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COMPARISON OF RISK-ADJUSTED RELATIVE RETURNS OF MSCI ESG THEMATIC INDEXES ON THE EUROPEAN MARKET¹

Summary

Purpose – The primary objective of this article is to compare annualized performance and risk adjusted relative returns of thematic ESG indices (such as MSCI Screened/Leaders/Universal Index, etc.) for European market covering the 5-year period of 2019–2023.

Research method – We employed the Sharpe ratio to compare risk adjusted relative returns of 5 selected ESG thematic indices across the European market.

Results – Our study revealed that MSCI SRI index, one of the most universal and diversified index that tracks “best-in-class” companies from each sector, yields higher risk adjusted returns than its peers.

Originality/value/implications/recommendations – The results of the paper fill the existent gap in the literature and complemented the ongoing discussions on the topic of cross-index comparison in the domain of ESG-investing in the European market. It provides valuable insights regarding risk-adjusted returns of large set of ESG thematic indexes for both academic community and professional investors.

Keywords: SRI, ESG, equity index, investment

JEL classification: G0, G11

1. Introduction

As the world today faces more and more sustainability challenges, there is a growing need for clear explanation on how investors can contribute to mitigating

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climate changes, ensuring equal human rights to everyone, eliminating gender gaps and overcoming numerous other global economic and societal issues. Both retail and institutional investors can play a significant role in promoting sustainable development and positive societal change by investing into companies that operate in line with environmental, social and governance factors and principles (commonly known as ESG).

Interest in ESG-aligned investing brightened particularly in recent years. Two major tendencies contributed to the fact that investors focused their attention on the sustainability-related topics: 1) companies nowadays are more transparent and more willing to disclose their ESG-related statistics [Wen et al., 2022]; 2) the European Union strives to be a leader in shaping changes towards sustainability, which translates into legal changes affecting the financial markets in terms of recognizing the impact of ESG factors and associated risks.

Growing demand for ESG investing was answered by numerous financial instruments, products and services that have been continuously introduced to the European market for the last decades. Within the domain of equity investments, investors now have several options of how to align their portfolios with ESG principles.

Firstly, they can opt for stocks of individual companies that demonstrate strong ESG performance. These companies typically align their operational and managerial principles with a set of general ESG criteria, which may include practises such as mitigation of climate changes, sustainable business development, diversity and inclusion initiatives, transparent governance structures.

Alternatively, investors may choose to invest in funds whose portfolio is based on specific equity indexes that are composed of companies meeting predefined criteria or grouped together based on other principles in accordance with ESG-aligned business practises.

Since equity indexes have traditionally been a more risk-adverse investment option than stocks of individual companies, such investment approach offers investors the benefits of diversification across multiple companies while ensuring alignment with their ESG preferences.

In addition to traditional broad-market indexes, there is a growing domain of narrower indexes that focus on specific ESG criteria or principles. For example, there are climate-oriented indexes that prioritize companies actively addressing climate change issues. In contrast, socially aligned indexes focus on companies with strong social sustainability practices, such as gender and ethnic diversity.

As the realm of ESG-aligned investing becomes more complex and diverse, investors require more detailed information on whether incorporating ESG factors

into their portfolios and investing into ESG-aligned investment products could lead to financially acceptable returns.

In our paper, we contribute to this discussion by providing evidence on the potential performance of ESG equity indexes and trying to answer the question of which of the thematic ESG indexes on the pan-European perspective outperforms the others.

Additionally, an introduction of the new EU taxonomy for sustainable activities in 2021 [Yeow, Ng, 2021; Wyszowska, Filipiak, 2025] caused some changes in the way ESG indexes are constructed for the European market, which is why it becomes even more crucial to understand and assess the historical performance of ESG/SRI indexes.

The article is organized as follows. In Section 2, we provide the current landscape of research on the performance of ESG indexes. In Section 3, we describe the data and methodology used. In Section 4, we present the empirical results of the study. Finally, in Section 5, we provide the conclusions.

2. Literature review

Although sustainable and socially responsible investing is a well-studied topic in the academic literature, there is still a room for contribution, especially in the domain of equity index investing in Europe.

A number of papers studied the impact of integration of various sustainability and ESG-aligned practices on the profitability and financial returns of companies. For example, practices such as ESG reporting [Sciarelli et al., 2021; Janicka, Sajnog, 2022], corporate governance [Webber et al., 2020] or environmental investment [Alshehhi et al., 2018; Schrippe, Ribeiro, 2018; Shabbir, Wisdom, 2020].

Another set of papers looked at various factors affecting the financial performance of SRI/ESG indexes and the returns of mutual funds tracking such indexes [Schröder, 2007; Chegut et al., 2011; Revelli, Viviani, 2014; Bender et al., 2017; Brakman-Reiser, Tucker, 2020; La Torre et al., 2020; Pfothenauer, 2022; Oehmke, Opp, 2024]. Some authors have also studied the possibility of building optimal ESG-thematic portfolios [Sikacz, Wołczek, 2018; Schmidt, 2020].

A significant group of studies focused on comparison of the performance of SRI/ESG equity indexes and conventional investment options, such as general market benchmarks [Hong, Kacperczyk, 2009; Managi et al., 2012; Belghitar et al., 2014; Blankenberg, Gottschalk, 2018; Bodhanwala, Bodhanwala, 2020; Dai, 2021; Rompotis, 2022; Kurnoga et al., 2022; Gupta, Chaudhary, 2023]. In

addition, a number of papers studying the performance of various ESG indexes and associated investment instruments during the crisis times of the Covid-19 pandemic have been published in recent years [Broadstock et al., 2021; Mousa et al., 2021; Narinder et al., 2021; Janik, Pluciennik, 2022; Trisnowati et al., 2022].

As historically the concept of socially responsible investment evolved and began to gradually transform into ESG, a set of new studies emerged. Since in our paper, we primarily focus on equity index investing, we provide the detailed description of several relevant papers.

In the paper *Can Sustainable Investment Yield Better Financial Returns: A Comparative Study of ESG Indices and MSCI Indices* [Shain et al., 2019], the authors employed ARCH/GARCH models to compare the daily financial returns of selected ESG indexes (the Thomson Reuters/S-Network global indexes that include ESG indexes for developed markets, emerging markets, US Large Cap and Europe) versus their counterparts among conventional peers (represented by general MSCI indexes, such as MSCI ACWI, USA, EAFE, Emerging Markets and Europe indexes). The study revealed that among ESG products, the US Large Cap index showed the highest daily returns. Since in this study, ESG indexes were not compared with other ESG index families, a gap in the literature remained.

Similarly, in the paper *Can Sustainable Investments Outperform Traditional Benchmarks? Evidence from Global Stock Markets* [Cunha et al., 2020], the authors employed a set of financial metrics, such as Sharpe, modified Sharpe, Treynor, and Sortino ratios, to compare the Dow Jones Sustainability Index family with their counterparts among conventional market benchmarks. This research was conducted on the same level of ESG indexes as the previously mentioned paper, and no comparison between different ESG indexes was done.

In the paper *Return and Risk Spillovers Between the ESG Global Index and Stock Markets: Evidence from Time and Frequency Analysis* [Kilic et al., 2022], the authors employed copula function models to assess comovements and covolatility between MSCI ESG indexes and conventional market indexes of 19 developed and 19 emerging markets.

In the study *When Does the Japan Empowering Women Index Outperform Its Parent and the ESG Select Leaders Indexes?* [Kohei, Okimoto, 2023], the authors use Fama-French model to compare the performance of ESG-thematic Japan Empowering Women Index versus its parent ESG-thematic indexes.

The closest match to cover the gap was made in the paper *Does ESG Index Have Strong Conditional Correlations with Sustainability Related Stock Indices?* [Zhang et al., 2021], whose authors employed asymmetric dynamic conditional correlation (A-DCC) model to study correlation between MSCI World ESG

Leaders index versus several non-MSCI sustainability indexes. This paper covers various MSCI ESG thematic indexes, although the complex comparison has not been conducted.

In the paper *Can One Reinforce Investments in Renewable Energy Stock Indices with the ESG Index?* [Liu, Hamori, 2020], the performance of ESG indexes were compared with sectoral indexes, such as renewable energy indexes, which also can be considered as ESG thematic index, even though it is not by its definition.

Therefore, we claim that the major gap in literature still lies in the comparison of financial returns of different families of ESG indexes. While the topic of comparing both SRI and ESG indexes with conventional broad market indexes has been well-covered, the interconnection between different ESG index families still provides room for further contribution, especially from the pan-European perspective.

Moreover, various legal initiatives of the European Union institutions within the domain of sustainability contribute to the transformation of existing business practices and reporting to be aligned with the concept of ESG. For example, by introducing the Corporate Sustainability Reporting Directive (CSRD) in January 2023, the European Commission standardized the requirements for sustainability reporting for all listed companies across the EU and, at the same time, it established a common, easy-to-interpret system that enables cross-business analysis of sustainability practices.

Such initiatives facilitated building new thematic ESG indexes by offering data providing companies with a ready-made system of classification and grouping of businesses according to various aspects of ESG and sustainable investment. The cumulative effect of this, however, has not been fully studied. As more legal initiatives will come into force, it becomes crucial to understand and highlight the criteria, using which may enable the investors to anticipate higher yield.

3. Data and methodology

To fill the gap in the literature, we aim at answering the question of which ESG thematic index can provide the investors with the highest returns on the European market, taking into consideration relative risks of investing.

For that purpose, we have selected a set of 5 ESG thematic indexes, derived and sourced by MSCI (with data extracted from Macrobond's database). To be included into our analysis, the indexes must meet the following criteria: 1) index should have been launched on the European market before the 1st of January 2019

and be non-interruptedly active at least till the 31st of December 2023 to cover full 5-year period of study; 2) index should clearly be a part of any of MSCI's ESG Index families.

According to MSCI's methodology, they divide their ESG indexes into three major families/groups based on the action taken to build the respective index: Screen, Integrate and Target. The so-called screened indexes include a general set of stocks from which equities of certain controversial industries are excluded by default. For our analysis, we have selected **ESG Screened Index**, which is considered the most general as it excludes weapons, tobacco, palm oil, arctic oil gas industries from the valuation.

In contrast, integrated indexes represent a broad-market benchmark of businesses that have implemented certain ESG-aligned practices into their daily operations and/or general management policies. For our analysis, we have selected the following integrated indexes:

1. **MSCI ESG Universal Index** – it is the most broad and diversified ESG index, which allows investors to align their portfolio with the sustainable investment principles, while maintaining broad-market and diversified approach to investing.
2. **MSCI ESG Leaders Index** – it is a multi-sectoral index that includes companies with the highest ESG ratings from each market sector, according to the Global Industry Classification Standard (GICS).
3. **MSCI SRI Index** – it is similar to ESG Leaders Index but employs a deeper selection approach to target the top 25% companies in each GICS sector with the highest ESG ratings, according to MSCI ESG Rating system that ranges companies on a scale from AAA to CCC, based on measuring to what extent practices adopted in companies align with sustainable development principles.

Lastly, the targeted indexes are a group that includes businesses focused on specific ESG themes, such as achieving gender equality and implementing inclusion and diversity practices. For our analysis, we have selected **MSCI Women's Leadership Index**, which includes businesses that promote gender equality and women's representatives in management and boards of directors, as these particular practices perfectly align with two pillars of ESG concept: social and corporate governance.

Even though we admit there are more indexes available in all three groups, we have limited our study to a set of these five indexes as the other ones were either not available for European market (such as ESG Focus Index) or were launched after 2019, which would make the full 5-year historical comparison inaccurate.

All selected indexes cover 15 developed markets countries in Europe and include mid- and large-cap companies according to the free float-adjusted market capitalization method. More detailed information regarding each of the indexes is available in the table below (see Table 1).

TABLE 1
Characteristics and metadata of selected MSCI Indexes

Name	Year of introduction	Regions covered	Number of constituents
MSCI Europe ESG Screened Index	2018	15 Developed Markets (DM) countries in Europe	386
MSCI Europe ESG Universal Index	2017	15 Developed Markets (DM) countries in Europe	413
MSCI Europe ESG Leaders Index	2011	15 Developed Markets (DM) countries in Europe	196
MSCI Europe SRI Index	2011	15 Developed Markets (DM) countries in Europe	113
MSCI Europe Women's Leadership Index	2016	15 Developed Markets (DM) countries in Europe	189

Source: the author's own interpretation of MSCI's materials extracted from <https://www.msci.com> [date of access: 9.09.2024].

In order to assess and compare risk-adjusted relative returns of selected indexes, we have employed the Sharpe ratio, which has already been successfully used in the paper *Can Sustainable Investments Outperform Traditional Benchmarks? Evidence from Global Stock Markets* [Cunha et al., 2020] as an instrument to compare financial returns of ESG equity indexes, thus we conclude that it can equally be used for our research.

The Sharpe ratio was developed by William F. Sharpe in 1996, and since then proved to be one of the most used measures of risk-adjusted relative returns of any given portfolio, which helps both researchers and investors to understand how much excess return they are receiving for the extra volatility they endure by holding a riskier asset. The formula for the Sharpe ratio is the following:

the Sharpe ratio = $(R_p - R_f) / \sigma$, where:

R_p – return of portfolio;

R_f – risk-free rate;

σ – standard deviation of the portfolio's excess return.

In our study, the return of portfolio should be considered as an annualized gross return of indexes as of end of any given year. For risk-free rate, we use yield-to-maturity (YTM) of German government bond benchmark with maturity around 3 months (data derived from and sourced by Macrobond), which is the most risk-averse investment option on the European market that was available for our study in the database we had access to.

4. Results

We start describing the results of our study with providing descriptive statistics: the mean, median and standard deviation. The measures were done for the annual total returns of all 5 indexes through the period of 2019–2023 cumulatively (see Table 2).

TABLE 2
Descriptive statistics of selected MSCI Indexes

Name	Mean returns	Median returns	Standard deviation
MSCI Europe ESG Screened Index	9.11	10.48	18.79
MSCI Europe ESG Universal Index	8.42	8.43	19.54
MSCI Europe ESG Leaders Index	9.29	9.59	19.37
MSCI Europe SRI Index	9.67	11.66	18.79
MSCI Europe Women's Leadership Index	6.26	7.27	20.65

Source: the author's own calculations of MSCI data extracted from Macrobond database.

Over the 5-year period we studied, the highest mean and median returns were demonstrated by SRI Index, which also showed the least standard deviation. This indicates that MSCI Europe SRI Index provides investors not only with high, but also less volatile returns. In contrast, Women's Leadership Index underperformed all other indexes from our sample, significantly lagging behind in terms of both

mean and median returns and demonstrating relatively high volatility, represented by standard deviation.

Regarding the comparison of annual returns year-by-year, which have been calculated as annualized percentage growth of a given index over a calendar year, the results were not uniform across all sampled indexes (see Table 3). While most of indexes yielded quite similar returns, SRI Index has shown consistently high returns outperforming its counterparts in 4 out of 6 analysed years.

TABLE 3

Annual returns of MSCI Europe ESG Indexes

Index	2019	2020	2021	2022	2023	2024
ESG Leaders Index	26.59	9.24	16.78	-16.91	21.56	15.47
ESG Screened Index	24.53	6.91	16.66	-16.51	22.59	14.72
ESG Universal Index	26.39	8.45	17.59	-15.77	21.15	14.30
SRI Index	28.39	10.65	19.15	-18.75	23.95	21.98
Women's Leadership Index	23.09	7.52	12.75	-19.68	19.96	11.69

Source: the author's own calculations of MSCI data extracted from Macrobond database.

Additionally, we have included the comparison of sampled indexes for as of the 30th of June 2024. Even though the full-year data for 2024 were not available at the time when the study has been conducted, these preliminary results demonstrate the alignment with the historical trend found when analysing the 2019–2023 period. Such consistent, throughout longer terms, outperformance of SRI Index compared to other ESG thematic indexes confirms the statement that qualitative diversification might be the key to high performance of portfolio.

To derive the Sharpe ratio, it is necessary to present a risk-free instrument, for which we use yield-to-maturity of 3-month German government bond benchmark at the end of each year (see Table 4).

TABLE 4

Yield-to-Maturity of 3-month German government bond benchmark

2019	2020	2021	2022	2023	2024
-0.722	-0.794	-0.767	1.871	3.609	3.342

Source: data extracted from Macrobond database.

In our later analysis, we proceed with calculating Sharpe ratios for all selected indexes (see Table 5).

TABLE 5
Sharpe ratios of MSCI Europe ESG Indexes

Index	2019	2020	2021	2022	2023	2024
ESG Leaders Index	2.35	0.35	1.30	-0.75	1.15	0.89
ESG Screened Index	2.14	0.26	1.29	-0.73	1.22	0.84
ESG Universal Index	2.33	0.32	1.35	-0.7	1.14	0.82
SRI Index	2.55	0.41	1.44	-0.82	1.31	1.34
Women's Leadership Index	1.96	0.28	1.04	-0.82	0.98	0.58

Source: the author's own calculations using MSCI data extracted from Macrobond database.

As our analysis reveals, SRI Index again has consistently showed higher Sharpe ratios in most years, indicating strong risk-adjusted performance (see Table 5). At the same time, the rest of the indexes (ESG Leaders Index, ESG Screened Index and ESG Universal Index) demonstrated relatively stable Sharpe ratios with less fluctuations. In contrast, Women's Leadership Index severely struggled in most of sampled years, demonstrating significant underperformance compared to other ESG thematic indexes.

In 2022, all sampled indexes performed atypically. As seen, ESG Universal Index – the broadest and the most diversified – took the leadership in our sample, suggesting that during times of crisis, broader diversification may deliver higher risk-adjusted returns for the investors.

5. Conclusions

In this paper, we contributed to the ongoing discussions on the topic of cross-index comparison of ESG thematic indexes by providing a comparison of performance of 5 selected indexes on the European market.

Following the example of Cunha et al. [2020], we employed the Sharpe ratio to study risk adjusted returns of 5 MSCI ESG indexes for the European market: MSCI SRI, ESG Screened, ESG Leaders, ESG Universal and Women's Leadership Indexes.

Our study revealed that in the vast majority of cases, MSCI SRI (one of the most diversified and at the same time qualitative indexes) returns higher risk-adjusted than its peers. At the same time, other broad indexes, such as ESG Screened, ESG Leaders, ESG Universal, yield lesser but still comparable returns. In contrast, more sophisticated and narrower thematic ESG indexes, such as Women's Leadership, significantly lagged behind its peers in terms of both annual performance and risk-adjusted returns, which confirms the statement that in the domain of ESG equity indexes, qualitative diversification may be the key to higher returns. That can be aligned with the conclusions made in the paper *Can Sustainable Investment Yield Better Financial Returns: A Comparative Study of ESG Indices and MSCI Indices* [Shain et al., 2019], where MSCI US ESG Large Cap index, being the most qualitative and diversified one, was claimed as such to provide the highest returns.

The main limitation of our study is the fact that it is limited to a single region – Europe. Despite this, we believe it still may provide valuable insights regarding risk-adjusted returns of a larger set of ESG thematic indexes for the academic community, as well as for both professional and individual investors. The results of our study revealed that broad but qualitatively diversified investment instruments (the example of MSCI Europe SRI Index) outperform their less diversified or narrower counterparts significantly. These conclusions may be used by investors not only when selecting ESG-thematic funds, but also when building and optimizing individual portfolios.

For the academic community, our study provides evidence on the performance of 5 ESG Indexes. While we primarily focused on the pan-European perspective, further studies may be done on a more granular level of separate countries. When our research has been conducted, country-level ESG indexes were not numerous. However, the industry is constantly developing and MSCI and other data providers are constantly developing and introducing new equity indexes or financial instruments. Therefore, we suggest future studies may focus either on cross-country/regional comparison or further development of cross-index comparison of ESG thematic indexes over longer historical terms.

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