interaction term between CSS and SRI seems negatively significant at 1% (−3.476 in Column 4). The socially responsible stocks is more negatively exposed to COVID-19 outbreak than their counterparts. The insignificant CSS × IS (−0.557 in Column 3) suggests that the creation of Shariah-compliant portfolios does not exhibit a distinct exposure compared to non-Shariah portfolios. The positive CSS × IS × SRI interaction (1.131 in Column 5) suggests a reduced influence of the pandemic on stock performance in portfolios integrating IS and SRI; however, the figure lacks statistical significance. From this finding, including only socially responsible issues during a pandemic crisis actually provides higher exposure. Incorporating Shariah values can reduce the exposure of a pandemic crisis in SRI portfolios. Shariah screening which combines both qualitative screening (ethical value) and quantitative screening (some financial ratio) will make the socially responsible shares have better resiliency. From this point of view, the argument from some previous studies (Bennett and Iqbal, 2013; Moghul and Safar-Aly, 2014; Qoyum *et al.*, 2021) that suggest integrating Islamic and ESG factor was reasonable.

This finding is relevant with theory of Islamic screening in which firms will be selected not only based on ethical value, as applied in SRI screening, but also financial performance. Hence, it is logical when Islamic SRI stock has better resiliency to face a crisis than the non-

Table 5. Regression result independent variable: growth of weekly COVID-19 cases (March 2020 to June 2021)

Variables	(1) RET	(2) RET	(3) RET	(4) RET	(5) RET
CSS	−0.997*** (0.139)	−0.989*** (0.139)	−0.613** (0.256)	−0.801*** (0.148)	−0.390 (0.258)
IS		0.165 (0.115)	0.267** (0.126)	0.166 (0.115)	0.267** (0.127)
SRI		−0.778*** (0.141)	−0.778*** (0.141)	−0.106 (0.165)	−0.190 (0.210)
IS × SRI					0.121 (0.269)
CSS × IS			−0.557 (0.349)		−0.610* (0.348)
CSS × SRI				−3.476*** (0.723)	−4.247*** (1.160)
CSS × IS × SRI					1.131 (1.472)
RM	0.706*** (0.030)	0.706*** (0.030)	0.706*** (0.030)	0.706*** (0.030)	0.706*** (0.030)
MCAP	0.112*** (0.022)	0.145*** (0.025)	0.145*** (0.025)	0.144*** (0.025)	0.145*** (0.025)
PER	0.269 (0.393)	0.244 (0.391)	0.245 (0.392)	0.227 (0.391)	0.222 (0.392)
BM	−9.281 (5.730)	−10.280* (5.626)	−10.388* (5.598)	−10.531* (5.756)	−10.603* (5.705)
TURN	49.258** (23.588)	49.274** (23.595)	49.259** (23.594)	49.395** (23.644)	49.395** (23.651)
C	−3.350*** (0.644)	−4.306*** (0.713)	−4.375*** (0.717)	−4.323*** (0.714)	−4.397*** (0.720)
Ind. Dum.	Yes	Yes	Yes	Yes	Yes
Obs.	37,478	37,478	37,478	37,478	37,478
R-square	0.104	0.104	0.104	0.105	0.105

Notes: This table exhibits baseline regression. An explained variable is weekly stock return, whereas explanatory variables is the weekly growth of confirmed cases of the COVID-19 (CSS), Islamic dummy (IS), SRI dummy and interaction terms (IS X SRI, CSS X IS, CSS X SRI and CSS X IS X SRI). Control variables consist of market return (RM), natural log of market capitalization (MCAP), price-to-earnings ratio (PER), book-to-market ratio (BM), share turnover (TURN) and industry-classification dummies (Ind. Dum.). Standard errors are clustered within firm and in parentheses. *, ** and *** denote significance at 10, 5 and 1%, respectively
Source: Authors' work

Islamic SRI. This finding supports the finding of Abdullah *et al.* (2007), Hassan *et al.* (2010), Mansor and Bhatti (2011), El-Masry *et al.* (2016), Hussein and Omran (2005), Alam and Rajjaque (2010), Arouri *et al.* (2013), El-Masry *et al.* (2016), Peillex and Ureche-Rangau (2012) and Kabir and Thai (2017).

For getting more convincing result, we also perform analysis by including some control variables in the model. This study uses control variables consisting of RM, MCAP, PER, BM and TURN. Table 5 reveals that RM (0.706), MCAP (0.145) and TURN (49.395) have positive effect on the stock resilience during COVID-19 outbreak, while in this result, BM has negative effect on stock resilience, indicated with coefficient at −10.603. From this finding, the study evidenced that Islamic screening procedure in Indonesia which consists of market capitalization, debt ratio and income ratio will positively affect the better resilience of the firm, especially in the COVID-19 outbreak.

The finding for equation (5) also supports the finding of Qoyum *et al.* (2021), Forte and Miglietta (2007), Paranque and Erragragui (2016) and Elias (2017) integrating Islamic and ESG screening that will improve the quality of stock and increase the stock performance. For control variables, there are three variables that have positive and significant effect on stock resilience, namely, RM (0.706), MCAP (0.112) and TURN (49.258). This result as described in Table 5 was also supported by the finding in Table 6 (in Appendix) which outlined that the COVID-19 pandemic, with death cases as the indicator, has negative effect on the overall stock in Indonesia (−0.800). The same result also documented for IS and SRI, in which, Islamic stock (IS) has better resilience compared that SRI stock.

4.3 Robustness check

To verify the main regression results, we estimate the equations with a sample divided into five periods (P1: March–June 2020, P2: July–September 2020, P3: November–December 2020, P4: January–March 2021, and P5: April–June 2021). All equations included covariates (control variables and industrial dummies) and estimated by GLS random effect with standard error clustered within firm. Our tabulation contains two parameters which are coefficients and standard errors in parentheses. We assign level of significance at 10%, 5% and 1% (*, ** and ***, respectively). The COVID-19 indicators, cases (CSS) and fatality (DTH) growth, are negatively associated with stock return (RET) on each period, except the fourth quarter in 2020 (see Column 1). These results confirm baseline findings that the severity of the pandemic negatively impacts stock markets.

In baseline results, interaction terms of CSS × SRI and DTH × SRI show negatively significant direction. Meanwhile, our robustness check confirms that coefficients of the term are negatively significant only during P1 and P5. Although insignificant in the full-sample regression, the CSS × IS and DTH × IS are negatively significant during P4. The persistent parameters are exhibited in CSS × IS × SRI and DTH × IS × SRI that remain insignificant on baseline and robustness analyses. This section further emphasizes the finding that although all ethical portfolios are not different from nonethical ones in terms of pandemic exposure, Islamic and ESG-based portfolios are more immune than the Islamic or ESG funds. The results as described in Table 6 show more evidenced that ethical investment has better resilience than nonethical firm. This finding is rational because to be listed as ethical firm, they must fulfill some screening criteria both qualitative and quantitative. This finding supports the study of Abdullah *et al.* (2007), Hassan *et al.* (2010), Mansor and Bhatti (2011), El-Masry *et al.* (2016), Hussein and Omran (2005), Alam and Rajjaque (2010), Peillex and Ureche-Rangau (2012), Arouri *et al.* (2013), Forte and Miglietta (2007), Paranque and Erragragui (2016) and Elias (2017).

Table 6. Robustness test result

Variables	(1) RET	(2) RET	(3) RET	(4) RET	(5) RET
Panel A: P1: March 2020 to June 2020					
CSS	−1.190*** (0.177)	−1.191*** (0.177)	−0.686** (0.334)	−0.931*** (0.189)	−0.411 (0.339)
IS		0.030 (0.234)	0.472 (0.335)	0.028 (0.234)	0.451 (0.337)
SRI		−1.198*** (0.358)	−1.195*** (0.359)	−1.686*** (0.427)	−1.269** (0.640)
IS × SRI					0.596 (0.788)
CSS × IS			*−0.752* (0.453)*		−0.775* (0.454)
CSS × SRI				*−4.800*** (0.887)*	−5.248*** (1.441)
CSS X IS X SRI					*0.661 (1.821)*
C	0.288 (1.327)	−1.167 (1.445)	−1.449 (1.470)	−1.262 (1.443)	−1.559 (1.482)
Obs	7,906	7,906	7,906	7,906	7,906
Panel B: P2: July 2020 to September 2020					
CSS	−15.747*** (4.340)	−15.753*** (4.340)	−7.702 (8.064)	−16.702*** (4.546)	−7.291 (8.436)
IS		0.451* (0.238)	1.943 (1.182)	0.451* (0.238)	2.197* (1.234)
SRI		−0.406 (0.270)	−0.406 (0.270)	−2.758** (1.264)	0.647 (2.526)
ISSI × SRI					−5.036* (2.841)
CSS × ISSI			*−12.038 (9.736)*		−14.084 (10.186)
CSS × SRI				*18.964* (10.008)*	−8.447 (18.606)
CSS × ISSI × SRI					*40.533* (21.732)*
C	−2.026 (1.294)	−2.658* (1.423)	−3.657** (1.654)	−2.543* (1.429)	−3.714** (1.673)
Obs	6,529	6,529	6,529	6,529	6,529
Panel C: P3: November 2020 to December 2020					
CSS	7.231 (1.150)	7.238 (1.151)	18.778* (1.722)	8.304 (1.262)	20.325* (1.784)
IS		0.075 (0.363)	1.328 (1.364)	0.075 (0.363)	1.354 (1.331)
SRI		−0.264 (−0.809)	−0.259 (−0.795)	1.345 (1.235)	1.397 (0.807)
ISSI × SRI					−0.091 (−0.042)
CSS × ISSI			*−17.091 (−1.295)*		−17.805 (−1.290)
CSS × SRI				*−21.887* (−1.655)*	−31.425 (−1.373)
CSS × ISSI × SRI					*14.151 (0.505)*
C	−8.421*** (−6.369)	−8.753*** (−5.946)	−9.557*** (−5.949)	−8.827*** (−5.981)	−9.666*** (−5.963)
Obs	6,838	6,838	6,838	6,838	6,838

(*continued*)

Table 6.

Variables	(1) RET	(2) RET	(3) RET	(4) RET	(5) RET
Panel D: P4: January 2021 to March 2021					
CSS	−33.678*** (4.898)	−33.648*** (4.901)	−16.500** (8.173)	−34.059*** (5.114)	−16.389* (8.558)
IS		−0.351 (0.214)	1.102* (0.594)	−0.351 (0.214)	1.151* (0.620)
SRI		−0.462 (0.309)	−0.468 (0.309)	−0.962 (0.725)	−0.217 (1.026)
ISSI × SRI					−1.084 (1.360)
CSS × ISSI			*−24.939** (10.020)*		−25.679** (10.480)
CSS × SRI				*8.557 (11.111)*	−2.173 (17.545)
CSS × ISSI × SRI					*15.440 (22.439)*
C	−1.836 (1.383)	−2.202 (1.503)	−3.259** (1.583)	−2.175 (1.505)	−3.267** (1.590)
Obs	6,246	6,246	6,246	6,246	6,246
Panel E: P5: April 2021 to June 2021					
CSS	−42.736*** (12.775)	−42.835*** (12.776)	−45.617* (27.384)	−39.613*** (13.320)	−46.102 (28.587)
IS		0.134 (0.239)	0.033 (0.758)	0.134 (0.239)	−0.084 (0.789)
SRI		−1.354*** (0.266)	−1.354*** (0.266)	0.327 (0.803)	−1.171 (1.868)
ISSI × SRI					2.206 (2.004)
CSS × ISSI			4.045 (30.764)		9.424 (32.094)
CSS × SRI				*−66.986** (33.714)*	9.588 (76.231)
CSS × ISSI × SRI					−112.490 (82.402)
C	−0.440 (1.339)	−2.025 (1.472)	−1.954 (1.625)	−2.094 (1.476)	−1.940 (1.641)
Obs	6,821	6,821	6,821	6,821	6,821

Source: Authors' work

5. Conclusion

This study analyzes whether screening conducted in Islamic and SRI has impact on the stock resilience. With the case of COVID-19 outbreak, this study tries to find the answer relating the effect of qualitative and quantitative screening on the stock performance. In addition, this study is important for supporting the idea of integrating Islamic values and ESG that will improve the quality of ethical finance. Referring to both baseline and robustness regressions, the COVID-19 pandemic is demonstrated to adversely impact stock performance. In socially responsible stock portfolios, the exposure of the pandemic to stock returns is higher. The integration of Shariah and socially responsible values may mitigate the level of exposure to the COVID-19 outbreak. This result is documented by our regressions on the Islamic, SRI, Islamic SRI and also with some control variables (RM, MCAP, PER, BM and TURN).

The results are also consistent even after the sample is divided into different time horizons. Hence, from this perspective, Islamic firms have taken good steps in integrating Islamic values with SRI factors. From the theoretical perspective, stakeholder theory in particular reveals that Islamic firms are maximizing stakeholder benefits, not just profit. This study also has other interesting findings, in which financial criteria applied in sharia screening have a significant effect on stock resilience.

This study makes several contributions to the literature on Islamic finance, especially concerning Islamic screening with SRI factors. This study builds on the previous research about ESG and Islamic firms, such as Abdelsalam *et al.* (2014), BinMahfouz and Hassan (2013), Hassan and Harahap (2010) and Hayat and Hassan (2017). In practical terms, this study supports the views of Hayat and Hassan (2017), who argue that focusing on ESG criteria in sharia screening will improve the quality of Islamic firms. The "Islamic" label is not only a marketing label but also a quality certification. Hence, as a result of this study, investors should invest in an Islamic firm that has good performance in ESG terms. For policymakers, this study can also be used as a reference for developing Islamic finance more focused on sustainability issues including socioeconomic and human development by improving the quality of screening of Islamic firms.

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Appendix 1

Table A1. Regression result (death cases) Independent variable: growth of the weekly COVID-19 deaths (March 2020 to June 2021)

	(1) RET	(2) RET	(3) RET	(4) RET	(5) RET
DTH	−0.800*** (0.228)	−0.792*** (0.228)	−0.567 (0.372)	−0.603** (0.234)	−0.273 (0.365)
IS		0.182 (0.117)	0.226* (0.128)	0.183 (0.117)	0.235* (0.129)
SRI		−0.664*** (0.140)	−0.663*** (0.140)	−0.182 (0.188)	−0.159 (0.267)
ISSI × SRI					−0.038 (0.336)
DTH × IS			−0.334 (0.486)		−0.488 (0.482)
DTH × SRI				−3.490*** (1.175)	−5.473*** (2.032)
DTH × IS × SRI					2.920 (2.467)
RM	0.659*** (0.029)	0.659*** (0.029)	0.659*** (0.029)	0.659*** (0.029)	0.659*** (0.029)
MCAP	0.153*** (0.022)	0.181*** (0.024)	0.181*** (0.024)	0.180*** (0.024)	0.181*** (0.024)
PER	0.086 (0.399)	0.067 (0.396)	0.067 (0.397)	0.056 (0.396)	0.051 (0.397)
BM	−7.087* (4.067)	−8.315** (4.136)	−8.277** (4.125)	−8.364** (4.168)	−8.269** (4.131)
TURN	49.708** (23.790)	49.698** (23.790)	49.693** (23.790)	49.783** (23.826)	49.792** (23.833)
C	−4.434*** (0.637)	−5.265*** (0.702)	−5.294*** (0.704)	−5.273*** (0.702)	−5.314*** (0.706)
Ind. Control	Yes	Yes	Yes	Yes	Yes
Obs.	36,583	36,583	36,583	36,583	36,583
R-square	0.0746	0.0748	0.0748	0.0755	0.0756

Notes: This table exhibits baseline regression. An explained variable is weekly stock return, whereas explanatory variables is the weekly growth of death cases of the COVID-19 (DTH), Islamic dummy (IS), SRI dummy and interaction terms (IS × SRI, DTH × IS, DTH × SRI and DTH × IS × SRI). Control variables consist of market return (RM), natural log of market capitalization (MCAP), price-to-earnings ratio (PER), book-to-market ratio (BM), share turnover (TURN) and industry-classification dummies (Ind. Dum.). Standard errors are clustered within firm and in parentheses. *, ** and *** denote significance at 10, 5 and 1%, respectively
Source: Authors' work

Appendix 2

	RET	RET	RET	RET	RET
P1: 2020m3–2021m6					
DTH	−1.116*** (0.261)	−1.115*** (0.261)	−0.779* (0.454)	−0.832*** (0.268)	−0.401 (0.449)
IS		0.096 (0.254)	0.301 (0.343)	0.091 (0.254)	0.315 (0.344)
SRI		−0.869** (0.355)	−0.868** (0.355)	−1.340*** (0.498)	−1.258* (0.659)
ISSI × SRI					0.098 (0.889)
DTH × ISSI			−0.499 (0.588)		−0.640 (0.581)
DTH × SRI				−5.199*** (1.414)	−7.046*** (2.385)
DTH × ISSI × SRI					2.722 (2.946)
C	−5.071*** (1.369)	−6.166*** (1.481)	−6.298*** (1.495)	−6.194*** (1.480)	−6.383*** (1.499)
Obs	7,011	7,011	7,011	7,011	7,011
P2: 2020m7–2021m9					
DTH	−1.390 (3.650)	−1.341 (3.650)	2.048 (6.593)	−1.605 (3.815)	2.917 (6.892)
IS		0.448* (0.238)	0.958 (0.800)	0.448* (0.238)	1.129 (0.833)
SRI		−0.411 (0.270)	−0.409 (0.270)	−0.943 (0.998)	1.402 (1.574)
ISSI × SRI					−3.455* (1.956)
DTH × ISSI			−5.069 (8.111)		−6.769 (8.479)
DTH × SRI				5.299 (9.763)	−17.980 (13.968)
DTH × ISSI × SRI					
C					34.342* (18.524)
Obs	6,529	6,529	6,529	6,529	6,529
P3: 2020m10–2020m12					
DTH	−17.297* (8.851)	−17.321* (8.853)	−6.618 (13.536)	−15.470* (9.195)	−4.573 (14.063)
IS		0.080 (0.206)	0.967 (0.982)	0.079 (0.206)	0.957 (1.022)
SRI		−0.233 (0.325)	−0.212 (0.323)	1.949 (1.368)	1.568 (2.018)
ISSI × SRI					0.574 (2.640)
DTH × ISSI			−15.854 (17.074)		−16.148 (17.787)
DTH × SRI				−38.989* (21.869)	−43.384 (34.111)
DTH × ISSI × SRI					6.592 (43.977)
C	−6.603*** (1.282)	−6.899*** (1.427)	−7.296*** (1.539)	−7.000*** (1.428)	−7.406*** (1.551)
Obs	6,838	6,838	6,838	6,838	6,838
P4: 2021m1–2021m3					
DTH	−48.105*** (6.934)	−48.069*** (6.937)	−21.453* (11.962)	−48.649*** (7.248)	−21.566* (12.528)
IS		−0.351 (0.215)	1.590** (0.726)	−0.351 (0.215)	1.628** (0.758)
SRI		−0.465 (0.310)	−0.472 (0.310)	−1.071 (0.783)	−0.464 (1.284)
ISSI × SRI					−0.878 (1.574)
DTH × ISSI			−38.758*** (14.509)		−39.415*** (15.185)
DTH × SRI				12.084 (14.527)	2.378 (25.408)
DTH × ISSI × SRI					13.810 (30.726)
C	−1.413 (1.396)	−1.781 (1.516)	−3.175* (1.631)	−1.749 (1.519)	−3.171* (1.641)
Obs	6,246	6,246	6,246	6,246	6,246
P5: 2021m4–2021m6					
DTH	−28.638 (22.105)	−28.793 (22.104)	−50.542 (45.995)	−25.237 (22.981)	−51.773 (47.733)
IS		0.132 (0.239)	−0.678 (1.301)	0.132 (0.239)	−0.838 (1.351)
SRI		−1.351*** (0.266)	−1.350*** (0.266)	0.548 (1.571)	−1.561 (3.983)
ISSI × SRI					3.097 (4.199)
DTH × ISSI			31.638 (51.314)		38.575 (53.326)
DTH × SRI				−73.989 (63.444)	24.669 (156.819)
DTH × ISSI × SRI					−144.645 (166.339)
C	−0.745 (1.418)	−2.323 (1.543)	−1.758 (1.879)	−2.409 (1.553)	−1.732 (1.911)
Obs	6,821	6,821	6,821	6,821	6,821

Source: Authors' work

Table A2.
Regression result for COVID-19 death cases