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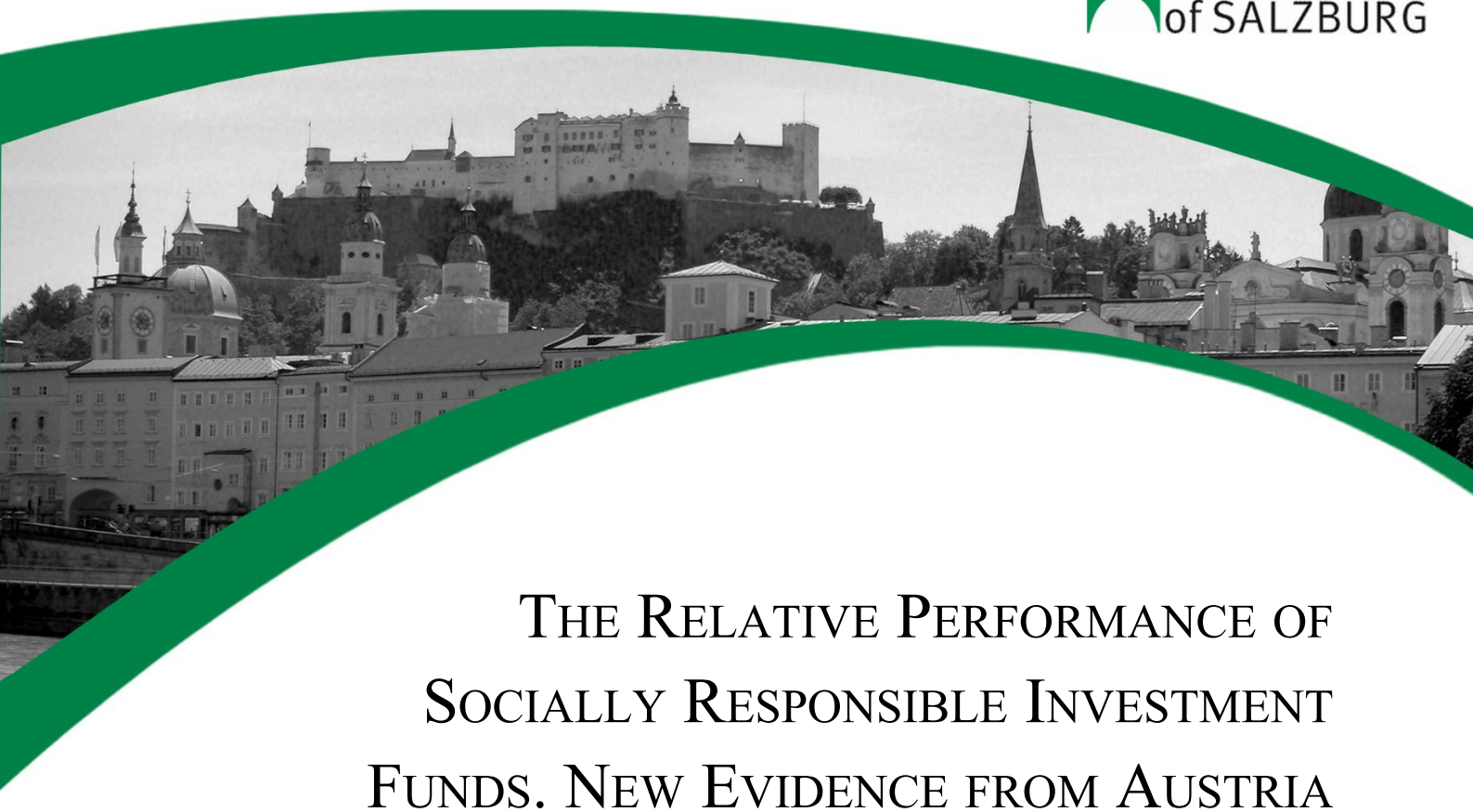

The Relative Performance of Socially Responsible Investment Funds. New Evidence from Austria

Sebastian Rathner

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WORKING PAPERS IN ECONOMICS AND FINANCE

The Relative Performance of Socially Responsible Investment Funds. New Evidence from Austria

Sebastian Rathner*

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Abstract

The aim of this paper is to compare the financial performance of Austrian SRI funds to the performance of Austrian conventional funds. 43 SRI and 1395 conventional funds are found for the analysis. Jensen's alpha and Carhart's 4-factor alpha are used to evaluate fund performance. The results suggest that throughout the sample period from 02/1992 to 3/2012 there was not any performance difference between the two types of funds. However, more detailed results show that SRI equity (debt) funds significantly outperform (underperform) their conventional peers. SRI funds significantly outperform (underperform) conventional funds in the second (first) half of the sample period. Furthermore, signing up to the European SRI Transparency Code (as a proxy for SRI quality) as well as using a matching procedure influence the observed results.

Keywords: Ethical investment, Investment fund performance, Socially Responsible Investment (SRI), Sustainability

JEL Codes: G12, M14

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1 Introduction

In the last 40 years several names have been used to describe investment practices that integrate social, ethical, environmental or governance issues in the investment process. Scholars and practitioners use the terms ethical investment, sustainable investment, socially responsible investment or social investment (just to mention some). According to Eccles and Viviers (2011) Socially Responsible Investment (SRI) is the most prominent one as approximately 51% of the investigated studies use this term. Hence, this paper uses the term SRI as well and refers to it as an investment process that on the one hand considers an investor's financial objectives and on the other hand integrates their concerns about environmental, social, governance or ethical issues into the investment decision making process (Renneboog et al., 2008a; European Sustainable Investment Forum (Eurosif), 2010).

The most prominent question in SRI research is whether the performance of SRI funds differs from the one of conventional funds or if it does not. The three different hypotheses on performance comparisons between SRI and conventional funds are contradictory. The 'underperformance-hypothesis' suggests that SRI funds generate weaker financial performance than conventional funds. This hypothesis is mainly based on the modern portfolio theory which proposes as the most important reason for the underperformance of SRI funds that the implementation of SRI screens limits the diversification potential. If SRI funds, for example, exclude firms that produce weapons, they constrain the risk-return-optimization which should lead to weaker fund performance (Renneboog et al., 2008b). This aspect gains importance if SRI funds systematically neglect exceptionally profitable industries.[1]

The 'outperformance-hypothesis' claims superior returns of SRI funds. An outperformance of SRI funds may occur if the SRI screening process, which investigates a company's environmental, social, governance or ethical quality (in empirical studies called Corporate Social Performance (CSP)), generates valuable information which

would not be available to fund managers otherwise. This 'additional' information may help fund managers to select companies (or securities) with an excellent risk-adjusted financial performance if companies with a superior CSP are, on average, the companies with an excellent financial performance. Heal (2008) and Schreck (2011) mention (amongst others) the following reasons why a 'good' company may be a successful one as well: Companies with a good record concerning CSP may run a lower risk of being the target of negative press, NGO actions, consumer boycotts and lawsuits. Another benefit is seen in environmentally responsible actions that may cause cost reductions by reducing waste. In today's competitive world with few possibilities for product differentiation, a product's image is crucial. Good CSP may be a source differentiation and bad CSP may harm a company's brand. A 'good' company may attract a highly educated workforce and may be more successful in motivating the employees than a company with a bad CSP record. Furthermore, SRI may reduce the cost of capital of responsible companies if this type of investment reaches a substantial market share. In other words the SRI screening process may enable fund managers to select securities from a smaller but 'richer' pool of companies.

The 'no-effect-hypothesis' suggests that there is no significant difference between the returns of SRI and conventional funds. This hypothesis proposes that the SRI screening process, respectively the CSP of companies, has neither a positive nor a negative influence on the financial performance (Hamilton et al., 1993; Renneboog et al., 2008b).

The question whether there is a significant performance difference between SRI and conventional funds or is not has been addressed by many empirical studies as well (cf overviews Rathner, 2013; Chegut et al., 2011; Capelle-Blancard and Monjon, 2010; Hoepner and McMillan, 2009; Renneboog et al., 2008a). For example, Statman (2000) compares the performance of 31 US SRI funds with the one of 62 matched (by asset size) conventional funds. He concludes that there is no significant performance difference between these two types of funds. Similarly, Kempf and Osthoff (2008) report no

significant performance difference comparing 72 US SRI funds with 3,906 conventional funds using a 3-factor model (Fama and French, 1993) and a 4-factor model (Carhart, (1997). These two studies represent the majority of papers of this body of literature which investigate US funds only. One may conclude that the results of these studies are sample-specific (Cortez et al., 2009; Bauer et al., 2007). Thus, in the last years studies have started to investigate the performance of non-US SRI funds as well. Renneboog et al. (2008b) investigate the performance of SRI funds relative to conventional funds of 17 countries and use several measures to evaluate fund performance (e.g. Jensen's alpha and a conditional 4-factor alpha). They find a significant underperformance of SRI funds from France, Ireland, Sweden and Japan and no significant performance difference for funds of the thirteen other countries investigated. Bauer et al. (2005) report diverse results for SRI funds of Germany, the UK and the US in the period 1994-1997. German SRI funds (significantly) underperformed their conventional peers, SRI funds of the UK (significantly) outperformed conventional funds while there was no significant performance difference between US SRI and conventional funds. Cortez et al. (2009) compare the performance of European SRI funds with broad benchmark indices. Applying a capital asset pricing model (CAPM), they find a significant underperformance of SRI funds of, for example, Belgium (relative to an SRI and a conventional index) and of France (relative to an SRI and a conventional index). They do not find any significant performance difference between SRI funds of the UK, Germany, Italy and the Netherlands and conventional benchmarks. Strictly explaining, the results of these studies suggest that the conclusion about the performance of SRI funds relative to conventional funds may be sensitive to the domicile of the investigated funds. Local roots, the historical development, the current spread, the grade of quality of SRI and other specific market circumstances seem to influence the performance comparisons between SRI and conventional funds. As a result, it is reasonable to investigate SRI funds of 'under-researched' countries.

One neglected market is Austria. As far as I know, there is only one study which empirically examines the performance of Austrian SRI funds. Cortez et al. (2009) evaluate the performance of four Austrian stock funds with global, one stock fund with Eurozone-orientation and two balanced funds relative to conventional und SRI indices. They find some evidence for an underperformance of the Austrian stock funds with global orientation compared to a stockindex. However, based on their most sophisticated model they conclude that there is not any significant performance difference. Surprisingly, they do not compare SRI funds with conventional funds, which is the standard procedure in this body of literature.

Moreover, the Austrian market is particularly interesting because in this country SRI funds are by far the most important SRI product. They account for 80% of the Austrian SRI market while, on average, SRI funds of other European countries account for 14% of the national markets (Eurosif, 2010). Hence, SRI funds determine the performance of the whole Austrian SRI market to a large degree.

To sum up, the conclusion about the performance comparisons between SRI and conventional funds may be sensitive to the fund domicile. Furthermore, Austria is an 'under-researched' and interesting SRI market. Therefore, the aim of this paper is to evaluate the performance of Austrian SRI funds relative to Austrian conventional funds.

The remainder of this paper is organized as follows: Section 2 describes the historical evolution of the SRI fund market in Austria and Section 3 presents the data of the study at hand. Thus, the current stage of development of the Austrian SRI fund market will be described in this section. Section 4 outlines the methods of the study and section 5 presents the empirical results. Section 6 conducts robustness checks and investigates if the observed results are driven by specific fund and study characteristics. Finally, Section 7 provides a conclusion and some suggestions for future research.

2 Historical evolution of the Austrian SRI fund industry

The topic SRI emerged in Austria in the 1980s (at that time other terms were used to refer to this phenomenon though) (Eurosif, 2003). The first Austrian SRI fund, the 'Hypo-Rent-A', was established in November 1985. This debt fund uses negative as well as positive screening to select suitable securities and its SRI screening process is based on the data of an external sustainability rating agency. This fund was the starting point for a continuous growth of the SRI fund industry in Austria which accelerated in the 2000s. Eurosif reports that 11 Austrian SRI funds existed in 2003 (Eurosif, 2003). Vigeo, a European CSR-rating-agency, shows that 24 SRI funds were established in June 2008 and 10 more in June 2011 (Vigeo, 2010; Vigeo 2011). The SRI fund industry did not only grow by the number of funds but also by fund volume. Table I shows a steady growth of the volume of SRI funds (irrespective of the decrease in 2008 which was due to the financial crisis). Starting in 2005 with 0.96 billion €, the volume more than doubled until 2011 (2.11 billion €). For a more valid conclusion, this data should be related to the development of the general fund industry in Austria by looking at the market share of SRI. Unreported data suggests that the market share of SRI amounted to 0.1% in 2002. Table I displays an increase of the market share of SRI funds from 0.62% in 2005 to 1.57% in 2011. Interestingly, SRI funds were hit more strongly by the financial crisis in 2008 than conventional funds but recovered disproportionally fast in 2009 with an increase in volume of more than 140% (conv. funds grew 8.48% in 2009).

TABLE I

Volume of the Austrian fund market

Year	Volume of Austrian SRI funds (bill. €)	Volume of all Austrian funds (bill. €)	Growth of SRI funds (%)	Growth of all funds (%)	Market share of SRI Funds (%)
2005	0.96	155.62			0.62
2006	1.06	167.35	10.42	7.54	0.63
2007	1.12	163.76	5.66	-2.15	0.68
2008	0.67	125.98	-40.18	-23.07	0.53
2009	1.63	136.66	143.28	8.48	1.19
2010	1.88	145.25	15.34	6.29	1.29
2011	2.11	134.58	12.23	-7.33	1.57

The data on the SRI fund volume was extracted from reports of the 'Forum Nachhaltige Geldanalagen e.V.' (FNG), a professional association for SRI in German-speaking countries (cf FNG, 2011). The data of the conventional fund volume was gathered from 'Vereinigung Österreichischer Investmentgesellschaften' (VÖIG), the Austrian professional association of fund management companies.

3 Data

The starting point for this research was to gather monthly dividend-adjusted price data on all Austrian funds from Bloomberg for the period 02/1992 to 03/2012.[2] The paper focuses on funds which are classified as open-end funds by Bloomberg and, in particular, on the most prominent fund types in Austria: equity funds, asset allocation funds and debt funds.

A first drawback of the data was that most funds were included in the dataset several times. The reason why they were included several times is that one fund often has several share classes. By law, the share classes get different ISINs, even though the underlying assets of the different share classes of a fund are identical. Therefore, I only kept the share class with the longest data history in the data set and eliminated the other share classes. A second drawback of the data of this study is that Bloomberg supplies data on currently active funds only. Therefore, the study at hand suffers from survivorship bias.[3] In a meta-regression Rathner (2013) shows that, on average, the inobservance of survivorship bias in a study leads to a higher probability of an underperformance of SRI funds compared with conventional funds. The reason for this is that, typically, the attrition rate of conventional funds is higher than the one of SRI funds (cf Gregory and Whittaker, 2007; Kempf and Osthoff, 2008; Renneboog et al., 2008b). Naturally, 'dead' funds show, on average, a poor financial performance. Therefore, a study which does not consider survivorship bias overestimates the average performance of conventional funds more than the one of SRI funds. I assume that the bias is present in this way in the study at hand because I found only one 'dead' SRI fund and certainly, the attrition rate of conventional funds in Austria is higher. Hence, the results of this study should be 'conservative' estimates for SRI funds in a sense that a consideration of survivorship bias would lead to a better relative performance of SRI funds (cf Rathner, 2013).

The final sample of the study comprises 43 Austrian equity, asset allocation and debt SRI funds (basic information on the included SRI funds can be found in the Appendix).

These funds are identified as SRI funds by the 'Sustainable Business Institute' (cf http://www.sustainable-investment.org), the 'Oesterreichische Kontrollbank' (cf https://www.profitweb.at/) and a fund list in Pinner (2012). The sample of this study should represent the Austrian SRI fund industry very well as it includes the most prominent fund types. An additional internet research could not provide further SRI funds of these three categories.

The standard procedure to evaluate the performance of SRI funds is to compare their financial performance to the one of conventional funds. Therefore, 1395 conventional funds are included in the data set as well.[4]

Table II shows summary statistics on the included SRI and conventional funds.

TABLE II

Descriptive statistics on Austrian funds

Portfolio	Conventional funds	SRI funds
Number of funds	1395	43
Number of fund-month observations	138733	5062
Average monthly raw return (in %)	0.268	0.231
	3.366	3.375
Average size (in million €)	71.932	88.203
	113.093	137.618
Average age (in years till 03/2012)	8.764	10.719
	6.523	7.755

This table shows summary statistics on Austrian SRI and conventional funds. The first two lines show the number of included funds und the number of fund-month observations. The next lines show average values of several fund characteristics and (below) the standard deviations.

The average raw returns of conventional funds are slightly higher than the ones of SRI funds. Interestingly, the SRI funds are, on average, older and larger than their conventional counterparts.[5]

4 Methods

Several literature overviews, which investigate the performance differential between SRI and conventional funds (cf overviews Rathner, 2013; Chegut et al., 2011; Capelle-Blancard and Monjon, 2010; Hoepner and McMillan, 2009; Renneboog et al., 2008a), point out that primary studies use a wide variety of fund performance evaluation measures. Rathner (2013) shows that Jensen's alpha (1968) and Carhart's four-factor

alpha (1997) are the most prominent measures to evaluate fund performance. Therefore, the study at hand uses these two measures as well. Jensen's alpha is defined as

$$r_t - r_{f,t} = \alpha + \beta_{MKT}\left(r_t^m - r_{f,t}\right) + \varepsilon_t$$

r_t is the return on an equally weighted portfolio of funds in month t, $r_{f,t}$ denotes the return on a risk free investment in month t (the paper at hand uses the 1-month Euribor), α is Jensen's alpha as suggested in Jensen (1968), β_{MKT} is the factor loading on the market portfolio, r_t^m is the return on a broad market index (in this study the STOXX Europe 600) and ε_t denotes an error term.

Furthermore, I estimate Carhart's four-factor model which additionally controls for a size, a book-to-market and a momentum factor (cf Fama and French (1993) who suggested the size and the book-to-market factor and Carhart (1997) who added the momentum factor):

$$r_t - r_{f,t} = \alpha + \beta_{MKT}\left(r_t^m - r_{f,t}\right) + \beta_{SMB} r_t^{smb} + \beta_{HML} r_t^{hml} + \beta_{MOM} r_t^{mom} + \varepsilon_t$$

r_t^{smb}, r_t^{hml}, r_t^{mom} are the remaining 3 factors of Carhart's four-factor model. These variables control for the size-, book-to-market- and the momentum-factor. β_{MKT}, β_{SMB}, β_{HML}, β_{MOM} denote the factor loadings on the four risk factors and α is Carhart's four-factor return (Carhart, 1997) which captures the risk-adjusted performance of a fund portfolio. Data on Austrian risk factors is provided by Schmidt et al. (2011). In this paper they describe their approach on how they constructed risk factors for several European countries (the risk factors are available from http://www.bf.uzh.ch/risk-factors).

5 Results

Table III shows the results of the CAPM for the SRI and conventional fund portfolio. The standard procedure to compare the performance of the two fund portfolios, which is used for example by Climent and Soriano (2011), Bauer et al. (2007) or Derwall and Koedijk (2009), allots to construct a 'difference' portfolio by subtracting the returns of the conventional fund portfolio from the returns of the SRI fund portfolio. A significant

positive (negative) alpha of the difference portfolio suggests an outperformance (underperformance) of the SRI fund portfolio relative to the conventional fund portfolio. The results of Table III show that SRI and conventional funds underperform the market, as the alpha coefficients are significantly negative. This underperformance is not surprising because debt and asset allocation funds are included in the sample and compared to an equity index.[6] The main result of Table III suggests that there is not any significant performance difference between Austrian SRI and conventional equity, asset allocation and debt funds in the period from 02/1992 to 03/2012 using a CAPM. Furthermore, both fund types show a similar exposure to the market (represented by the STOXX Europe 600) as can be observed by looking at the beta coefficients.

TABLE III

Results of the 1-factor model

Portfolio	**α**	**β_{MKT}**	**Adj. R² / Nr. Obs.**
SRI	-1.843***	0.449***	0.679
	0.179	0.033	242
Conventional	-1.907***	0.427***	0.649
	0.155	0.032	242
Difference	0.064	0.022	0.010
	0.068	0.023	242

This table shows the results of the one-factor model (CAPM) for equally-weighted portfolios of SRI and conventional funds. The 'difference portfolio' is constructed by subtracting the returns of the conventional fund portfolio from the returns of the SRI fund portfolio. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients. Sample period: 02/1992 to 03/2012.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

Despite the fact that the one-factor model is still widely used in academic papers and by practitioners, it is largely accepted that the four-factor model provides important enhancements by controlling for further risk factors. Table IV shows the results of the four-factor model.

TABLE IV

Results of the 4-factor model

Portfolio	α	β_{MKT}	β_{SMB}	β_{HML}	β_{MOM}	Adj. R^2/ Nr. Obs.
SRI	-2.153***	0.434***	0.044	0.066*	-0.002	0.680
	0.180	0.033	0.035	0.036	0.033	211
Conventional	-2.220***	0.425***	0.037	0.089**	0.012	0.672
	0.152	0.036	0.046	0.038	0.025	211
Difference	0.067	0.008	0.007	-0.023	-0.014	-0.001
	0.076	0.024	0.029	0.023	0.016	211

This table shows the results of the four-factor model for equally-weighted portfolios of SRI and conventional funds. The 'difference portfolio' is constructed by subtracting the returns of the conventional fund portfolio from the returns of the SRI fund portfolio. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients. Sample period: 02/1992 to 08/2009.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

The results of Table IV are consistent with the evidence of the CAPM. There is not any significant performance difference between SRI and conventional funds as can be observed by looking at the insignificant alpha of the 'difference' portfolio.[7] Both fund types have a significant exposure to the HML factor, respectively to 'value investing'.

6 Robustness

The overall results suggest that there is not any performance difference between Austrian SRI and conventional funds. In this section I want to investigate if the observed results are driven by selected fund and study characteristics. In other words, the analysis shifts from the question 'if' to the question 'under which circumstances' does a significant performance difference between the two types of funds exist. The characteristics, I want to investigate, are: the asset class focus of the fund, the sample period, a new 'measure' for screening intensity/SRI quality (signing up to the European SRI Transparency Code) and the use of a matching procedure.[8] For the following analysis, I had to choose whether to use the one- or the four-factor model: On the one hand, the risk factors are not available for my whole sample period and on the other hand, the four-factor model is more sophisticated than the CAPM. I decided to report on the results of the one-factor models with the whole sample period in the next paragraphs. The decisive reason why I chose the CAPM is that the majority of past studies (as well as the

study at hand) do not draw differing conclusions about the performance comparisons when they use these two performance evaluation models (e.g. Bauer et al. 2005; Bauer et al. 2007; Humphrey and Lee, 2011). Consistently, the meta-analysis of Rathner (2013) does not find a differing influence of the use of a one- or four-factor model on the probability of an out- or underperformance of SRI funds (compared with conventional funds).

Section 5 presents an aggregated picture of the fund performance industry in Austria because it focuses on the three fund types put together: equity, debt and asset allocation funds. For example, Derwall and Koedijk (2009) show that the results of the performance comparisons between SRI and conventional funds are sensitive to the fund type. Therefore, the following analysis presents the results on the three fund types separately.

TABLE V

Results of the 1-factor model by asset class focus

Portfolio	**α**	**β_{MKT}**	**Adj. R^2 / Nr. Obs.**
Panel A: Equity funds			
SRI	-0.189	0.905***	0.770
	0.197	0.045	175
Conventional	-0.804***	0.667***	0.829
	0.144	0.033	175
Difference	0.615***	0.239***	0.275
	0.177	0.033	175
Panel B: Debt funds			
SRI	-2.593***	0.190***	0.207
	0.191	0.042	242
Conventional	-2.527***	0.226***	0.259
	0.195	0.042	242
Difference	-0.066*	-0.036***	0.049
	0.038	0.010	242
Panel C: Asset allocation funds			
SRI	-1.919***	0.411***	0.654
	0.162	0.029	242
Conventional	-1.996***	0.402***	0.612
	0.150	0.035	242
Difference	0.077	0.010	-0.001
	0.057	0.016	242

This table shows the results of the one-factor model (CAPM) for equally-weighted portfolios of SRI and conventional funds. The 'difference portfolios' are constructed by subtracting the returns of the conventional fund portfolios from the returns of the SRI fund portfolios. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

The most striking finding of Table V is that SRI equity funds significantly outperform conventional funds by 0.615% per month. In contrast to this, SRI debt funds significantly underperform their conventional peers. SRI asset allocation funds exhibit no significant performance difference in comparison to conventional asset allocation funds. Furthermore, it is reasonable that the Adj. R^2 shows its highest figure in Panel A as an equity index should predict the performance of equity funds more precisely than the performance of the other fund types. From my point of view, the most important implication of these findings is that future studies should investigate the performance of different SRI fund types in more detail because the vast majority of past studies focused on equity funds only.

Bauer et al. (2005) find a 'catching up phase' of SRI funds. A 'catching up phase' implies that a newer time (sub-)period leads to a better relative performance of SRI funds than an older time (sub-)period. Similarly to Bauer et al. (2005), Renneboog et al. (2008b) divide their sample period into the sub-periods 1991-1995, 1996-1999 and 2000-2003. They find a significant underperformance of SRI funds in several countries in the first two sub-periods but they do not report any significant underperformance in the third subperiod (2000-2003). In accordance with these studies, I hypothesize that the SRI funds of my sample show a better relative performance in the second half of the sample period than in the first half. The results of Table VI are completely in accordance with the 'catching up phase' hypothesis which was suggested by Bauer et al. (2005). In the first half of the sample period, the SRI fund portfolio significantly underperforms the conventional fund portfolio whereas in the second half, a significant outperformance can be observed.[9] The 'catching up phase' may be due to learning effects in the Austrian SRI fund industry. In the 1990s SRI was a new phenomenon in Austria (cf section 2) and therefore, SRI fund managers might had less experience in integrating SRI screens in their portfolio selection process and delivering a sound financial performance at the same

time. As a 'catching up phase' has been found by several studies, it may be a reasonable idea to investigate this pattern in further 'under-researched' countries.

TABLE VI

Results of the 1-factor model by subperiods

Portfolio	α	β_{MKT}	Adj. R^2 / Nr. Obs.
Panel A: Sample period 02/1992 to 02/2002			
SRI	-2.943***	0.349***	0.581
	0.184	0.037	121
Conventional	-2.678***	0.439***	0.671
	0.188	0.039	121
Difference	-0.265***	-0.091***	0.187
	0.081	0.018	121
Panel B: Sample period 03/2002 to 03/2012			
SRI	-1.012***	0.499***	0.809
	0.150	0.042	121
Conventional	-1.214***	0.371***	0.711
	0.161	0.035	121
Difference	0.203***	0.128***	0.604
	0.056	0.015	121

This table shows the results of the one-factor model (CAPM) for equally-weighted portfolios of SRI and conventional funds. The 'difference portfolios' are constructed by subtracting the returns of the conventional fund portfolios from the returns of the SRI fund portfolios. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

Another characteristic, which distinguishes SRI funds, is the screening intensity. Barnett and Salomon (2006) find that there is a curvilinear relationship between fund screening intensity and fund performance. The SRI funds which have the highest and lowest screening intensity show better financial performance than those SRI funds which have a moderate screening intensity (and are 'stuck in the middle'). The funds with the lowest SRI screening intensity benefit from larger possibilities of diversification. The funds with the highest screening intensity profit from drawing their investments from a smaller but also 'richer' pool of companies. As mentioned above, the pool is described as 'richer' because the SRI screening process selects companies with superior corporate social performance (CSP). Superior CSP may lead to an above-average financial performance. In accordance to Barnett and Salomon (2006), Gil-Bazo et al. (2010) find that SRI funds with an intensive screening outperform conventional funds. I want to extend these findings by investigating SRI funds which signed up to the European SRI

Transparency Code. The European SRI Transparency Code is a seal of quality for SRI funds introduced by the most important European network for SRI - Eurosif. In order to sign up, SRI funds have to provide a large amount of information on their SRI reporting, SRI nature, SRI approach and SRI fund management process to the public in a separate fund report. I hypothesize that only the more sophisticated SRI funds volunteer to sign up to the SRI Transparency Code because the publication of the (missing or fragmentary) SRI information would be disadvantageous for less sophisticated funds. Signing up would reveal their 'wannabe' SRI nature. Based on the results of Barnett and Salomon (2006) and Gil-Bazo et al. (2010), I expect this subgroup of 'superior' SRI funds to have a better financial performance (relative to conventional funds) than the whole SRI fund sample. Out of 43 included SRI funds 25 signed up to the SRI Transparency Code until October 2012.

TABLE VII

Results of the 1-factor model: Signing up to the European SRI Transparency Code

Portfolio	**α**	**β_{MKT}**	**Adj. R² / Nr. Obs.**
SRI	-1.770***	0.473***	0.686
	0.187	0.037	242
Conventional	-1.907***	0.427***	0.649
	0.155	0.032	242
Difference	0.136*	0.046*	0.045
	0.082	0.028	242

This table shows the results of the one-factor model (CAPM) for equally-weighted portfolios of SRI and conventional funds. The 'difference portfolio' is constructed by subtracting the returns of the conventional fund portfolio from the returns of the SRI fund portfolio. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients. Sample period: 02/1992 to 03/2012.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

Table VII reports that SRI funds which voluntarily signed up to the European SRI Transparency Code significantly outperform conventional funds by 0.136% per month. As this evidence is significant at the 10% level only, it would be interesting to compare these findings to the results of other countries. The study at hand could be seen as a starting point for further research on the European SRI Transparency Code. As the number of funds which sign up to this code is growing, it may be interesting for future studies to use the data that is provided in the fund reports.

Another fundamental distinction between past studies is whether they use a matching procedure, or if they do not. In an ideal experiment, two versions of the same fund, one with and one without the SRI characteristic, should be compared. As this is logically not possible, a matching procedure is a step towards the ideal experiment. The aim of a matching procedure is to select conventional funds which exhibit similar characteristics (e.g. fund size or fund age) as SRI funds. So far, all conventional funds have been included and compared to the 43 SRI funds. In this section I want to investigate if the results change when a matching procedure is applied. Thus, I use propensity score matching (without replacement) to match one conventional fund to every SRI fund. Matching criteria are total assets under management, day of measurement of the total assets under management, inception date and asset class focus.

TABLE VIII

Results of the 1-factor model using a matching approach

Portfolio	**α**	**β_{MKT}**	**Adj. R² / Nr. Obs.**
SRI	-1.843***	0.449***	0.679
	0.179	0.033	242
Conventional	-1.554***	0.556***	0.705
	0.179	0.029	242
Difference	-0.288***	-0.107***	0.145
	0.090	0.023	242

This table shows the results of the one-factor model (CAPM) for equally-weighted portfolios of SRI and matched conventional funds. The 'difference portfolio' is constructed by subtracting the returns of the conventional fund portfolio from the returns of the SRI fund portfolio. The reported standard errors are Newey-West heteroskedasticity and autocorrelation consistent standard errors and are reported below the coefficients. Sample period: 02/1992 to 03/2012.

* Coefficient is statistically significant at the 10% level.

** Coefficient is statistically significant at the 5% level.

*** Coefficient is statistically significant at the 1% level.

The results of Table VIII indicate that SRI funds significantly underperform their matched conventional peers by 0.288% per month. This contrasting evidence (cf Table III) suggests that the use of a matching procedure clearly influences the results.[10] Future studies of this body of literature should therefore compare the results of the unmatched and matched samples.

7 Conclusion

The aim of this paper is to compare the performance of Austrian SRI with Austrian conventional funds. As an introduction, the paper shows that the SRI market has been growing in Austria for several years now. The growth can be observed by looking at the SRI fund volume and the market share of SRI funds. The SRI fund volume more than doubled from 2005 until 2011 (from € 0.96 to € 2.11 billion). The market share of SRI funds rose from 0.62% in 2005 to 1.57% in 2011.

43 SRI funds and 1395 conventional equity, asset allocation and debt funds are included in the analysis. Based on a one- and a four-factor model the results suggest that the performance of Austrian SRI funds is not (statistically) different from the performance of conventional funds over the whole sample period from 02/1992 to 03/2012.

Furthermore, robustness checks are conducted to investigate the influence of several study and fund characteristics on the observed results. This paper focuses on four characteristics which are prominent topics in past studies and therefore emerged from the literature: the asset class focus of the fund, the sample period, a new 'measure' for SRI quality/screening intensity (signing up to the European SRI Transparency Code) and the use of a matching procedure. SRI equity funds outperform and SRI debt funds underperform their conventional peers significantly. I find some evidence for an SRI 'catching up phase' as the SRI funds underperform the conventional funds in the first half of the sample period and outperform them in the second half. A selection of SRI funds voluntarily signed up to the SRI fund quality seal 'European SRI Transparency Code'. I hypothesize that only the more sophisticated SRI funds sign up to this quality seal and these funds show a superior financial performance. Indeed, these funds significantly outperform the conventional funds. So far, the study at hand uses all conventional funds for the performance comparisons. The last part of section 6 uses a matching approach to select comparable conventional funds for the analysis. The matched sample of

conventional funds significantly outperforms the SRI funds. Therefore, future studies should compare the results of matched and unmatched samples as a robustness check.

From the author's perspective, it is reasonable to investigate the performance of SRI funds of 'under-researched' countries in the future to get further insights into national SRI markets. For example, one may investigate if the SRI 'catching up phase hypothesis' can be corroborated in different countries because several studies find some evidence in favour of this hypothesis. Another idea would be to investigate the influence of the signing up to the European SRI Transparency Code in more detail.

Appendix

Appendix I

Detailed information on the included SRI funds

Fundname	ISIN	Total assets under management	Asset class focus	Fund management company	Inception date	Eurosif
3 Banken Nachhaltigkeitsfond	AT0000701156	118.25	Equity	3 Banken-Generali Investment GmbH/Austria	01oct2001	0
Allianz Invest Nachaltigke-T	AT0000A0AZW1	20.58	Equity	Allianz Invest KAGmbH/Austria	15sep2008	0
Bawag Psk Oeko Spec Stock-T	AT0000A06Q31	31.87	Equity	Bawag PSK Invest GmbH	19nov2007	1
Bawag Psk Oko Sozial Rent-T	AT0000A0FM79	118.79	Debt	BAWAG PSK KAG/Austria	01dec2009	1
Capital Invest Ethik Fonds-A	AT0000857164	21.23	Asset Allocation	Pioneer Investments Austria GmbH	07nov1986	0
Ecology Stock Focus	AT0000A09YJ7	5.99	Equity	Focus Asset Management GmbH	01sep2008	0
Espa Bond Euro-Muendelrent-A	AT0000858220	649.85	Debt	Erste-Sparinvest Kapitalanlage GmbH	15dec1988	0
Espa Vinis Bond Euro-Corp-T	AT0000A0PHJ4	32.6	Debt	Erste-Sparinvest Kapitalanlage GmbH	02may2011	1
Espa Vinis Bond-T	AT0000686084	141.63	Debt	Erste-Sparinvest Kapitalanlage GmbH	15mar2002	1
Espa Vinis Cash-T	AT0000A03969	47.18	Debt	Erste-Sparinvest Kapitalanlage GmbH	15nov2006	1
Espa Vinis Microfinance-T	AT0000A0G256	24.17	Debt	Erste-Sparinvest Kapitalanlage GmbH	10dec2009	1
Espa Vinis St Eur Emerg-T	AT0000A09YL3	8.03	Equity	Erste-Sparinvest Kapitalanlage GmbH	10jun2008	1
Espa Vinis Stock Austria	AT0000706528	4.73	Equity	Erste-Sparinvest Kapitalanlage GmbH	25jun2001	1
Espa Vinis Stock Europe	AT0000645973	151.57	Equity	Erste-Sparinvest Kapitalanlage GmbH	06jun2003	1
Espa Vinis Stock Global	AT0000646799	215.45	Equity	Erste-Sparinvest Kapitalanlage GmbH	11jul2003	1
Espa Wwf Stock Climate Ch T	AT0000A054H4	9.39	Equity	Erste-Sparinvest Kapitalanlage GmbH	02may2007	1
Espa Wwf Stock Umwelt-T	AT0000705678	42.83	Equity	Erste-Sparinvest Kapitalanlage GmbH	02jul2001	1
Ethik Bond Opportunities-T	AT0000707393	21.47	Debt	Raiffeisen Salzburg Invest KAGmbH	22jul2003	0
Excellent Global Mix	AT0000A07ST2	16.43	Asset Allocation	Carl Spaengler KAGmbH/Austria	20dec2007	0
H&A Prime Values Income	AT0000973029	75.93	Asset Allocation	Gutmann KAG/Austria	28dec1995	0
Hypo-Rent-A	AT0000857503	426.72	Debt	MASTERINVEST KAGmbh	04nov1985	1
Kepler Ethik Aktienfonds-T	AT0000675665	75.05	Equity	Kepler-Fonds KAGmbH	02jul2002	1
Kepler Ethik Rentenfonds-A	AT0000815006	164.39	Debt	Kepler-Fonds KAGmbH	15dec1998	1
Kepler-Oeko Energien-T	AT0000A0AMJ6	5.63	Equity	Kepler-Fonds KAGmbH	24sep2008	1
Klassik Megatrends-T	AT0000820147	24.7	Equity	Raiffeisen Salzburg Invest KAGmbH	24sep1999	0
Prime Values Growth	AT0000803689	5.31	Asset Allocation	Gutmann KAG/Austria	03dec1997	0
Raiffeisen-Ethik-Aktien-T	AT0000677919	26.25	Equity	Raiffeisen Kapitalanlage GmbH	13may2002	0
Raiffeisen-Oesterreich-Rnt-A	AT0000859533	495.39	Debt	Raiffeisen Kapitalanlage GmbH/Austria	05apr1987	0
Raiffeisen-Ok-Rent-A	AT0000856604	144.19	Debt	Raiffeisen Kapitalanlage GmbH	12jun1990	0

Appendix I and II present information on the 43 included SRI funds. Total assets under management are expressed in million €. The variable 'Eurosif' is a dummy variable that takes value 1 if the fund signed up to the European SRI Transparency Code.

Appendix II

Detailed information on the included SRI funds

Fundname	ISIN	Total assets under management	Asset class focus	Fund management company	Inception date	Eurosif
S Ethikaktien-T	AT0000681168	7.01	Equity	Sparkasse Oberoesterreich Kapitalanlagegesellschaft mbH/Austria	02may2002	1
S Ethikbond-T	AT0000681192	11.22	Debt	Sparkasse Oberoesterreich Kapitalanlagegesellschaft mbH/Austria	02may2002	1
S Generation	AT0000A0JGB6	3.82	Equity	Sparkasse Oberoesterreich Kapitalanlagegesellschaft mbH/Austria	07jul2010	0
S Generation Plus	AT0000A04UC1	5.28	Equity	Sparkasse Oberoesterreich Kapitalanlagegesellschaft mbH/Austria	27apr2007	0
Schoellerbank Pif-A	AT0000809447	1.61	Asset Allocation	Schoellerbank Invest AG/Austria	19jan1998	0
Superior 1 - Ethik Renten-A	AT0000855606	122.22	Debt	Bankhaus Schelhammer & Schattera KAGmbH/Austria	08may1989	1
Superior 2 - Ethik Mix - A	AT0000855614	16.38	Asset Allocation	Bankhaus Schelhammer & Schattera KAGmbH/Austria	17jul1989	1
Superior 3 - Ethik-A	AT0000904909	120.13	Asset Allocation	Bankhaus Schelhammer & Schattera KAGmbH/Austria	18nov1991	1
Superior 4 - Ethik Aktien-A	AT0000993043	12.71	Equity	Bankhaus Schelhammer & Schattera KAGmbH/Austria	07aug1997	1
Superior 6 - Global Challeng-T	AT0000A0AA78	3.67	Equity	Bankhaus Schelhammer & Schattera KAGmbH/Austria	16oct2008	1
Tvg Zukunftfonds-T	AT0000A05H90	0.92	Equity	Security KAG/Austria	02jul2007	0
Vbv Vk Sustainability Bonds	AT0000A0D642	95.42	Debt	N.A.	16mar2009	0
Volksbank-Muendel-Rent	AT0000855812	230.28	Debt	Volksbank Invest Kapitalanlagegesellschaft m.b.H.	26jul1989	1
Volksbank-Mundel-Flex-T	AT0000A0S6L8	36.47	Debt	Volksbank Invest KAGmbH/Austria	15nov2011	1

Appendix I and II present information on the 43 included SRI funds. Total assets under management are expressed in million €. The variable 'Eurosif' is a dummy variable that takes value 1 if the fund signed up to the European SRI Transparency Code.

Notes

[1] Hong and Kacperczyk (2009) show that 'sin' stocks – companies which operate in the alcohol, tobacco or in the gambling industry – outperform the market. SRI funds naturally do not invest in 'sin' stocks. Thus, their performance may suffer from not-investing in these industries.

[2] February 1992 is the first month with available price data on SRI funds.

[3] I tried to eliminate survivorship bias by searching for data on funds which ceased to exist. The Oesterreichische Kontrollbank AG provided access to their database. Unfortunately, the provided way of accessing their data and the type of data (no adjustment for dividends) made it impossible to integrate it into my database.

[4] I use the same selection process which was used to select the SRI funds.

[5] The size variable must be interpreted with caution as the date of measurement of this variable varies throughout the funds and it is not reported on all funds of the sample.

[6] I am aware of the fact that it is audacious to use an equity index for the performance evaluation of a portfolio of funds which includes debt funds. The reason why I use an equity index is that the SRI equity and the equity-dominated asset allocation funds represent the majority of SRI funds and at this stage of the analysis I want to present an aggregated picture of the SRI fund industry in Austria. Furthermore, I intend to compare the performance differentials of the three fund types (with each other and the results of Table III) in section 6, which would not have been possible if I had used different benchmarks for the performance evaluation.

[7] The risk factors are available for the period 02/1992 until 08/2009. I estimated the CAPM for this period again (the results of Table III are based on the period 02/1992 to 03/2012) but the conclusion that there is not any significant performance difference remains unchanged.

[8] All of these characteristics emerged from the literature and played an important role in past studies on SRI fund performance.

[9] I re-estimated the CAPM for three equal subperiods as well. The unreported results confirm the 'catching up phase' hypothesis. The SRI fund portfolio significantly underperforms the conventional portfolio in the first part of the sample period, there is not any performance difference in the second part and the SRI funds significantly outperform their conventional peers in the third subperiod.

[10] However, it must be pointed out that all matching variables are available only for the 43 SRI and 940 (of 1395) conventional funds.

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