

## INTEGRATING SHARIA AND SRI PORTFOLIO TO ACHIEVE KAFFAH AND SUSTAINABILITY

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### ABSTRACT

This study explores integrating Sharia principles with Socially Responsible Investing (SRI) to achieve comprehensive Sharia values (*kaffah*) and sustainability for the case of Indonesia. Proposing screening criteria and forming a sustainable Sharia-SRI portfolio, the study compares its performance with Islamic-screened and conventional portfolios. Using shares from the Indonesian Sharia Stock Index (ISSI) and SRI-Kehati, and analyzing their daily closing prices for ten year period spanning from 2014 to 2023, the Wilcoxon Signed Rank Test reveals that the Sharia-SRI integrated portfolio yields higher returns than ISSI and SRI-Kehati over the long term. These findings suggest that integrating Sharia and SRI can address environmental and human rights issues, attract more investors, achieve *kaffah* and promote ethical investment practices.

*Keywords:* SRI Islamic portfolio, SRI/ESG, Portfolio performance, SRI stock screening, Sharia stock screening.

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## I. INTRODUCTION

Sharia investment is an investment approach that adheres to Islamic principles and guidelines. Sharia investment is proliferating, driven by increasing demand for ethical investment and the rise of Islamic finance (Azmi et al., 2019; Pepis & de Jong, 2019). Over recent years, there has been an increasing trend towards investment in Islamic financial products (Rizaldy & Ahmed, 2019; Sukor & Abdul Halim, 2022; Tanin et al., 2023). It shows the increasing interest and recognition of Sharia investment worldwide, especially in Indonesia, the country with the largest Muslim population. In parallel, the number of sharia securities in Indonesia has steadily increased over the years (Gunawan et al., 2021; Widyanata & Bashir, 2020). The Indonesian Sharia Stock Index (ISSI) was first published with 214 shares. As of January 2019, there were 627 companies listed on ISSI.

As the number of sharia issuers increases, there is a new problem, namely, the incompatibility of issuers' actions with sharia principles (Erragraguy & Revelli, 2015; Qoyum et al., 2021; Yesuf & Aassouli, 2020). It is found that several sharia issuers, such as those operating in the coal mining and pesticide sectors, have been the causes of environmental damage. Coal mining produces significant carbon emissions, poses health risks to workers, and causes environmental damage through land degradation and water pollution (Wu et al, 2022). On the other hand, the pesticide sector has come under scrutiny due to its potential harm to ecosystems and human health. Despite the economic benefits and energy security provided by the coal mining sector, its negative environmental and health impacts cannot be ignored (Mansor et al., 2019; Mustafida & Fauziah, 2021; Schröder, 2007).

Furthermore, the use of pesticides in agriculture has raised concerns about its impact on biodiversity, water contamination, and potential harm to human health. The negative impacts of coal mining and the pesticide sector on the environment and human health have prompted investors to seek more sustainable alternatives (Rizaldy & Ahmed, 2019; Zhang & Chen, 2021). In addition, human rights violations have also been a major concern. As reported by Human Rights Watch, regional oil companies are involved in human rights issues related to the Rohingya ethnic group (Erragragui & Revelli, 2016). In this case, the ESG/SRI index prohibits "regional oil companies" from being listed, but these companies often remain in the Sharia index. These are contrary to Islamic law, which emphasizes environmental protection and prohibits unethical exploitation of natural resources and humanity. This contrasts with the concept of implementing Islam in its totality and comprehensiveness (*kaffah*). In other words, the application of *kaffah* in Islamic finance also means the protection of the environment and social surroundings (Al-Roubaie & Sarea, 2019; Majeed, 2021).

To resolve this, many recommend integrating Sharia with Socially Responsible Investment (SRI) (Beloskar & Nageswara Rao, 2024; Hanif, 2019). SRI is an investment strategy that aims to create positive social change and financial returns for investors. It involves investing in companies and funds with a positive social impact, such as those promoting social justice, environmental sustainability, and alternative energy/green technology efforts (Chen et al., 2021). SRI can be applied through various approaches, including negative screening (excluding companies involved in specific industries) and positive screening (selecting companies that implement favorable social and environmental policies).

It should be noted that there are overlapping criteria between the Sharia index and SRI (Pok, 2012; Sukor & Abdul Halim, 2022; Zhang & Chen, 2021). SRI focuses on evaluating companies based on their social, environmental, and ethical considerations, while Sharia stock focuses on assessing the compliance of companies with Islamic principles and values (Ferrat et al., 2023; Mustafida & Fauziah, 2021). SRI criteria encompass many factors that evaluate a company's commitment to social responsibility, environmental sustainability, and ethical business practices. It involves assessing a company's approach to climate change, labor practices, human rights, and diversity. On the other hand, Sharia stock criteria encompass qualitative and quantitative screening to ensure compliance with Islamic principles, including avoiding interest-based transactions, gambling, and involvement in industries such as alcohol and pork production (Dharani et al., 2019; Hassan et al., 2019; Nor et al., 2019). Thus, SRI shares are not necessarily Sharia-compliant; for example, shares in the banking and food industries are not certified halal. On the other hand, sharia shares are not necessarily SRI, for example, shares in the mining and energy sectors.

Previous research on integrating Sharia and SRI still needs to be further explored (Ab Aziz et al., 2022; Anwer et al., 2023; Capelle-Blancard & Monjon, 2014). According to Ab Aziz et al. (2022), only a few studies link the Maqasid Syariah framework to ESG and SRI. Tanin et al. (2023) note that there is room to unify ethical stock screening with Sharia Screening because the *lex loci* applicable to Sharia screening originates from Sharia, which considers ethics as part of determining its rules. The limited literature discussing the comparison of sharia stock integration and SRI has produced inconclusive findings (Lee & Isa, 2023; Mahenthiran et al., 2023; Rasid et al., 2021; Yesuf & Aassouli, 2020). Public Companies (PLCs) that comply with Sharia and are ESG adopters will have higher enterprise value than others (Mahenthiran et al., 2023). ESG and sharia funds are not underperforming but are showing resilience and have the potential to grow and become a mainstream choice for investment (Qoyum et al., 2021). ESG–Shariah dual screening can improve the relationship between ESG and performance (Lee & Isa, 2023). Meanwhile, conflicting findings show that integrating SRI and Sharia does not work better (Yesuf & Aassouli, 2020). High ESG stocks generate high returns, and there appears to be no difference between Sharia-compliant and non-Sharia-compliant companies (Rasid et al., 2021). Along this line, the present research empirically examines further whether there is a synergy between Sharia and socially responsible investments using Indonesia as a case study.

The rest of the paper is structured as follows. The next section reviews the literature. Section III outlines the methodology used in the analysis, while Section IV presents the results. Finally, section V concludes.

## **II. LITERATURE REVIEW**

The theoretical importance of ESG/SRI elements in financial activities can be motivated using the stakeholder theory (Heese, 2005; Tabrizi, 2022). Stakeholders are generally defined as any group or individual who can affect or be affected by the achievement of an organization's objectives. This includes shareholders, employees, customers, suppliers, governments, and the local community.

Stakeholder theory explains that firms should consider the interests of all stakeholders, not just shareholders, to achieve long-term success (Garg et al, 2021).

According to the stakeholder theory, firms engage in corporate social responsibility activities in order to satisfy the expectations and demands of various stakeholders, such as employees, customers, and the local community (Mehmood et al, 2020) . By being socially responsible, firms can build strong relationships with stakeholders and gain their support and loyalty, which can ultimately lead to improved financial performance (Tanggamani et al, 2020). The stakeholder theory posits that ESG practices enhance firm value by strengthening stakeholder relationships and increasing transparency. It states that the success of an organization hinges on its ability to create value for all stakeholders, not just shareholders. Therefore, ESG practices would positively impact financial performance (Fu & Li, 2023; Kramer & Pfitzer, 2022; Whelan et al., 2021). Some studies suggest that SRI stocks perform as well as or better than traditional indexes (Borgniet & Leonardo, 2021; Picado, 2021).

Meanwhile, the benefits of shariah screening stem from its imposition of a leverage threshold. Arguably, the higher the company's leverage ratio, the greater the potential for bankruptcy. Given that the debt-to-equity ratio is a criterion in the Shariah screening, Shariah investments would be subject to lower bankruptcy risk. According to Pok, companies that comply with the Sharia are financially healthy (Pok, 2012). Thus, Islamic portfolios are expected to perform better than non-Islamic portfolios (Leite & Cortez, 2014; Picado, 2021; Rasid et al., 2021).

SRI has its roots in the late 1960s, emerging primarily from religious and activist groups in the United States. Over the decades, SRI has evolved from a niche practice into a mainstream investment strategy. The focus has shifted towards broader sustainable development goals, emphasizing environmental stewardship, social equity, and corporate governance. Sharia-compliant finance operates under a framework that emphasizes ethical and moral standards derived from Islamic law. The principles of Sharia finance align closely with the objectives of SRI, particularly in their shared focus on social responsibility and the exclusion of unethical businesses. For instance, both frameworks advocate for the avoidance of investments in sectors such as alcohol, gambling, and weapons.

SRI and Sharia portfolio integration, henceforth termed a sustainable Sharia portfolio, should perform better based on the above arguments. Shares of companies that pass the double screening procedure will do better, improving the company's reputation, thereby providing higher value for shareholders, exhibiting less risk to the business, and a lower cost of capital (Erragragui & Revelli, 2016; Mikołajek-Gocejna, 2018). Research shows that a high level of Sharia compliance significantly drives CSR activities in Pakistan. Malaysia Sharia companies have higher levels of environmental disclosure than non-Sharia companies (Badía et al., 2021; Leite & Cortez, 2014). Sharia companies in Indonesia tend to make more voluntary disclosures than non-Sharia companies. Potentially, the benefits of ESG screening could be more apparent for Sharia companies than non-Shariah companies because the ESG scores of Sharia companies are at identical rank (Dervi et al., 2022; Hassan et al., 2019). Sharia principles also require stakeholder transparency. Thus, combining ESG practices and Sharia compliance should improve financial performance (Erragraguy & Revelli, 2015; Lee et al., 2010). Several studies on

the integration of SRI/ESG and sharia have been conducted, but are very limited in number. However, the existing studies provide mixed indications that this integration will create value and improve performance. Therefore, this study is important to fill the research gap and propose the novelty. Our hypotheses are:

H1: The performance of the sustainable Sharia portfolio (SSI) is different from the performance of Sharia-compliant portfolio (ISSI)

H2: The performance of the sustainable Sharia portfolio (SSI) is different from the performance of the socially responsible investment portfolio (SRI)

H3: The performance of the sustainable Sharia portfolio (SSI) is different from the performance of the composite stock portfolio (ICI)

### III. METHODOLOGY

#### 3.1. Data

The unit of analysis used is shares included in the Indonesian Sharia Stock Index (ISSI) and SRI-Kehati. ISSI covers all Sharia shares in Indonesia, and hence it is comprehensive. Several Sharia indices, such as JII and Sharia growth, are available. However, they add additional criteria outside of the Sharia and accordingly limit the number of stocks. The SRI-Kehati is the first and oldest SRI index. Several indices, such as ESG and ESGS, are based on social and environmental awareness in Indonesia. However, these indices have only been launched recently. The data used are the daily closing prices of the shares from the above two indices for a ten-year period from 2014 to 2023.

#### 3.2. Method

We use the closing prices of the shares to form a sustainable Sharia portfolio. The selection begins by identifying shares that have consistently been constituents of ISSI and SRI Kehati over the last ten years. Next, we eliminate ISSI stock whose core business is listed in SRI-Kehati negative criteria (see Table 1). Conversely, we exclude SRI-Kehati issuers that do not meet ISSI's qualitative criteria, namely, operating in a business sector contrary to the Sharia (see Table 1). Subsequently, we combine ISSI shares that are not involved in the negative screening of SRI Kehati criteria with SRI Kehati shares that do not violate sharia criteria to form the Sustainable Sharia portfolio (Charfeddine et al., 2016; Erragragui & Revelli, 2016).

We compare the "Sustainable Sharia" portfolio with alternative investment portfolios (Qoyum et al., 2021; Lusyana, 2017), which are SRI, ISSI, and ICI. Henceforth, we refer to these three indices as "conventional" indices. For the purpose of the analysis, we construct the sustainable Sharia portfolio using both equally and value-weighted methods, where the weight for the latter is its market value or capitalization.

We calculate the daily return of all stocks for ten years using:

$$R_s = \frac{P_{st} - P_{st-1}}{P_{st-1}} \quad (1)$$

where  $R_s$  is stock return for stock  $s$  in day  $t$ ;  $P_{st}$  is the closing price of stock  $s$  in day  $t$ ;  $P_{st-1}$  is the closing price of stock  $s$  in period  $t-1$ . Then, the daily return of sustainable Sharia portfolio (SSI), equally weighted and value-weighted, are respectively computed as: in the portfolio.

$$R_p = \frac{1}{n} \sum_{s=1}^n R_s \quad (2)$$

$$R_p = \sum_{s=1}^n W_s R_s \quad (3)$$

where  $n$  is the number of stocks in the portfolio, and  $W_s$  is stock  $s$ 's market value to the portfolio's market value.

To evaluate the portfolio performance, we employ well-established risk-adjusted performance metrics such as Sharpe Ratio, Treynor Ratio, and Jensen's Alpha:

$$Sharpe_{ratio} = \frac{R_p - R_f}{\sigma_p} \quad (4)$$

$$Treynor_{ratio} = \frac{R_p - R_f}{\beta_p} \quad (5)$$

$$Jensen_{ratio} = R_p - [R_f + \beta_p(R_m - R_f)] \quad (6)$$

where  $\beta_p$  is estimated using the standard market model.

### 3.3. Comparative Analysis

In this study, performance comparisons are conducted between the Sustainable Sharia Indices Equally Weighted (SSI-EW) and Value Weighted (SSI-VW) versus three conventional indices, namely ISSI, SRI, and ICI. The comparisons are structured into six test pairs, namely SSI-EW versus ISSI, SSI-EW versus SRI, SSI-EW versus ICI, SSI-VW versus ISSI, SSI-VW versus SRI, and SSI-VW versus ICI. The analytical method employed is the Wilcoxon Signed-Rank Test, a non-parametric test designed to compare the median differences in returns between two indices. Mathematically, each comparison is expressed as the return difference:

$$D_t = R_{A,t} - R_{B,t} \quad (7)$$

where  $R_{A,t}$  and  $R_{B,t}$  represent the returns of indices A and B at time  $t$ , respectively. The null hypothesis posits that the median of the return differences equals zero, indicating no significant difference in performance between the two indices. Conversely, the alternative hypothesis states that the median of the return differences deviates from zero, implying the presence of a performance difference.

The test statistic is derived by ranking the absolute values of the return differences while retaining their positive or negative signs, and the Wilcoxon statistic  $W$  is determined as the smaller sum of the positive and negative ranks. The Wilcoxon Signed-Rank Test has been extensively applied in financial and economic research. The Wilcoxon signed-rank test is a strong default for paired comparisons of company or stock performance because it targets median shifts and remains valid when data are non-normal. In practice, authors explicitly choose non-parametric ranks for those reasons to obtain meaningful results. Ayadi & Ghorbel (2018) motivates Mann-Whitney/Wilcoxon tests on the basis of variance inequality, non-normality, and ordinal scales, and then reports significant Wilcoxon findings on firm-survival measures. Alanyali et al. (2013) use it to test whether rank-correlations between news and market variables differ from zero across Dow constituents, illustrating robust, median-based inference across stocks. Beyond robustness, when only a subset of firms reacts to an event, Wilcoxon test can even be more powerful than the t-test (Rosenblatt & Benjamini, 2018). Its recurrent use across diverse financial contexts highlights its methodological credibility and scholarly acceptance, making it a rigorous and defensible tool for portfolio comparison in this study.

This study employs a bootstrap resampling technique with 5000 iterations. The return differences,  $D_i = R_{A,t} - R_{B,t}$ , are repeatedly resampled with replacement, generating thousands of bootstrap samples  $(D_1^*, D_2^*, \dots, D_{5000}^*)$ . For each bootstrap sample, the Wilcoxon test statistic, or at minimum the median of the return differences  $\widetilde{D}^*$ , is recalculated. The distribution of  $\widetilde{D}^*$  is then used to construct confidence intervals and evaluate the stability of the results. The bootstrap confidence interval (CI) can be expressed mathematically as:

$$CI_{1-\alpha} = [\widetilde{D}_{\alpha/2}^*, \widetilde{D}_{1-\alpha/2}^*] \quad (8)$$

where  $\widetilde{D}_{\alpha/2}^*$  is the lower percentile and  $\widetilde{D}_{1-\alpha/2}^*$  is the upper percentile of the bootstrap distribution. Furthermore, the bootstrap p-value is obtained by calculating the proportion of bootstrap samples in which the median return difference  $\widetilde{D}^*$  is close to zero. It is formally written as:

$$P - value_{bootstrap} = \frac{\text{Numbers of bootstrap samples with } |\widetilde{D}^*| \leq |D_{observed}|}{5000} \quad (9)$$

If the bootstrap p-value is less than 0.05, the initial conclusion from the Wilcoxon test—namely, that a significant difference exists—is reinforced. Conversely, if the bootstrap p-value exceeds 0.05, the initial result is considered insufficiently robust, suggesting that the observed difference in performance may be attributable to random variation in the sample. Thus, bootstrap resampling provides a stronger foundation for determining whether the identified differences are consistent and robust.

## IV. RESULTS AND ANALYSIS

### 4.1. Integration of Screening Criteria

The SRI index has three screening stages: business screening, financial ratio screening, and fundamental aspect screening. Meanwhile, the Sharia Index has two screening stages, namely, business screening and financial screening. Table 1 compares the business screening of the two indices. ISSI does not detail the sectors, but it clearly states that businesses must not violate sharia provisions, namely *haram*, *makruh*, *gharar*, *maysir*, and *riba*. These would include tobacco, arms and defense, gambling, pornography, alcohol, banking, and conventional insurance. Meanwhile, SRI has a negative list containing nine sectors, as in the table. Thus, the SRI and ISSI criteria overlap, as illustrated in Figure 1. Both SRI and ISSI exclude the tobacco, arms and defense, gambling, pornography, alcohol, and nuclear sectors. In the Sharia, tobacco is *makruh*, pornography and alcohol are *haram*, and gambling is *maysir* and hence prohibited. Meanwhile, arms and defense and nuclear can be categorized as prohibited due to harms they would inflict. Meanwhile, conventional banking and insurance are *riba*- or interest-based and hence forbidden.

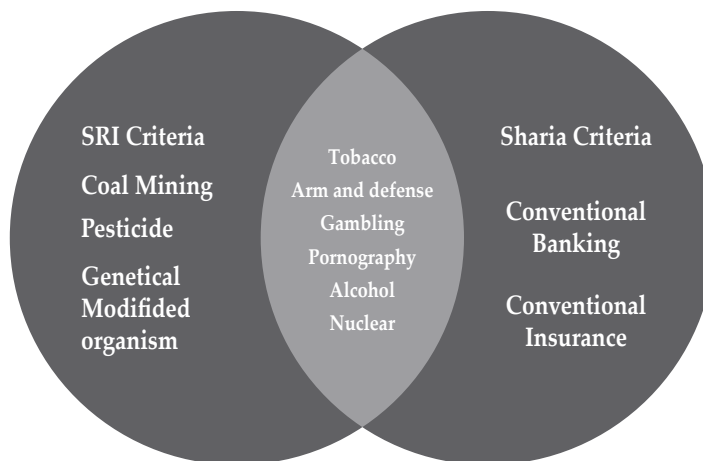
**Table 1.**  
**Comparison of Business Screening Criteria**

| SRI                           | Sharia  |
|-------------------------------|---|
| Tobacco                       | Gambling and games that are classified as gambling  |
| Arms and Defense              | Prohibited trade  |
| Coal Mining                   | Conventional/ <i>riba</i> financial businesses: conventional banking and insurance  |
| Pesticide                     | Buying and selling risks that contain uncertainty ( <i>gharar</i> ) or gambling   |
| Nuclear                       | Businesses that produce, distribute, and trade food and drinks that are classified as <i>haram</i>                                  |
| Genetically Modified Organism | Businesses that produce, distribute, and provide goods or services that damage morals and are detrimental (useless and detrimental) |
| Gambling                      |   |
| Pornography                   |   |
| Alcohol                       |   |

Source: the website of the Indonesia exchange

While the coal mining sector, pesticides, and genetically modified organisms pass the business screening under the Sharia, they likely bring harm, especially to the environment, in the long run. Islamic teachings emphasize the protection of human health and the environment. Muslim scholars and bioethicists are more cautious about coal mining and argue that its potential harms may outweigh its benefits. They emphasize the principle of *darar* (avoiding harm) and argue that coal mining should be avoided if it poses a significant risk to human health or the environment (AitElMekki, 2020; Alotaibi et al., 2022). They also stress the importance of exploring alternative methods of energy production, such as renewable energy sources. The Islamic perspective on genetically modified organisms (GMOs) is complex and not uniform. Some Islamic scholars and bioethicists argue that genetic engineering is permissible within Islam in limited circumstances, including medical purposes,

as these are considered to be essential. For example, using genetic engineering to prevent or treat hereditary diseases or reduce their impact is considered permissible according to Islamic teachings. However, other scholars and bioethicists argue that genetic engineering transgresses the distinctive genetic uniqueness of living species and is therefore prohibited (Burchi & Włodarczyk, 2022; Charfeddine et al., 2016; Husse & Pippo, 2024). Some Islamic scholars and bioethicists argue that the use of pesticides should be carefully regulated to minimize harm to human health and the environment. They emphasize the principle of *maslaha* (public interest) and argue that the use of pesticides can be justified if it serves a legitimate public interest, such as protecting crops from pests and ensuring food security. However, they also stress the importance of using pesticides judiciously and avoiding harm to humans, animals, and the environment (Beloskar & Nageswara Rao, 2024; Elnahas et al., 2021; Hanif, 2019).



Source: developed for research

**Figure 1.**  
**Intersection of SRI and ISSI Index**

Table 2 compares the financial criteria of the Sharia index and SRI. The sharia index financial criteria are intended to ensure that *riba*-related assets and income are kept below certain limits. Under the sharia criteria, debt is permitted with a reasonable limit of 45% and non-halal income cannot exceed 10%. In the context of food industry, non-halal income would involve the earnings from the sale of non-halal meat, such as pork, which is not permissible for Muslims to consume. In the case of financial institutions, non-halal income refers to income obtained from interest on savings and deposits in conventional banks, which is not in line with Islamic principles. The rationale behind this criterion is related to the economic conditions in Indonesia, as it may not be feasible to have issuers who are entirely free from non-halal income. The criterion is enforced to accommodate the practicalities of the Indonesian economic landscape while still adhering to Sharia principles. The reason for limiting the debt ratio from a Sharia perspective is to ensure that companies do not rely too heavily on debt financing. Islam encourages

using equity financing, which involves sharing profits and losses between investors and the company, rather than relying solely on debt financing, which involves paying interest on borrowed funds. Therefore, limiting the debt ratio is consistent with Islamic principles (Hassan et al., 2019; Msiska et al., 2021; Nor et al., 2019; Paltrinieri et al., 2019).

Market capitalization, total assets, free float ratio, and price-earnings ratio determine the financial criteria for the SRI index. Market capitalization measures a company's size and value as determined by the market. A market capitalization of one trillion typically categorizes a company as a large-cap company. A total asset of one trillion is a significant indicator of the size and scale of a company, placing it among the most valuable entities in the market. A free float ratio of 10% indicates that 10% of a company's outstanding shares are available for public trading and are not held by controlling or strategic shareholders. It means that 90% of the shares are held by insiders, such as management, or are restricted and not freely traded. A higher free float ratio is generally considered favorable, as it indicates greater liquidity and the ability of investors to buy or sell shares without significantly impacting the market price. A price-earnings (P/E) ratio is a measure used to assess whether a stock is undervalued or overvalued. A positive P/E ratio indicates that the company has positive earnings. A high P/E ratio means a stock's price is high relative to earnings, while a low P/E ratio indicates that the current stock price is low. In conclusion, the SRI financial criteria are based on size and financial performance (Chen et al., 2021; El Ghouli et al., 2023; Husse & Pippo, 2024).

**Table 2.**  
**Comparison of Financial Screening Criteria**

| <b>SRI</b>                                  | <b>Sharia</b>                         |
|---|---------------------------------------|
| Minimum market capitalization of 1 trillion | Maximum debt ratio of 45%             |
| Minimum total assets of 1 trillion          | Maximum non-halal income ratio of 10% |
| Minimum Free float ratio of 10%             |                                       |
| Positive price-to-earnings ratio            |                                       |

Source: website of Indonesia exchange

The SRI index has a final stage called the fundamental criteria. These criteria include the environment, community involvement, corporate governance, business conduct, employment, and human rights. These six criteria are also in line with Islamic values. The core principles of Islamic finance call for creating a sustainable, stakeholder-focused, and socially responsible financial system that aligns with the objectives of sustainable finance. Islamic finance must abide by Sharia's objectives (Maqasid), which broadly revolve around protecting faith, life, mind, wealth, and dignity (Ghouli & Karam, 2007; Pepis & de Jong, 2019; Widayawati, 2020). Furthermore, Islamic finance is underpinned by Sharia law, with the Islamic economic model emphasizing fairness and social justice and specific Sharia rulings that seek to reduce the concentration of wealth in a few hands that may be detrimental to society. Based on the review of the SRI and Sharia index criteria, we propose an integration of the Sustainable Sharia index portfolio

filtering criteria in Table 3 (Abdelsalam et al., 2017; Bodhanwala & Bodhanwala, 2020; Ferrat et al., 2023).

**Table 3.**  
**Integration of Screening Criteria for the Sustainable Sharia Index**

| <b>Business aspect</b>    |   |
|---------------------------|---|
| 1                         | Tobacco                                     |
| 2                         | Arm and Defense                             |
| 3                         | Coal Mining                                 |
| 4                         | Pesticide                                   |
| 5                         | Nuclear                                     |
| 6                         | Genetically Modified Organism               |
| 7                         | Gambling                                    |
| 8                         | Pornography                                 |
| 9                         | Alcohol                                     |
| 10                        | Conventional Finance                        |
| <b>Financial aspect</b>   |   |
| 1                         | Maximum debt ratio of 45%                   |
| 2                         | Maximum non-halal income ratio of 10%       |
| 3                         | Minimum market capitalization of 1 trillion |
| 4                         | Minimum total assets of 1 trillion          |
| 5                         | Minimum Free float ratio of 10%             |
| 6                         | Positive price-to-earnings ratio            |
| <b>Fundamental aspect</b> |   |
| 1                         | Environment                                 |
| 2                         | People involvement                          |
| 3                         | Corporate governance                        |
| 4                         | Business behaviour                          |
| 5                         | Employment                                  |
| 6                         | Human rights                                |

Source: Developed for The Research

## 4.2. Results

We apply the aforementioned sustainable Sharia criteria to the stocks that are consistent constituents of ISSI and SRI-Kehati over the period under study to form a sustainable Sharia portfolio. With the proposed criteria, we arrive at 60 shares consisting of 51 ISSI constituent shares and 9 SRI-Kehati constituent shares that fulfill both Sharia and SRI criteria. The distribution of these shares by sector is given in Table 4.

**Table 4.**  
**Distribution of Sustainable Sharia Index Constituents by Sector**

| No | Sector                       | Total |
|----|------------------------------|-------|
| 1  | Technology                   | 2     |
| 2  | Infrastructure               | 9     |
| 3  | Raw goods                    | 9     |
| 4  | Industry                     | 6     |
| 5  | Primary consumer goods       | 10    |
| 6  | Non-primary consumer goods   | 3     |
| 7  | Health                       | 6     |
| 8  | Finance                      | 1     |
| 9  | Property and real estate     | 11    |
| 10 | Transportation and logistics | 1     |
| 11 | Energy                       | 2     |

Source: Processed secondary data

Table 5 presents descriptive statistics of the portfolio returns. The results indicate notable differences in average performance across the portfolios. The SSI-VW portfolio records the highest mean daily return of 0.001366, which is substantially higher than the Equally Weighted (0.000336), Conventional Sharia (0.000220), Conventional SRI (0.000346), and Composite (0.000260) portfolios. However, the SSI-VW portfolio also exhibits a relatively high standard deviation of 0.011842, higher than both the Equally Weighted portfolio (0.008128) and the Conventional Sharia portfolio (0.009856), though slightly below that of the Conventional SRI portfolio (0.012937).

**Table 5.**  
**Descriptive Statistics**

| Index  | N    | Min     | Max    | Mean   | Std Deviation |
|--------|------|---------|--------|--------|---------------|
| SSI-EW | 2238 | -0.0579 | 0.0733 | 0.0003 | 0.0081        |
| SSI-VW | 2238 | -0.0503 | 0.0681 | 0.0013 | 0.0118        |
| ISSI   | 2238 | -0.0634 | 0.0907 | 0.0002 | 0.0098        |
| SRI    | 2238 | -0.0786 | 0.1586 | 0.0003 | 0.0129        |
| ICI    | 2238 | -0.0657 | 0.1019 | 0.0002 | 0.0098        |

Source: Processed secondary data

The extreme values further illustrate differences in risk-return characteristics. The SSI-VW portfolio shows narrower extremes (minimum -0.050336 and maximum 0.068154) compared to the Conventional SRI portfolio, which reaches a maximum daily gain of 0.158664 but also the deepest daily loss of -0.078616. In contrast, the Composite and Conventional Sharia portfolios show relatively moderate extreme values. Taken together, the evidence suggests that the SSI-VW portfolio achieves the most attractive balance of return and risk, outperforming the Equally Weighted and conventional portfolios while maintaining volatility within a reasonable range.

Table 6 present the the risk-adjusted returns, namely Sharpe Ratio, Treynor Ratio, and Jensen's Alpha. Sharpe ratio employs standard deviation ( $\sigma$ ) as its risk parameter, representing the total risk of the portfolio, which includes both systematic and unsystematic components. A high Sharpe ratio indicates that the portfolio generates substantial excess return per unit of volatility undertaken. The performance assessment demonstrates clear differentiation between the portfolios. The SSI-VW portfolio stands out as the strongest, with a Sharpe ratio of 0.0980, which far exceeds the values of the other portfolios (SSI-EW = 0.0161; SRI = 0.0109; ISSI = 0.0015). This result indicates that the SSI-VW strategy delivers the most favorable balance between risk and return, effectively rewarding investors for the total volatility borne. In contrast, the Conventional Sharia portfolio ISSI provides almost no compensation for risk, as reflected in its near-zero Sharpe ratio.

A similar pattern emerges from the Treynor ratio, which evaluates returns relative to systematic market risk. The SSI-VW portfolio again demonstrates clear superiority, achieving a Treynor value of 0.0674, far higher than those of the other portfolios (SRI = 0.000112; ISSI = 0.000021; SSI-EW = -0.0113). The negative Treynor for the SSI-EW portfolio is attributable to its near-zero, slightly negative beta, highlighting its weak alignment with the market. The results reinforce that only the SSI-VW portfolio delivers meaningful excess returns per unit of systematic risk.

The analysis of Jensen's Alpha provides further confirmation. The SSI-VW portfolio achieves the highest alpha of 0.00116, indicating significant abnormal returns beyond CAPM expectations. The SSI-EW portfolio also shows a small positive alpha (0.000131), while the SRI yields a modest positive alpha (0.000072). In contrast, the ISSI portfolio underperforms with a negative alpha (-0.000024), signaling failure to generate returns above the market-adjusted benchmark. Collectively, these findings establish that the SSI-VW portfolio is the most efficient and rewarding, while the Conventional Sharia ISSI portfolio is the weakest performer, offering negligible risk-adjusted value to investors.

**Table 6.**  
**Portfolio Assessment**

| <b>Portofolio</b> | <b>Sharpe Ratio</b> | <b>Treynor Ratio</b> | <b>Jensen's Alpha</b> |
|-------------------|---------------------|----------------------|-----------------------|
| SSI-EW            | 0.0160              | -0.0112              | 0.0001                |
| SSI-VW            | 0.0980              | 0.0673               | 0.0011                |
| ISSI              | 0.0014              | 0.0000               | -0.0000               |
| SRI               | 0.0108              | 0.0001               | 0.0000                |
| ICI               | 0.0056              | 0.0000               | -0.0000               |

Source: Processed secondary data

**Table 7.**  
**Result of Wilcoxon Signed Rank Test**

|                | Original<br>Statistic | Original<br>p-value | Bootstrap<br>Mean Stat | 95% CI<br>Lower | 95% CI<br>Upper |
|----------------|-----------------------|---------------------|------------------------|-----------------|-----------------|
| SSI-EW vs ISSI | 1247028               | 0.8810              | 1227041                | 1181989         | 1250618         |
| SSI-EW vs SRI  | 1226446               | 0.4103              | 1219662                | 1167305         | 1250180         |
| SSI-EW vs ICI  | 1227890               | 0.4377              | 1220625                | 1168501         | 1250226         |
| SSI-VW vs ISSI | 1175141               | 0.0111              | 1174424                | 1115428         | 1232235         |
| SSI-VW vs SRI  | 1194985               | 0.0589              | 1193508                | 1134097         | 1246398         |
| SSI-VW vs ICI  | 1183362               | 0.0232              | 1182332                | 1122538         | 1241115         |

Source: Processed secondary data

Given that portfolio returns deviate from normality, this study employs the Wilcoxon Signed-Rank Test for paired-difference in portfolio returns. The results are present in Table 7. The Wilcoxon Signed-Rank Test reveal important contrasts between sustainable Sharia portfolios and conventional benchmarks. Comparisons involving the Equally Weighted (SSI-EW) portfolio show no evidence of significant differences: SSI-EW versus Conventional Sharia ( $p = 0.881$ ), SSI-EW versus SRI ( $p = 0.410$ ), and SSI-EW versus ICI ( $p = 0.438$ ) all yield p-values well above the conventional 5% threshold. This indicates that, from a statistical perspective, the performance of the SSI-EW portfolio is not distinguishable from these benchmarks, despite modest variations in mean returns reported earlier.

In contrast, the SSI-VW portfolio produces clear evidence of differentiation. The test shows that SSI-VW versus ISSI ( $p = 0.011$ ) and SSI-VW versus ICI ( $p = 0.023$ ) are both significant at the 5% level, indicating that the return distribution of the SSI-VW portfolio are statistically different from these two benchmarks. This aligns with earlier descriptive and risk-adjusted analyses, where the SSI-VW portfolio consistently achieve higher mean returns and stronger Sharpe, Treynor, and Jensen ratios. The comparison between SSI-VW and SRI yields a borderline result ( $p = 0.059$ ), suggesting a potential difference at the 10% level, though not strong enough to reach conventional 5% significance.

Taken together, these findings suggest that the SSI-VW portfolio provides a statistically distinct and superior performance compared to Conventional Sharia and the Composite market benchmark, while also showing marginal distinction from Conventional socially responsible investment. Conversely, the performance of SSI-EW portfolio is indistinguishable from that of conventional portfolios or the market.

#### 4.3. Robustness Test

The bootstrap analysis with 5,000 iterations provides additional robustness checks for the Wilcoxon Signed-Rank Test results. For the Equally Weighted (SSI-EW) portfolio, the comparisons against ISSI (original  $p = 0.881$ ), SRI ( $p = 0.410$ ), and the ICI ( $p = 0.438$ ) all remain statistically insignificant. The corresponding bootstrap confidence intervals consistently cover the observed values, reinforcing the conclusion that the SSI-EW portfolio does not differ significantly from its

conventional or market benchmarks. This consistency between original test outcomes and bootstrap replications indicates that the absence of statistical distinction for the SSI-EW portfolio is robust to resampling variability.

**Table 8.**  
**Robustness Test**

|                | <b>Original<br/>Statistic</b> | <b>Original<br/>p-value</b> | <b>Bootstrap<br/>Mean Stat</b> | <b>95% CI<br/>Lower</b> | <b>95% CI<br/>Upper</b> |
|----------------|-------------------------------|-----------------------------|--------------------------------|-------------------------|-------------------------|
| SSI-EW VS ISSI | 1247028                       | 0.881009                    | 1227041                        | 1181989                 | 1250618                 |
| SSI-EW vs SRI  | 1226446                       | 0.410315                    | 1219662                        | 1167305                 | 1250180                 |
| SSI-EW vs ICI  | 1227890                       | 0.437703                    | 1220625                        | 1168501                 | 1250226                 |
| SSI-VW vs ISSI | 1175141                       | 0.011165                    | 1174424                        | 1115428                 | 1232235                 |
| SSI-VW vs SRI  | 1194985                       | 0.05897                     | 1193508                        | 1134097                 | 1246398                 |
| SSI-VW vs ICI  | 1183362                       | 0.023294                    | 1182332                        | 1122538                 | 1241115                 |

Source: Processed secondary data

In contrast, the SSI-VW portfolio demonstrates stronger and statistically meaningful differences. The test comparing SSI-VW against Conventional Sharia produces an original p-value of 0.011, with a bootstrap confidence interval that supports the robustness of this result. This confirms that the SSI-VW portfolio's superior performance relative to Conventional Sharia is not an artifact of sample variation but a reliable outcome. For the comparison between SSI-VW and SRI, the original p-value of 0.059 places the result at a borderline level of significance, and the bootstrap confidence interval retains this interpretation, suggesting possible but not definitive evidence of a difference.

#### 4.4. Analysis

The Sustainable Sharia Value-Weighted portfolio (SSI-VW) concretely exhibits superiority in risk–return performance—as measured by the Sharpe ratio, Treynor ratio, and Jensen's alpha. This outperformance is further reaffirmed by the Wilcoxon signed-rank test and remains robust under bootstrap resampling, indicating that the value-weighted approach is the most suitable strategy for constructing sustainable Sharia portfolios. The portfolio's ability to deliver high and stable returns suggests that adherence to Sharia and sustainability principles does not involve a trade-off between profitability and risk; rather, it constitutes a source of competitive advantage.

These findings reinforce the theoretical foundations of Stakeholder Theory in the context of Islamic capital markets and sustainable investing. It makes a substantive contribution to the literatures on Islamic finance and socially responsible investment (SRI). The empirical evidence indicates that ethical-based portfolio can be compatible with market efficiency and profitability. The results are also consistent with prior research. Companies that satisfy a double-screening process tend to outperform, bolstering corporate reputation and, in turn, delivering greater shareholder value, lowering business risk, and reducing cost of capital

(Erragragui & Revelli, 2016; Mikołajek-Gocejna, 2018). Because Sharia constraints reinforce ESG commitments, the incremental benefits of ESG screening may be higher for Sharia-compliant companies than for non-Sharia companies. (Dervi et al., 2022; Hassan et al., 2019).

These findings are highly important for investors who adhere to Sharia principles and socially responsible investing (SRI) in their financial decision-making. The ISSI and SRI indices can serve as instruments for realizing holistic Islamic investment values (*Kaffah*), as both incorporate environmental and social sustainability alongside Sharia compliance. The two portfolio-construction approaches—equal-weighted (EW) and value-weighted (VW)—exhibit distinct characteristics and implications for performance. Nevertheless, the empirical evidence indicates that a sustainability- and Sharia-based value-weighted approach provides more consistent advantages, producing portfolios that are not only competitive but also aligned with long-term sustainability objectives.

Furthermore, the results support the hypothesis that the performance of the SSI-VW portfolio differs significantly from the ISSI and SRI indices. This finding aligns with stakeholder theory, which underscores the importance of considering the interests of multiple stakeholders—customers, employees, suppliers, and investors—in corporate decision-making. Firms that effectively balance these interests are more likely to preserve legitimacy and sustain operations amid market dynamics (Abdullah & Rao, 2022; Badía et al., 2020; Borgniet & Leonardo, 2021). By taking stakeholder interests into account, companies can enhance their reputations and, in turn, potentially improve their market performance.

This study also addresses the previously inconclusive evidence on integrating Sharia and SRI principles by providing empirical support that a combined strategy can outperform conventional benchmarks. At present, the Sharia stock index includes roughly 533 equities that satisfy DSN–MUI criteria. Of these, only about 60 issuers have consistently maintained Sharia compliance over the past decade (Sairally, 2015; Sukor & Abdul Halim, 2022; Tabrizi, 2022). Meanwhile, the SRI index developed by the Kehati Foundation and the Indonesia Stock Exchange is likewise updated every six months and comprises 25 stocks, of which nine have consistently adhered to SRI principles.

Practically, these findings carry important strategic implications for investors and policymakers. For Muslim investors seeking a holistic (*kaffah*) goal, integrating Sharia-compliant equities with SRI/ESG screening into the portfolio offers a means to balance spiritual adherence with the pursuit of financial returns. For ethically oriented investors more broadly, the same approach is relevant as a way to optimize risk-adjusted returns while upholding sustainability principles. For policymakers, the results provide a basis for designing new indices that jointly embed Sharia and SRI/ESG criteria, thereby accommodating investors who aim to achieve sustainable investment objectives while enhancing the potential for financial gains.

## V. CONCLUSION AND RECOMMENDATIONS

This research has three main findings. First, while SRI and Sharia indices have some differences in their screening criteria, they do share standard sector exclusions

such as tobacco, arms and defense, gambling, pornography, alcohol, and nuclear sectors. The SRI also emphasizes the importance of applying Islamic teachings and rules in sectors like coal mining, genetically modified organisms, and pesticides, as they may conflict with Islamic values. The SRI index focuses on company size and financial performance, while the Sharia index prioritizes Sharia compliance and limited debt financing. As a novelty, this research develops a set of screening criteria that synergize SRI and Sharia aspects.

Second, we document the outperformance of sustainable sharia portfolio against conventional one. Incorporating Sharia and SRI principles into investment portfolios leads to superior performance compared to conventional indices, namely ISSI and SRI. And third, SRI focuses on social and environmental issues. Together with SRI, ISSI will achieve holistic Islamic values (kaffah) because it not only focuses on religious boundaries, but also contributes to social and environmental justice, which are the core values of Islam.

Because Indonesia's SRI adopts the best-in-class screening method, this index leads to companies with significant economies of scale and sound financial performance. Some issuers may implement SRI, but because of their small scale or poor financial performance, they are not listed under SRI. So, evaluating whether applying SRI criteria to small-cap Sharia-compliant firms would result in better performance would be an interesting avenue for future research. Future research can also apply the proposed sustainable sharia criteria to different markets or different time frames. Furthermore, researchers could also examine the impact of integrating Sharia and SRI criteria on investor behavior and market performance over time.

The results of this research are relevant to investors. They can see which stocks meet the SRI/ESG and sharia criteria by utilizing the criteria proposed at least in the business aspect. Then they can allocate funds to these stocks for a higher risk-adjusted return. This study forms a basis for policy makers to create an index that meets sharia and SRI/ESG requirements.

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