

# “Does managing an SRI fund cost more? Evidence from the European financial market”

## AUTHORS

Stefania Arrigoni  
Alberto Lanzavecchia

## ARTICLE INFO

Stefania Arrigoni and Alberto Lanzavecchia (2015). Does managing an SRI fund cost more? Evidence from the European financial market. *Investment Management and Financial Innovations*, 12(2), 51-64

## RELEASED ON

Monday, 22 June 2015

## JOURNAL

"Investment Management and Financial Innovations"

## FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

0



NUMBER OF FIGURES

0



NUMBER OF TABLES

0

© The author(s) 2019. This publication is an open access article.

Stefania Arrigoni (Italy), Alberto Lanzavecchia (Italy)

## Does managing an SRI fund cost more? Evidence from the European financial market

### Abstract

Authors' aim is to provide evidence regarding managing costs differences comparing *Socially Responsible Investing* (SRI) funds with traditional ones, if any, and if these are influenced by the ethical rating of the fund. The methodology is based on a multiple linear regression model in a matched-pair sample of 309 European SRI and non-SRI funds managed by the same managing company and a comprehensive sample of 558 European SRI funds. The main findings are on size, country, asset class, and ethical rating. Yet, the higher the ethical rating, the lower the TER, especially at the highest level of rating. If investors actively select higher ethically rated SRI funds, they will benefit from a lower cost charged by specialized asset managers. In investing in "good", choose the best!

**Keywords:** SRI, TER, European financial market.

**JEL Classification:** G23, G15.

### Introduction

The origins of what we now define as *Socially Responsible Investing* (SRI) actually date back to the origins of civil societies – or at least to since money has existed. The Holy Bible, Quran and Torah laid down many directives about how to invest money in a "good" way and when investing would be deemed unethical (Schueth, 2003). Not surprisingly, Ali (2008), Emerson and McKinney (2010) along with Pava (1998) argued that spiritually driven ethics motivate individuals to incorporate the highest human and spiritual ideals into business conduct. Business ethics can be applied every day in all activities in a marketplace: customer relations, pricing and profit margins, personnel recruiting and promotion, business competition and capital investments.

The motivations of investors who are attracted to SRI tend to fall into two broad categories. One group feels the need to invest money in a manner that does not conflict with their personal values and objectives, even to compensate for an otherwise hedonistic lifestyle. Another group feels a stronger need to place their money to actively support and encourage improvements in others' quality of life or in the environment for future generations. The average SRI investor belonging to the latter group is classified as an "activist" who is more focused on what capital can do to catalyze positive change in society at large (Schueth, 2003) – e.g. impact investing. Strictly speaking, impact investing is a niche within SRI markets, totalling in 2012 about

US\$8.01 billion (Saltuk, 2013) and €8.75 billion (Emson, 2013) respectively in US and in European market – a market share of 0.21 and 0.13 percent, respectively.

The successful launch of Friends Provident Stewardship Fund in 1984 and, since then, many other ethical investment funds have made ethical investment widely available to retail investors (Cowton, 1999, p. 60). While investments in "traditional" fund assets in Europe declined by a compounded average annual rate of 2.08 percent during the 2007-2011 period (Delbecque and Healy, 2013), over the same period, SRI retail funds never suffered relevant outflows, increasing at an impressive compounded average annual growth rate of 14.70 percent (Bono et al., 2012).

The growing of the SRI market has been driven by "a desire to redefine the relationship between corporations and society" and a desire to "find mechanisms to exercise a quasi-regulatory power over corporations without the direct intervention of government" (Louche and Lydenberg, 2006, p. 10).

There are two main streams of research about SRI funds: a quantitative and a qualitative one. The former mainly analyzes a fund's performance and risk exposure compared to traditional funds (Mallin et al., 1995; Adamo et al., 2010; Blanchett, 2010; Managi, Okimoto and Matsuda, 2012); the latter focuses on descriptive information and methodologies to evaluate their sustainability and social impacts. A forthcoming frontier is now where the two streams of research meet: is there any relation between ethical-driven practice and quantitative results?

This study lies at that borderline, addressing the relationship between the "quality" of SRI funds (measured by a rating) and their managing costs, expecting that SRI funds, *ceteribus paribus*, would bear higher costs compared to traditional. We derive this hypothesis from two assumptions: 1) fund

© Stefania Arrigoni, Alberto Lanzavecchia.

Stefania Arrigoni, M.A. graduate in Economics and Finance, University of Padova, Italy.

Alberto Lanzavecchia, Ph.D., Assistant Professor of Corporate Finance, University of Padova, Italy.

We thank Antonio Barbieri and Alberto Rampazzo for helping us obtain a portion of the dataset, courtesy of Bloomberg and Morningstar, respectively. We are grateful for helpful comments from the seminar participants at the 2013 Italian Forum on SRI. We thank Prof. Massimiliano Caporin for his support with methodology. The usual caveat applies.

manager's objective is profit maximization and 2) there are higher screening and information costs within SRI universe (Bauer et al., 2006) which yield to economies of scale (Capelle-Blancard and Monjon, 2012; Jones et al., 2008). As long as the average SRI investor is not an activist (Emson, 2013, p. 25) who is "*not likely to forego a higher return on their investment in return for a social screen*" (Rosen et al., 1991, p. 230), the former assumption would lead asset managers to charge extra costs offset by the investors' feeling of having done a "good and right thing". The latter assumption would lead to higher managing costs since the average ethical fund's assets under management is smaller than the average conventional fund size (Kempf and Osthoff, 2008). Hence, our aim is to provide evidence regarding cost differences compared to traditional funds, if any, and if those are influenced by the ethical commitment of the fund.

Intonti and Iannuzzi (2010) investigated the relationship between the ethical commitment of Italian SRI funds and the "Global Expense Ratio". In this paper, we extend their perspective to the European market by applying a different methodology based on a multiple linear regression model (Gujarati, 1999) in a matched-pair sample (Mallin et al., 1995) of 309 European SRI and non-SRI funds managed by the same managing company and a full sample of 558 European SRI funds.

The remainder of this paper is divided into five sections. In Section 1, we provide a literature review on the SRI industry. In Section 2, we describe our data and variables as well as provide descriptive statistics. In Section 3, we examine the SRI funds' cost, what drives them and, ultimately, if SRI fund costs are different from traditional ones. In the final section we provide concluding remarks.

## 1. Literature review

Given the increasing importance of SRI funds and environmental, social and governance (ESG) issues, there is a large body of literature covering various topics related to these matters, broadly identified within two main streams of research.

**1.1. Quantitative analysis.** Most of the research investigate quantitative aspects of SRI funds, based on the assumption that, since SRI funds restrict portfolio diversification due to a selective screening not based on risk and return *à la Markovitz*, they are willing to bear some inefficiencies in terms of risk-adjusted performance (Funari, 2011). Yet, several studies show that the performance of SRI funds is not significantly different from those of conventional funds or is even better (Mallin et al., 1995; Sauer, 1997; Statman, 2000; Bello, 2005; Bauer et al., 2005; Kreander et al., 2005; Benson et al., 2006;

Gregory and Whittaker, 2007; Becchetti and Ciciretti, 2009; Rathner, 2013). Bauer et al. (2005), analyzing financial markets in the USA, the UK and Germany, found an interesting result regarding the presence of the learning effect: older SRI funds performed better than younger ones. However, Renneboog et al. (2011) reported a negative performance for SRI funds compared to conventional funds: SRI funds in many European and Asian-Pacific countries strongly underperform regarding the domestic benchmark portfolio, although UK and US funds do not significantly underperform their benchmark.

Regarding risk exposure, Bauer et al. (2005), Gregory and Whittaker (2007) and Kempf and Osthoff (2008) found that SRI funds have lower market sensitivity than conventional funds.

**1.2. Qualitative analysis.** Qualitative analyses can be divided into two main fields of research: studies aimed to describe the characteristics of SRI funds and the behavior of SRI investors; studies that investigate how sustainable and ethical an SRI fund is.

Louche and Lydenberg (2006) investigated the main difference between European and United States markets, exploring historical, cultural and political drivers of SRI. Even if the two markets share purposes and goals, they outline differences in the actors involved, definitions, methodology and strategies implemented by SRI funds. Sandberg et al. (2009) explored the heterogeneity of SRI, identifying four levels on which heterogeneity can be explained: terminological, definitional, strategic and practical. The authors also pinpointed three possible explanations for these heterogeneities, such as cultural and ideological differences between regions, differences in values, norms and ideologies between SRI stakeholders, and the SRI market setting. Louche et al. (2012) more recently examined the attitude of religious organizations towards responsible investment, finding that religious values are an important driver and religious investors are pioneers in impact investing; nevertheless, religious and investing practices vary across regions. Other studies focused on the investors' behavior (Bollen, 2007) and its characteristics (Lewis and Mackenzie, 2000).

**1.3. An integration: portfolio analysis.** An attempt for merging qualitative with quantitative research started with the analysis of the portfolio holdings of an SRI fund (Rudd, 1981; Sauer, 1997; Benson et al., 2006). Kempf and Osthoff (2008), testing whether SRI funds are conventional funds in disguise, discovered good news: SRI funds do have a significantly higher ethical ranking than standard funds (i.e. they are not conventional funds in disguise) and results are not affected by window dressing strategies of SRI funds.

However, Schwartz (2003), studying mutual funds in the USA and Canada, concluded that the ethical obligations of some funds are not met and some screens are not ethically justified. Moreover, many ethical funds do not satisfy the minimum requirements of transparency and disclosure.

Diltz (1995), testing the effects of ethical screening on portfolio performance, found ambiguous results, leading to the conclusion that ethical screening does not penalize or increase portfolio performance.

Through the applications of evaluation models, it is now possible to assign and classify an SRI funds on the basis of a qualitative score.

The seminal study of Geczy et al. (2005) introduces the evaluation of the sustainability of an SRI fund, developing a list of SRI screening criteria.

Renneboog et al. (2007), evaluating the impacts of screenings on funds' performance, concluded that a higher screening yields a higher future performance.

Intonti and Iannuzzi (2010) developed a model for the attribution of an "Ethical Rating" by integrating screening and selection criteria with transparency and disclosure ones. Funari (2011) developed a similar model composed of 35 factors – negative screening, positive screening, guarantee of control and transparency.

**1.4. Mutual funds' fees.** Literature on mutual funds' expenses is relatively narrower and it is mainly focused on the United States or single countries. Studies address the relation between mutual funds' performance and their fees and expenses (Malhotra and McLeod, 1997; Siggelkow, 1999; Luo, 2002).

Khorana et al. (2009) proposed a new measure of *Total Shareholder Costs* (TSCs), which includes the total expense ratio plus annualized loads<sup>1</sup>. Malhotra et al. (2007) analyzed the structure of mutual fund expenses in the US market and the determinants of fund management costs, finding evidence of economies of scale in the mutual fund industry.

To the best of our knowledge, few studies analyze how management fees or expense ratio in SRI funds impact funds' performance. Gil-Bazo et al. (2009) studied the before-fees and after-fees performance of SRI funds in the USA in the period of 1997-2005, finding that the US SRI funds had a better performance than conventional funds; however, this result only holds for SRI funds run by asset management companies specialized in SRI. Regarding fees, the authors do not find any significant difference

in fees between SRI and traditional funds, except in the case of funds belonging to the same asset management company. In this case, the coefficient of total ownership cost (TOC<sup>2</sup>) was negative and significant, meaning that investors in SRI funds bear lower costs with respect to conventional funds.

Bauer et al. (2005) studied funds in Germany, the UK and the USA, finding that, on average, the Total Expense Ratio (TER) of SRI funds was higher than those of conventional funds. They also investigated the effect of fees on performance, pointing out that difference in return between ethical and conventional mutual funds is statistically insignificant in all three countries.

Renneboog et al. (2011) applied a similar methodology, finding that the strong under-performance discovered in Europe and the Asian-Pacific countries was not driven exclusively by management fees.

Intonti and Iannuzzi (2010), using their own ethical evaluation model, analyzed the relationship between ethical rating and costs, elaborating a new cost proxy named "Global Expense Ratio<sup>3</sup>" (GER), an evolution of the TSC presented by Khorana et al. (2009). They compared the fees of 17 SRI funds with those of 255 non-SRI funds. Using a simple correlation analysis, they did not find any relation between pricing and ethical rating.

This paper is positioned in the stream of research that addresses the issue of SRI funds' production costs and their ethical rating, widening the perspective to the European market.

## 2. Data, variables and descriptive statistics

**2.1. Sampling and data.** This study is focused on the European financial market since, according to Louche and Lydenberg (2006), the European and United States' SRI markets show differences in the actors involved, definitions, methodologies and strategies implemented.

We set up a comprehensive list of SRI products distributed within the European financial market by combining different sources: Bloomberg, Eurosif (2013), Vigeo, Novethic (2013) and the two Social Investment Forum (Sif) organizations, namely AFG (2013) and FNG (2013).

We started from 1,002 funds included in Bloomberg's classification of "Sector Fund Sociality Resp" and "Sector Fund-Environment Friend"; then we filtered

<sup>1</sup> Because loads are paid when entering or exiting the fund, it is necessary to divide these loads over the investor's holding period. The authors assumed a 5-year holding period in their analysis:  $TSC = TER + (\text{initial load})/5 + (\text{back-end load at five years})/5$ .

<sup>2</sup> *Total ownership cost* is similar to *total shareholder cost*, presented by Khorana et al. (2009) and it is calculated as  $TOC = \text{expense ratio} + (\text{total load})/7$ .

<sup>3</sup>  $GER = (\text{management fee}/NAV) + (\text{initial load}/5) + (\text{back load}/5)$ .

only Open-end Fund (OEIC in the UK, SICAV<sup>1</sup> and FCP in France), totalling 901 funds. We also excluded 193 funds due to missing or unavailable data; 246 funds were not eligible since they were environmentally focused<sup>2</sup> only and/or did not apply any ESG or exclusions criteria (e.g. they were only “masqueraded” as SRI). We then excluded all institutional funds, money-market funds and funds with passive portfolio management (e.g. indexed funds), ending up with 243 funds. Combining these 243 funds with the investment list provided by Vigeo and two local Sifs, Eurosif and Novethic, we built up our comprehensive sample of 558 SRI funds.

Publicly available data on costs charged to a fund by a fund manager are typically measured by TER – the ratio of the funds’ total operating costs to its average net asset value. The European Commission<sup>3</sup> has recommended the use of TER as a common European measure for expressing ongoing fund charges. Yet, TER includes the annual management fee, the performance fee and any additional cost borne by the managing company to run a fund (e.g. administration costs, depository duties, registration, regulatory, custodian, auditing and other operational fees). However, TER does not include transaction costs (e.g. brokerage fees and taxes) and financial costs (e.g. interests on borrowing and payments due to derivative instruments), entry/exit commissions or any other charges directly paid by investors (The Committee of European Securities Regulators, 2005). Consequently, TER does not consider the full cost born by investors. Actually, since costs charged to a fund are mainly operating and management expenses (Intonti and Iannuzzi, 2010), TER might be a good proxy for the cost indirectly born by investors. Unlike other authors who used a specific proxy variable to include front-load and back-load fees (Intonti and Iannuzzi, 2010; Khorana et al., 2009; Gil-Bazo et al., 2009), in this article, we use TER provided by Bloomberg and Morningstar as of 31 December 2012 (time series are not available) to investigate the costs charged by fund managers to asset portfolios.

<sup>1</sup> A société d’investissement à capital variable (SICAV) is an open-ended collective investment scheme characterized by a managing company which sells and buy-back shares on demand.

<sup>2</sup> Green funds are mutual funds or other investment vehicles that invest in firms that might produce a positive impact on the environment. The ethical rationale is weaker compared to the clear-cut industry segmentation that defines them. For an overview of the green funds’ market through a comparison of their performance and risk, see Adamo et al. (2014).

<sup>3</sup> European Commission Recommendations 2004/383/EC and 2004/384/EC. These recommendations provide guidance to the implementation of two of the most significant sets of changes to the UCITS legislation brought about by directives 2001/107/EC and 2001/108/EC, the so-called UCITS III.

Market data and information providers were Bloomberg, Morningstar and funds’ websites – data are at the single-fund level. Since most data were available only for the year 2012 (e.g. no time series data were available), we implemented a cross-sectional analysis instead of a panel-data study. Funds are characterized by asset class type, size, TER, dividend policy, type of investors (e.g. institutional or retail) and other control variables described further on in the regression model. Since the cost structure of institutional funds is considerably different from retail ones, we decided to select the latter only. We are aware that institutional investors continue to drive the SRI market with an even higher market share than in 2011 (Eurosif, 2014); however, we fully agree with Eurisif’s concern about the weakness of the retail SRI market as a market failure. In fact, our ultimate aim is to give insights on SRI industry to the general public.

Yet, we did not control for different classes (e.g., retail, high net worth individuals, no load or front load, etc.) within funds for two main reasons: 1) the lack of a non ambiguous and not overlapping definition for each class; 2) the poor statistical significance given by a limited number of observation within each class. Last, but not least, our dataset does not include such information for all selected funds.

*2.1.1. Sample selection.* We applied a methodology known as the “matched-pair sample approach” (Mallin et al., 1995; Gil-Bazo et al., 2009) matching two funds within the same management company that differentiate themselves only by screening criteria run by fund managers – other things being equal. This methodology differs from Kreander et al. (2005) since these authors matched funds among different managing companies randomly, while we matched SRI funds with a peer fund within the same managing company. Since our focus is on costs comparison in a *ceteris paribus* condition, by comparing funds within the same investing house we offset the asset management general policies derived from the company’s cost structure. Actually, the resources, policies and culture of management companies play an important role in the determination of fees, costs and performance (Gil-Bazo et al., 2009). Moreover, economies of scale and scope might influence costs too. Matching funds from the same managing company filters out all these issues. Focusing only on the structural features of the funds (e.g. fund type, asset class, dividend policy, investment universe), we were able to match 309 SRI funds out of 558.

We excluded 249 funds for two reasons. The first one is that some managing companies are “fully SRI oriented”, so they did not offer any non-SRI products.

Thus, 70 funds from 13 managing companies were excluded during the matching process. The second reason is that, for 179 funds, it was impossible to find a non-SRI correspondent under the *ceteris paribus* condition.

**2.2. Ethical rating.** We analyzed each SRI fund using content analysis methodology – a “research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278). We collected data from the companies’ websites, Eurosif, National Sif Organizations and using different references (e.g. annual reports, Eurosif Transparency Code filled by the funds, Social and Sustainable Reports and documents, Internal Sustainable Codes etc.). We were therefore able to fill our model and assign to each fund a grade – an “ethical rating”.

Starting from literature (Renneboog et al., 2011; and 2007; Intonti and Iannuzzi, 2010; Funari, 2011; Geczy et al., 2005), we combined different models to create our own evaluation model. Our ethical rating evaluation model is based on five assessment dimensions (Appendix A).

Section A is dedicated to the “screening criteria” used by SRI fund’s asset managers. There is no distinction between positive and negative criteria given that those criteria depend on human morale – what is good or what is bad.

Section B focuses on methodology in the screening process: one point is assigned for each distinction between negative and positive criteria and the differentiation at States or firms level – some criteria could refer only to one of them or both (e.g. a fund manager might decide to exclude governments involved in weapons but not to screen, or exclude, firms implicated in the same business).

Section C focuses on the internal and external “control of the screening process”. Regarding the composition and functions of the sustainable committee, the score was 0 without any information, 0.5 with less or equal to three external members and defined functions, and 1 with more than three.

Section D concerns “other sustainable characteristics” of funds, such as Eurosif adherence, presence of an internal sustainable code and an in-house SRI research team. As Gil-Bazo et al. (2009) noticed, SRI funds that outsourced social research are not likely to differ too much from conventional funds. For this reason, we decided to emphasize in-house SRI research, assigning a positive score. The score is 0 or 1, except for: profit allocation to development project (i.e. 0 without any information, 0.5 with general information about the allocation, 1 with

specific guidance), information about a fund’s leverage (i.e. 0 with no information, 0.5 if higher than 1.5, 1 if lower than 1.5) and the presence of a benchmark (i.e. 0 without a benchmark, 0.5 with a non-SRI benchmark, 1 with an SRI benchmark).

Section E refers to “compliance, transparency and the availability of information”. Since there is not yet a European framework to define common rules regarding SRI, we selected a set of elements that covers transparency and compliance issues respecting (potential) investors. The score was 0 without information, 0.5 if the information was unclear and 1 otherwise.

To avoid any valuation bias, especially in Section E, we analyzed each fund, and then we simply averaged the score. Overall, the model assigned a maximum rating of 56 points (Section A, 28 points; Section B, 4 points; Section C, 5 points; Section D, 11 points; Section E, 8 points). The final score is then standardized in a scale from 0% to 100%: the higher the score, the more ethical the fund.

**2.3. Summary statistics.** Our sample includes funds from 13 European countries. Of them, eight are EU member states within the Eurozone, four are EU member states outside the Eurozone and two are non-EU countries (i.e. Norway and Switzerland). France and Luxembourg experience the higher concentrations of SRI funds, 72 and 111 respectively (Appendix B and Appendix C). The former is driven by a set of regulatory requirements which altogether have favored the development of SRI and, more widely, of CSR among companies in the country (Eurosif, 2012); the latter is biased by structural reasons given that favorable bank secrecy and tax laws, as well as its central location, fuel Luxembourg to be a European mutual fund hub (Korana et al., 2005). In fact, fund might be distributed in more than one country, since a fund could be domiciled in one country, managed in a second one and distributed in a third one, not mandatory only within Europe. Therefore, defining the SRI market is not straightforward since asset managers are easily located, whereas final investors are not (Eurosif, 2012). Hence, we decided to allocate each fund to the country of domicile. This choice explains the high number of funds domiciled in Luxembourg.

Table 1. Summary statistics for the matched-pair sample (Panel A) and full sample (Panel B) on the TER (as percentage on net asset value) and size (in euro millions)

Panel A. Matched-pair sample						
	N	MEAN	SD	MEDIAN	MIN	MAX
SRI	309					
TER		1.601	0.660	1.660	0.030	5.190

Table 1 (cont.). Summary statistics for the matched-pair sample (Panel A) and full sample (Panel B) on the TER (as percentage on net asset value) and size (in euro millions)

Panel A. Matched-pair sample						
	N	MEAN	SD	MEDIAN	MIN	MAX
SIZE (mln €)		164.10	255.91	82.22	1.22	1959.40
NO SRI	309					
TER		1.575	0.6369	1.610	0.030	5.270
SIZE (mln €)		363.44	505.41	140.14	1.20	3 299.24
Overall	618					
TER		1.588	0.648	1.630	0.030	5.27
SIZE (mln €)		263.77	412.50	115.60	1.20	3299.24
Panel B. Total SRI sample						
	n	MEAN	SD	MEDIAN	MIN	MAX
SRI	558					
TER		1.555	0.693	1.580	0.010	5.490
SIZE (mln €)		167.60	270.88	76.12	1.219	2195.07

On average, the TER for SRI funds is higher than the TER for conventional funds: 1.601% vs 1.575% respectively. Looking deeper into countries, SRI funds in France, the UK and Norway show a lower TER compared to the matched conventional ones in the same country. France and Luxembourg recorded the highest level of TER for No-SRI funds (see Table 2B in Appendix).

SRI funds might bear higher costs due to the screening and selection process. Furthermore, this activity is often outsourced to external advisors and agencies for practical reasons. Advisors and rating agencies often provide unbiased and independent certifications of a fund's sustainable performance. In our sample, 44% of the 558 funds simultaneously adopted in-house research teams and external advisors; 21% relied on external advisors only. However, 30% relied on in-house research teams

only, and 3% of the funds did not disclose any information on this issue.

The mean and standard deviation are useful to summarize a set of observations. However, when data have a skewed distribution, it is often preferable to quote centiles. Hence, Table 2 provides the decile distribution of the ethical rating in a matched sample (Panel A), full SRI sample (Panel B) and correspondent average TER for each decile – the higher the decile class, the higher the ethical rating. Table 2 shows that 60% of funds are concentrated in the fifth and sixth deciles; at the lowest and highest deciles, the average TER assumes the highest and lowest value respectively.

Table 2. Ethical rating decile distribution

		Panel A		Panel B	
		Matched sample		Full SRI sample	
		N°	Avg TER	N°	Avg TER
$D_1$	0.0 – 0.1	-	-	-	-
$D_2$	0.1 – 0.2	2	1.5	3	1.5
$D_3$	0.2 – 0.3	16	2.0625	19	1.9174
$D_4$	0.3 – 0.4	49	1.5259	71	1.6156
$D_5$	0.4 – 0.5	109	1.6694	172	1.7326
$D_6$	0.5 – 0.6	77	1.6932	170	1.5412
$D_7$	0.6 – 0.7	26	1.7346	70	1.1019
$D_8$	0.7 – 0.8	30	1.368	53	1.4158
$D_9$	0.8 – 0.9	-	-	-	-
$D_{10}$	0.9 – 1.0	-	-	-	-
TOT		309	1.601	558	1.555

Table 3 shows the average partial rating and the average final rating by country. Section A, which represents the screening criteria applied by the fund, represents almost 30% of the score of SRI funds. This result was expected, since this section accounts for up to 50% in our model (up to 28 points out of 56).

Table 3. Incidence of different sections by country

Country	Section A	Section B	Section C	Section D	Section E	Total
Austria	29%	4%	5%	7%	10%	54%
Belgium	27%	7%	8%	10%	11%	62%
Denmark	29%	1%	5%	6%	8%	49%
France	22%	2%	3%	10%	10%	47%
Germany	30%	5%	4%	7%	8%	54%
Italy	29%	5%	6%	8%	7%	55%
Luxembourg	25%	3%	3%	9%	9%	49%
Netherlands	27%	3%	5%	9%	10%	54%
Norway	23%	2%	4%	9%	9%	46%
Spain	20%	0%	2%	8%	4%	33%
Sweden	29%	4%	7%	9%	9%	57%
Switzerland	28%	3%	4%	7%	9%	51%
UK	30%	2%	3%	8%	9%	52%
TOT	27%	3%	5%	8%	9%	51%

UK and Germany registered the highest value in Section A, while in France, despite the development of its domestic market, funds achieved a lower level. This means that in the former countries managers

are more actively involved in running screening and sections activities than those in France – actually French legislation is more concerned on transparency and disclosure (e.g. Section E).

Since religious organizations have a leading role in the SRI industry by applying negative screening based on religious principles (Louche et al., 2012), our results are not surprising.

### 3. Do investment managers charge more for SRI funds?

**3.1. Regression model.** Our analysis consists of a cost comparison between ethical funds and

$$TER_i = \alpha + \beta_1 ETHICALRATING_i + \beta_2 SIZE_i + \beta_3 COUNTRY_i + \beta_4 TYPE_i + \beta_5 CLASS_i + \beta_6 SHARE_i + \beta_7 UNIVERSE_i + \beta_8 (SIZE_i \times SRI_i) + \beta_9 (CURRENCY_i \times SRI_i) + \beta_{10} (COUNTRY_i \times SRI_i) + \beta_{11} (TYPE_i \times SRI_i) + \beta_{12} (CLASS_i \times SRI_i) + \beta_{13} (SHARE_i \times SRI_i) + \beta_{14} (UNIVERSE_i \times SRI_i) + \varepsilon_i, \quad (1)$$

where  $TER_i$  is the Total Expense Ratio in fund  $i$  as of 31 December 2012,  $ETHICALRATING_i$  is the result of our evaluation model for the fund  $i$ ,  $CURRENCY_i$  is the currency fund  $i$  as quoted,  $SIZE_i$  is the fund  $i$ 's assets under management in millions Euro,  $COUNTRY_i$  refers to the domicile country of the fund  $i$ ,  $TYPE_i$  is a variable referred to as the type of fund  $i$  (i.e. open-end fund or SICAV),  $CLASS_i$  refers to the asset class of the fund  $i$  (i.e. equity, balanced, debt),  $SHARE_i$  is a variable referring to the dividend policy of

$$TER_i = \alpha + \beta_1 ETHICALRATING_i + \beta_2 SIZE_i + \beta_3 COUNTRY_i + \beta_4 TYPE_i + \beta_5 CLASS_i + \beta_6 SHARE_i + \beta_7 UNIVERSE_i + \varepsilon_i. \quad (2)$$

Hence, Model [1] uses the matched-pair sample of 309 SRI funds, while Model [2] uses all 558 SRI funds.

To avoid the dummy variable trap and multicollinearity issues, we excluded for the country dummy variables, France, which represents the most developed and advanced SRI market in Europe; for the investment universe, Europe, the main target market, together with the Eurozone<sup>1</sup>; for asset class one, we excluded the dummy with less numerosity. Nevertheless, given the different compositions of the two samples related to our models, we decided to exclude the balanced category in both regressions to facilitate comparisons and make the two models as homogeneous as possible. In the case of dummy variables with only two characteristics (i.e. fund-type variable and share-type variable), there was not any specific reason to exclude one dummy rather than the other.

**3.2. Results and discussion.** *3.2.1. Matched pair sample.* Results for the matched pair sample are shown in Table 4, Panel A. We found negative and significant coefficients for  $SIZE$  in both models meaning that an increase in the fund assets under management generates a decrease of  $TER$ .

traditional funds, controlling for other things being equal. The methodology is based on multiple linear regression (Gujarati, 1999).

The dependent variable is the Total Expense Ratio ( $TER$ ), defined as the ratio of a fund's total expenses over average net asset values at time  $t$  (Malhotra and McLeod, 1997).

More formally, our model is written as follows:

the fund  $i$  (e.g. accumulation or distribution),  $UNIVERSE_i$  refers to the geographical area where the fund  $i$  invests (e.g. Asia, Emerging, Eurozone, Global).

All variables, with the exception of  $TER_i$  and  $ETHICALRATING_i$ , are also multiplied by the dummy variable  $SRI_i$  to isolate the ethical effect of the SRI funds within the matched pair sample.

Model [2] is written to evaluate the relation between the ethical rating of the SRI funds and their  $TER$  in the full SRI sample:

This evidence corroborates the study of Malhotra et al. (2007) and Khorana et al. (2009) and it is not surprising as long as most of the managing costs (such as research) are fixed, consequently, economies of scale rise.

Although the average  $TER$  in SRI funds is slightly higher than the one in non-SRI funds (Table 1), Model [1] shows that such difference is not statistically significant, except at higher levels of  $ETHICAL RATING$  – in D7 deciles. This is a welcome and unexpected evidence: investors in SRI funds are not going to bear higher managing and operating costs compared to non-SRI ones, other things being equal. However, some significant difference arises at the country level, funds type and investment zone.

Concerning  $COUNTRY$ , we found that five are not significantly different from the base case (i.e. France), namely Germany, Italy, the Netherlands, Spain and Sweden. The result in the UK is significant only using the  $ETHICAL RATING$  in deciles. This discrepancy from the other significant values can be explained with the composition of the sample since splitting the  $ETHICAL RATING$  into deciles reduces the number of funds in each category; thus, some coefficients might not be significant anymore. All the other countries have negative and significant coefficients, that is, these

<sup>1</sup> As a robustness check, we run the regressions also excluding the Eurozone instead of Europe: the significance of the other coefficients was the same, meaning that Europe and the Eurozone have the same effect.

countries have domiciled cheaper funds than the ones in France. In particular, funds domiciled in Belgium and Norway bear the lowest costs compared to French ones. Luxembourg lastly, with the lowest significant coefficient, represents the closest market to France. Differences within European countries could be explained by financial markets' structural characteristics, such as the quality of legal systems, laws on transparency and investor protection, the presence of exogenous barriers to entry in the market, levels of per-capita GDP and educational level (Khorana et al., 2009).

Looking at CLASS variable, results show that funds investing in equities significantly cost more than balanced ones and, by contrast, investing in bond funds costs less. Moreover, the average TER for equity funds is higher (1.83%) than balanced (1.447%) and debt funds (0.911%)<sup>1</sup> (see Table 4D in Appendix). Stock selection and market timing in equity markets require more costs in managing investments. This result is coherent with Malhotra et al. (2007).

Looking at SHARE variable on dividend policy, we observed a positive coefficient associated with the "accumulation" of dividends ("distribution" is the reference case), meaning that funds that distribute dividends cost less. This is not straightforward: as long as dividends reduce a fund's net asset value – the denominator in the TER (the dependent variable) – we should expect higher dividends for higher TER – the opposite of what we discovered. However, a deeper analysis (see Appendix E) revealed that the average SIZE in accumulation funds is smaller than the one of distribution funds in our sample. Given the technique of TER estimation, which is calculated dividing the total annual cost by the fund's average total assets in that year, a lower SIZE yields to a higher TER.

Concerning the UNIVERSE variable, the geographical area of investments does not affect the fund's cost structure; nonetheless funds investing in emerging countries show a positive and significant coefficient – they cost more than funds investing in Europe or globally. This might be due to higher costs related with selection process and possible difficulty of gathering information and data in the emerging markets, often characterized by a lack of normative regulation and transparency.

*3.2.2. Full SRI funds sample.* Panel B of Table 4 shows the results concerning the full SRI funds sample. The most interesting results arise from COUNTRY of domicile and ETHICAL RATING effects.

While Model [1] shows that funds domiciled in Belgium and Luxembourg significantly cost less than the ones domiciled in France, Model [2] shows that these conclusions are relaxed. Concerning Belgium, the sign of the coefficient turns out to be positive (i.e. more costly). In Belgium, SRI funds' retail market is highly concentrated in as much only two asset managers own a share of the market around 95%; hence, an oligopoly might explain the higher costs charged. Yet in all countries, with the exception of Norway, Luxembourg and the Netherlands (in deciles distribution only), the results are not statistically significant; so we cannot draw any conclusions. While in Norway and in the Netherlands, regression coefficient signs are confirmed (lower costs than in France), in Luxembourg, the evidence points to the opposite: SRI funds charge more costs than French ones. SRI funds seem to have no advantage in being domiciled in Luxembourg; in contrast, they bear higher managing costs.

Table 4. Explaining SRI mutual fund TER across countries

TER	Panel A: Model [1] matched pair analysis		Panel B: Model [2] total SRI sample	
	Total	Deciles	Total	Deciles
SIZE	-0.00013** (-2.09)	-0.00013** (-2.14)	-0.00018** (-2.11)	-0.00018** (-2.12)
ETH RATING	-0.249 (-1.06)		-0.520** (-2.52)	
<i>D</i> <sub>2</sub>		-0.766 (-1.62)		-0.396 (-1.21)
<i>D</i> <sub>3</sub>		-0.045 (-0.13)		--
<i>D</i> <sub>4</sub>		-0.481 (-1.46)		-0.198 (-1.43)
<i>D</i> <sub>5</sub>		-0.346 (-1.07)		-0.146 (-1.13)
<i>D</i> <sub>6</sub>		-0.245 (-0.75)		-0.142 (-1.08)
<i>D</i> <sub>7</sub>		-0.632* (-1.85)		-0.501*** (-3.55)
<i>D</i> <sub>8</sub>		-0.509 (-1.44)		-0.353** (-2.34)
Austria	-0.421** (-2.22)	-0.499** (-2.30)	-0.096 (-0.56)	-0.119 (-0.66)
Belgium	-0.723*** (-3.33)	-0.782*** (-3.40)	0.136 (1.16)	0.185 (1.46)
Denmark	-0.591* (-1.77)	-0.665* (-1.92)	-0.066 (-0.19)	-0.187 (-0.55)
Germany	-0.453 (-1.37)	-0.539 (-1.55)	-0.007 (-0.03)	-0.084 (-0.33)
Italy	-0.009 (-0.03)	-0.093 (-0.31)	0.152 (0.66)	0.027 (0.11)
Luxembourg	-0.169* (-1.92)	-0.179** (-2.02)	0.198*** (2.77)	0.181** (2.48)

<sup>1</sup> Table 4D in Appendix shows also summary statistics for TER and size variables.

Table 4 (cont.). Explaining SRI mutual fund TER across countries

TER	Panel A: Model [1] matched pair analysis		Panel B: Model [2] total SRI sample	
	Total	Deciles	Total	Deciles
the Netherlands	-0.254 (-0.66)	-0.335 (-0.84)	-0.276 (-1.34)	-0.427** (-2.06)
Norway	-0.887** (-2.27)	-0.960** (-2.40)	-1.327*** (-3.30)	-1.443*** (-3.60)
Spain	0.123 (0.41)	0.102 (0.34)	0.313 (1.01)	0.407 (1.31)
Sweden	-0.328 (-1.31)	-0.411 (-1.50)	-0.064 (-0.25)	-0.242 (-0.95)
Switzerland	-0.598*** (-2.96)	-0.669*** (-3.00)	-0.125 (-0.69)	-0.257 (-1.41)
UK	-0.292 (-1.58)	-0.375* (-1.73)	-0.277 (-1.61)	-0.328* (-1.88)
SICAV	0.056 (0.34)	-0.015 (-0.08)	-0.009 (-0.06)	-0.080 (-0.52)
Equity	0.312*** (2.97)	0.292*** (2.71)	0.442*** (6.19)	0.436*** (6.19)
Debt	-0.446*** (-3.71)	-0.468*** (-3.81)	-0.453*** (-5.46)	-0.432*** (-5.24)
Accumulation	0.114* (1.88)	0.112* (1.85)	0.117** (2.42)	0.118** (2.48)
Asia	0.311 (0.87)	0.307 (0.87)	0.139 (0.7)	0.083 (0.42)
Emerging	0.453** (2.55)	0.451** (2.56)	0.285* (1.75)	0.287* (1.76)
EUROzone	-0.114 (-1.24)	-0.122 (-1.34)	-0.060 (-0.80)	-0.087 (-1.15)
Global	0.026 (0.35)	0.016 (0.21)	0.020 (0.32)	0.0223 (0.37)
US			-0.173 (-0.83)	-0.228 (-1.11)
Dummy SRI	Yes	Yes		
Constant	1.610*** (9.62)	1.717*** (7.71)	1.570*** (7.89)	1.593*** (7.14)
R <sup>2</sup>	0.462	0.480	0.452	0.473
Adj R <sup>2</sup>	0.421	0.435	0.429	0.445
F-test	11.47	10.69	19.2	16.96
(Prob. > F)	0.0000	0.0000	0.0000	0.0000
N	618	618	558	558

Notes: Table 4 reports results from the estimation of the matched pair sample in Panel A and results associated with the total SRI sample in Panel B. The column Total refers to the estimations made using the total distribution of ethical rating. The column Deciles refers to the estimation made using the deciles distribution of ethical rating. T-stats in round brackets. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Regarding the effect of ETHICAL RATING on the TER, we discovered a statistically significant negative relation: the higher the rating, the lower the TER. Furthermore, analyzing deciles distribution more deeply, the evidence is more severe since only at the highest level of ethical rating (namely classes  $D_7$  and  $D_8$ ) TER is significantly lower. This is a good news for practitioners and investors: while selecting SRI funds, choose the most ethically involved ones; it benefits more on ESG and the cost borne by investors!

**3.3. Robustness and significance of models and variables.** For both models, we tested the presence of the heteroscedasticity of standard errors. Using the White test (White, 1980), which tests the presence of homoscedasticity ( $H_0$ ), we were always able to accept  $H_0$ , therefore rejecting the presence of heteroscedasticity of standard errors.

For all regressions, we rejected the null hypothesis of no combined significance of the regressors (i.e. testing whether any of the betas differs from 0,  $H_0: \beta_1 = \beta_2 = \beta_3 = \dots = \beta_K = 0$ ) (Gujarati, 1999). Consequently, all the regressions were significant, and all the variables were jointly significant. Furthermore, Rs squared were relatively high (they are all around 0.46), which means that explanatory variables explain a relevant portion of the model variability.

## Conclusions

This work enlarges the perspective and knowledge on SRI funds in the European financial market. We developed a specific evaluation model to assign to each SRI fund an ethical score – a proxy of its level of ethical commitment and sustainability.

We were concerned about the pricing policy carried out by asset managers in SRI funds. Since socially responsible investors are willing to invest money – either expecting a payoff in other's people welfare, which partially offsets the financial return on invested capital, or buying the embedded insurance that the use of his/her money shall not conflict with personal values and objectives – the industry might exploit such an elasticity of fund demand to price.

Hence, we investigated the relationship between SRI funds' total costs, measured by the Total Expense Ratio (TER), and their ethical rating and other explanatory independent variables. In plain English, we tested if ethical funds bear higher costs than traditional ones, other things being equal. Our methodology is based on OLS models in a sample of 309 matched pairs of SRI funds and a full sample of 558 SRI funds distributed in Europe.

Our main findings are:

- ◆ a size effect: the larger the value of assets under management, the lower the TER;
- ◆ a country effect: funds domiciled in France cost more than funds domiciled in other European countries, with the exception of Luxembourg – where SRI funds of specialized asset management companies do not seem to benefit of any cost advantages from being domiciled in this location;
- ◆ an asset class effect: equity investing and bond investing are, respectively, more costly and less costly than balanced funds;
- ◆ an ethical rating effect: there are no cost differences between SRI funds and traditional ones; yet, the higher the ethical rating, the lower the TER, especially at the highest level of rating.

The last one is a welcome good news for investors. Contrary to our concerns, asset management industry

is not (yet) exploiting the retail responsible investors' utility function, which overweights the "value" over the "price" of SRI products. This evidence unveils a hidden reward: if investors actively select higher ethically rated SRI funds, they will benefit from a lower cost charged by specialized asset managers – at least as regards operating and managing cost. In investing in "good", choose the best!

Here comes an insight for practitioners and information providers: to define and to disclose an ethical rating for each SRI product would benefit both investors and asset managers.

However, we did not control for extra costs directly paid by investors (e.g. entry/exit commissions, brokerage fees or any other charges). Here comes a call for future research on *spillovers* on SRI products that might be carried out by selling entities.

## References

1. Adamo, R., Coscarelli, A., Federico, D. and Notte, A. (2010). The Ethical and Non Ethical Mutual Funds Comparison, *American Journal of Economics and Business Administration*, (2) 4, pp. 360-365.
2. Adamo, R., Coscarelli, A., Federico, D. and Notte, A. (2014). Performance and risk of green funds, *Investment Management and Financial Innovations*, (11) 1, pp. 134-145.
3. Ali, A. (2008). Rethinking business culture, *International Journal of Commerce and Management*, (3) 18, pp. 205-206.
4. Association Française de la Gestion Financière AFG (2013). *Transparency Code signatories*. Available at: [http://www.afg.asso.fr/index.php?option=com\\_alphacontent&view=alphacontent&Itemid=405&lang=en](http://www.afg.asso.fr/index.php?option=com_alphacontent&view=alphacontent&Itemid=405&lang=en) (accessed on 13/03/2013).
5. Bauer, R., Koedijk, K. and Otten, R. (2005). International Evidence on Ethical Mutual Fund Performance and Investment Style, *Journal of Banking & Finance*, (29) 7, pp. 1751-1767.
6. Bauer, R., Otten, R., Rad, A.T. (2006). Ethical investing in Australia: Is there a financial penalty? *Pacific-Basin Finance Journal*, 14, pp. 33-48.
7. Becchetti, L., and Ciciretti, R. (2009). Corporate Social Responsibility and Stock Market Performance, *Applied Financial Economics*, (19) 16, pp. 1283-1293.
8. Bello, Z.Y. (2005). Socially Responsible Investing and Portfolio Diversification, *Journal of Financial Research*, (38) 1, pp. 41-57.
9. Benson, K.L., Brailsford, T.J. and Humphrey, J.E. (2006). Do Socially Responsible Fund Managers Really Invest Differently? *Journal of Business Ethics*, 65 (4), pp. 337-357.
10. Blanchett, D.M. (2010). Exploring the Cost of Investing in Socially Responsible Mutual Funds: An Empirical Study, *The Journal of Investing*, (3) 19, pp. 93-103.
11. Bollen, N. (2007). Mutual Fund Attributes and Investor Behaviour, *Journal of Financial and Quantitative Analysis*, 42, pp. 683-708.
12. Bono, S., Bresin, G., Pezzolato, F., and Ramelli, S. (2012). Green, Social and Ethical Funds in Europe 2012 Review, *Vigeo Report*.
13. Capelle-Blancard, G., Monjon, S. (2012). The performance of Socially Responsible Funds: Does the Screening Process Matter? *European Financial Management*, (3) 20, pp. 494-520.
14. Cowton, C. (1999). Playing by the rules: ethical criteria at an ethical investment fund, *Business Ethics: A European Review*, 8, pp. 60-69.
15. Delbecque, B., Healy, J. (2013). Trends in the European Investment Fund Industry in the Fourth Quarter of 2012 and Results for the Full Year 2012, *EFAMA Quarterly Statistical Release*, No. 52, available at: [http://www.efama.org/statistics/SitePages/European Quarterly Statistical Release.aspx](http://www.efama.org/statistics/SitePages/European%20Quarterly%20Statistical%20Release.aspx).
16. Diltz, D.J. (1995). The Private Cost of Socially Responsible Investing, *Applied Financial Economics*, (2) 5, pp. 69-77.
17. Emerson, T., & McKinney, J. (2010). Importance of religious beliefs to ethical attitudes in business, *Journal of Religion and Business Ethics*, (2) 1, pp. 1-14.
18. Emson, A. (Eds) (2013). *European SRI Study 2012*, Brussels: Eurosif.
19. Eurosif (2013). *Signatories & Responses 2013*. Available at: <http://www.eurosif.org/sri-resources/sri-transparency-code/signatories-a-responses> (accessed on 01/03/2013).
20. Eurosif (2014). *European SRI Study*. Available at: <http://www.eurosif.org> (accessed on 14/03/2015).
21. FNG (2013). *Transparency Code Signatories*. Available at: <http://www.forum-ng.org/en/transparency-logo/transparency-code-signatories.html> (accessed 20/03/2013).

22. Funari, S. (2011). I “Vincitori in Etica”: valutazione multicriteriale di fondi socialmente responsabili, *Note di ricerca*, n.3, University Ca’ Foscari Venezia.
23. Geczy, C.C., Stambaugh, R.F. and Levin, D. (2003). Investing in Socially Responsible Mutual Funds Investing in Socially Responsible Mutual Funds, *Working Paper Wharton School*.
24. Gil-Bazo, J., Ruiz-Verdú, P. and Santos, A.P. (2009). The Performance of Socially Responsible Mutual Funds: The Role of Fees and Management Companies, *Journal of Business Ethics*, (2) 94, pp. 243-263.
25. Gregory, A. and Whittaker, J. (2007). Performance and Performance Persistence of ‘Ethical’ Unit Trusts in the UK, *Journal of Business Finance & Accounting*, (7-8) 34, pp. 1327-1344.
26. Gujarati, D. (1999). *Essentials of econometrics*. USA: Irwin McGraw-Hill.
27. Hsieh, H. and Shannon, S.E. (2005). Three Approaches to Qualitative Content Analysis, *Qualitative Health Research*, (9) 15, pp. 1277-1288.
28. Intonti, M. and Iannuzzi, A. (2010). Grado di eticità e pricing dei fondi comuni di investimento etici in Italia, *Bancaria Editrice*, 4, pp. 30-49.
29. Jones, S., Laan, S., Frost, G., Loftus, J. (2008). The investment performance of socially responsible investment funds in Australia, *Journal of Business Ethics*, 80, pp. 181-203.
30. Kempf, A. and Osthoff, P. (2008). SRI Funds: Nomen Est Omen, *Journal of Business Finance & Accounting*, (9-10) 35, pp. 1276-1294.
31. Khorana, A., Servaes, H. and Tufano, P. (2005). Explaining the size of the mutual fund industry around the world, *Journal of Financial Economics*, (78) 1, pp. 145-185.
32. Khorana, A., Servaes, H. and Tufano, P. (2009). Mutual Funds Fees Around the World, *The Review of Financial Studies*, (3) 22, pp. 1279-1310.
33. Kreander, N., Gray, R., Power, D.M. and Sinclair, C.D. (2005). Evaluating the Performance of Ethical and Non-Ethical Funds: a Matched Pair Analysis, *Journal of Business Finance & Accounting*, (7-8) 32, pp. 1465-1493.
34. Lewis, A. and Mackenzie, C. (2000). Morals, Money, Ethical Investing and Economic Psychology, *Human Relations*, 53, pp. 179-191.
35. Louche, C. and Lydenberg, S. (2006). Socially responsible investment: differences between Europe and United States, *Vlerick Leuven Gent Management School Working Paper Series 2006-22*, Vlerick Leuven Gent Management School.
36. Louche, C., Arenas, D. and Cranenburgh, K.C. (2012). From Preaching to Investing: Attitudes of Religious Organisations Towards Responsible Investment, *Journal of Business Ethics*, (3) 110, pp. 301-320.
37. Luo, G.Y. (2002). Mutual Fund Fee-Setting, Market Structure and Mark-Ups, *Economica*, 69, pp. 245-271.
38. Malhotra, D.K. and McLeod, R.W. (1997). An Empirical Analysis of Mutual Fund Expenses, *Journal of Financial Research*, 20, pp. 175-190.
39. Malhotra, D.K., Rand, M., and Russel, P. (2007). Determinants of Cost Efficiencies in the Mutual Fund Industry, *Review of Financial Economics*, (4) 16, pp. 323-334.
40. Mallin, C.A., Saadouni, B. and Briston, R.J. (1995). The Financial Performance of Ethical Investment Funds, *Journal of Business Finance and Accounting*, (22) 4, pp. 483-496.
41. Managi, S., Okimoto, T. and Matsuda, A. (2012). Do Socially Responsible Investment Indexes Outperform Conventional Indexes? *Applied Financial Economics*, (18) 22, pp. 1511-1527.
42. Novethic (2013). *Les Fonds ISR*. Available at: <http://www.novethic.fr/novethic/developpement-durable/liste-fonds-investissement-socialement-responsable-isr/?mode=label&label=1> (accessed 01/03/2013).
43. Pava, M. (1998). The substance of Jewish business ethics, *Journal of Business Ethics*, (6) 17, pp. 603-617.
44. Rathner, S. (2013). The Relative Performance of Socially Responsible Investment Funds. New Evidence from Austria, *Working Papers in Economics and Finance 2013-1*, University of Salzburg.
45. Renneboog, L., Horst, J. and Zhang, C. (2007). The Price of Ethics: Evidence from Socially Responsible Mutual Funds, *Discussion Paper*, Tilburg Law and Economic Center, Tilburg University.
46. Renneboog, L., Horst, J. and Zhang, C. (2011). Is Ethical Money Financially Smart? *Journal of Financial Intermediation*, (20) 4, pp. 562-588.
47. Rosen, B.N., Sandler, D.M. and Shani, D. (1991). Social Issues and Socially Responsible Investment Behavior: a Preliminary Empirical Investigation, *The Journal of Consumer Affairs*, (25) 2, pp. 221-234.
48. Rudd, A. (1981). Social Responsibility and Portfolio Performance, *California Management Review*, (4) 23, pp. 55-61.
49. Saltuk, Y. (2013). Perspectives on Progress. The Impact Investor Survey, New York: JP Morgan Chase & Co.
50. Sandberg, J., Juravle, C., Hedesström, T.M. and Hamilton, I. (2009). The Heterogeneity of Socially Responsible Investment, *Journal of Business Ethics*, (4) 87, pp. 519-533.
51. Sauer, D. (1997). The Impact of Social Responsibility Screens on Investment Performance: Evidence from the Domini 400 Social Index and Domini Equity Mutual Fund, *Review of Financial Economics*, (2) 6, pp. 137-149.
52. Schueth, S. (2003). Socially Responsible Investing in the United States, *Journal of Business Ethics*, 43, pp. 189-194.
53. Schwartz, M.S. (2003). The “Ethics” of Ethical Investing, *Journal of Business Ethics*, (3) 43, pp. 195-213.
54. Siggelkow, N. (1999). Expense Shifting: An Empirical Study of Agency Costs in the Mutual Fund Industry, *Working Paper*, doi: 10.2139/ssrn.147274.
55. Statman, M. (2000). Socially Responsible Mutual Funds, *Financial Analysts Journal*, (3) 56, pp. 30-39.
56. White, H. (1980). A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity, *Econometrica*, (4) 48, pp. 817-838.

## Appendix

Table 1A. Ethical rating methodology (range 0-56 points)

A. Screening criteria (max 28 points)	
0-1 (for each single item)	Alcohol; Tobacco; Gambling; Nuclear power; Firearms (for personal use); Defence contracting (military) weapons and cluster bombs; Irresponsible foreign operations; Abortion, birth control; Usury, corruption, money laundering; Pornography; Genetic engineering; Harmful products and practices for health and environment, CO <sub>2</sub> emission, mining; Death penalty; Authoritarian and oppressive regimes; Religious criteria; Child labor; Environmental impact and protection, Non-sustainable timber; Products/services and business practice; Animal protection, furs and industrial farming - Animal testing pharmaceutical or cosmetic; Labor relations and workplace conditions; Human rights; Diversity and discrimination; Others; Corporate governance; Social risk management; Renewable energy, water control; Community involvement/investment; Healthcare.
B. Methodology (max 4 points)	
0-1 (for each single item)	Is there a positive and negative screening?; is there a distinction between firms and state?; is there a distinction in positive screening between firms or state? is there a distinction in negative screening between firms or state?
C. Control of the screening process (max 5 points)	
0-1 (for each single item)	Presence of the internal sustainable committee; Presence of others committee of control (stakeholders); Presence of an external advisor, certification of composition of the ethical portfolio.
0-0.5-1	Composition of the internal sustainable committee; Functions of the internal sustainable committee.
D. Other sustainable characteristic (max 11 points)	
0-1 (for each single item)	Fund participation in community investment; Adherence to guidelines of EUROSIF - Transparency code; Other certification - label (ETHIBEL, NOVETHIC etc.); Adherence to codes and guidelines of other institutions (GRI, National's codes, UN PRI etc.); Presence of an internal sustainable code; Shareholder activism and consultation; In-house SRI research; Production of social reports and studies.
0-0.5-1 (for each single item)	Profit allocation to development project; Leverage; Benchmark.
E. Compliance, transparency and availability of information (max 8 points)	
0-0.5-1 (for each single item)	Availability of information about SRI criteria and screening methodology; Availability of information about portfolio management and change; Availability of information about references and database; Availability of information about change of SRI criteria; Availability of information about stakeholders activism, engagement and voting policy; Availability of information about profit allocation; Are the website and the database user-friendly?; Disclosure of portfolio holdings.

Table 2B. Summary statistics for countries

COUNTRY	SRI			NO SRI		
	N°	Mean TER	Mean Size (€ mln)	N	Mean TER	Mean size (€ mln)
Austria	30	1.330	88.135	30	1.167	126.073
Belgium	16	1.391	68.836	8	1.019	199.510
Denmark	3	1.440	72.050	3	1.090	410.086
France	72	1.628	148.932	71	1.768	233.701
Germany	7	1.387	251.48	3	1.203	100.736
Italy	5	1.648	103.655	5	1.546	754.593
Luxembourg	111	1.845	195.870	124	1.724	433.196
Netherlands	2	1.725	140.675	2	1.640	316.775
Norway	2	0.565	84.276	2	1.165	86.2753
Spain	3	1.923	21.792	3	1.900	237.765
Sweden	7	1.381	166.138	7	1.321	729.785
Switzerland	11	1.505	87.991	11	1.215	291.022
UK	40	1.292	233.875	40	1.389	537.031
TOT	309	1.601	164.097	309	1.575	363.441

Table 3C. Descriptive statistics of funds characteristics sorted by country

Panel A. SRI funds										
	n	EURO	NO-EURO	SICAV	OPEN	EQUITY	BALANCE	DEBT	ACC	DIS
Austria	30	30	0	0	30	15	0	15	15	15
Belgium	16	16	0	12	4	8	0	8	9	7
Denmark	3	0	3	0	3	2	0	1	1	2
France	72	72	0	70	2	52	1	19	45	27
Germany	7	7	0	0	7	4	2	1	0	7
Italy	5	5	0	0	5	2	1	2	3	2
Luxembourg	111	80	31	111	0	87	13	11	76	35
the Netherlands	2	2	0	0	2	2	0	0	0	2
Norway	2	0	2	0	2	2	0	0	2	0
Spain	3	3	0	3	0	1	2	0	3	0

Table 3C (cont.). Descriptive statistics of funds characteristics sorted by country

Panel A. SRI funds										
	n	EURO	NO-EURO	SICAV	OPEN	EQUITY	BALANCE	DEBT	ACC	DIS
Sweden	7	0	7	0	7	4	2	1	0	7
Switzerland	11	0	11	2	9	6	4	1	8	3
UK	40	1	39	0	40	25	4	11	22	18
TOT	309	216	93	198	111	210	29	70	184	125
Panel B. No SRI funds										
	n	EURO	NO-EURO	SICAV	OPEN	EQUITY	BALANCE	DEBT	ACC	DIS
Austria	30	30	0	0	30	15	0	15	15	15
Belgium	8	8	0	2	6	6	0	2	5	3
Denmark	3	0	3	0	3	2	0	1	1	2
France	71	71	0	71	0	52	1	18	45	26
Germany	3	3	0	0	3	2	0	1	0	3
Italy	5	5	0	0	5	2	1	2	4	1
Luxembourg	124	96	28	120	4	92	14	18	82	42
the Netherlands	2	2	0	0	2	2	0	0	0	2
Norway	2	0	2	0	2	2	0	0	2	0
Spain	3	3	0	3	0	1	2	0	3	0
Sweden	7	0	7	0	7	4	2	1	0	7
Switzerland	11	0	11	2	9	6	4	1	8	3
UK	40	0	40	0	40	25	4	11	21	19
TOT	309	218	91	198	111	211	28	70	186	123

Note: Panel A refers to SRI funds, Panel B refers to matched No-SRI funds in Model (1).

Table 4D. Descriptive statistics of asset class dummy

Panel A. Equity						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Matched sample	421					
TER		1.831	0.592	1.79	0.03	5.27
SIZE (mln €)		238.61	397.62	99.34	1.199	3299.24
Total SRI sample	366					
TER		1.828	0.644	1.8	0.01	5.49
SIZE (mln €)		181.40	295.71	71.89	1.22	2195.07
Panel B. Balanced						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Matched sample	57					
TER		1.447	0.368	1.42	0.92	2.6
SIZE (mln €)		380.14	568.86	127.66	8.41	2346.77
Total SRI sample	72					
TER		1.370	0.447	1.26	0.52	2.76
SIZE (mln €)		122.03	254.24	63.32	5.27	1844.55
Panel C. Debt						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Matched sample	140					
TER		0.911	0.32	0.895	0.30	1.97
SIZE (mln €)		292.06	372.74	156.89	4.77	2236.07
Total SRI sample	120					
TER		0.834	0.29	0.82	0.15	1.97
SIZE (mln €)		152.84	186.06	94.50	8.19	1220.72

Table 5E. Descriptive statistics for pay-off dummy variable

Panel A. Accumulation						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Matched sample	370					
TER		1.678	0.685	1.71	0.19	5.27
SIZE (mln €)		244.50	380.53	104.65	1.20	3299.24

Table 5E (cont.). Descriptive statistics for pay-off dummy variable

Panel A. Accumulation						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Total SRI sample	322					
TER		1.6275	0.753	1.71	0.15	5.49
SIZE (mln €)		150.17	249.48	63.54	1.22	2195.07
Panel B. Distribution						
	N°	MEAN	SD	MEDIAN	MIN	MAX
Matched sample	248					
TER		1.453	0.564	1.51	0.03	3.23
SIZE (mln €)		292.52	455.34	128.41	1.199	3299.24
Total SRI sample	236					
TER		1.392	0.564	1.43	0.01	3.18
SIZE (mln €)		191.38	296.52	103.86	2.19	2195.07