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Abstract

More and more investors apply socially responsible screens when building their stock portfolios. This raises the question whether these investors can increase their performance by incorporating such screens into their investment process. To answer this question we implement a simple trading strategy based on socially responsible ratings from the KLD Research & Analytics: Buy stocks with high socially responsible ratings and sell stocks with low socially responsible ratings. We find that this strategy leads to high abnormal returns of up to 8.7% per year. The maximum abnormal returns are reached when investors employ the best-in-class screening approach, use a combination of several socially responsible screens at the same time, and restrict themselves to stocks with extreme socially responsible ratings. The abnormal returns remain significant even after taking into account reasonable transaction costs.

JEL Classification: G11, G12, G20, G23, M14

Keywords: Socially Responsible Investing, Portfolio Management, Trading Strategy

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1 Introduction

Socially responsible investing (SRI) is a steadily growing market segment. According to the Social Investment Forum (2005), almost one out of ten dollars under professional management in the US is invested according to socially responsible principles. This growth is stimulated by investors who incorporate diverse social and environmental screens into their investment process. This raises the question whether these investors can increase their performance by incorporating such screens into their investment process. Answering this question is the key contribution of our paper.

Most studies analyzing the performance of socially responsible investments compare the financial performance of socially responsible mutual funds with the performance of conventional mutual funds.[1] However, these studies have the drawback that the performance of mutual funds depends to a large extent on the skills of the mutual fund manager.[2] The performance of socially responsible mutual funds cannot be separately attributed to the mutual fund manager or to their focus on socially responsible investments.

A second strand of literature studies the performance of a socially responsible investment by examining socially screened stock portfolios. Most of these studies define socially responsible companies solely based on the environmental screen.[3] However, socially responsible investors typically consider a multitude of criteria. The Social Investment Forum (2005) reports that SRI fund managers employ several screens at the same time such as tobacco, alcohol, community, employee relations, environment, and diversity. Therefore, the aforementioned definition

is too narrow. Diltz (1995) and Guerard (1997) overcome this drawback by examining various dimensions of socially responsible investing for the US stock market. Diltz (1995) finds that employing environmental and military screens leads to a significantly positive performance, while all other screens do not have a significant impact on performance. Guerard (1997) concludes that socially screened portfolios do not differ from unscreened portfolios with respect to performance.

In this paper we investigate the impact of various socially responsible criteria on the performance of such screened stock portfolios. We employ negative, positive, and best-in-class screens. If investors follow the negative screening policy, they exclude all companies from the investment opportunity set which are involved in perceived controversial business areas (such as alcohol, tobacco, gambling, military, firearms, or nuclear power business). The positive screening policy does not lead to an exclusion of all companies belonging to controversial business areas, but rates all companies based on a set of criteria (such as community, diversity, employee relations, environment, human rights, and product). Investors then choose from the companies with the highest ratings. The best-in-class screening uses the same basic approach as the positive screening, but in addition assures that the resulting portfolio is balanced across industries.

This paper addresses one main question: Does a trading strategy in stocks, based on past SRI ratings, lead to an abnormal performance? Our answer is based on the SRI ratings of KLD Research & Analytics. We use these ratings to form one portfolio of stocks with high SRI ratings and another one of stocks with

low SRI ratings. We study the performance of these portfolios over the period 1992 - 2004. We measure performance using the Carhart (1997) model and get the following main results: The high-rated portfolio performs better than the low-rated portfolio. A long-short strategy (long in the high-rated stocks, short in the low-rated stocks) yields a positive four-factor alpha of up to 8.7% per year. The maximum alpha is obtained when using the best-in-class screening approach, applying several screens at the same time and choosing stocks with extreme SRI ratings. The alpha remains significant even after controlling for transaction costs.

We differ from the literature in several respects: We use the rating data from KLD which gives us the longest time horizon and largest sample so far.[4] In addition, the KLD data allows us to investigate a multitude of socially responsible criteria. Finally, we use the Carhart (1997) four-factor model which is so far not widely used in SRI studies.[5]

The remainder of the paper proceeds as follows. The ratings data is described in Section 2. In Section 3 we detail how we form the screened portfolios and measure their performance. Section 4 reports the empirical results and Section 5 concludes.

2 Ratings Data

In our study, we use the KLD ratings data to measure the social responsibility of a company. KLD provides a database from 1991 on, which includes the ratings of stocks on an annual basis. The database is free of survivorship

bias. From the beginning, KLD covers all stocks in the S&P 500 and the DS 400 (a total of around 650 stocks). In 2001 KLD extended their stock coverage. Since 2001 the database includes ratings for the stocks of the Russell 1000 and since 2003 ratings for the stocks of the Russell 3000. In our study, we use only ratings data of the stocks included in the S&P 500 and the DS 400 to avoid a possible bias from the steep increase in the stock coverage.[6]

KLD evaluates the companies according to multiple criteria. KLD discerns between two broad categories: qualitative and exclusionary criteria. The qualitative criteria are used for the positive and the best-in-class screening policy. The exclusionary screens reflect company involvement in controversial business areas. They are used for the negative screening policy.

In our study, we use six qualitative criteria: community, diversity, employee relations, environment, human rights, and product.[7] For each criterion KLD evaluates multiple sub-criteria.[8] The sub-criteria can be divided into strengths and concerns. For example a cash profit sharing program for the workforce would be a strength and poor safety standards for the workforce would be a concern for the employee relations screen. Each sub-criterion has a zero/one score. The presence of a strength or a concern is indicated by one, the absence of a strength or a concern is indicated by zero. KLD does not aggregate the scores of the sub-criteria to obtain an overall score for the superordinate criterion. To get such an overall score, we first transform the concerns into strengths by taking the binary complements. Then we sum up the scores of the sub-criteria and normalize this sum to a range from zero to one.[9] These overall scores for each criterion are used throughout the paper.

The exclusionary criteria, which are often referred to as controversial business issues, are alcohol, tobacco, gambling, military, nuclear power, and firearms.[10] When applying the negative screening policy, we exclude all companies involved in at least one controversial business area. This leads to an exclusion of about 17% of the 650 stocks on average.

In our study, we use the ratings data from the end of 1991 until the end of 2003. To check for relationships between the different criteria we compute the time average of cross-sectional correlations between the ratings for pairs of criteria. The results are shown in Table 1. The correlations are generally not high, the correlation between the alcohol and the tobacco screen is the highest with 0.43.

- insert TABLE 1 about here -

3 Empirical Implementation

In order to analyze the effects of SRI screens on portfolio performance, we compare two socially screened portfolios. In this section we detail how we form the portfolios based on the KLD ratings data (Section 3.1) and describe how we measure the performance of these portfolios (Section 3.2).[11]

3.1 Portfolio Formation

We first explain how we form the portfolios based on the negative screening policy. At the end of year $t-1$, KLD reports the ratings of the stocks. Based on

this rating we form two value-weighted portfolios at the beginning of year t and hold these portfolios unchanged until the end of year t.[12] One portfolio, which we call the low-rated portfolio, consists of all stocks involved in at least one controversial business area. The high-rated portfolio consists of all other stocks. At the end of year t, we take the new KLD ratings and construct the portfolios to be held in year $t + 1$. This leads to a time series of monthly returns for the years from 1992 to 2004.

The time structure remains identical when applying the positive screens. At the end of year $t - 1$ we take the ratings of all stocks (e.g. with respect to the environmental screen) and rank all stocks. Based on this ranking, we form two value-weighted portfolios at the beginning of year t. The high-rated portfolio consists of the top 10% of all stocks, the low-rated portfolio consists of the bottom 10% of all stocks.[13] Both portfolios are held until the end of year t. Then, the new ratings are published and the portfolios are restructured. We form portfolios not only based on each positive screen separately, but also on the average positive rating. This criterion is called combination 1. In addition, we also form portfolios based on positive and negative screens. We first rule out all stocks from controversial business areas (negative screening) and then calculate the average positive rating of all remaining stocks (positive screening based on combination 1). This criterion is called combination 2.

To overcome a possible bias towards some industries by using the positive screening policy, the best-in-class policy has been developed. For the best-in-class approach we first divide the companies into ten different industry classes based on their SIC code.[14] Then we rank the stocks according to their SRI ratings

within each industry class. The portfolios for every industry class are formed as described above for the positive screening policy. To combine the different industry portfolios to one portfolio, we weight them with the CRSP industry weights. By construction the best-in-class approach leads to industry-balanced investment portfolios.

3.2 Performance Measurement

To measure the performance of the high-rated and low-rated portfolios, we employ the Carhart (1997) four-factor model. It controls for the impact of the market risk, the size factor, the book-to-market factor, and the momentum factor on returns. Bauer, Koedijk, and Otten (2005) report that socially responsible mutual funds differ from their conventional counterparts with respect to the loadings of these factors. Therefore, one also might expect different factor loadings for the high-rated and the low-rated portfolio. To control for such differences, we estimate the following regression:

$$R_{it} - R_{ft} = \alpha_i + \beta_{1i}\left(R_{mt} - R_{ft}\right) + \beta_{2i}SMB_t + \beta_{3i}HML_t + \beta_{4i}MOM_t + \varepsilon_{it} \quad (1)$$

The dependent variable is the monthly return of portfolio i in month t in excess of the risk-free rate. The independent variables are the returns of four zero-investment factor portfolios. $R_{mt} - R_{ft}$ denotes the excess return of the market portfolio over the risk-free rate. The market portfolio is the CRSP value-weighted index. SMB_t denotes the return difference between a small and a large capitalization portfolio in month t. HML_t denotes the return difference between a high and a low book-to-market portfolio in month t.[15]

A stock with a low book-to-market ratio is often referred to as growth stock, while a high book-to-market ratio indicates a value stock. MOM_t denotes the return difference between portfolios of stocks with high and low returns over the past twelve months. Alpha denotes the abnormal return of the portfolio i.

4 Results

In this section, we analyze whether investors can increase their performance by employing socially responsible screens. We examine this question based on different screens and screening policies (Section 4.1), transaction costs (Section 4.2), various cut-offs for defining high- and low-rated portfolios (Section 4.3), different portfolio weighting schemes (Section 4.4) and sub-periods (Section 4.5).

4.1 Screening Policies

Table 2 summarizes the results of the Carhart model for portfolios based on negative and positive screens. It provides results for the high-rated portfolio, the low-rated portfolio, and the long-short strategy (long in the high-rated portfolio and short in the low-rated portfolio). The table shows that not only the market risk has a significant impact on the excess returns of the portfolios, but so does the size, the book-to-market, and the momentum factor. The respective coefficients are significant in most cases. Therefore, one has to control for these effects when comparing the high-rated and the low-rated portfolios. It is sensible to use the Carhart's alpha instead of the Jensen's alpha.

- insert TABLE 2 about here -

We first look at the portfolios based on the negative screens. The low-rated portfolio consists of all stocks involved in at least one controversial business area, the high-rated portfolio consists of all other stocks. Table 2 shows that both portfolios yield a positive (albeit not significant) abnormal return. As all stocks of the KLD universe are included in these two portfolios, one sees that the alpha of the stocks in the KLD universe is positive (1.17%). Thus, the stocks of the KLD universe performed better than the stocks of the CRSP universe which is our benchmark. Therefore, we do not put much emphasis on the level of alphas of the low-rated and of the high-rated portfolio, but focus primarily on the alpha of the long-short strategy. A positive alpha of the long-short strategy would indicate that investors can obtain an abnormal return by going long in high-rated stocks (within the KLD universe) and short in low-rated stocks (within the KLD universe). However, Table 2 shows that it is not possible to reach a significant abnormal return by employing the negative screening policy.[16]

We now turn to the results based on positive screens. The high-rated portfolio consists of the top 10% stocks with respect to the screen, the low-rated portfolio consists of the bottom 10% stocks. We see that the long-short strategy yields a significantly positive alpha when using the community or the employee relations screen. For all the other single screens, the alpha is not significantly different from zero. When combining all the positive screens (combination 1) or even combining negative and positive screens (combination 2) we find significantly positive alphas. The alpha ranges between 4% and 5%. Thus, it pays for investors to screen their portfolio with respect to socially responsible

criteria and it is worthwhile to use several screens at the same time. The factor loadings show that the high-rated portfolio and the low-rated portfolios differ systematically with respect to the book-to-market factor, HML. The high-rated portfolio has a lower loading on this factor, i.e. it includes more growth stocks than the low-rated portfolio does. For the other factor loadings, we find differences between the two portfolios, but see no systematic differences.

When looking at the best-in-class screening policy, we find even slightly stronger results. As shown in Table 3, three single screens and both combined screens lead now to significantly positive alphas of the long-short strategy. The combined screens (combination 1 and 2) lead to an alpha of about 5% per year. Thus, we conclude that it is possible to earn an abnormal return screening portfolios based on the positive or the best-in-class approach, but not based on the negative approach. The best-in-class approach seems to yield the highest performance.

- insert TABLE 3 about here -

4.2 Transaction Costs

We now check whether the long-short strategy remains profitable after transaction costs. We take into account all the transaction costs of the investors, i.e. the costs of forming the portfolios at the beginning of 1992, the costs of adjusting the portfolio within the investment period, and the costs of closing the portfolios at the end of 2004. Averaged across years, the yearly turnover due to portfolio adjustments is about 12% of the portfolio value for the negative

screening policy, about 30% for the positive screening policy, and about 34% for the best-in-class screening policy.

We follow Derwall, Günster, Bauer, and Koedijk (2005) and assume round-trip transaction costs between 50 and 200 basis points. The long-short portfolio return is the return difference between the high-rated and the low-rated portfolio minus the sum of transaction costs for each portfolio. Table 4 provides the four-factor alphas of the long-short strategy for various levels of transaction costs (and for convenience again the alphas for zero transaction costs). Obviously, the alphas decrease as the transaction cost increase. The negative screening policy (which does not even lead to significant abnormal returns before transaction costs) remains unprofitable. The positive screening policy provides positive, but mostly insignificant, alphas. However, the investors can still achieve positive abnormal returns by using the best-in-class approach. Long-short strategies based on the community screen, employee relations screen, and combined screens (combination 1 and 2) remain highly profitable even after accounting for transaction costs of up to 100 basis points. The alphas are again highest when the investors use several screens at the same time (combination 1 and 2). They are around 4% per year after transaction costs.

- insert TABLE 4 about here -

4.3 Alternative Cut-Offs

Thus far, all our results for the positive screening and the best-in-class screening are based on portfolios which consist of the top 10% stocks and the bottom

10% stocks. We now analyze how the profitability of the long-short strategy depends on the cut-off chosen. Table 5 shows the four-factor alphas of the long-short strategy for cut-offs between 5% and 50%. One finds again, that the best-in-class approach based on several screens (combination 1 and 2) yields the highest alphas. They are around 9% per year when applying the very strict 5% cut-offs. They decrease to about 5% per year for the 10% cut-off and to 4% for the 25% cut-off. For the 50% cut-off, the long-short strategy does no longer yield a significantly positive alpha. This leads us to the conclusion that investors should concentrate on the very best stocks with respect to socially responsible screens.

- insert TABLE 5 about here -

4.4 Equally-Weighted Portfolios

To examine whether our results are sensitive to our portfolio weighting scheme, we form equally-weighted portfolios instead of value-weighted portfolios. Table 6 reports the alphas of the long-short strategy for the different screens and screening policies. The results are similar to those obtained for value-weighted portfolios. The long-short strategy does not yield a positive alpha when applying the negative screening policy. It does yield a positive alpha for both the positive and the best-in-class screening policy when applying several screens (combination 1 and 2).

- insert TABLE 6 about here -

4.5 Temporal Stability

When dividing our observation period into two sub-periods of about equal length (1992 - 1997, 1998 - 2004), we find no notable differences between the sub-periods (see Table 7). In both sub-periods, the long-short strategy provides positive alphas for most screens. However, the alphas are no longer significantly different from zero due to the small number of observations. This highlights the importance of using a large sample to derive reliable results.

- insert TABLE 7 about here -

5 Conclusion

An increasing number of investors incorporates SRI screens into their investment decisions. This raises the question of how SRI screening affects the financial performance of these portfolios. In this paper we analyze whether investors can increase their performance by following a simple trading strategy based on SRI ratings: Buy stocks with high SRI ratings and sell stocks with low SRI ratings.

We implement this trading strategy for stocks included in the S&P 500 and the DS 400 for the period 1992 - 2004. The stocks are screened based on a variety of criteria and screening policies and the performance is measured using the Carhart (1997) model. We get the following main results: (i) Investors can earn remarkable high abnormal returns by following the simple long-short strategy described above. (ii) They can do so by implementing the positive screening approach or the best-in-class screening approach, but not the negative screening approach. (iii) The best-in-class approach typically leads to the highest

alphas (up to about 8.7% per year). (iv) The best-in-class screening approach works best when investors use a combination of several SRI screens at the same time and restrict themselves to stocks with extreme SRI ratings. (v) The alphas stay significant even after taking into account reasonable transaction costs.

Overall, our results suggest that past SRI ratings are a valuable information for investors. A simple trading strategy based on this publicly available information leads to high abnormal returns. This immediately raises the question of where this extra profit stems from. Does it result from a temporary mispricing in the market or does it compensate for an additional risk factor? Answering this question seems to be a promising avenue for future research.

Notes

[1]See, e.g., Hamilton, Jo, and Statman (1993), Sauer (1997), Statman (2000), Bauer, Koedijk, and Otten (2005), Bello (2005), Geczy, Stambaugh, and Levin (2005), Kreander, Gray, Power, and Sinclair (2005), and Barnett and Salomon (2006).

[2]See, e.g., Baks (2003).

[3]See, e.g., Cohen, Fenn, and Konar (1997), Yamashita, Sen, and Roberts (1999), and Derwall, Günster, Bauer, and Koedijk (2005).

[4]KLD uses this ratings data to construct the Domini 400 Social Index (DS 400), the first socially responsible index.

[5]The Carhart model uses the three Fama/French (1993) factors and an additional momentum factor identified by Jegadeesh and Titman (1993). We also did all the estimations using only the three Fama/French factors. The results remain almost unchanged.

[6]We checked for such a bias and re-estimated our results using all stocks covered by KLD. We find no notable differences.

[7]We leave out the criterion "corporate governance". The criterion "corporate governance" resulted from just renaming the criterion "other" in 2002 without changing the underlying sub-criteria. Therefore, the criterion "corporate governance" by KLD differs in many respects from the corporate governance issues used for the corporate governance index by Gompers, Ishii, and Metrick (2003). For more detailed information about the KLD ratings criteria see http://www.kld.com/research/stats/indicators.html.

[8]At the end of 2003, there were 9 sub-criteria for the community criterion. The respective numbers for the other screens are: 11 sub-criteria (diversity), 11 sub-criteria (employee relations), 13 sub-criteria (environment), 7 sub-criteria (human rights), and 8 sub-criteria (product).

[9]The number of sub-criteria is not stable over time. When a new sub-criterion is added by KLD, we include it as soon as it is available. Similarly, we deal with sub-criteria which are removed by KLD. Thus, our overall scores are always based on the latest rating information which is available to investors.

[10]The number of exclusionary criteria is also not stable over time. The screen firearms was not included into the list of controversial business areas before 1998.

[11]Monthly stock returns are retrieved from the CRSP stock database. The CRSP stocks

database covers all the companies listed on the NYSE, NASDAQ, and AMEX stock exchanges.

[12]The portfolios are only adjusted within a year when a company vanishes from the database. Then, the stocks of this company are sold at the last available price and the sales revenues are invested value-weighted in the remaining stocks of the portfolio.

[13]In Section 4 we provide results for other cut-offs.

[14]The classification of the ten industry classes is taken from the Kenneth R. French data library.

[15]The excess return of the market portfolio, the size, and the value factor were taken from the Kenneth R. French data library. The momentum factor was kindly provided by Mark M. Carhart.

[16]Hong and Kacperczyk (2007) find that sin stocks (companies in the alcohol, tobacco, and gaming industry) perform better than comparable stocks. We also find that stocks from controversial business areas perform better than the other stocks in our sample, but the difference in our study is not significant. In contrast to our study, Hong and Kacperczyk (2007) find significant differences. Possible explanations are that Hong and Kacperczyk (2007) use a longer data sample and a narrower definition of sin stocks. For example, KLD defines not only companies which produce tobacco as sin companies (as do Hong and Kacperczyk (2007)) but also companies which derive at least 15% of total revenues from the distribution of tobacco products.

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Table 1: Correlation Matrix of the Screens

	Alc.	Com.	Div.	Em. Rel.	Env.	Fir.	Gamb.	Hum. Rig.	Mil.	Nuc. Pow.	Pro.	Tob.
Alcohol	1.00	−0.06	−0.03	0.02	−0.01	0.00	−0.01	0.05	−0.03	−0.03	0.09	0.43
Community	−0.06	1.00	0.35	0.11	0.10	0.08	0.01	−0.02	−0.01	0.05	−0.05	−0.06
Diversity	−0.03	0.35	1.00	0.12	0.03	0.06	0.00	−0.07	−0.01	−0.01	−0.05	−0.02
Employee Rel.	0.02	0.11	0.12	1.00	0.09	0.03	0.04	0.03	0.03	0.07	0.15	−0.01
Environment	−0.01	0.10	0.03	0.09	1.00	0.00	−0.01	0.17	0.15	0.14	0.26	0.01
Firearms	0.00	0.08	0.06	0.03	0.00	1.00	−0.01	0.04	0.19	−0.01	0.05	0.00
Gambling	−0.01	0.01	0.00	0.04	−0.01	−0.01	1.00	0.01	0.00	−0.02	0.06	0.04
Human Rights	0.05	−0.02	−0.07	0.03	0.17	0.04	0.01	1.00	0.09	−0.01	0.13	0.05
Military	−0.03	−0.01	−0.01	0.03	0.15	0.19	0.00	0.09	1.00	0.06	0.08	−0.01
Nuclear Power	−0.03	0.05	−0.01	0.07	0.14	−0.01	−0.02	−0.01	0.06	1.00	0.09	−0.02
Product	0.09	−0.05	−0.05	0.15	0.26	0.05	0.06	0.13	0.08	0.09	1.00	0.12
Tobacco	0.43	−0.06	−0.02	−0.01	0.01	0.00	0.04	0.05	−0.01	−0.02	0.12	1.00

Notes: This table summarizes the time average of cross-sectional correlations from 1991 till 2003 between all the qualitative and negative screens. The abbreviations of the first row are derived from the names for each screen as displayed in the first column.

Table 2: Negative & Positive Screening

	Alpha	Market	SMB	HML	MOM	R^2
Negative						
high-rated	0.91	0.98***	−0.24***	0.03	−0.01	0.96
low-rated	2.02	0.96***	−0.11**	0.05	−0.07***	0.87
long-short	−1.11	0.03	−0.14*	−0.02	0.05***	0.06
Community						
high-rated	3.09**	0.89***	−0.30***	0.12**	−0.08***	0.88
low-rated	−1.46	1.07***	−0.13***	0.32***	−0.01	0.87
long-short	4.55*	−0.19***	−0.17**	−0.21***	−0.08**	0.11
Diversity						
high-rated	0.74	0.93***	−0.28***	0.03	−0.02	0.90
low-rated	−2.71	1.10***	−0.01	0.16***	−0.08***	0.87
long-short	3.45	−0.17**	−0.27***	−0.13**	0.06	0.20
Employee Rel.						
high-rated	3.52*	1.02***	−0.19***	−0.33***	−0.06**	0.85
low-rated	−2.45**	1.03***	−0.19***	0.36***	−0.08***	0.88
long-short	5.98**	−0.01	0.00	−0.69***	0.02	0.46
Environment						
high-rated	3.60*	0.96***	−0.14*	−0.18***	−0.11***	0.79
low-rated	0.59	0.91***	−0.30***	0.26***	0.01	0.81
long-short	3.02	0.04	0.16**	−0.44***	−0.12***	0.33
Human Rights						
high-rated	1.96*	0.87***	−0.23***	0.08***	0.04	0.92
low-rated	0.33	0.98***	−0.26***	0.15***	−0.05***	0.88
long-short	1.63	−0.10**	0.03	−0.07	0.08***	0.12
Product						
high-rated	0.58	1.03***	−0.07	−0.22***	−0.05*	0.86
low-rated	2.91**	0.88***	−0.40***	0.14**	0.00	0.86
long-short	−2.33	0.15**	0.33***	−0.36***	−0.05*	0.48
Combination 1						
high-rated	3.60**	0.91***	−0.19***	−0.23***	−0.10***	0.86
low-rated	−0.86	0.95***	−0.32***	0.25***	0.01	0.84
long-short	4.46*	−0.04	0.12*	−0.48***	−0.10***	0.36
Combination 2						
high-rated	2.34	0.93***	−0.22***	−0.08*	−0.01	0.84
low-rated	−2.46	0.87***	−0.34***	0.19***	−0.03	0.77
long-short	4.80*	0.07	0.12	−0.26***	0.02	0.19

Notes: This table summarizes for each screen the annualized abnormal return, factor loadings, and the adjusted R^2 using the Carhart four-factor model for different portfolios. The portfolios are value-weighted. The high-rated portfolio based on the negative screen consists of all companies except the companies involved in controversial business areas. The low-rated portfolio based on the negative screen consists of the companies involved in controversial business areas. The high-rated (low-rated) portfolio based on the positive screens or on combinations of screens consists of the 10% of all stocks with the highest (lowest) rating. The long-short portfolio is a trading strategy going long in the high-rated and short in the low-rated portfolio. The observation period spans the time from 1992 to 2004. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Table 3: Best-in-Class Screening

	Alpha	Market	SMB	HML	MOM	R^2
Community						
high-rated	3.38***	0.93***	−0.19***	0.06	−0.09***	0.91
low-rated	−1.14	1.07***	−0.16***	0.14***	−0.05***	0.95
long-short	4.52**	−0.14***	−0.03	−0.08*	−0.04	0.05
Diversity						
high-rated	1.76	0.94***	−0.21***	0.06	−0.08***	0.90
low-rated	−1.67	1.09***	−0.02	0.16***	−0.12***	0.88
long-short	3.43*	−0.15**	−0.19***	−0.09	0.04	0.15
Employee Rel.						
high-rated	1.84*	0.99***	−0.20***	0.01	−0.06***	0.92
low-rated	−1.89	1.08***	−0.15***	0.24***	−0.11***	0.91
long-short	3.73***	−0.09**	−0.05	−0.23***	0.05**	0.15
Environment						
high-rated	1.63	0.99***	−0.18***	0.03	−0.09***	0.88
low-rated	−0.41	0.94***	−0.20***	0.07*	−0.08***	0.91
long-short	2.04	0.05	0.01	−0.04	−0.01	0.00
Human Rights						
high-rated	2.18***	0.96***	−0.21***	0.02	−0.02*	0.97
low-rated	1.62	1.04***	−0.22***	0.00	−0.10***	0.94
long-short	0.56	−0.08***	0.00	0.02	0.08***	0.21
Product						
high-rated	0.15	0.97***	−0.08*	0.01	−0.04	0.90
low-rated	1.44	1.00***	−0.26***	0.12***	−0.09***	0.93
long-short	−1.29	−0.02	0.17***	−0.10*	0.06	0.18
Combination 1						
high-rated	2.88**	0.92***	−0.17***	0.01	−0.07***	0.90
low-rated	−2.01	1.10***	−0.20***	0.18***	−0.14***	0.89
long-short	4.90**	−0.18***	0.03	−0.17***	0.07**	0.13
Combination 2						
high-rated	2.71*	0.96***	−0.13***	−0.02	−0.03	0.89
low-rated	−2.50	1.08***	−0.21***	0.14**	−0.15***	0.86
long-short	5.21**	−0.13***	0.07	−0.15**	0.12***	0.13

Notes: This table summarizes for each screen the annualized abnormal return, factor loadings, and the adjusted R^2 using the Carhart four-factor model for different portfolios. The portfolios are value-weighted. The high-rated (low-rated) portfolio consists of 10% of all stocks with the highest (lowest) rating. The long-short portfolio is a trading strategy going long in the high-rated and short in the low-rated portfolio. The observation period spans the time from 1992 to 2004. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Table 4: Alphas of the Long-Short Strategy After Transaction Costs

Panel A: Negative & Positive Screening

	0 bps	50 bps	100 bps	150 bps	200 bps
Negative	−1.11	−1.33	−1.54	−1.75	−1.96
Community	4.55*	4.16	3.77	3.38	2.99
Diversity	3.45	2.98	2.51	2.04	1.57
Employee Rel.	5.98**	5.48**	4.99*	4.49*	3.99
Environment	3.02	2.68	2.34	2.00	1.66
Human Rights	1.63	1.29	0.95	0.61	0.27
Product	−2.33	−2.62	−2.90	−3.19	−3.47
Combination 1	4.46*	4.06*	3.66	3.27	2.87
Combination 2	4.80*	4.27	3.75	3.22	2.70

Panel B: Best-in-Class Screening

	0 bps	50 bps	100 bps	150 bps	200 bps
Community	4.52**	4.12**	3.72**	3.32*	2.92
Diversity	3.43*	2.90	2.38	1.86	1.34
Employee Rel.	3.73***	3.19**	2.65*	2.11	1.58
Environment	2.04	1.63	1.22	0.81	0.40
Human Rights	0.56	0.22	−0.12	−0.45	−0.79
Product	−1.29	−1.68	−2.06	−2.44	−2.82
Combination 1	4.90**	4.39**	3.88**	3.38*	2.87
Combination 2	5.21**	4.63**	4.04*	3.45	2.87

Notes: This table summarizes for each screen the annualized abnormal return using the Carhart four-factor model for a long-short portfolio and different levels of round-trip transaction costs (measured in basis points). The long-short portfolio is a trading strategy going long in a high-rated and short in a low-rated portfolio. The high-rated portfolio based on the negative screen consists of all companies except the companies involved in controversial business areas. The low-rated portfolio based on the negative screen consists of the companies involved in controversial business areas. The high-rated (low-rated) portfolio based on the positive screens or on combinations of screens consists of the 10% of all stocks with the highest (lowest) rating. The portfolios are value-weighted. The long-short portfolio return after transaction costs is the return difference between the high-rated and the low-rated portfolio minus the sum of transaction costs for each portfolio. Panel A presents the results for the negative and positive screening. Panel B presents the results for the best-in-class screening. The observation period spans the time from 1992 to 2004. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Table 5: Alphas of the Long-Short Strategy for Various Cut-Offs

Panel A: Positive Screening

	5%	10%	25%	50%
Community	6.43**	4.55*	2.07	1.20
Diversity	2.91	3.45	3.36**	2.37*
Employee Rel.	5.93**	5.98**	3.67**	1.97*
Environment	2.06	3.02	2.46	1.43
Human Rights	2.49	1.63	0.89	0.52
Product	−3.18	−2.33	−0.57	−0.19
Combination 1	3.59	4.46*	2.78	0.94
Combination 2	1.79	4.80*	2.34	0.95

Panel B: Best-in-Class Screening

	5%	10%	25%	50%
Community	6.22**	4.52**	2.65*	1.85*
Diversity	4.29**	3.43*	2.42	2.12*
Employee Rel.	4.09**	3.73***	1.80	0.56
Environment	2.54	2.04	1.08	0.63
Human Rights	0.46	0.56	0.59	0.41
Product	−1.13	−1.29	−1.22	−0.93
Combination 1	8.70***	4.90**	3.64***	0.36
Combination 2	7.59**	5.21**	3.74**	0.94

Notes: This table summarizes for each screen the annualized abnormal return using the Carhart four-factor model for a long-short portfolio and different cut-offs. The long-short portfolio is a trading strategy going long in a high-rated and short in a low-rated portfolio. The high-rated (low-rated) portfolio consists of 5%, 10%, 25% or 50% of all stocks with the highest (lowest) rating. The portfolios are value-weighted. Panel A presents the results for the positive screening. Panel B presents the results for the best-in-class screening. The observation period spans the time from 1992 to 2004. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Table 6: Alphas of the Long-Short Strategy for Equally-Weighted Portfolios

	Negative	Positive	Best-in-Class
Negative	−0.76		
Community		5.62***	3.41**
Diversity		1.22	2.01
Employee Rel.		3.07*	2.22
Environment		1.92	0.55
Human Rights		0.25	0.58
Product		1.42	0.71
Combination 1		6.07***	3.49**
Combination 2		6.70***	6.20***

Notes: This table summarizes for each screen the annualized abnormal return using the Carhart four-factor model for a long-short portfolio and the different screening policies. The long-short portfolio is a trading strategy going long in a high-rated and short in a low-rated portfolio. The high-rated portfolio based on the negative screen consists of all companies except the companies involved in controversial business areas. The low-rated portfolio based on the negative screen consists of the companies involved in controversial business areas. The high-rated (low-rated) portfolio based on the positive screens or on combinations of screens consists of the 10% of all stocks with the highest (lowest) rating. The portfolios are equally-weighted. The observation period spans the time from 1992 to 2004. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

Table 7: Alphas of the Long-Short Strategy for Sub-Periods

	1992-1997			1998-2004		
	Negative	Positive	Best-in-Class	Negative	Positive	Best-in-Class
Negative	1.41			−1.25		
Community		3.70	3.28*		1.78	3.25
Diversity		3.60*	4.31**		1.96	1.33
Employee Rel.		5.54**	2.25		6.15	4.53**
Environment		2.04	0.63		2.71	2.49
Human Rights		−0.95	−0.25		1.60	0.79
Product		−0.19	−0.41		−3.16	−1.09
Combination 1		2.46	4.13*		3.02	3.65
Combination 2		0.29	4.01		4.22	3.46

Notes: This table summarizes for each screen the annualized abnormal return using the Carhart four-factor model for a long-short portfolio, different screening policies, and sub-periods. The portfolios span the period of 1992 to 1997 (left panel) and 1998 to 2004 (right panel). The long-short portfolio is a trading strategy going long in a high-rated and short in a low-rated portfolio. The high-rated portfolio based on the negative screen consists of all companies except the companies involved in controversial business areas. The low-rated portfolio based on the negative screen consists of the companies involved in controversial business areas. The high-rated (low-rated) portfolio based on the positive screens or on combinations of screens consists of the 10% of all stocks with the highest (lowest) rating. The portfolios are value-weighted. ***, **, and * indicate significance at the 1%, 5%, and 10% level.

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