

Performance evaluation of socially responsible investment funds Evidence from European market

Amina KHELIFI

University Center of Tipaza (Algeria),
khelifi-amina@cu-tipaza.dz

Received: 17/01/2025

Accepted: 22/04/2025

Published: 25/05/2025

Abstract:

This study aims to assess the performance of Socially Responsible Investment (SRI) funds by analyzing data from European market countries between 2018 and 2023. The evaluation considers absolute returns, risk measures, and risk-adjusted performance, utilizing the Sharpe ratio, Treynor ratio, and Jensen's Alpha across varying market conditions.

Our findings suggest that SRI funds can serve as a safeguard for investors during crises. Investors should consider the positive impact of ESG factors on performance. Additionally, a customized investment strategy is recommended to enhance returns and manage risk across various market conditions, aligning with investors' goals and risk profiles to contribute to the achievement of sustainable development objectives.

Keywords: Performance evaluation; Socially responsible investment funds; European market.

JEL Classification Codes : G23, P47

Corresponding author: Amina KHELIFI, **e-mail:** khelifi-amina@cu-tipaza.dz

1. INTRODUCTION

Mutual funds are investment vehicles that consolidate financial resources from individuals and organizations to invest in a variety of tradable financial instruments. They are particularly appealing to small investors due to their liquidity, professional management, and portfolio diversification. However, investors differ in their goals, which may include varying return expectations, liquidity preferences, risk tolerance, and adherence to ethical or religious principles. (Agrawal, 2011, p. 2)

Ethical investment funds, such as socially responsible investment (SRI) funds, have experienced significant global growth compared to conventional investment funds (Morningstar, 2024, p. 1). These funds integrate financial objectives with considerations for social, environmental, and governance factors in their investment strategies. Evaluating the performance of SRI funds requires a detailed analysis to understand how these funds balance ethical values with achieving financial objectives, effectively navigating risks while striving for strong outcomes. (Derwall, Guenster, Bauer, & Koedijk, 2005, p. 52)

Therefore, the research problem is defined as follows: **How can the performance of socially responsible investment funds be evaluated?**

To achieve the study's goal, the following hypotheses are proposed:

- **Hypothesis 1:** On average, SRI funds underperform compared to the general European market benchmark, providing lower absolute returns to their investors.
- **Hypothesis 2:** SRI funds exhibit lower overall and systematic risk exposure.
- **Hypothesis 3:** SRI funds deliver lower risk-adjusted performance to their investors.

This study seeks to evaluate the performance of SRI funds, with an emphasis on their returns and risk-adjusted performance. It examines how these funds integrate ethical principles with financial outcomes across various market conditions, offering valuable insights for investors, financial professionals, and policymakers to better align ethical values with investment strategies.

This study examines the performance of SRI funds across 15 developed European countries from January 2018 to December 2023, encompassing three distinct phases of the COVID-19 crisis: pre-crisis (2018–2019), crisis (2020–2021), and post-crisis (2022–2023). The overall study period (2018–2023) is included to capture the long-term behavior of SRI funds. The analysis utilizes data from the MSCI Europe SRI Index for SRI fund and the MSCI Europe Index as a market benchmark. The risk-free rate is proxied using ICE LIBOR 1-month rates until September 1, 2021, and the NY Fed Overnight SOFR thereafter. The methodology includes absolute return measurements, risk metrics (standard deviation and beta), and risk-adjusted performance measures (Sharpe ratio, Treynor ratio, and Jensen's alpha).

The structure of the paper is as follows: the next section reviews the relevant literature and discusses studies related to the research topic. Section 3 outlines the methodology, detailing the data sample and empirical methods used to achieve the study's objectives. Section 4 presents an analysis and evaluation of the empirical results. Finally, the conclusion summarizes the main findings and provides recommendations.

2. Literature review

Prior studies in this area have thoroughly examined various dimensions, including how Socially Responsible Investment funds perform relative to other funds or market benchmarks across different economic environments using diverse methodologies.

The study of (Fatemi, Fooladi, Zhao, & Ma, 2024) compares U.S. socially responsible mutual funds with conventional funds from 1980 to 2019, finding that SRI funds consistently outperform, especially in bull markets, due to superior stock selection, while their advantage in bear markets is less significant.

(Fooladi & Hebb, 2023) compare the performance of the Jantzi Social Index (JSI) with its benchmark, the TSX 60, and investigates factors driving performance differences. The results show that JSI's outperformance is largely due to its emphasis on companies with higher ESG scores, rather

than superior asset selection. These findings are particularly relevant as global regulators move towards mandatory ESG disclosures.

(Dumitrescu, Järvinen, & Zakriya, 2023) compare the performance of 121 socially responsible investing (SRI) ETFs to non-SRI S&P 500 ETFs from 2010 to 2020. While SRI ETFs underperformed their benchmark overall, they significantly outperformed in the last two years of the sample. The results also indicate that positive screening, especially environmental inclusion, leads to better performance than negative screening. Additionally, the performance of SRI ETFs is influenced by rising industry competition and decreasing market concentration.

(Syed, 2017) investigates the performance of UK and French socially responsible investment (SRI) funds before and during the financial crisis. In the pre-crisis period (2004–2007), these funds outperformed the market, and during the crisis (2007–2009), they exceeded market benchmarks according to the modified Sharpe ratio. However, other measures like the Jensen alpha and Treynor ratio showed no significant underperformance. Overall, there is no notable difference in financial performance between SRI and non-SRI funds.

This study draws valuable insights from prior research in both conceptual and empirical frameworks. Its key contributions include an extended study period to 2023, encompassing the COVID-19 crisis, and the utilization of MSCI indexes for methodological benchmarking.

3. Data and Methodology

3.1 Data and sampling design:

Our sample includes large- and mid-cap representation from 15 developed European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK (MSCI, 2024). The study period and sample size were determined based on the availability of data for the selected funds and market benchmarks. Monthly average data for each variable were collected from January 2018 to December 2023, resulting in 72 observations per variable. A distinctive aspect of this study is the inclusion of the COVID-19 crisis period, allowing for an analysis of SRI fund performance across three distinct phases: (1) pre-crisis (2018–2019),

(2) crisis (2020–2021), and (3) post-crisis (2022–2023). Additionally, the overall study period (January 2018–December 2023) was included to capture the long-term behavior of SRI funds.

Data on SRI funds and market benchmarks were sourced from Morgan Stanley Capital International's official website. Information on the risk-free rate was obtained from two primary sources: The Secured Overnight Financing Rate (SOFR) published by the Federal Reserve Bank of New York and the USD LIBOR from IBORate. Reflecting the ongoing transition from LIBOR to SOFR (Jermann, 2019), the risk-free rate is proxied using the ICE LIBOR 1-month rates until September 1, 2021, and the NY Fed Overnight SOFR thereafter.

The dataset comprises two key variables: the returns of SRI funds and European market indices. Monthly average returns for SRI funds are represented by the MSCI Europe SRI Index, while the MSCI Europe Index (EM) serves as a benchmark for the broader European market. This time series data enables an in-depth analysis of SRI fund performance in both absolute and relative terms across varying economic conditions.

3.2 The Methodology of the Study:

3.2.1 Absolute return measurements :

The equation below outlines the model employed for analyzing absolute returns. (Yesuf & Aassouli, 2020, p. 8)

$$R_p = \frac{1}{n} \sum_{i=1}^n R_{pt}$$

Where:

R_p : the absolute rate of return on a portfolio p;

R_{pt} : Return on portfolio p in time t;

n: the number of observations.

The returns for each index series are determined using the specified transformation: (Rafay, Gilani, & Nasir, 2017, p. 236)

$$R_{p,t} = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \text{ or } R_{p,t} = \ln \left[\frac{NAV_t}{NAV_{t-1}} \right]$$

Where :

$R_{p,t}$:return on a portfolio at month (t);

NAV_t :Net Asset Value of fund at month (t);

NAV_{t-1} : Net Asset Value of fund at month (t-1).

For each portfolio, we determine the average, maximum, and minimum returns and construct a correlation matrix to examine the relationships between variables.

3.2.2 Risk measures:

To evaluate the risk-return profile of the SRI fund portfolio under varying economic conditions, two key risk metrics are employed: standard deviation and beta. Standard deviation, as an absolute risk measure, quantifies the total risk of the portfolio without requiring a benchmark, offering insight into its overall volatility. In contrast, beta is used as a relative risk metric to assess systematic risk—unavoidable risk that impacts a wide range of assets, such as market risk. Beta measures how the portfolio's returns respond to market fluctuations, indicating its expected volatility in comparison to the broader market. (Merdad, Hassan, & Alhenawi, 2017, p. 175)

3.2.3 Risk-Adjusted performance measurements:

Risk-adjusted performance is evaluated using the Sharpe Ratio (absolute measure) and the Treynor Ratio and Jensen's alpha (relative measures). These models were selected for their well-established theoretical foundations, proven effectiveness, and widespread use among academics and practitioners due to their straightforward application.

a. Sharpe Ratio:

The Sharpe ratio measures a portfolio's excess return relative to its total risk, with higher values indicating stronger performance. (Sharpe, 1966) It is calculated as:

$$S_{p,t} = \frac{R_{p,t} - R_{f,t}}{\sigma_{p,t}}$$

Where:

$S_{p,t}$:Sharpe ratio for portfolio p. The t subscript refers to the period under examination (overall, pre, during, and post-crisis periods);

$R_{p,t}$:The average rate of return of the portfolio p during the period t;

$R_{f,t}$:The average risk-free rate measured by SOFR from Sep 1 2021 & on ICE LIBOR 1 M prior that date, during period t;

$\delta_{p,t}$:Standard deviation of the portfolio p during the period t.

b. Treynor Ratio:

The Treynor ratio measures a portfolio's excess return relative to its level of systematic risk (beta). It is frequently employed to assess the performance of a portfolio within the context of a larger, fully diversified investment strategy, as diversification reduces overall risk. A higher Treynor ratio suggests that the portfolio has generated stronger risk-adjusted returns, while a lower ratio indicates weaker performance. (Treynor, 1965) It is calculated as follows:

$$T_{p,t} = \frac{R_{p,t} - R_{f,t}}{\beta_{p,t}}$$

Where:

$T_{p,t}$:Treynor ratio for portfolio p. The t subscript refers to the period under examination (overall, pre, during, and post-crisis periods);

$R_{p,t}$:The average rate of return of the portfolio p during the period t;

$R_{f,t}$:The average risk-free rate measured by SOFR from Sep 1 2021 & on ICE LIBOR 1 M prior that date, during period t;

$\beta_{p,t}$:Portfolio's beta during period t.

c. Jensen's Alpha using CAPM:

Jensen's alpha is a performance evaluation tool based on the Capital Asset Pricing Model (CAPM) that calculates a portfolio's excess returns over a specified period. It also acts as a measure of the portfolio's performance relative to a market benchmark, assessing whether the portfolio has outperformed or underperformed the market. A positive Jensen's alpha indicates that the portfolio has consistently achieved returns above what would be expected based on its risk level, and vice versa. (Jensen, 1968) The alpha is calculated using the following formula:

$$\text{Alpha } (\alpha) = R_{p,t} - [R_{f,t} + \beta_{p,t} (R_{m,t} - R_{f,t})]$$

Where:

$R_{p,t}$:Rate of return of the portfolio p during the period t;

$R_{f,t}$:Risk-free rate measured by SOFR from Sep 1 2021 & on ICE LIBOR 1 M prior that date, during period t;

$R_{m,t}$:Rate of return on the European market index during the period t;

$\beta_{p,t}$:Portfolio's beta during period t.

4. Empirical Results and Discussion

4.1 Absolute return analysis:

The table below presents the non-risk-adjusted average returns, along with the minimum and maximum returns for each variable.

Table 1. Average Return, Minimum and Maximum

Period	Return	Variables	
		EM	SRIF
Full period (2018-2023)	Average return	0.38%	0.53%
	Min	-15.60%	-11.43%
	Max	15.71%	14.77%
Pre-crisis (2018-2019)	Average return	0.22%	0.49%
	Min	-7.94%	-7.93%
	Max	6.50%	6.87%
Crisis (2020-2021)	Average return	0.85%	1.12%
	Min	-15.60%	-11.43%
	Max	15.71%	14.77%
Post-crisis (2022-2023)	Average return	0.08%	-0.02%
	Min	-10.48%	-8.84%
	Max	10.75%	10.69%

Source :Prepared by the researcher based on data collected from MSCI website.

The analysis indicates that the SRI fund consistently outperformed the market, except during the post-crisis period (2022–2023), where its returns slightly lagged. The lowest returns for both variables were recorded during the crisis, particularly in March 2020, with the market experiencing a greater decline (-15.60%) compared to the SRI fund (-11.43%). This downturn reflects the significant impact of the COVID-19 pandemic, which caused a sharp decline in stock prices due to widespread uncertainty, fears

Performance evaluation of Socially responsible investment funds

Evidence from European market

of economic fallout, and government-imposed lockdowns disrupting industries.

Interestingly, both the SRI fund and the European market achieved their highest returns during the crisis, at 14.77% and 15.71%, respectively, indicating resilience and adaptability to market turmoil.

Based on these findings, the first hypothesis (H1), which posited that SRI funds underperform compared to the broader European market by delivering lower absolute returns, is rejected.

Additionally, the relationships between variables are explored further through the correlation matrix provided in the subsequent table, highlighting trends across different periods.

Table 2. Correlation matrix

Full Period (2018-2023)			Pre-Crisis (2018-2019)		
	EM	SRIF		EM	SRIF
EM	1		EM	1	
SRIF	0,980272	1	SRIF	0,990583	1
Crisis (2020-2021)			Post-Crisis (2022-2023)		
	EM	SRIF		EM	SRIF
EM	1		EM	1	
SRIF	0,983304	1	SRIF	0,976431	1

Source :Prepared by the researcher based on data collected from MSCI website.

Table 2 reveals a consistently strong correlation (>0.97) between SRIF and EM across all periods, indicating that their movements are generally aligned. However, the marginal decline in correlation during the crisis and post-crisis periods suggests that SRI funds exhibit unique traits and greater resilience under certain market conditions, emphasizing the role of ESG factors in influencing fund performance.

Given that correlations are crucial for evaluating portfolio diversification, the combined insights from the analysis of absolute returns and correlations provide valuable context for assessing overall performance.

4.2 Risk analysis:

Researchers argue that fund performance is influenced not only by differences in absolute returns but also by risk exposure. Measuring the risk

linked to these returns is essential, and the results of both absolute and relative risk assessments are summarized in the table below.

Table 3. Absolute and relative risk measures

	Full period (2018-2023)	Pre-crisis (2018-2019)	Crisis (2020-2021)	Post-crisis (2022-2023)
Std.Dev	5.31%	3.94%	5.83%	6.07%
Beta	0.96	0.97	0.91	1.00

Source :Prepared by the researcher based on data collected from MSCI website.

The overall risk rose sharply in the post-crisis period (6.07%) compared to the pre-crisis level (3.94%), highlighting increased uncertainty and shifting market dynamics following COVID-19. During the crisis, volatility also spiked (5.83%), aligning with the widespread instability observed across markets. As a result, the second hypothesis, which asserts that SRI funds have lower overall and systematic risk exposure, is rejected for the crisis and post-crisis periods.

However, the systematic risk (beta) of the SRI fund remained close to 1 across all periods, signifying a risk profile largely in line with the market. Notably, beta slightly decreased during the crisis (0.91), suggesting reduced sensitivity to market fluctuations and potential diversification benefits. Therefore, the second hypothesis is supported only during the crisis period in terms of systematic risk.

4.3 Risk-adjusted performance analysis:

4.3.1 Absolute Risk-Adjusted Performance:

The table below presents the Sharpe ratio results for the SRI fund across various economic conditions.

Table 4. Absolute Risk-Adjusted Performance

	Full period (2018-2023)	Pre-crisis (2018-2019)	Crisis (2020-2021)	Post-crisis (2022-2023)
Sharpe	-26.04%	-41.49%	14.02%	-55.04%

Source :Prepared by the researcher based on data collected from MSCI website.

The Sharpe ratios were predominantly negative across the analyzed periods, reflecting inadequate risk-adjusted performance. However, during the crisis, the Sharpe ratio reached a positive value of 14.02%, suggesting

comparatively stronger performance, potentially driven by the resilience of SRI-focused sectors. Consequently, the third hypothesis is disproven solely for the crisis period.

4.3.2 Relative Risk-Adjusted Performance:

The Sharpe ratio provides useful information for ranking and comparing portfolios but does not fully capture their performance relative to the market. To address this, relative risk-adjusted measures like the Treynor ratio and Jensen's alpha are calculated, using the MSCI Europe Index as the benchmark.

Table 5. Relative Risk-Adjusted Performance

	Full period (2018-2023)	Pre-crisis (2018-2019)	Crisis (2020-2021)	Post-crisis (2022-2023)
Treynor	-1.44%	-1.68%	0.90%	-3.34%
Alpha	0.08%	0.21%	0.32%	-0.09%

Source :Prepared by the researcher based on data collected from MSCI website.

The Treynor ratios reveal a consistent pattern, turning positive during the crisis (0.90%) but remaining negative in other periods, notably post-crisis (-3.34%). This indicates that the fund adequately compensated investors for systematic risk during the crisis but underperformed during more stable periods. As a result, the third hypothesis is rejected solely for the crisis period.

Additionally, the SRI fund delivered a marginally positive alpha over the full period (0.08%), with stronger performance during the crisis (0.32%), signaling slight outperformance relative to expectations in challenging conditions. Conversely, the negative alpha post-crisis (-0.09%) reflects underperformance during the recovery phase. Therefore, the third hypothesis is accepted only for the post-crisis period.

5. Conclusion

This research examines the performance of socially responsible investment (SRI) funds, focusing on their absolute returns, risk metrics, and risk-adjusted performance using the Sharpe ratio, Treynor ratio, and Jensen's Alpha under different market conditions. Spanning 15 developed

European countries from 2018 to 2023, the study captures the long-term behavior of SRI funds across three distinct phases of the COVID-19 crisis.

By employing diverse empirical methodologies, this research has yielded the following findings:

- The SRI fund's superior absolute returns demonstrate its unique resilience in certain market conditions, underscoring the positive impact of ESG factors on performance.
- The uncertainty and instability observed across markets following COVID-19 increased the overall risk associated with SRI funds.
- SRI funds exhibit lower systematic risk exposure during crisis, suggesting reduced sensitivity to market fluctuations and potential diversification benefits.
- Risk-adjusted measures show the SRI fund's strong relative performance during the crisis, suggesting it as a safe haven for investors.
- The higher volatility and negative risk-adjusted returns post-crisis reveal a significant challenge for SRI funds, indicating difficulty in adapting to recovery dynamics and raising concerns about their consistency across market cycles.
- Over the full period, the SRI fund exhibited moderate risk and market-aligned behavior, but its poor risk-adjusted performance indicated it failed to justify its risk despite a slight outperformance in alpha.
- The mixed performance highlights the importance of adopting a refined strategy to optimize returns under different market conditions.

Based on the findings and their financial implications, the researcher recommends the following:

- Investors should take into account the beneficial influence of ESG factors on fund performance.
- SRI funds can act as a protective option for investors during times of crisis.
- A more tailored investment strategy should be implemented to improve returns and manage risk effectively across diverse market

conditions, aligning better with investors' objectives and risk profiles.

To improve the accuracy and depth of the findings, we suggest conducting further research by expanding the data period, incorporating new performance metrics, and comparing the fund's performance with other funds and market benchmarks.

6. Bibliography List

- Agrawal, D. (2011). Measuring performance of Indian mutual funds. *Finance India*.
- Derwall, J., Guenster, N., Bauer, R., & Koedijk, K. (2005). The ecoefficiency premium puzzle. *Financial Analysts Journal*, 61(2), pp. 51-63.
- Dumitrescu, A., Järvinen, J., & Zakriya, M. (2023). Hidden Gem or Fool's Gold: Can passive ESG ETFs outperform the benchmarks? *International review of financial analysis*, 86, p. 102540.
- Fatemi, A., Fooladi, I., Zhao, Y., & Ma, Z. (2024). On the superior performance of SRI funds. *International Review of Economics & Finance*, 93, pp. 567-581.
- Fooladi, I., & Hebb, G. (2023). Drivers of differences in performance of ESG-focused funds relative to their underlying benchmarks. *Global Finance Journal*, 56, p. 100745.
- IBORate. (n.d.). Retrieved from <http://iborate.com/usd-libor/>
- Jensen, M. (1968). The performance of mutual funds in the period 1945-1964. *The Journal of Finance*, 23(2), pp. 389-416.
- Jermann, U. (2019). Is SOFR better than LIBOR? Available at SSRN 3361942.
- Merdad, H., Hassan, M., & Alhenawi, Y. (2017). Islamic versus conventional mutual funds performance in Saudi Arabia: A case study. Available at SSRN.
- Morgan Stanley Capital International. (n.d.). Retrieved from <https://www.msci.com/>
- Morningstar. (2024). *Global Sustainable Fund Flows: Q3 2024 in Review*.
- MSCI. (2024). *MSCI Europe SRI Index Factsheet*.
- Rafay, A., Gilani, U., & Nasir, M. (2017). Investigating the performance of Islamic mutual funds: Evidence from an emerging economy. *City University Research Journal*, 7(2), pp. 234-241.
- Sharpe, W. (1966). Mutual fund performance. *The Journal of Business*, 39(1), pp. 119-138.
- Syed, A. (2017). Socially responsible: Are they profitable? *Research in international Business and Finance*, 42, pp. 1504-1515.

- The Federal Reserve Bank of New York. (n.d.). Retrieved from <https://www.newyorkfed.org/markets/reference-rates/sofr>
- Treynor, J. (1965). How to rate management of investment funds. *Harvard Business Review*, 43(1), pp. 63-75.
- Yesuf, A., & Aassouli, D. (2020). Exploring synergies and performance evaluation between Islamic funds and socially responsible investment (SRIs) in light of the Sustainable Development Goals (SDGs). *Heliyon*, 6(8), p. e04562.