
The Influence of ESG Ratings on the Returns of Real Estate Companies

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Abstract:

Purpose: This study examines the influence of real estate companies' sustainability efforts on their economic success.

Design/Methodology/Approach: We consider the 41 real estate companies that were included in the STOXX Europe 600 Real Estate Index for at least a few years in the period from 2017 to 2023. The pairs of values (ESG rating on the one hand and relative annual return on the other) are displayed as a point cloud in a coordinate system and provided with a regression line. The correlation coefficients (r) and the coefficients of determination (R^2) are calculated. Finally, the Spearman test is used to check whether the slopes of the regression lines are significantly different from zero.

Findings: For the period from 2017 to 2023, 41 large European real estate companies are examined to determine whether the ESG ratings of the London Stock Exchange Group (Refinitiv) have a significant influence on their relative annual returns. It is shown that there is no significant correlation between the ESG ratings on the one hand and the relative returns on the other. This applies both when the ESG ratings are set in relation to the relative returns of the same year and when the ESG ratings are set in relation to the relative returns of the following year.

Practical implications: The respective annual return is calculated from the share price increase from the beginning to the end of the year plus the dividend payments made during the year. In order to exclude any distortion due to phases of good and bad (real estate) economic developments, the annual returns are not calculated in absolute terms, but in relation to the annual return of the Euro Stoxx 600 Real Estate Index.

Originality/Value: Sustainability considerations are very important in society and politics, corporate success is significantly influenced by sustainability efforts is inaccurate, at least for large European real estate companies in the period from 2017 to 2023.

Keywords: ESG rating, stock return, real estate companies, sustainability, Corporate Social Responsibility, stock market.

JEL Codes: A13, G12, O16, Q01, Q56, R39.

Paper type: Research article.

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1. Introduction

Over the past three to four decades, awareness has grown that companies do not only have to satisfy the profit expectations of shareholders. Instead, companies are regarded as important elements of both economic and social life. Companies are therefore increasingly expected to fulfill this role. Corporate Social Responsibility (CSR) characterizes the social responsibility of companies in terms of sustainable business. In the course of the public debate, the CSR approach was further differentiated.

Three areas of corporate responsibility emerged: environmental, social and governance (ESG). These are the three areas in which action is needed to protect nature, ensure social progress and improve governance standards. This is intended to ensure the development and prosperity of the global economy.

In the meantime, companies are not only facing pressure from the public debate. Legislators have also taken up the ESG criteria as a sensible target perspective and are increasingly obliging companies to meet these standards. For example, the European Union brought the Corporate Sustainability Reporting Directive (CSRD) into force in January 2023.

As investors are increasingly asking about the fulfillment of ESG criteria, ESG rating agencies have now become established. ESG rating agencies, such as LSEG (Refinitiv), Ecovadis, Sustainalytics or Inrate, make the sustainability efforts of companies comparable and therefore quickly and easily assessable for potential investors.

However, it is controversial whether extensive compliance with ESG standards also contributes to an improvement in the economic success of companies.

2. Literature Review

Hong and Kacperczyk (2009) argue that it is not worth following the ESG criteria. Instead, they find that especially companies that make particularly few sustainability efforts are remarkably economically successful.

Hoepner and Zeume (2013) and Adamsson and Hoepner (2015) criticize this assessment. They assume that the results of Hong and Kacperczyk (2009) are overlaid by other special features of the sample examined and that so-called sin stocks are not systematically more successful economically.

Fabozzi, Ma and Oliphant (2008), on the other hand, support the assessment of Hong and Kacperczyk (2009) with a broad-based empirical study on the success of sin stocks in 21 countries in the period from 1970 to 2007.

Fabozzi, Ma and Oliphant (2008) find that the returns on sin stocks are around 1% per month higher than the market performance. Trinks and Scholtens (2017) arrive at similar results, analyzing 1,634 shares from 94 countries. They show that sin stocks achieve far above-average returns. The significance of the study by Hoepner and Schopohl (2018) remains unclear. The authors interpret their results to mean that there is no evidence that sin stocks generate systematic excess returns.

Hvidkjaer (2017) interprets these results differently. He recognizes a clear performance advantage of sin stocks in the data. The studies by Filbeck, Holzauer and Zhao (2014) and Humphrey and Tan (2014) also find evidence that shares that do not focus on the sustainability aspect generate above-average returns.

Lobe and Walkshäusl (2016), on the other hand, find no empirical evidence for a positive performance deviation of sin stocks. However, Hvidkjaer (2017) suspects that the period under review (1995-2007) in this study may have been chosen in such a way that no evidence of excess returns on sin stocks could be found.

However, there are now also a number of findings showing that companies with above-average ESG ratings achieve above-average returns. Kempf and Osthoff (2007) compare the returns of standard shares in the Standard and Poor's 500 Index (SandP 500) and sustainably oriented shares in the Domini Social 400 Index (DS 400) in the period from 1992 to 2004.

It can be seen that the returns of sustainable shares are higher. Statman and Glushkov (2009) confirm these results for the period from 1992 to 2007. Borgers, Derwall, Koedijk and ter Horst (2013) cast doubt on these results. In their opinion, the findings are only attributable to the period under review. In later periods (from 2004 onwards), this correlation no longer exists.

Halbritter and Dorfleitner (2015) confirm the results of Borgers, Derwall, Koedijk and ter Horst (2013), but find a significant positive influence of Bloomberg's ESG ratings on the future returns of sustainable companies. The study by Larsen (2016) points in the same direction. Good ESG ratings from MSCI lead to above-average returns and below-average volatility of those returns in the period from 2012 to 2016. Humphrey and Tan (2014) find that socially responsible portfolios achieve below-average returns.

However, Hvidkjaer (2017) criticizes the portfolio composition and the observation period, which means that the informative value of the results should be regarded as limited. Verheyden, Eccles and Feiner (2016) find an above-average risk-return ratio in most cases of ESG-influenced portfolios.

Derwall, Guenster, Bauer and Koedijk (2005) find evidence for the period from 1995 to 2003 that companies that attach particular importance to environmental protection achieve above-average returns. Edmans (2011) shows for the period from 1984 to

2011 that at least the criterion of employee satisfaction shows a clear correlation with the company's performance.

However, the question of causality must be raised here. In successful companies that generate high returns, employees are presumably under less pressure. So perhaps it is not the high employee satisfaction that leads to high returns, but the high returns lead to high employee satisfaction. This question must also be addressed to the studies by Edmans (2012), Statman and Glushkov (2009) and Kempf and Osthoff (2007). These studies also emphasize the importance of employee relations for company returns.

Chang, Nelson and Witte (2012) show that green investment funds exhibit a recognizable underperformance compared to conventional investment funds on a risk-adjusted basis. Durán-Santomil, Otero-González, Correia-Domingues and Carlos (2019) come to the opposite conclusion for European equity funds in the years 2016-2018. They are guided by the sustainability rating from Morningstar.

Capelle-Blancard and Monjon (2014) show by means of 116 French socially responsible investment (SRI) funds in the period from 2001 to 2007 that SRI funds do not outperform the market, regardless of the performance indicator considered. It has been shown that announcements to orient oneself more strongly towards ESG criteria in the future are often not received positively by investors, which is reflected in price declines (cf. e.g. Fisher-Vanden and Thorburn (2011); Jacobs, Sinhal and Subramaniam (2010); Krüger (2015)).

Three comprehensive review articles (Friede, Busch and Bassen (2015); Clark, Feiner and Viehs (2015); Hvidkjaer (2017)) recognize, by and large, a favorable impact of increased ESG efforts on corporate performance. Talan and Sharma (2019) present another extensive literature review, but are far more cautious in their assessment of the link between sustainability and returns.

A meta-study by Hornuf and Yüksel (2023) notes that, on average, SRI funds perform neither better nor worse than the market portfolio. In summary, it must be concluded that the empirical evidence for the positive effect of an ESG focus on a company's returns cannot yet be conclusively regarded as given.

3. Research Question and Hypotheses

This study addresses the question of whether a positive effect on returns can be observed for large European real estate companies in the period from 2017 to 2023 as a result of ESG efforts. In doing so, we look at the real estate stocks in the STOXX Europe 600 Real Estate Index. It is examined whether there is a correlation between the ESG score of LSEG (Refinitiv) on the one hand and the relative return of the real estate stocks in the same year or in the following year on the other hand.

We initially follow the assessments of Derwall, Guenster, Bauer and Koedijk (2005), Kempf and Osthoff (2007), Friede, Busch and Bassen (2015), Clark, Feiner and Viehs (2015), Larsen (2016), Verheyden, Eccles and Feiner (2016), Hvidkjaer (2017) and Durán-Santomil, Otero-González, Correia-Domingues and Carlos (2019).

This means that we expect a positive correlation between the ESG ratings of LSEG (Refinitiv) on the one hand and the relative returns of the real estate companies under consideration on the other hand. By relative return, we mean the annual return of each individual real estate company under consideration minus the annual return of the STOXX Europe 600 Real Estate Index.

Hypothesis 1 is therefore: The correlation coefficient between the ESG ratings and the relative annual returns of the companies under consideration is significantly positive.

Null hypothesis 1 is therefore: The correlation coefficient of the ESG ratings and the relative annual returns of the companies under consideration is not significantly positive.

Borgers, Derwall, Koedijk and ter Horst (2013) highlight that the consideration of stakeholder interests may not influence current returns, but only future returns. In fact, it is conceivable that investors need some time to take note of a change in the ESG rating and factor it into their portfolio decisions. There would then be a time lag before corresponding share price increases would occur. We therefore also establish a link between the ESG ratings on the one hand and the relative returns of the following year on the other hand.

Hypothesis 2 is therefore: The correlation coefficient between the respective current ESG ratings and the relative annual returns of the respective following year is significantly positive.

Null hypothesis 2 is therefore: The correlation coefficient of the respective current ESG ratings and the relative annual returns of the respective following year is not significantly positive.

4. Data and Methods

We consider the 41 real estate companies that were included in the STOXX Europe 600 Real Estate Index for at least a few years in the period from 2017 to 2023. These are the following companies in detail: Aedifica NV, Allreal Holding AG, alstria office REIT AG, Aroundtown SA, Assura PLC, Big Yellow Group PLC, British Land Company PLC, Castellum AB, Cofinimmo SA, Covivio SA, Derwent London PLC, Deutsche Wohnen SE, Entra ASA, Fabege AB, Fastighets AB Balder, Gecina SA, Grand City Properties SA, Inmobiliaria Colonial SOCIMI SA, Klepierre SA, Kojamo Oyj, Land Securities Group PLC, LEG Immobilien SE, Londonmetric Property PLC, LXi REIT PLC, MERLIN Properties SOCIMI SA, Primary Health Properties PLC, PSP Swiss Property AG, Rightmove PLC, Safestore Holdings PLC,

Sagax AB, Samhallsbyggnadsbolaget I Norden AB, SEGRO PLC, Swiss Prime Site AG, TAG Immobilien AG, Tritax Big Box Reit PLC, Unibail-Rodamco-Westfield SE, Unite Group PLC, Vonovia SE, Wallenstam AB, Warehouses de Pauw NV, Wihlborgs Fastigheter AB.

For the period from 2017 to 2023, the ESG ratings of LSEG (Refinitiv) on the one hand and the relative return of the companies on the other are considered. The relative return is defined as follows: The share price performance from the beginning to the end of the year is determined and, in addition, the profit distributions (dividend payments) are taken into account.

In order to consider only the development of returns that are not attributable to positive and negative trends in the stock market segment as a whole, the price development of the Euro Stoxx 600 Real Estate Index is then deducted. In this way, the relative return of the individual shares in relation to the return of all shares in the Euro Stoxx 600 Real Estate Index is taken into account.

As the index is listed in euros but many of the shares are denominated in other currencies (e.g. British pounds, Swiss francs or Swedish krona), it is essential to carry out a currency adjustment when determining the returns of the individual shares. The share price performance plus the dividend payment for a year is always converted into euros so that the returns can be meaningfully compared with the euro-denominated Euro Stoxx 600 Real Estate Index.

The pairs of values (ESG rating on the one hand and relative annual return on the other) are displayed as a point cloud in a coordinate system and provided with a regression line. The correlation coefficients (r) and the coefficients of determination (R^2) are calculated. Finally, the Spearman test is used to check whether the slopes of the regression lines are significantly different from zero (see Spearman (1904)).

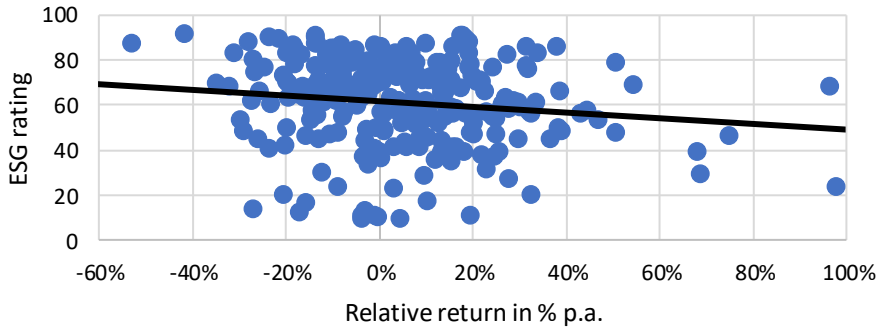
In addition, the correlation between the ESG ratings and the relative returns of the following year is examined. The correlation coefficients (r) and the coefficients of determination (R^2) are also calculated for this data. Again, the Spearman test is used to check whether the slopes of the regression lines are significantly different from zero (see Spearman (1904)).

5. Results

First, the correlation between the respective ESG ratings and the relative returns (share price changes plus dividend payments minus the return of the Euro Stoxx 600 Real Estate Index) in the same year is considered (hypothesis 1). "In the same year" means that the ESG rating of share x in 2017 is set in relation to the relative return of share x in 2017. The same then applies for the other shares and for the other years. The point cloud results in a regression line with a negative slope (Figure 1). This means that the worse the ESG rating, the higher the relative return of the real estate

stocks. However, this correlation is only weak (Table 1). The correlation coefficient (r) is -0.1195. The coefficient of determination (R^2) is 0.0143.

Figure 1. Correlation between ESG ratings and relative returns in the same year from 2017 to 2023



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-60% to 100% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

These conditions are essentially also evident when the years 2017 to 2023 are analyzed separately (Table 1). In 2017 and 2023, there is a slightly positive correlation between the ESG rating on the one hand and the relative return on the other.

In 2018, 2019, 2020, 2021 and 2022, however, there is a negative correlation between the ESG ratings and the relative returns in each case. The point clouds including the regression lines for the years 2017 to 2023 can be found in the appendix.

Table 1. Correlation between ESG ratings and relative returns in the same year from 2017 to 2023

Year	Correlation	Correlation coefficient (r)	Coefficient of determination (R^2)	Spearman p-value
2017	positive	0.0966	0.0093	0.7892
2018	negative	-0.2828	0.0800	0.3115
2019	negative	-0.1877	0.0352	0.8541
2020	negative	-0.3286	0.1080	0.0308
2021	negative	-0.1847	0.0341	0.2407
2022	negative	-0.1094	0.0120	0.4927
2023	positive	0.1601	0.0256	0.2005
Total	negative	-0.1195	0.0143	

Source: Own study.

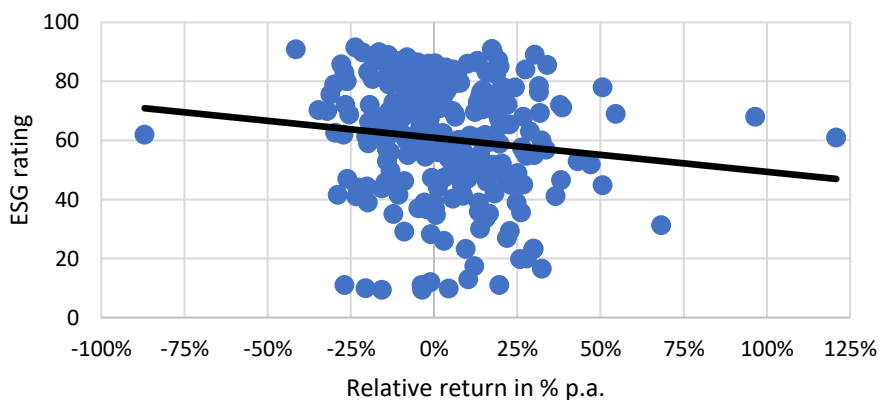
Overall, it should be noted that the coefficients of determination range between 0.0093 and 0.1080. The correlation between ESG ratings on the one hand and relative returns on the other is very loose or, to put it more bluntly, non-existent at all.

Even in the best case (2020), less than 11% of the variance in relative returns is explained by ESG ratings. For the entire period under review (2017-2023), less than 1.5% of the variance in relative returns is explained by ESG ratings. This is also reflected in the results of the significance tests. Only in 2020 does the Spearman test show a significant correlation between ESG ratings and relative returns. However, this is a negative correlation. The null hypothesis 1 can therefore not be rejected. This means that the correlation coefficient between the ESG ratings and the relative annual returns of the companies under consideration is not significantly positive.

The situation is not much different if a time-delayed effect of ESG ratings on relative returns is considered (hypothesis 2). Here, the correlation between the respective ESG ratings and the relative returns (share price changes plus dividend payments minus the return of the Euro Stoxx 600 Real Estate Index) in the following year is considered. "In the following year" means that the ESG rating of share x in 2017 is set in relation to the relative return of share x in 2018.

The same then also applies for the other shares and for the remaining years. The point cloud leads to a regression line with a negative slope (Figure 2). This means that the worse the ESG rating, the higher the relative return of the real estate stocks in the following year. However, this correlation is only weak (Table 2). The correlation coefficient (r) is -0.1177. The coefficient of determination (R^2) is 0.0138.

Figure 2. Correlation between ESG ratings and relative returns in the following year from 2017 to 2023



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-100% to 125% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

Table 2. Correlation between ESG ratings and relative returns in the following year from 2017 to 2023

Year	Correlation	Correlation coefficient (r)	Coefficient of determination (R ²)	of Spearman p-value
2017	negative	-0.0636	0.0040	0.6431
2018	negative	-0.2828	0.0800	0.1720
2019	positive	0.0285	0.0008	0.9808
2020	negative	-0.4426	0.1959	0.0035
2021	negative	-0.1856	0.0344	0.3784
2022	negative	-0.0279	0.0008	0.9423
2023	positive	0.1502	0.0226	0.4026
Total	negative	-0.1177	0.0138	

Source: Own study.

These conditions are essentially also evident when the years 2017 to 2023 are analyzed separately (Table 2). In 2019 and 2023, it is true that there is a slightly positive correlation between the ESG rating on the one hand and the relative return of the following year on the other. In 2017, 2018, 2020, 2021 and 2022, however, there is a negative correlation between the ESG ratings and the relative returns of the following year in each case. The point clouds including the regression lines for the years 2017 to 2023 can also be found in the appendix.

Overall, it should be noted that the coefficients of determination range between 0.0008 and 0.1959. The correlation between the ESG ratings on the one hand and the relative returns of the following year on the other is very loose. Even in the best case (2020), less than 20% of the variance in relative returns is explained by the ESG ratings.

For the entire period under consideration (2017-2023), less than 1.5% of the variance in relative returns is explained by ESG ratings. This is also reflected in the results of the significance tests. Only the correlation for 2020 proves to be significant in the Spearman test. However, this is a negative correlation.

The null hypothesis 2 can therefore also not be rejected. This means that the correlation coefficient between the ESG ratings on the one hand and the relative annual returns in subsequent years on the other is not significantly positive.

In principle, it is also conceivable that market participants anticipate future efforts to meet ESG criteria and that these future efforts are reflected in the share price performance in advance. This would not result in a delayed but rather an up-front reaction of the share price performance to future changes in ESG ratings. We also examined this possibility.

However, the results did not differ significantly from the results we achieved with regard to hypotheses 1 and 2 (see Figure 17 in the appendix). The correlation coefficient is -0.0861. The coefficient of determination is 0.0074. In this respect, there is no indication that there was an up-front price reaction to future improvements in ESG ratings.

The development of returns of (real estate) companies is undoubtedly a multidimensional phenomenon. Obviously, other factors have a significantly greater impact on the economic success of companies than their sustainability efforts, which are reflected in the ESG ratings of LSEG (Refinitiv).

We found no evidence in the 41 large European real estate companies under review for the assumption that the willingness of companies to act in accordance with ESG criteria is a key or even an outstanding aspect for the economic success of a company in this day and age.

6. Conclusions

This study examines the influence of the sustainability efforts of 41 large European real estate companies on their economic success. The sustainability efforts are recorded with the help of the ESG ratings from LSEG (Refinitiv). The economic success of the companies is tracked on the basis of their annual returns.

The respective annual return is calculated from the share price increase from the beginning to the end of the year plus the dividend payments made during the year. In order to exclude any distortion due to phases of good and bad (real estate) economic developments, the annual returns are not calculated in absolute terms, but in relation to the annual return of the Euro Stoxx 600 Real Estate Index.

It can be seen that there is no significant correlation between the ESG ratings on the one hand and the relative returns on the other. This applies both when the ESG ratings are set in relation to the relative returns of the same year and when the ESG ratings are set in relation to the relative returns of the following year.

The idea that in this day and age, in which sustainability considerations are very important in society and politics, corporate success is significantly influenced by sustainability efforts is inaccurate, at least for large European real estate companies in the period from 2017 to 2023.

References

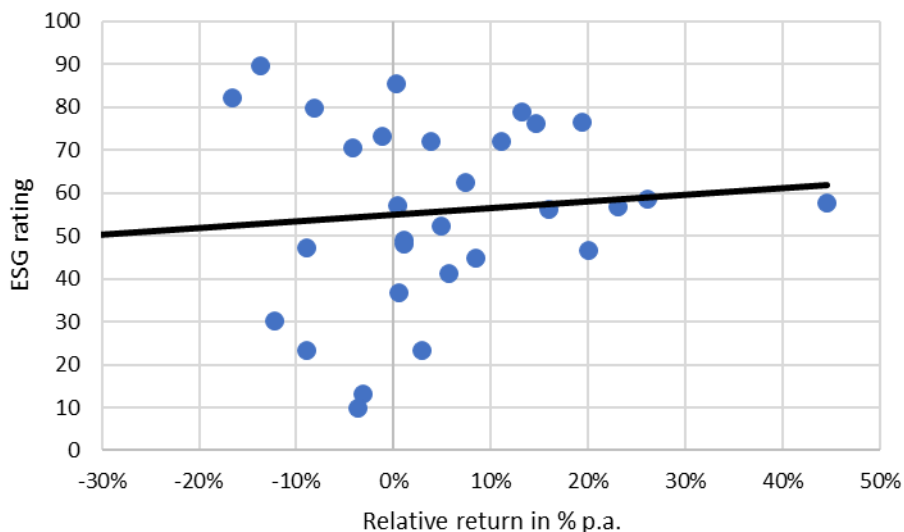
Adamsson, H., Hoepner, A.G. 2015. The 'Price of Sin' Aversion: Ivory Tower Illusion or Real Investable Alpha? SSRN 2659098.

- Borgers, A., Derwall, J., Koedijk, K., Ter Horst, J. 2013. Stakeholder relations and stock returns: On errors in investors' expectations and learning. *Journal of Empirical Finance*, 22, 159-175.
- Capelle-Blancard, G., Monjon, S. 2014. The Performance of Socially Responsible Funds: Does the Screening Process Matter? *European Financial Management*, 20(3), 494-520.
- Chang, C.E., Nelson, W.A., Witte, H.D. 2012. Do green mutual funds perform well? *Management Research Review*, 35(8), 693-708.
- Clark, G.L., Feiner, A., Viehs, M. 2015. From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance. SSRN 2508281.
- Derwall, J., Guenster, N., Bauer, R., Koedijk, K. 2005. The eco-efficiency premium puzzle. *Financial Analysts Journal*, 51-63.
- Durán-Santomil, P., Otero-González, L., Correia-Domingues, R.H., Carlos, J. 2019. Does Sustainability Score Impact Mutual Fund Performance? *Sustainability*, 11, 2972, 1-17.
- Fabozzi, F.J., Ma, K.C., Oliphant, B.J. 2008. Sin stock returns. *The Journal of Portfolio Management*, 35(1), 82-94.
- Filbeck, G., Holzhauser, H.M., Zhao, X. 2014. Using Social Responsibility Ratings to Outperform the Market: Evidence from Long-Only and Active-Extension Investment Strategies. *The Journal of Investing*, 23(1), 79-96.
- Fisher-Vanden, K., Thorburn, K.S. 2011. Voluntary corporate environmental initiatives and shareholder wealth. *Journal of Environmental Economics and Management*, 62(3), 430-445.
- Friede, G., Busch, T., Bassen, A. 2015. ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance and Investment*, 5(4), 210-233.
- Halbritter, G., Dorfleitner, G. 2015. The wages of social responsibility—where are they? A critical review of ESG investing. *Review of Financial Economics*, 26, 25-35.
- Hoepner, A.G., Schopohl, L. 2018. On the price of morals in markets: an empirical study of the Swedish AP-Funds and the Norwegian Government Pension Fund. *Journal of Business Ethics*, 151, 665-692.
- Hoepner, A.G., Zeume, S. 2013. Fiduciary duty and sin stocks: is vice really nice? *Handbook of Institutional Investment and Fiduciary Duty*, 2014, SSRN 1485846.
- Hong, H., Kacperczyk, M. 2009. The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93(1), 15-36.
- Hornuf, L., Yüksel, G. 2023. The performance of socially responsible investments: A meta-analysis. *European Financial Management*, 30(2), 1012-1061.
- Humphrey, J.E., Tan, D.T. 2014. Does it really hurt to be responsible? *Journal of Business Ethics*, 122(3), 375-386.
- Jacobs, B.W., Singhal, V.R., Subramanian, R. 2010. An empirical investigation of environmental performance and the market value of the firm. *Journal of Operations Management*, 28(5), 430-441.
- Kempf, A., Osthoff, P. 2007. The effect of socially responsible investing on portfolio performance. *European Financial Management*, 13(5), 908-922.
- Krüger, P. 2015. Corporate goodness and shareholder wealth. *Journal of financial economics*, 115(2), 304-329.
- Larsen, S. 2016. Giver bæredygtighedsanalyser værdi i forvaltning af aktier? *Finans/Invest*, 2017(6), 6-12.

- Lobe, S., Walkshäusl, C. 2016. Vice versus virtue investing around the world. *Review of Managerial Science*, 10(2), 303-344.
- Spearman, C. 1904. The Proof and Measurement of Association between Two Things. *The American Journal of Psychology*, 15(1), 72-101.
- Statman, M., Glushkov, D. 2009. The wages of social responsibility. *Financial Analysts Journal*, 65(4), 33-46.
- Talan, G., Sharma, G.D. 2019. Doing Well by Doing Good: A Systematic Review and Research Agenda for Sustainable Investment. *Sustainability*, 11, 353, 1-16.
- Trinks, P.J., Scholtens, B. 2015. The opportunity cost of negative screening in socially responsible investing. *Journal of Business Ethics*, 1-16.
- Verheyden, T., Eccles, R.G., Feiner, A. 2016. ESG for All? The Impact of ESG Screening on Return, Risk, and Diversification. *Journal of Applied Corporate Finance*, 28(2), 47-56.

Appendix:

Figure 3. Correlation between ESG ratings in 2017 and relative returns in 2017



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-30% to 50% on the x-axis). An upward-sloping trendline indicates a weak positive correlation.

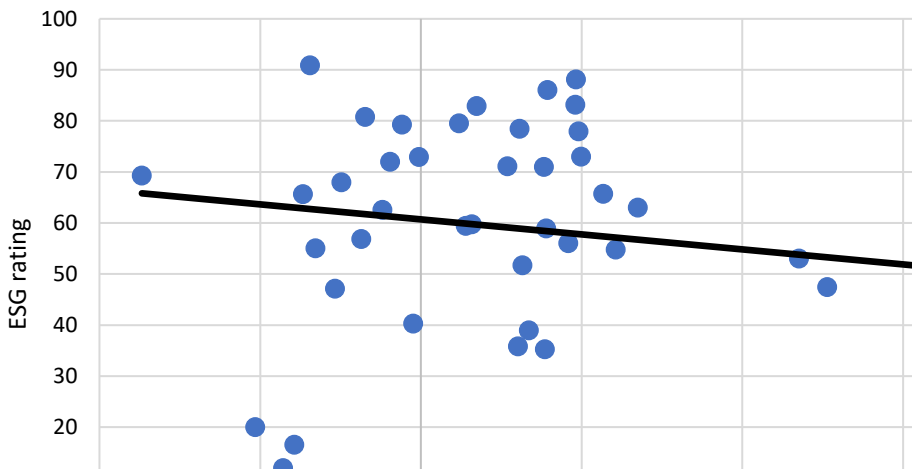
Figure 4. Correlation between ESG ratings in 2018 and relative returns in 2018



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-30% to 50% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

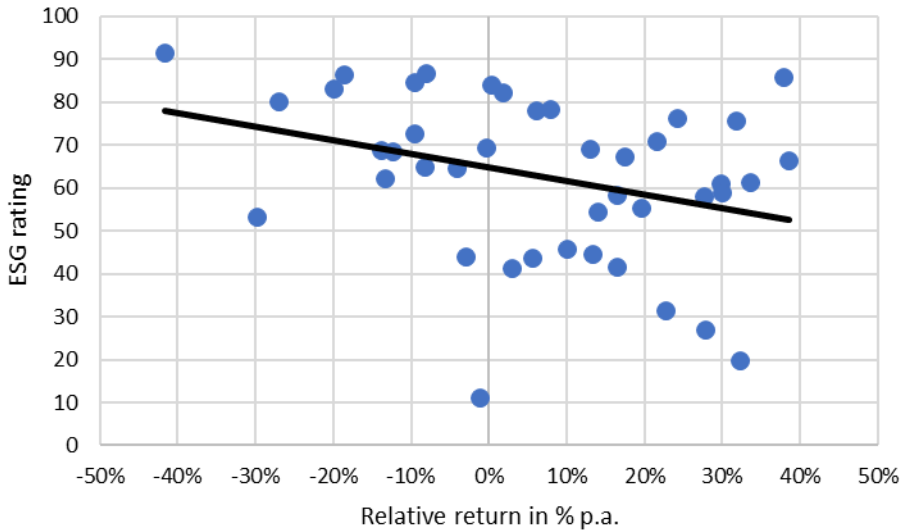
Figure 5. Correlation between ESG ratings in 2019 and relative returns in 2019



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 100% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

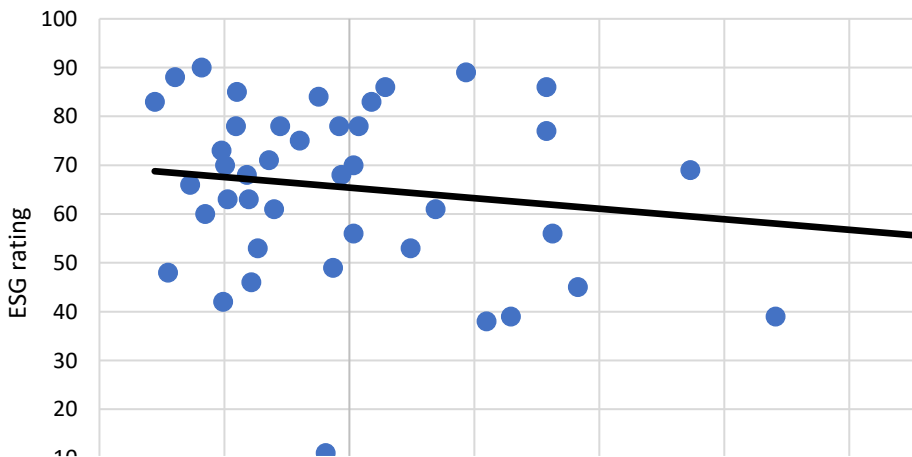
Figure 6. Correlation between ESG ratings in 2020 and relative returns in 2020



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-50% to 50% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

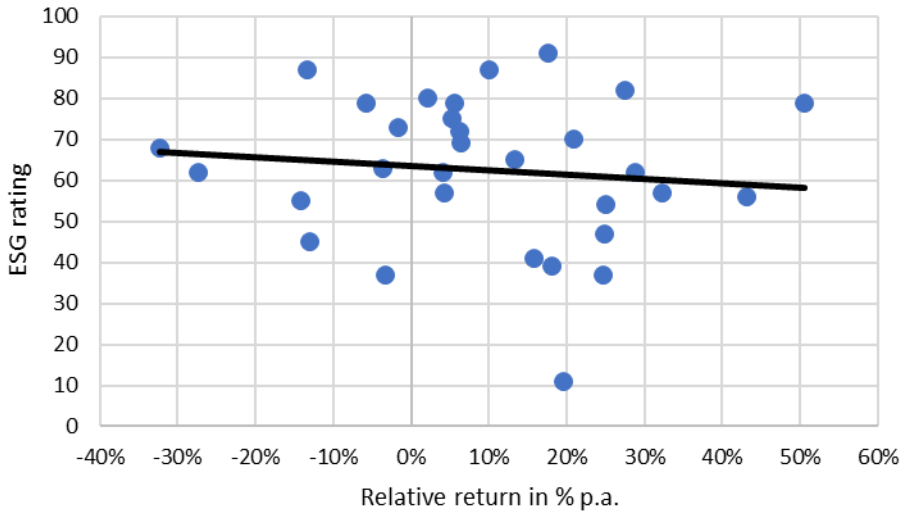
Figure 7. Correlation between ESG ratings in 2021 and relative returns in 2021



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 140% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

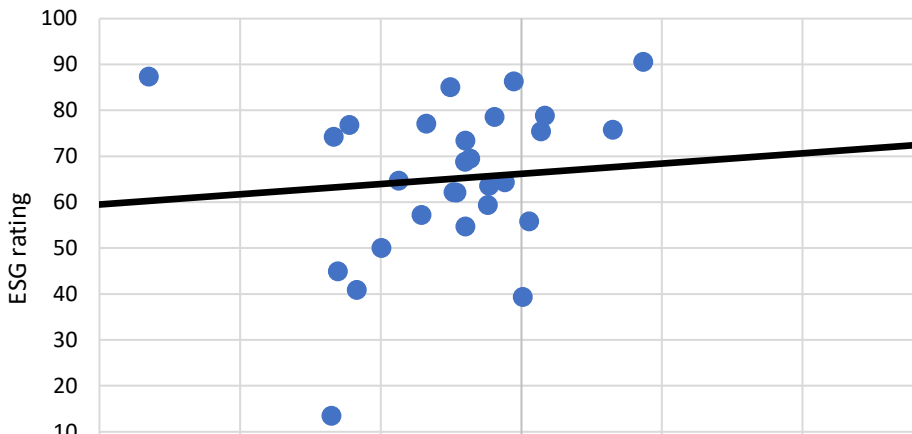
Figure 8. Correlation between ESG ratings in 2022 and relative returns in 2022



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 60% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

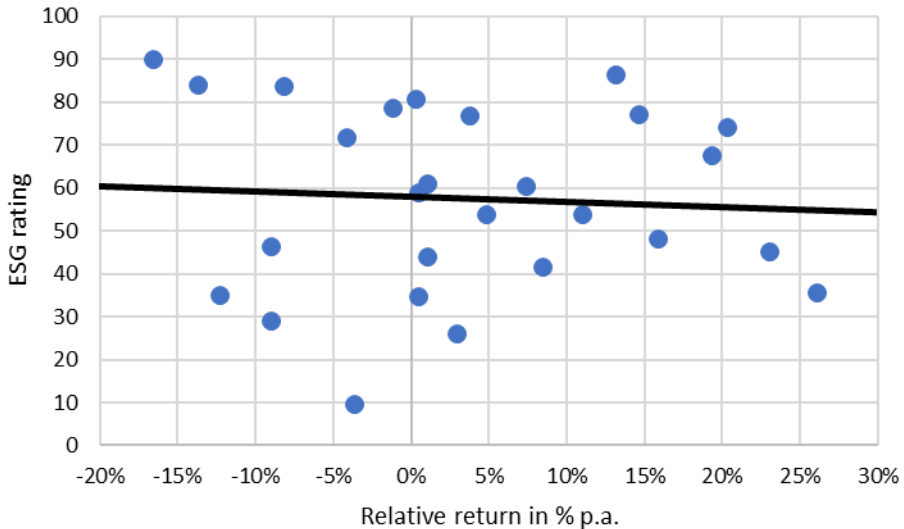
Figure 9. Correlation between ESG ratings in 2023 and relative returns in 2023



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-60% to 100% on the x-axis). An upward-sloping trendline indicates a weak positive correlation.

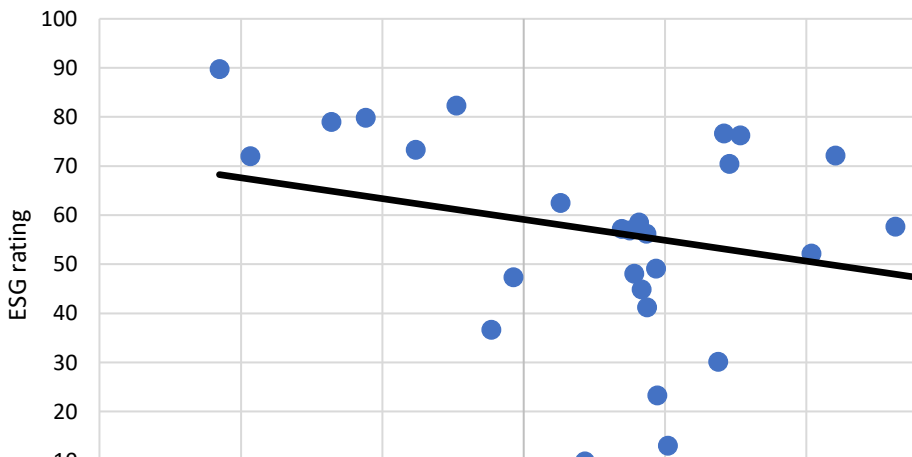
Figure 10. Correlation between ESG ratings in 2016 and relative returns in 2017



Alt Text for Graphical Figure [35 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-20% to 30% on the x-axis). A slightly downward-sloping trendline indicates a weak negative correlation.

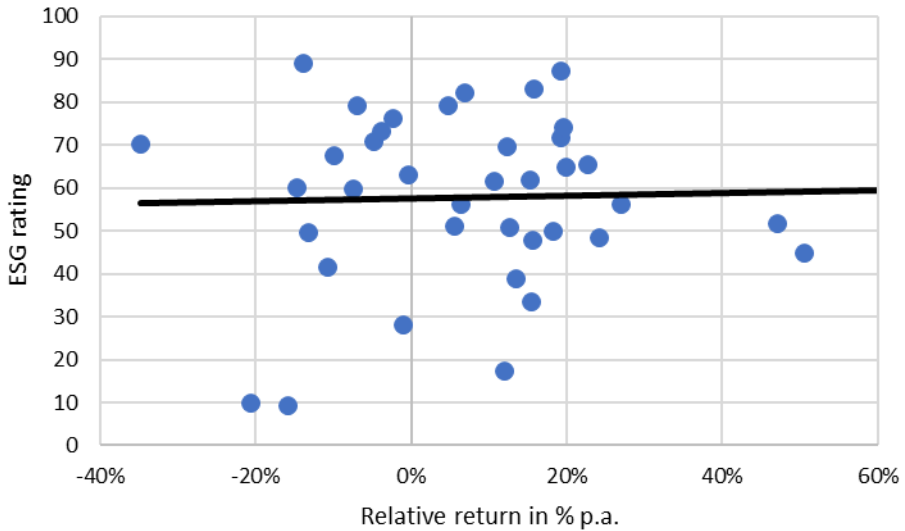
Figure 11. Correlation between ESG ratings in 2017 and relative returns in 2018



Alt Text for Graphical Figure [33 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-30% to 50% on the x-axis). A downward-sloping trendline suggests a negative correlation.

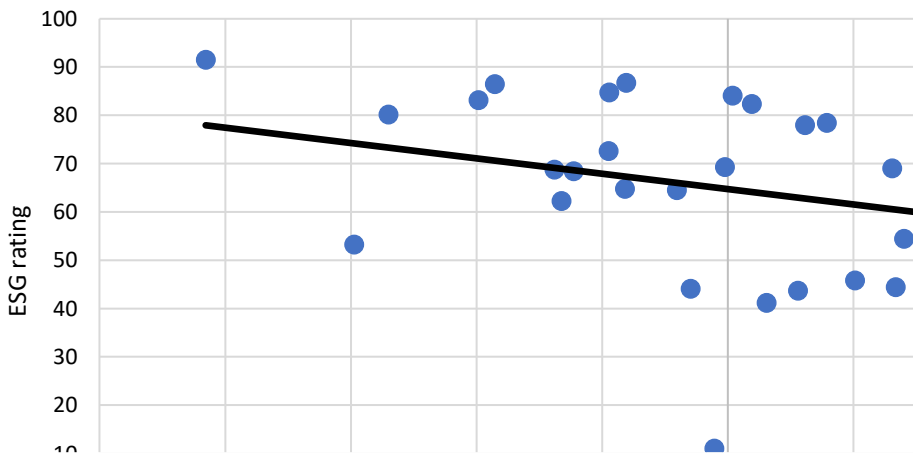
Figure 12. Correlation between ESG ratings in 2018 and relative returns in 2019



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 50% on the x-axis). An upward-sloping trendline indicates a weak positive correlation.

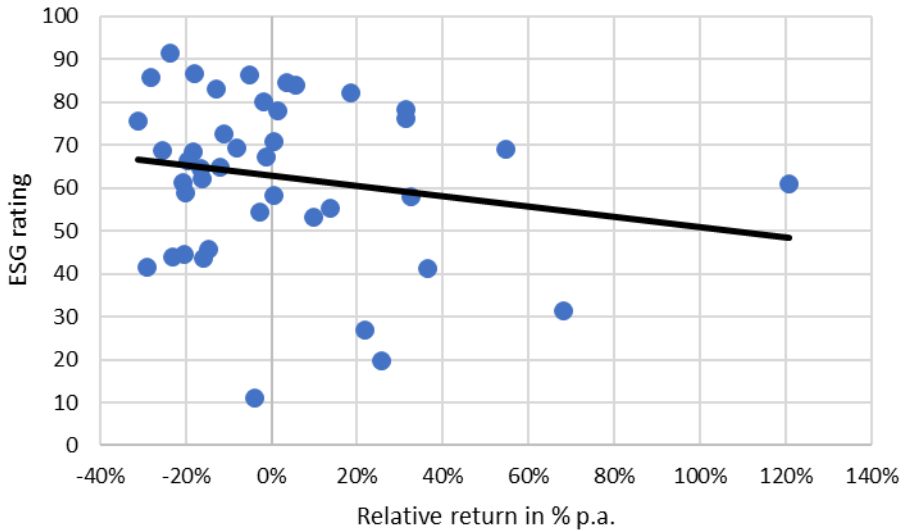
Figure 13. Correlation between ESG ratings in 2019 and relative returns in 2020



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-50% to 40% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

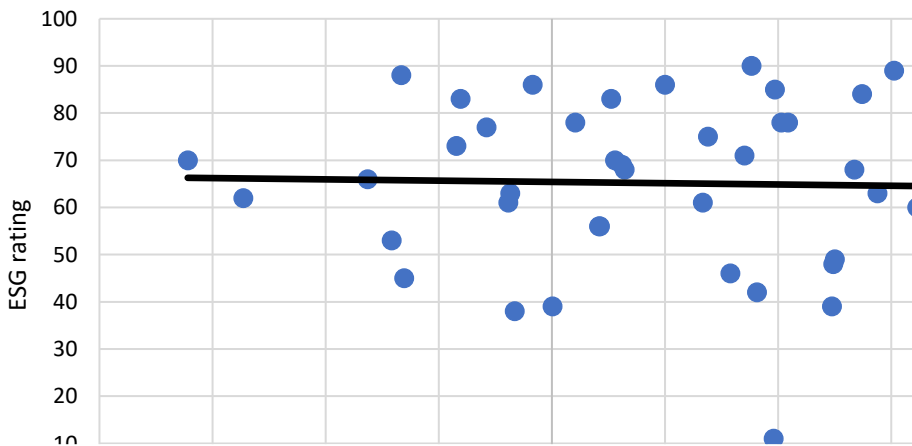
Figure 14. Correlation between ESG ratings in 2020 and relative returns in 2021



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 140% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.

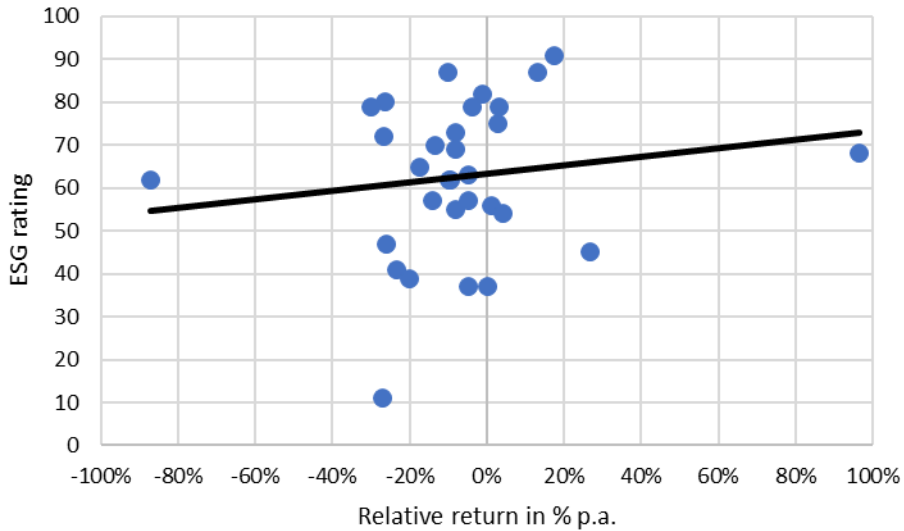
Figure 15. Correlation between ESG ratings in 2021 and relative returns in 2022



Alt Text for Graphical Figure [35 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-40% to 60% on the x-axis). A slightly downward-sloping trendline suggests a weak negative correlation.

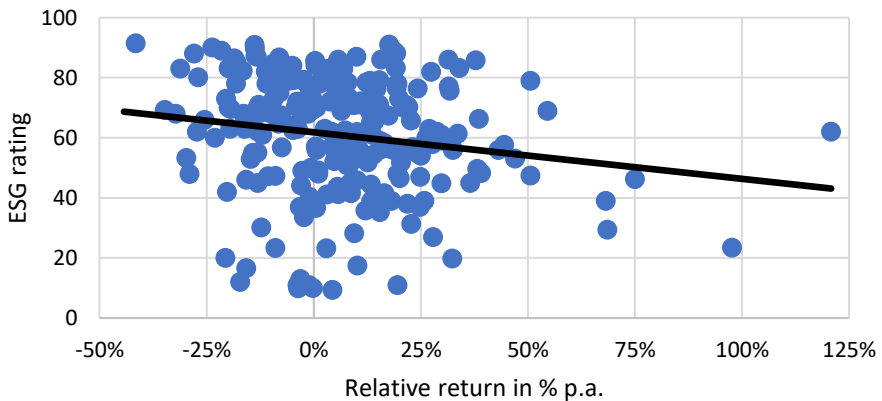
Figure 16. Correlation between ESG ratings in 2022 and relative returns in 2023



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-100% to 100% on the x-axis). An upward-sloping trendline indicates a weak positive correlation.

Figure 17. Correlation between ESG ratings and relative returns in the preceding year from 2017 to 2023



Alt Text for Graphical Figure [34 words]:

A scatter plot shows the relationship between ESG rating (0-100 on the y-axis) and relative return in percentage per annum (-50% to 125% on the x-axis). A downward-sloping trendline suggests a weak negative correlation.