The Performance of Socially Responsible Funds: Does the Screening Process Matter?

Gunther Capelle-Blancard
CEPII & Université Paris 1 Panthéon-Sorbonne, 106–112 bd. de l’hôpital, 75647 Paris Cedex 13 France
E-mail: gunther.capelle-blancard@univ-paris1.fr

Stéphanie Monjon
PSL*, University Paris Dauphine (LEDa-CGEMP), CIRED and CEPII
E-mails: stephanie.monjon@dauphine.fr; monjon@centre-cired.fr

Abstract

In this study, we examine whether the financial performances of socially responsible investment (SRI) mutual funds are related to the features of the screening process. Based on a sample of French SRI funds, we find evidence that a greater screening intensity slightly reduces financial performance (but the relationship runs in the opposite direction when screening gets tougher). Further, we show that only sectoral screens – such as avoiding ‘sin’ stocks – decrease financial performance, while transversal screens – commitment to UN Global Compact Principles, ILO/Rights at Work, etc. – have no impact. Lastly, when the quality of the SRI selection process is proxied by the rating provided by Novethic, its impact is not significant, while a higher strategy distinctiveness amongst SRI funds, which also gives information on the quality of the selection process, is associated with better financial performance.

Keywords: Socially responsible investment (SRI), sustainable and responsible investment, ethical investment, corporate social responsibility (CSR), strategy distinctiveness index, portfolio choice, ratings

JEL Classification: G11, Q56, C32

The authors thank John Doukas (the editor), two anonymous referees, Agnès Bénassy-Quéré, Dominique Blanc, Patricia Crifo, Olena Havrylchyk, Samer Hobeika, Jacquelyn Humphrey, Isabelle Laudier, Jean-Pierre Sicard, Stéphane Voisin, as well as participants of the CSR seminar at the Ecole Polytechnique (Business Economics Chair, Paris, 2010), the Finance and Corporate Governance Conference (Melbourne, 2011), the Economics of Corporate Social Responsibility Conference (Paris, 2011) and the PRI-Mistra Academic Conference (Sigtuna, 2011) for helpful comments. We thank also Barbara Balvet, Kamel Laaradh, Beth Morgan and Nicholas Sowels for research assistance. Financial support from the Institut CDC pour la Recherche is gratefully acknowledged. Correspondence: Gunther Capelle-Blancard.
1. Introduction

Socially Responsible Investment (SRI) has gained popularity in financial markets prompting a surge of interest in the financial performance of mutual funds that claim to follow this approach. Does the inclusion of environmental, social and governance criteria in the investment decision-making process hurt risk-adjusted returns, or does it lead to a ‘win-win’ strategy, a sort of double dividend? As of 2011, more than fifty academic papers have examined this issue, all using similar methodology. They almost unanimously show that the financial performance of SRI funds does not differ significantly from their conventional peers, or from a benchmark index. Actually, the absence of an overall effect is not surprising; SRI funds are very heterogeneous (Sandberg et al., 2009) and socially- or environmentally-friendly investments may be a source of competitive advantage in some situations, but not in all. As emphasised by King and Lenox (2001), the debate on the economic and financial impact of corporate social responsibility should move away from the question ‘does it pay to be good?’ to ‘when does it pay to be good?’. Among the many studies on the financial performance of SRI funds, very few examine the issue from this angle. In this regard, the contributions of Barnett and Salomon (2006) and Renneboog et al. (2008b) should be highlighted. These two seminal papers have been followed by Lee et al. (2010), Renneboog et al. (2011), Humphrey and Lee (2012), Laurel (2011) and Biehl et al. (2011).

Barnett and Salomon (2006) measure how screening intensity affects the financial performance of SRI funds. Their results are obtained from a panel of 61 SRI funds in the USA over the period 1972–2000. Unlike previous studies, they do not compare the performance of SRI to non-SRI funds; instead, they focus on the SRI funds’ heterogeneity. Interestingly, they find a curvilinear relationship between screening intensity, measured by the number of screening criteria, and financial performance. Their main result is the following: ‘as the number of social screens used by a SRI fund increases, financial returns decline at first, but then rebound as the number of screens reaches a maximum ( . . . ), however, performance does not recover to reach the levels achieved by those funds with one screen’. Moreover, their results suggest that community relations screening increased financial performance, while environmental and labor relations screening decreased it. Renneboog et al. (2008b) examine the impact of the screening activity on risk-adjusted returns and risk loading. They show that the number of social screens significantly reduces financial performance, while the number of ethical screens, the number of sin screens, or the number of environmental screens do not have any significant impact (unfortunately, they do not test for a curvilinear relationship). With a sample similar to that used by Barnett and Salomon (2006), that is 61 US SRI funds, but over the period 1989–2006, Lee et al. (2010) confirm that the number of screens negatively impacts performance, but also results in lower systematic risk. Laurel (2011), using a sample of European SRI funds, finds no impact on returns, but an inverted-U-shaped effect on risk. Interestingly, Humphrey and Lee (2012) find weak evidence that screening intensity increases (instead of decreases) risk-adjusted performance in Australia. Finally, Biehl et al. (2011) consider UK SRI funds and show that the portfolios with the highest social ratings underperform significantly, whilst those with the lowest social ratings do not.

In this study, we assess the financial performances within SRI mutual funds. In particular, we examine whether the financial performance of these funds is related to the characteristics of the non-financial screening process. Our study departs from the existing literature in three ways.
First, we consider French SRI mutual funds. Modern SRI started in the USA in the 1970s, spread slowly to other Anglo-Saxon countries, and then to the rest of the world. In Continental Europe, the growth of SRI dates back only to the 1990s. But now the European market is larger and is expanding faster than that of the USA. This argument alone could be enough to justify interest in European markets. More importantly, the practices differ significantly on either side of the Atlantic (Louche and Lydenberg, 2006; Sandberg et al., 2009). Shareholder advocacy, for instance, is rather specific to the US market, for both cultural and regulatory reasons. Furthermore, almost all SRI funds in the USA (as well as in Anglo-Saxon countries, particularly Australia) use negative screening criteria, which is far from being the case in Europe, particularly in France. Thus, in our sample, only one third of the SRI funds use negative screens. In Europe, the best-in-class approach – where the leading companies with regard to ESG criteria from all industries are included in the portfolio – is the norm. Moreover, the best-in-class approach is often considered to be at the cutting-edge of SRI (Statman and Glushkov, 2009).

Second, we do not consider only the intensity of the screening process, which is the main focus of the existing literature, but also the nature of the selection process. Our study proceeds in two steps. First, we assess the risk-adjusted return of French SRI mutual funds. As expected, and confirming previous studies, we show that they do not outperform the market, whatever the performance measure considered. Then we examine the impact of the non-financial screening process. We use a number of exclusion criteria to assess the screening intensity. Following Barnett and Salomon (2006), we hypothesise a U-shaped relationship between screening intensity, measured by the number of screening criteria, and financial performance. We consider, also, the ‘nature’ of non-financial screens. Like previous papers, we consider whether fund managers focus on specific environmental, social and corporate governance issues – the so-called ESG factors. Another relevant distinction is between sectoral and transversal criteria: sectoral criteria refer to the exclusion of entire sectors (i.e. sin screens and environmental screens), while transversal criteria apply to all firms (i.e. commitment to international conventions). We hypothesise that the only damaging exclusion criteria for SRI investors are those which target specific sectors.

Last but not least, we test the extent to which the quality of the non-financial selection process matters. This is measured in two different ways using both private and public data. Private data are the SRI ratings computed by Novethic (the leading information center in France on SRI) to assess the social responsibility of French SRI funds. These ratings (scaled from AAA to B) aggregate a dozen of qualitative criteria related to the selection device, to fund managers’ engagement (shareholder activism on behalf of investors), and to the global attitude of the asset management firm towards SRI issues. Public data (historical returns) are used to compute a proxy for SRI managerial skills. Following Sun et al. (2013), it is assumed that skilled managers are likely to engage in original trading strategies, and thus their returns should co-move less with the average

---

1 In 2007, the European SRI market is estimated to be worth about US$ 4,000 billion (1,200 billion in 2005), while the US SRI market is US$ 2,700 billion (2,300 billion in 2005) according to Eurosif and the US Social Investment Forum. These figures should be considered as upper bounds. For a critical appraisal of the growth of the SRI market, see Capelle-Blancard and Monjon (2010, 2012).
returns of their peer funds. An intuitive measure to capture managerial skill is thus to consider the distinctiveness of the funds’ investment strategies.

This study provides some salient results. The sample is composed of 116 French SRI mutual funds over the period 2004–2007. Overall, we confirm empirically that the SRI screening process may have a cost: financial performance is hurt by the exclusion of non-socially responsible stocks. Like Barnett and Salomon (2006), we find also that this initial negative effect is partly offset as the number of screens increases. Further, we show that only sectoral screens (such as avoiding sin stocks) pull down financial performance, while transversal screens (commitment to UN Global Compact Principles, ILO/Rights at Work, etc.) do not have any impact. Moreover, it is not clear whether one of the ESG factors exerts more influence than the others, but these issues need further analysis. Lastly, when the quality of the SRI selection process is proxied by the rating provided by Novethic, its impact is not significant, while a higher strategy distinctiveness amongst SRI funds, which also gives information on the quality of the selection process, is associated with better financial performance.

The remainder of the paper is organised as follows. Section 2 briefly surveys the empirical literature on the financial performance of SRI funds and proposes a set of testable hypotheses. Section 3 presents the French SRI market and the data used in the study. Then, it describes how the distinctiveness of a fund’s investment strategy is measured and it considers the determinants of the screening intensity and the SRI ratings. Section 4 examines the determinants of the risk-adjusted returns of French SRI mutual funds. Section 5 concludes.

2. The Impact of Screening on SRI Fund Performance

2.1. Previous papers

SRI has been the subject of a good deal of research. Of all the publications on it, those dealing with financial performance are by far the most numerous. Capelle-Blancard and Monjon (2011) lists more than fifty academic papers on SRI fund performance published between 1992 and 2011. If we draw together all the data, these studies cover several hundred funds in almost twenty countries over the period 1963–2008. Most of them used roughly the same methodology (they used the CAPM or a multifactor model to assess the risk-adjusted return of SRI funds), though more recent studies have access to larger samples and use more sophisticated ways of measuring performance. Whatever, their main conclusion is the same: SRI fund performance is no better or no worse than that of conventional (non-SRI) funds. Almost all academic studies find no significant results, including Statman (2000) or Bauer et al. (2005) which are often cited as prime examples.²

Recently, several studies have moved away from comparing the performance of SRI funds with those of conventional (non-SRI) funds to investigating the relative performance between SRI funds. By doing this, they provide an analysis of the

² Renneboog et al., (2008a) provide additional references. See also Chegut et al. (2011) for a review of the SRI mutual fund performance literature. Lastly, note that results based on SRI portfolios are less clear: for instance, Kempf and Osthoff (2007) or Guenster et al. (2011) report that equity portfolios composed of stocks with high socially responsible ratings (or eco-efficiency scores) outperform.
relationship between selection process and financial performance. These studies are Barnett and Salomon (2006) and Renneboog et al. (2008b), and more recently, Lee et al. (2010), Renneboog et al. (2011), Humphrey and Lee (2012), Laurel (2011) and Biehl et al. (2011). They are denoted respectively as BS, RTZ08b, LHBA, RTZ11, HL, LAU and BHW hereafter.

The findings of these papers tend to converge, though neither the data nor the econometric specifications are perfectly comparable (see also Table A in the Appendix). BS and LHBA examine 61 US SRI funds over a long time period (1972–2000 and 1989–2006 respectively), while RTZ08b (and RTZ11) examine 440 (321) SRI funds in 17 (23) countries over the period 1991–2003 (1992–2003); HL focus on 24 Australian SRI funds over the period 1996–2008; LAU uses a sample of 177 European SRI funds over the period 1980–2010; BHW consider 50 UK SRI funds over the period 1998–2010. Overall, the methodology is the same in all these studies. Firstly, they use the CAPM (for BS and LAU) or a multi-factor model (for RTZ08b, RTZ11, LHBA, HL and BHW) to assess the risk-adjusted performance, RAP, of the SRI funds. Secondly, they explore the differences within SRI funds and investigate the determinants of the RAP. The definition of the independent variables varies according to the study, but we can classify them into two groups – by screening intensity and by features of the selection process – plus the control variables.

The screening intensity. The screening intensity is a quantitative variable. The aim is to measure the strength of the requirements imposed by fund managers to filter firms. At the same time, it measures the lack of diversification of SRI funds and, to some extent, the quality of the process. Screening intensity is proxied by the number of screens applied by each fund. More precisely, BS, LHBA and HL consider the total number of screens per fund which varies from one to a dozen. RTZ08b do not consider a unique variable for proxying the screening intensity, but four variables defined according to the screen type. They identify twenty-one different screening criteria and group them as sin screens (Tobacco, Alcohol, Gambling, Weapons, Pornography), ethical screens (Animal Testing, Abortion, Genetic Engineering, Non-Marital, Islamic, Healthcare), corporate governance and social screens (related to Corporate Governance, Business Practice, Community, Labor Diversity, Labor Relations, Human Rights, Foreign Operations) and environmental screens (Nuclear, Environment, Renewable Energy). Note that among the

---

3 There is also a broad literature on the relationship between financial performance and the characteristic of conventional (non-SRI) funds. See, for instance, Chevalier and Ellison (1999).

4 Actually, three others papers (Scholtens, 2007; Jégourel and Maveyraud, 2008; Spekl, 2009) address this issue, albeit to a lesser extent. Scholtens (2007) attempts to associate social and financial performance of SRI mutual funds, but his sample contains only seven funds and two indexes for a three-year period (with annual data). Results suggest that there is no significant correlation between the Corporate Socially Responsibility score and financial returns. Jégourel and Maveyraud (2008) examine the financial performance of 71 European SRI equity funds, classified in three categories according to the number of negatives screens (1 to 4; 5 to 8; 9 to 16). These funds significantly under-perform the Aspi Eurozone or the MSCI Europe indexes whatever the number of screens. Spekl (2009) investigates the impact of the screening intensity on the financial performance of 173 European SRI mutual funds. She finds decreasing risk-adjusted financial performance for increasing screening intensity, but her results are not statistically significant.
previous screens, some are positive (Healthcare, Environment and Renewable Energy). RTZ11 do not consider the number of screens, but only the screening types. LAU uses the Avanzi database which provides 24 screening criteria: sixteen are negative, eight positive. Moreover, these criteria are classified into four broad areas: Environmental (4 criteria), Social (6), Governance (3) and Controversial Business Involvement (11). BHW created twelve portfolios in three categories: Social, Animal and Environment. The idea is not only to account for the number of screening criteria, but to consider the actual application of the screens, that is, the realised ethical performance.

Features of the selection process. The second group of variables of interest is of a qualitative nature. The ultimate goal is to highlight ‘best practices’ among the SRI funds in terms of financial performance. At least the fund orientation should be taken into account. BS use the screening criteria (once again) to distinguish between types of SRI funds. They created five dummy variables: Environment (equal to 1 for funds that exclude firms with a record of poor environmental performance), Labor Relations (equal to 1 for funds that exclude firms with a record of poor labor relations practices), Equal Employment (equal to 1 for funds that exclude firms that violate norms of equal employment and diversity at work), Community Investment (equal to 1 for funds that exclude firms that do not invest in and/or develop economically depressed communities), and Community Relations (equal to 1 for funds that exclude firms that have a poor record of accountability to local community stakeholders). RTZ08b do not set apart the impact of the screening intensity and the SRI fund orientation, but in addition to the numbers of screens, they consider the impact of activism policy, community involvement, and in-house SRI research. The same variables are used by RTZ11, but they only consider the screening types (they use a set of three dummy variables for SRI funds that use at least one sin/ethical screen, one social screen, or one environmental screen), instead of the number of screens. LHBA only consider participation in proxy voting.

The control variables. Lastly, traditional control variables are also considered: fund age, fund size, a dummy variable if the fund invests abroad, and time fixed effects are generally included. BS also consider the percentage of total assets each fund invests in stock, the percentage of total assets each fund invests in bonds, as well as mutual funds fixed effects. RTZ08 add the total risk of the fund (measured as the standard deviation of monthly fund returns over the last twelve months), management fees, load fees, the size of the fund’s family, as well as countries’ fixed effects; RTZ11 also include past flows. LHBA and HL consider, in addition to the traditional controls, turnover, the average proportion of equity, and dummy variables if the fund is an institutional fund or a closed fund.

2.2. A set of testable hypotheses

In accordance with the previous literature (see mainly BS and RTZ08b), we can briefly formulate several testable hypotheses.

A first set of hypotheses concerns the relationship between screening intensity and SRI financial performance. If we stick to modern portfolio theory, this relationship should be negative because of a lack of diversification:

\[ H1. \text{A higher screening intensity reduces SRI financial performance.} \]
According to BS, however, the combination of modern portfolio theory and stakeholder theory may lead to a U-shaped relationship between screening intensity and financial performance. The rationale for this hypothesis is that the lack of diversification might be (at least partially) offset by better stock-picking as screening becomes really selective. The idea of a non-linear relationship can also be related to Derwall et al. (2011) which confronts what they called the ‘shunned-stock hypothesis’ and the ‘errors-in-expectations hypothesis’. The former hypothesis predicts that a value-driven strategy may hurt financial performance while, at the same time, the latter predicts that SRI can deliver superior performance as the market is prone to undervalue the impact of corporate social responsibility on future cash flows.

**H2. The relationship between the intensity of social screening and financial performance for SRI funds is curvilinear (U-shaped).**

The second set of hypotheses is related to the types of screens employed by SRI funds. Earlier literature does not distinguish screens that exclude entire sectors (i.e. sin screens and environmental screens) and those which are transversal and are applied to all firms (for instance, compliance with fundamental international conventions, such as the Universal Declaration on Human Rights). Yet, it is very likely that portfolio diversification is more impacted by sectoral screens than by transversal screens. Thus, compared to previous studies, we add the following hypothesis:

**H3. Only sectoral screens hurt financial performance, while transversal screens do not have any impact.**

SRI funds may focus on environmental, social or corporate governance issues, the so-called ESG factors. The relative impact of these topics (one relative to another) on financial performance is mostly an empirical issue.

**H4. SRI funds that select firms for their portfolios based on labor relations (H4a), or community relations (H4b), or environmental (H4c) screening criteria earn higher risk-adjusted returns than those that do not.**

We may also wonder whether the quality of the screening process matters. There are several ways to measure this: RTZ08b and RTZ11 consider whether the fund bases its screening activities on an in-house SRI research team to assess the quality. In this study, we take advantage of the SRI ratings, provided by Novethic, which synthesise several indicators of screening process quality (Which source of information is used? How selective is the process? What kind of control is achieved? Is SRI reporting comprehensive? See next section). We expect that higher quality should lead to better financial performances.

Related issues are managerial skills and the uniqueness of the SRI fund’s trading strategies. As originally suggested by Sun et al. (2013), skilled fund managers follow original strategies because they have original ideas and superior investment abilities, while low skilled managers are more likely to herd and adopt passive strategies. In this study, we test whether a higher ‘Strategy Distinctiveness Index’, which measures the extent to which a fund’s returns differ from those of its peers, is associated with better performance.
The Performance of Socially Responsible Funds

H5. The relationship between the quality (or the distinctiveness) of the screening process and financial performance for SRI funds is positive.

Whether a fund engages in shareholder activism can also be a determinant of financial performance (RTZ08b). It is a sign of the fund managers’ engagement with the companies in which they invest.

H6. SRI funds engaged in shareholder activism earn higher risk-adjusted returns than those that do not.

In the following, we will consider this framework to assess the determinant of SRI risk-adjusted returns and to compare our results with previous ones.

3. The SRI Market in France

Information about the French SRI market was provided by Novethic (a subsidiary of the Caisse des Dépôts et Consignations), the leading French information center dedicated to SRI. Novethic also provided the data for our sample of SRI funds.

3.1. General market overview

The SRI market in France was valued at more than €20 billion at the end of 2007. Moreover, growth has been tremendous with the total amount of assets under management increasing ten-fold between 2001 and end-2007 (forty-fold from 1998 onwards). There were 175 SRI mutual funds in 2007, compared to 80 in 2002. In terms of assets managed, the French SRI market is the third largest in Europe (tied with Belgium), after the Netherlands and the UK. Most of the French SRI funds follow a best-in-class approach, almost all of them using information from SRI rating agencies (mainly Vigéo and Innovest), while one third do not employ any special analyst to examine firms’ non-financial performances.

Of the 175 French SRI mutual funds, 97 invest in stocks (the others are bond funds or funds of funds). Moreover, they invest mainly in the euro area or in Europe, but one third of total outstanding assets are invested worldwide. About half of the SRI funds manage less than €50 million worth of assets, while one third of them manage more than €100 million.

3.2. The performance of French SRI mutual funds

The initial sample includes 175 French SRI mutual funds, most of them having been created in the middle of the 2000s. Thus we consider 116 funds with complete data over the period 2004–2007.5 We exclude guaranteed funds, funds of funds and community funds. Like Barnett and Salomon (2006), we do not collect data on conventional (non-SRI) mutual funds, since in this study we are interested in financial performance among SRI funds only.

Monthly logarithmic returns are computed using funds’ net asset values, adjusted for distributions. All fund returns are net of expenses. This panel contains 5,568 observations

5 The oldest SRI mutual fund in France (Nouvelle Stratégie 50) was created in 1983.
Table 1
Characteristics of the French SRI mutual funds sample

This table documents some characteristics of the sample of French SRI mutual funds selected in this study. The initial sample includes 175 funds but we only consider those created before 2004, i.e. 116 funds. Panel A reports some descriptive statistics (minimum, maximum, median, mean and standard deviation) concerning managed assets (in million euros), age (months since inception), and management fees per funds (in percentage), as of December 31, 2007. Panel B reports the mean annualised return, its standard deviation, the Sharpe Ratio, the Jensen’s alpha and the number of funds for several equally weighted portfolios over the period 2004–2007. Monthly logarithmic returns are computed using funds’ net asset values adjusted for distributions. All fund returns are net of expenses and annualised. Data are provided by Novethic.* indicates a significance level of 5%.

| Panel A. SRI funds | Min     | Max     | Median | Mean    | S.D.    |
|---------------------|---------|---------|--------|---------|---------|
| Total assets (€ million) | 0.32    | 1,446.21 | 44.26  | 116.35  | 193.20  |
| Fund age (months)    | 36      | 300     | 88     | 100     | 57      |
| Management fees (%)  | 0.10    | 2.25    | 1.20   | 1.20    | 0.45    |

| Panel B. SRI portfolios | Mean (%) | S.D. (%) | Sharpe | Jensen’s α | No. funds |
|-------------------------|----------|----------|--------|-------------|-----------|
| Equity funds (Europe)   | 15.83    | 9.47     | 1.37   | -0.11       | 52        |
| Equity funds (Global)   | 9.86     | 7.63     | 0.92   | -0.03       | 16        |
| Bond funds              | 1.75     | 1.82     | -0.57  | -0.07*      | 25        |
| Balanced funds          | 7.11     | 4.45     | 0.96   | -0.05       | 23        |

(116 funds × 4 years × 12 months). As far as we know, no domestic SRI fund ceased operations during the sample period so we do not have to correct for survivor bias in the data.

The characteristics of the 116 funds included in our analysis (as of December 31, 2007) are presented in Table 1, Panel A. In our sample, fund age varies between 3 years (by construction) and 25 years, with a mean of 8 years, while assets range from € 0.32 million to € 1,446.21 million. Most of the French SRI funds in our sample are classified as equity funds (59%) and the others split equally between bond funds (21%) and balanced funds (20%). About one fourth diversify their assets outside Europe. Finally, the management fees range from 0.10% to 2.25% of outstanding assets.

Panel B of Table 1 reports summary statistics for several equally-weighted portfolios. We consider four different portfolios composed of four different categories of SRI funds: equity funds that invest mainly in Europe, equity funds that invest worldwide, bond funds, and balanced funds. For each category, we also document the Sharpe Ratio (which measures the portfolio’s excess return per unit over risk) and Jensen’s alpha estimated with the CAPM model (which captures the portfolio’s excess return over what

---

6 In a previous version of the paper, we considered an additional sample composed of 54 French SRI mutual funds, with complete data over the period 2001–2007. This panel contained 4,536 observations (54 funds × 7 years × 12 months). Interpretations of the finding did not change.

7 With regard to these criteria, our sample is very similar to the sample used in BS of RTZ08: Fund age is 5.7 years on average in BS and 5.9 in RTZ08, while managed assets averaged $93 million (with a minimum of $0.19 million and a maximum of $1,483.92 million) in BS and to €63.9 million in RTZ08.
The Performance of Socially Responsible Funds

is expected, based upon its systematic risk). According to the CAPM model:
\[
R_t - R_{f,t} = \alpha + \beta (R_{m,t} - R_{f,t}) + \epsilon_t
\]
where \(R_t\) is the return on the equally weighted portfolio of funds in month \(t\), \(R_{f,t}\) is the risk-free interest rate, \(R_{m,t}\) is the market return, \(\alpha\) is Jensen’s alpha, \(\beta\) is the factor loading on the market portfolio, and \(\epsilon_t\) stands for the idiosyncratic return. In this study, the proxy for the risk-free interest rate is the 3-month Euribor. The proxy for the market index is the MSCI Euro Index for European equity funds, the MSCI International Index for International equity funds, the ML Europe Bond Index for bonds funds. All these data come from Datastream.

Overall, as expected, our results show that French SRI funds do not outperform the market. For all categories, over the period 2004–2007, Jensen’s alpha is slightly negative but only significant for bond funds (this last result was expected and has nothing to do with SRI). These findings corroborate the results obtained by Le Sourd (2008) and Renneboog et al. (2008b) for the French market. Our results are also in line with international evidence provided by Bauer et al. (2005) and others.

3.3. Data on the selection process

Unlike most earlier studies, our database does not contain financial data alone. Indeed, we also have valuable information concerning the screening activity of SRI funds. Some statistics in Table 2 are related to the quality of the selection process (A), to the nature of the selection process (B), and to the intensity of the screening process (C).

In 2002, Novethic launched a rating system to assess the social responsibility of the SRI funds that are available on the French market. The rating scale is from AAA (the highest rating) to B (the lowest). Three aggregated criteria are considered:

- **The selection device.** This is the main criterion, itself divided into four sub-criteria: i) **Diversity and appropriation of sources.** The aim of this indicator is to assess the quality of the non-financial data and analyses used by the management firm to pick securities for the portfolio using SRI criteria. ii) **SRI principles of selection.** The aim is to assess the degree of selectivity of the SRI management process. This indicator considers the ability of the asset management company to define a formal selection process, and the importance of ESG criteria in the final portfolio selection. iii) **SRI management process.** This indicator measures the relevance and the quality of the relationship between the social, environmental and financial dimensions, and seeks to verify the existence of internal and/or external systems whose role is to ensure that securities in SRI portfolios meet all relevant SRI thresholds in force within the firm. iv) **Communication and Reporting.** The objective is to measure the ability to set up educational and transparent communication on SRI products for subscribers and potential investors and to provide investors’ Corporate Social Responsibility (CSR) reports.

---

8 This result holds whatever measure of risk-adjusted performance is considered. In addition to the classic CAPM model, we considered multifactor models, regression-based measures as well as conditional measures, but it did not change the conclusion.

9 For a comprehensive presentation of the SRI rating process, see www.novethic.com.
Table 2
The screening activity of the French SRI funds

This table provides some descriptive statistics about the quality, the nature and the intensity of the screening process of the SRI funds considered in this study. Information is provided by Novethic. A) The quality of the screening process is proxied by an overall SRI rating: AAA is the highest rating and B the lowest. B) We report the percentage of funds which are identified as attentive to Environmental issues, Social issues, Corporate Governance issues, or all of these issues (ESG). C) Intensity of the screening process: The first column reports the percentage of SRI funds which use a given category of screen. The second column reports the number of screens of a given category used by SRI funds, divided by the total number of funds, i.e. 116 for our sample (in parenthesis: the number of screens of a given category used by SRI funds, divided by the number of funds which apply screens, i.e. 43 in our sample).

| A) Quality                  | Percentage of funds |
|-----------------------------|---------------------|
| SRI rating: AAA             | 19%                 |
| AA                          | 22%                 |
| A                           | 15%                 |
| BBB and less                | 13%                 |
| No SRI rating               | 31%                 |

| B) Nature                   | Percentage of funds |
|-----------------------------|---------------------|
| ESG                         | 83%                 |
| Environment                 | 7%                  |
| Social                      | 7%                  |
| Corporate Governance        | 3%                  |

| C) Intensity                | Percentage of funds with By fund: avg. no. of |
|-----------------------------|-----------------------------------------------|
| Negative screens, including Sin screens | 37% | 1.34 (3.65) |
| Environmental screens       | 12% (Nuclear: 9%; Petrochemical: 1%; Animal Testing: 6%; GMO/ Intensive Livestock: 7%) | 0.25 (0.67) |
| Governance and social screens | 14% (Human Rights: 8%; Foreign Operations: 5%; ILO/Rights at Work: 3%; Labor Diversity: 1%) | 0.16 (0.44) |
| UN global compact           | 17% | – |

- **Shareholder activism of the fund on behalf of its investors**: Is there a formal proxy for voting policy? What are the mechanisms for promoting dialogue with businesses on CSR and sustainable development issues? Etc.
- **The global attitude of the asset management firm towards SRI issues**: What is the firm’s contribution to the debate on SRI? What is the experience of the firm in the SRI market? Etc.
According to Novethic, amongst our sample of 116 SRI funds, 48 (41%) are graded AAA or AA, and these funds are in the vanguard of SRI. Eighteen funds (15%) make a remarkable effort to meet the expectations of the SRI community and are graded A. Thirteen funds (11%) partially yield to SRI community demands and are graded BBB. Two funds (2%) are considered as mediocre with respect to all SRI requirements and are graded BB or B. Lastly, 36 funds (31%) have no rating: this is either because the process was still in progress or because the asset management firm refused the rating.

Most of the SRI funds in our sample care about environmental, social and corporate governance (ESG) issues but a few put the emphasis one a specific topic. In our sample, eight funds (7%) focus on the environment, eight more (7%) deal mainly with social concerns, and four more (3%) stress the importance of corporate governance.

While the best-in-class approach is the norm for the French SRI funds, some combine this approach with negative screens. In our sample, hardly more than one third of the funds (43 out of 116) use such screens. The array of screens varies a lot and they are not exclusive. As usual, the most widespread screen concerns ‘sin stocks’: 22% of the SRI funds in our sample exclude ‘Weapons’, 17% exclude ‘Tobacco’, 12% exclude ‘Alcohol’, 14% exclude ‘Gambling’, and 11% exclude ‘Pornography’. Additionally, 12% of the SRI funds use ‘Environmental screens’ (10% exclude ‘Nuclear’, 1% exclude ‘Petrochemicals’, 6% exclude firms related to ‘Animal Testing’, and 7% ‘GMO or Intensive Livestock’).

Some of the screens are more controversial than others, but all in all ‘Sin screens’ and ‘Environmental screens’ are very similar: they result in the exclusion of a whole sector without any differentiation within the sector. Conversely, ‘Governance and Social screens’ are transversal. In our sample, 14% of the SRI funds exclude firms, whatever the sector, either because they do not comply with fundamental international conventions, such as the Universal Declaration on Human Rights (8%), the ILO Declaration on Fundamental Principles and Rights at Work (3%), or because they have business relations with totalitarian and corrupt regimes (Foreign Operations: 5%). ‘Labor Diversity’ also belongs to the category ‘Governance and Social screens’, but accounts for only 1% in our sample. Finally, 17% of the SRI funds exclude firms that do not conform to the Principles of the UN Global Compact.

The SRI funds also differ by screening intensity as measured by the number of screening criteria. The number of negative screens varies between 0 and 10. If we consider only SRI funds which apply at least one screen, the average number of screening criteria is equal to 3.6 and as shown in Figure 1, the distribution of the screening intensity is very skewed.

In addition to the SRI ratings computed by Novethic, we measured the skill of the SRI fund managers using publicly available observations. Following Sun et al. (2012) we hypothesise that skilled managers are likely to engage in original trading strategies, and thus their returns should co-move less with the average returns of their peer funds. Conversely, low-skilled managers are expected to adopt a passive trading strategy, thereby delivering performances close to the average.

To capture the distinctiveness of a fund strategy, we consider the ‘Strategy Distinctiveness Index’ (SDI) proposed by Sun et al. (2013). SDI measures the extent to which a

---

10 For instance, some SRI funds exclude firms owning nuclear plants, while other SRI funds support them, arguing that they help control climate change (nuclear plants do not emit greenhouse gases, unlike fossil-fuel power plants).
This figure presents the number of screens applied by the funds included in the sample. About one third of the French SRI funds do not apply any screens. Moreover, the screening intensity varies widely. The initial sample includes 175 French SRI mutual funds. We consider funds created before 2004 only, i.e. 116 funds. Data are provided by Novethic.

Fund’s returns differs from those of its peers: For each fund, the SDI is equal to one minus the sample correlation of a fund’s return with the average return of all funds belonging to the same style (here, we consider three categories: equity funds, bonds funds, balanced funds). The higher the SDI, the more distinctive is a fund’s strategy. One of the main advantages of this index – beyond its intuitiveness – is that it is based on historical fund return data only. Like Ammann et al. (2013), because funds within a certain strategy may exhibit more dispersion in SDI than funds within other strategies, we standardise the SDI. SDI (standardised) ranges from -1 to 3.5 for our sample of French SRI funds. 

Sun et al. (2013) and Ammann et al. (2013) document that higher SDI is associated with better subsequent performance. Both papers consider the case of hedge funds where the innovative and skillful nature of the manager is very important: it is their raison d’être. But the problems are the same for SRI funds which are expected to adopt proactive strategies. Therefore it is of interest to examine, for the first time, how the distinctiveness of a SRI fund’s strategy impacts its financial performance.

3.4. Comparison with previous studies

Clearly, SRI practices on both sides of the Atlantic are very different. Negative screens are widespread in the USA (and Anglo-Saxon countries), while the best-in-class approach is the norm in Continental Europe, including France. Therefore our sample differs significantly from previous studies. As BS and LHBA focus on the USA, 100% of the SRI funds in their sample use negative screens; this is the same for HL on Australia. RTZ08b covers 17 countries, but half of the SRI funds in their sample come from...
The Performance of Socially Responsible Funds

Table 3
The determinants of the screening intensity

The table reports the results for Tobit regressions of the number of screens (all screens, sectoral screens or transversal screens) on various SRI fund characteristics. The sample includes 116 French SRI mutual funds created before 2004. Data are provided by Novethic. (D) denotes dummy variables. Robust Standard errors are given in parenthesis. *p < 0.10, **p < 0.05, ***p < 0.01.

|                        | No. of screens | No. of sectoral screens only | No. of transversal screens only |
|------------------------|----------------|-----------------------------|---------------------------------|
| Environment (D)        | 7.485***       | 7.241**                     | 3.299***                        |
|                        | (2.614)        | (3.138)                     | (0.930)                         |
| Social (D)             | −1.382         | −4.286                      | 0.839                           |
|                        | (2.315)        | (3.450)                     | (0.836)                         |
| Shareholders activism (D) | 0.627         | −3.258                      | 0.825                           |
|                        | (1.803)        | (2.892)                     | (0.657)                         |
| SDI                    | −0.576         | −0.632                      | −0.189                          |
|                        | (0.630)        | (0.806)                     | (0.255)                         |
| Bond funds (D)         | −1.957         | −2.007                      | −0.454                          |
|                        | (2.032)        | (2.465)                     | (0.783)                         |
| Balanced funds (D)     | 3.739**        | 1.971                       | 2.298***                        |
|                        | (1.441)        | (1.727)                     | (0.584)                         |
| Global funds (D)       | 0.357          | −1.196                      | −0.132                          |
|                        | (1.374)        | (1.714)                     | (0.560)                         |
| Mgmt. fees (%)         | 2.673*         | 3.679*                      | 0.200                           |
|                        | (1.508)        | (1.862)                     | (0.601)                         |
| Size (total assets)    | 3.956          | 0.618                       | 2.765***                        |
|                        | (2.647)        | (3.508)                     | (0.981)                         |
| Age (# months)         | 0.121          | 0.314*                      | −0.121*                         |
|                        | (0.135)        | (0.160)                     | (0.073)                         |
| Constant               | −7.206***      | −10.221***                  | −1.399                          |
|                        | (2.604)        | (3.397)                     | (1.026)                         |
| No. of obs.            | 116.000        | 116.000                     | 116.000                         |

Anglo-Saxon countries: as a result, the percentage of SRI funds using negative screens rises to 72% (compared to 56% of the SRI funds from Continental Europe). It should be recalled that less than half of the SRI funds in our sample apply negative screens. Moreover, for both BS and RTZ08b, the average number of screens is almost equal to eight, which is five times higher than in France.

Obviously, this raises questions about the possibility of generalising previous results. BS and RTZ08b paved the way for studying the impact of the SRI screening process on financial performances, but a lot of work is needed to accommodate the results to best-in-class SRI funds. Moreover, none of the previous papers investigates the quality of the SRI rating or the distinctiveness of a SRI fund strategy.

3.5. The determinants of screening intensity and SRI ratings

In Table 3, we investigate the relationship between various fund characteristics and screening intensity. The dependent variable is, alternatively, the number of screens.
Table 4
The determinants of the SRI ratings

The table reports the results for ordered Logit regressions. The dependant variable is the SRI Ratings: a variable ranging from 1 (B) to 6 (AAA). The sample includes 80 French SRI mutual funds created before 2004. Data are provided by Novethic. (D) denotes dummy variables. Robust standard errors are given in parenthesis. *p < 0.10, ** p < 0.05, *** p < 0.01.

|                              | (A)     | (B)     | (C)     |
|------------------------------|---------|---------|---------|
| No. of screens               | 0.189*  | (0.109) |         |
| No. of sectoral screens      |         | 0.138   | (0.148) |
| No. of transversal screens   |         |         | 1.798*  |
| S DI                         |         |         | (0.989) |
| Environment (D)              |         |         | (0.328) |
| Social (D)                   |         |         | (0.797) |
| Corporate governance (D)     |         |         | (0.457) |
| Bond funds (D)               |         |         | (0.621) |
| Balanced funds (D)           |         |         | (1.085) |
| Global funds (D)             |         |         | (1.025) |
| Mgmt. fees (%)               |         |         | (0.585) |
| Size (total assets)          |         |         | (1.610) |
| Age (# months)               |         |         | (1.610) |
| Constant                     |         |         | (1.033) |
| No. of obs.                  | 80.000  | 80.000  | 80.000  |

the number of sectoral screens and the number of transversal screens. As the dependent variable is left-censored, we estimate Tobit regressions. There appears to be no systematic relationship between French SRI fund screening intensity and any observable characteristics, except that environment-oriented SRI funds tend to use more screens.

In Table 4 we examine the determinants of the SRI ratings computed by Novethic. The dependant variable ranges from 1 (B) to 6 (AAA) – that is, we restrict our sample to mutual funds actually rated by Novethic (80 out of 116 in our sample). Ordered Logit regressions suggest that the higher the number of screens (in particular the number of transversal screens), the better is the rating. Moreover, it appears that the biggest funds obtained a better SRI rating.
4. The Determinants of SRI Mutual Funds’ Financial Performance

4.1. Methodology

The aim of this section is to test econometrically the impact of SRI screening on mutual fund financial performance. In order to facilitate comparisons, we follow a methodology very similar to that used by BS and RTZ08b.

Our dependent variable is the risk-adjusted performance of a given SRI fund over the whole period. The risk-adjusted return of a fund is the difference between its risk premium and its expected return, given its beta and the market’s risk premium. Then the risk-adjusted performance (RAP$_i$), defined as $\alpha_i + \varepsilon_i$. RAP$_i$ is estimated for each individual fund $I$ over the full sample period.

We then examine whether SRI mutual fund performance is related to screening characteristics. In particular, we study the relationship between performance and three categories of variable: the quality, the nature, and the intensity of the screening process. Moreover, we consider almost the same set of control variables as BS and RTZ08b and examine the impact of shareholder activism.

Hence, our model of SRI returns is the following:

$$\text{RAP}_i = \gamma_0 + \gamma_1 \text{SI}_i + \gamma_2 (\text{SI}_i^2) + \gamma_3 \text{SDI}_i + \gamma_4 \text{SRI Rating}_i + \gamma_5 \text{ESG}_i + \gamma_6 \text{Activism}_i + \gamma_7 \text{Fund Characteristics}_i + \gamma_8 \text{Investment Style}_i + u_i \quad (2)$$

SI$_i$, SRI Rating$_i$, SDI$_i$, ESG$_i$ and Activism$_i$ are the variables of interest. SI$_i$ stands for screening intensity and is equal to the number of exclusion criteria. We also include the square of the number of exclusion criteria to capture a potential non-linear relationship. SDI$_i$ is defined as one minus the correlation between historical returns of the fund $I$, and average returns of all funds belonging to the same category; SDI$_i$ are standardised. SRI Rating$_i$ is a variable ranging from 0 (no rating) to 6 (AAA) – the rating are attributed by Novethic. This variable serves as a proxy for the overall quality of the SRI screening process. ESG$_i$ is a set of three dummy variables: Environment$_i$, Social$_i$, and Governance$_i$, equal to 1 if the fund $i$ focuses on environmental issues, social issues and corporate governance issues respectively, and 0 otherwise, i.e. the reference here is whether the fund cares about environmental, social and corporate governance issues all together. The aim is to identify the nature of the screening process. Finally, we consider a dummy variable, Activism$_i$, equal to 1 if the fund $i$ exercises its proxy vote and promotes dialogue with firm on ESG issues.

The control variables include Fund Characteristics$_i$ and Investment Style$_i$. Fund Characteristics$_i$ comprises the following variables: i) Age$_i$ is the number of months since the fund’s inception, as of end of 2007; ii) Size$_i$ is the fund size (total assets in

---

11 In BS, the dependent variable is the RAP of a given SRI fund for a given month. Thus, BS apply a panel data specification with a fixed year effect and a random fund effect. But since the variables of interest vary very little, we consider that it is more relevant to use a cross-sectional approach.

12 Note that given that the bulk of French SRI funds do not use any screens, the number of screens and the square of the number of screens are highly correlated.

13 We have also considered other, less parsimonious specifications (like a dummy variable equal to 1 if the rating attributed by Novethic is AAA, AA or A, and 0 otherwise), but it does not change the results.
euros);\(^{14}\) iii) Management Fees, is the annual percentage management fee.\(^{15}\) Investment Style, is a set of three dummy variables: Global, is equal to 1 if the fund invests outside Europe, and 0 otherwise; Bond, and Balanced, are equal to 1 if the fund is a bond fund or a balanced fund respectively, and 0 otherwise.

4.2. The impact of SRI screens on mutual fund performance

To begin with, we test for a negative (eventually nonlinear) relationship between financial performance and screening intensity (measured by the total number of screens), together with the impact of the orientation of funds, their distinctiveness and the overall quality of the SRI selection process. Regression results are summarised in Table 5. In model (1) we consider the whole set of variables, while in model (3) we drop all the variables that are not significant. In models (2) and (4), we consider only equity funds (67 out of 116 observations). The main results presented hereafter are robust to these alternative specifications.

According to the (lack of) diversification hypothesis, the coefficient associated with the number of exclusion criteria is negative and significant, at least at the 10% level – this result holds for all specifications. That is, there is a financial cost of imposing screens. However, like BS, we show a rebound in financial performance as the number of screens rises. The square of the number of screens is positive and significant at the 5% or 10% level.\(^{16}\) The curvilinear effect is statistically significant, albeit the U-shaped pattern between SRI financial performance and the number of screens is less pronounced than for BS. Figure 2 compares our results on the French SRI market with BS on the US SRI market. RAP decreases first as the number of screens gets higher, reaching a minimum at 5 screens (7 for BS), and then increases.

In addition, we find that higher strategy distinctiveness is associated with better financial performances. This finding is consistent with our expectations and confirms recent studies by Sun et al. (2013) and Ammann et al. (2013) who obtain similar results for hedge funds. However, when we consider the quality of the SRI rating process and its potential impact on risk-adjusted returns, whatever the specifications, we do not find any significant result.

The other variables of interest do not have any significant impact on financial performance. As stated earlier, there is no \textit{a priori} fundamental reason to find different financial performances between environment-oriented, social-oriented or corporate governance-oriented SRI funds (in other words, one can find several theoretical arguments to support each of the so-called ESG factors). Besides, empirically, neither BS nor RTZ08b find clear results in this respect. Likewise, in our regressions none of the proxies for the ESG factors are significant, and shareholder activism has no impact on SRI financial performance.

\(^{14}\) Fund size may erode mutual fund performance as shown by Chen \textit{et al}. (2004).

\(^{15}\) Actually, we do not expect a significant effect of this variable, albeit Kreander \textit{et al}. (2005) find that management fee is a significant explanatory variable for the Jensen measure of SRI funds.

\(^{16}\) To capture a potential non-linearity, we previously added, in addition to the number of screens, a dummy variable equal to 1 if the funds impose at least one screen and 0 otherwise. In this case, the coefficient associated with the dummy is negative and significant at the 5% level, while the impact of the number of screens is no more significant.
Table 5
The impact of the SRI selection process on financial performance

This table presents results from OLS regressions of financial performance on a number of characteristics of the SRI selection process. The dependent variable is the risk-adjusted performance (RAP). The sample includes 116 French SRI mutual funds created before 2004 (except models (2) and (4) with only 67 equity funds). Data are provided by Novethic. (D) denotes dummy variables. Robust standard errors are given in parenthesis. * p < 0.10, ** p < 0.05, *** p < 0.01.

|                          | (1)     | (2)     | (3)     | (4)     |
|--------------------------|---------|---------|---------|---------|
| No. of screens           | −0.049**| −0.064* | −0.040* | −0.059**|
|                          | (0.024) | (0.035) | (0.021) | (0.029) |
| (No. of screens)^2       | 0.005** | 0.006*  | 0.004*  | 0.006*  |
|                          | (0.002) | (0.003) | (0.002) | (0.003) |
| SDI                      | 0.033*  | 0.061***| 0.034** | 0.060***|
|                          | (0.017) | (0.016) | (0.014) | (0.013) |
| SRI rating               | −0.001  | 0.003   |         |         |
|                          | (0.007) | (0.010) |         |         |
| Environment (D)          | 0.102   | −0.039  |         |         |
|                          | (0.072) | (0.050) |         |         |
| Social (D)               | −0.016  | −0.062**|         |         |
|                          | (0.029) | (0.029) |         |         |
| Corporate governance (D) | −0.015  | −0.002  |         |         |
|                          | (0.058) | (0.060) |         |         |
| Shareholders activism (D)| 0.081   | 0.080   |         |         |
|                          | (0.068) | (0.093) |         |         |
| Bond funds (D)           | −0.162***| −0.183***|         |         |
|                          | (0.028) | (0.024) |         |         |
| Balanced funds (D)       | −0.104***| −0.094***|         |         |
|                          | (0.035) | (0.032) |         |         |
| Global funds (D)         | 0.151***| 0.211***| 0.151***| 0.206***|
|                          | (0.036) | (0.049) | (0.034) | (0.047) |
| Mgmt. fees (%)           | −0.004  | −0.004  |         |         |
|                          | (0.036) | (0.040) |         |         |
| Size (total assets)      | 0.256*  | 0.305** | 0.238*  | 0.274** |
|                          | (0.141) | (0.150) | (0.133) | (0.132) |
| Age (# months)           | −0.005  | −0.013* |         |         |
|                          | (0.003) | (0.007) |         |         |
| Constant                 | 0.087   | 0.122   | 0.049** | 0.040*  |
|                          | (0.067) | (0.084) | (0.023) | (0.023) |
| R^2                      | 0.510   | 0.572   | 0.464   | 0.507   |
| No. of obs.              | 116,000 | 67,000  | 116,000 | 67,000  |

Overall, our results are consistent with theoretical expectations except that we have assumed a positive relationship between SRI ratings and RAP. Thus, in Table 6, we push the investigation one step further by setting aside some components of the SRI rating. We no longer consider the overall rating as an explanatory variable but, instead, use the score attributed by Novethic to each of the following dimensions: Diversity and appropriation of sources, SRI principles of selection, SRI management process and Communication and Reporting. For each of these dimensions, we use a variable whose value ranges from
Fig. 2. A curvilinear relationship between SRI screening intensity and financial performance.

This figure compares the curvilinear relationship between SRI screening intensity and financial performance on the French SRI market with Barnett and Salomon’s (2006) results for US SRI funds.

0 to 3 (3 being the highest SRI score). We also reproduce the results of the model (3) as a benchmark. Our results show that none of these factors significantly improves the financial performance of the funds.

In Table 7, we examine which type of screen may be relevant. More precisely, we separate the screens that avoid entire sectors (mostly the sin screens and the environmental screens) and those that apply to all firms. The latter are qualified as transversal screens and are likely to impose less diversification costs. In model (9) we consider both the number of sectoral and transversal screens (along with the square

---

17 In model (5), the variable Source takes the value 0 when the fund has no access to specialised sources of information and takes the value 3 when it has access to the work of an expanded team or uses one or more external, accredited sources of information, with development of an internal research capability within the dedicated team. In model (6), Selectivity takes the value 0 for funds without any SRI selection process and takes the value 3 when the SRI process is detailed and formalised in an exhaustive way, when SRI screen excludes at least half of their initial universe or excludes between 25% and 50% of the initial investment universe, but where the SRI impact on companies’ weighting in the final portfolio is ‘high’, compared to the reference index in the final portfolio. In model (7), Management process takes the value 0 when the process is not well integrated or very well controlled and the value 3 when the process has an average degree of integration and a high degree of control. Lastly, in model (8), Communication is equal to 0 when there is absence of communication identified and absence of non-financial reporting elements and equal to 3 when the communication is structured for all supports and for all subscribers, meaningful and explicit non-financial reporting elements for all classes of assets are disclosed to all subscribers concerned and included in financial reporting.
Table 6
The impact of the quality of the SRI selection process on financial performance

This table presents results from OLS regressions of financial performance on different measures of quality of the SRI selection process. The dependent variable is the risk-adjusted performance (RAP). The sample includes 116 French SRI mutual funds created before 2004. Data are provided by Novethic. (D) denotes dummy variables. Robust standard errors are given in parenthesis. * p < 0.10, ** p < 0.05, *** p < 0.01.

|                | (3)       | (5)       | (6)       | (7)       | (8)       |
|----------------|-----------|-----------|-----------|-----------|-----------|
| No. of screens| −0.040*   | −0.041*   | −0.040*   | −0.040*   | −0.040*   |
|               | (0.021)   | (0.021)   | (0.021)   | (0.021)   | (0.021)   |
| (No. of screens)^2 | 0.004*    | 0.004*    | 0.004*    | 0.004*    | 0.004*    |
|               | (0.002)   | (0.002)   | (0.002)   | (0.002)   | (0.002)   |
| SDI            | 0.034**   | 0.037**   | 0.032*    | 0.033*    | 0.037**   |
|               | (0.014)   | (0.015)   | (0.017)   | (0.017)   | (0.016)   |
| Source         | 0.008     | 0.012     |           |           |           |
| Selectivity    | −0.004    |           |           |           |           |
|                | (0.013)   |           |           |           |           |
| Management process |           |           | −0.002    |           |           |
|                |           |           | (0.014)   |           |           |
| Communication  |           |           |           |           | 0.007     |
|                |           |           |           |           | (0.013)   |
| Bond funds (D) | −0.183*** | −0.182*** | −0.183*** | −0.182*** | −0.183*** |
|                | (0.024)   | (0.024)   | (0.024)   | (0.025)   | (0.024)   |
| Balanced funds (D) | −0.094*** | −0.090*** | −0.097*** | −0.095*** | −0.093*** |
|                | (0.032)   | (0.033)   | (0.032)   | (0.032)   | (0.032)   |
| Global funds (D)| 0.151**** | 0.148***  | 0.151***  | 0.152***  | 0.150***  |
|                | (0.034)   | (0.034)   | (0.035)   | (0.034)   | (0.034)   |
| Size (total assets) | 0.238*    | 0.236*    | 0.240*    | 0.240*    | 0.234*    |
|                | (0.133)   | (0.130)   | (0.133)   | (0.133)   | (0.130)   |
| Constant       | 0.049**   | 0.038     | 0.056     | 0.053     | 0.040     |
|                | (0.023)   | (0.031)   | (0.035)   | (0.033)   | (0.030)   |
| R^2            | 0.464     | 0.467     | 0.465     | 0.464     | 0.466     |
| No. of obs.    | 116.000   | 116.000   | 116.000   | 116.000   | 116.000   |

of the number of sectoral and transversal screens), then in models (11) and (12) we consider the two types of screens separately. For the sake of robustness, in model (10) we reproduce model (9) but we consider only equity funds (67 out of 116 observations). We also reproduce the results of model (3) as a benchmark.

The results corroborate our intuition. Indeed, while the coefficient associated with transversal screens is never significant, the one associated with sectoral screens is negative and significant at the 5% or the 10% level.

4.3. Discussion

In this subsection, we provide a summary and an overall view of the determinants of the financial performance of SRI funds. If we combine our results with previous findings, we obtain a set of six key results related to our set of hypotheses (see Table 8).
Table 7
The impact of the number of SRI screens on financial performances

This table presents results from OLS regressions of financial performance on the number of SRI screens. The dependent variable is the risk-adjusted performance (RAP) associated with SRI funds. The sample includes 116 French SRI mutual funds (except model (10) with only 67 equity funds) created before 2004. Data are provided by Novethic. (D) denotes dummy variables. Robust standard errors are given in parenthesis. * p < 0.10, ** p < 0.05, *** p < 0.01.

|                      | (3)   | (9)   | (10)  | (11)  | (12)  |
|----------------------|-------|-------|-------|-------|-------|
| No. of screens       | −0.040* |       |       |       |       |
| (No. of screens)^2   | 0.004* |       |       |       |       |
| No. of sectoral screens | −0.051* | −0.042* | −0.062** |       |       |
| (No. of sectoral screens)^2 | 0.005  | 0.002  | 0.008* |       |       |
| No. of transversal screens | −0.024  | −0.085  | −0.034 |       |       |
| (No. of transversal screens)^2 | 0.021  | 0.048  | 0.016 |       |       |
| SDI                  | 0.034** | 0.027** | 0.050*** | 0.030** | 0.028** |
| Bond funds (D)       | −0.183*** | −0.198*** | −0.191*** | −0.186*** |       |
| Balanced funds (D)   | −0.094*** | −0.129*** | −0.119*** | −0.122*** |       |
| Global funds (D)     | 0.151*** | 0.155*** | 0.218*** | 0.140*** | 0.143*** |
| Size (total assets)  | 0.238*  |       |       |       |       |
| Constant             | 0.049** | 0.079*** | 0.071*** | 0.081*** | 0.064*** |
| R^2                  | 0.464  | 0.421  | 0.398  | 0.401  | 0.372  |
| No. of obs.          | 116.000 | 116.000 | 67.000 | 116.000 | 116.000 |

- Six out of eight studies find that higher screening intensity reduces SRI financial performance, though this result is less clear in RTZ08b. Interestingly, the relationship between the number of screens and the risk-adjusted performance is positive for HL but the sample is small and the evidence weak. BHW uses a slightly different approach as they consider the application of the screens rather than the number of screening criteria. This is taken as a proxy for the realised ethical performance – i.e. as an ethical rating. They show that the portfolio with the worst ethical rating tends to perform better than the other portfolios.
- The negative relationship between screening intensity and financial performance seems to decrease as the number of screens increases. Like BS we find a U-shaped relationship (the others do not test the curvilinear hypothesis, except LAU which
This table summarises empirical results on the relationship between social responsibility and SRI funds financial performance. We consider six different hypotheses. H1: A higher SRI screening intensity reduces financial performance. H2: The relationship between the SRI screening intensity and financial performance is curvilinear (U-shaped). H3: Only SRI sectoral screens hurt financial performance, while transversal screens do not have any impact. H4(a, b, c): SRI funds that select firms based on (labor relations, community relations, environmental) screening criteria earn higher risk-adjusted returns than those that do not. H5: The high quality of the SRI selection process (in-house SRI research, SRI ratings, or strategy distinctiveness – SDI) enhances financial performance. H6: SRI funds engaged in shareholder activism earn higher risk-adjusted returns than those that do not. Note: To save space, this table does not include Scholtens (2007, NL, 7 funds) or Jegourel & Maveyraud (2008, Europe, 71 funds); these papers do not find evidence of a negative relationship between screening intensity and SRI financial performance.

| Country | BS | RTZ08b | LHBA | RTZ11 | HL | LAU | BHW | CBM |
|---------|----|--------|------|-------|----|-----|-----|-----|
| Period  | 1972–02 | 17 countries | 1991–03 | 1989–06 | 1992–03 | 1996–08 | 1980–10 | 1998–10 | 2004–07 |
| # SRI funds | 61 | 440 | 61 | 321 | 24 | 177 | 50 | 116 |
| H1: Negative | Yes | Yes | Yes | Yes | No | No | Yes | Yes |
| H2: U-shaped | Yes | Yes | Yes | Yes | No | No | Yes | Yes |
| H3: Sector | | Yes | | Yes | | No | | No |
| H4a: Labour | No | | Yes | | No | | No | |
| H4b: Gover. | Yes | Yes | Yes | Yes | No | No | No | No |
| H4c: Envi. | No | Yes | Yes (Eur.) | | No | No | No | No |
| H5: In-house | Yes | Yes (Eur.) | | | | | |
| H5: SRI rating | | | | | | | |
| H5: SDI | Yes | | | | | | |
| H6: Activism | No | No | Yes (US) | No | | | |

finds an inverted U-shaped effect on risk only). Notwithstanding the functional form, the overall effect is negative, i.e. the initial negative effect is not offset.

- Only sectoral screens (such as avoiding sin stocks or the nuclear industry, for instance) hurt financial performance, while transversal screens (commitment to UN Global Compact Principles, ILO/Rights at Work, etc.) do not have any impact. Our study is the only one to test this hypothesis and our results are robust for various specifications. This result is fully consistent with modern portfolio theory since, unlike sectoral screens, transversal screens may not have a decisive impact on diversification. This result is also consistent with empirical evidence concerning the risk-adjusted performance of ‘sin stock’ portfolios which outperform the conventional benchmarks (Hong and Kacperczyk, 2009; Statman and Glushkov, 2009).

- It is not clear whether any one of the ESG factors influences SRI fund financial performance more than any of the others. Besides, the theoretical literature on this point is not really conclusive. Only Edmans (2011) shows superior returns to an SRI screen based on employee relations.

18 Interestingly, Barnett and Salomon (2012) have confirmed the U-shaped relationship between CFP and CSP at the firm level (instead of the fund level).
• The impact of shareholder activism is non-significant, except for weak evidence of a positive impact for the USA (RTZ11).
• The main open question is the impact of the quality of the SRI selection process. In-house SRI research seems to enhance SRI financial performance (RTZ08b, RTZ11), but this is only one part of the quality process, one input among several. Diversity and independence of information, financial and CSR expertise, control, reporting, etc. are all key ingredients. The problem is that these components are, by their very nature, very difficult to assess. In this paper we attempt to overcome this problem by using SRI ratings, but our results suggest that such ratings (global or specific) are not related to financial performance. Another way to tackle this problem is to consider the quality of the output of the processes. We show that the strategy distinctiveness, which is supposed to be the result of managerial skill, enhances SRI financial performance. Our results reveal the importance (and also the complexity) of this issue which deserves more research.

5. Conclusion

The concept of diversification is a key ingredient in portfolio selection and, according to modern portfolio theory, all rational investors should hold a market portfolio: i.e. a value-weighted portfolio of all securities. Nevertheless, diversification has its own limitations. Some investors have not given up on the wish to have portfolios that reflect their own personalities. Of course, there are still, and always will be, investors who are not satisfied with passive management and who try to beat the market. But, what is new today is that a significant share of investors want portfolios that are consistent with their beliefs. They refuse to invest in certain sectors – the famous ‘sin stocks’ – and give priority to environment- or social-friendly companies. In other words, they want to ‘put their money where their mouth is’.

This study shows that these investors should be prepared to bear a cost for such strategies. Most of the papers on SRI do not find significant differences in risk-adjusted returns between SRI and conventional funds but, using a different approach and looking into the determinants of financial performance, we find evidence that a higher screening intensity reduces the risk-adjusted return. However, this result holds only for sector-specific screening criteria; transversal screening criteria do not necessarily lead to poor diversification and so do not hurt financial performances.

In a way, these results favor the best-in-class approach. Still it suffers from other drawbacks. In some cases, SRI funds which follow the best-in-class approach are barely distinguishable from traditional funds. Moreover, multiplication of criteria can be detrimental to strategy consistency. All in all, even if they lead to poorer financial performance, exclusion funds have the merit of simplicity and reflect well investors’ values.
### Appendix

**Table A**

Some previous studies about the impact of screening on SRI fund performance

|          | Barnett & Salomon (2006) | Renneboog *et al.* (2008b)<sup>c</sup> | Lee *et al.* (2010)<sup>c</sup> | Humphrey & Lee (2012)<sup>c</sup> |
|----------|--------------------------|----------------------------------------|-------------------------------|-------------------------------|
| Country  | US                       | 17 countries                          | US                            | Aus                           |
| Period   | 1972–2002                | 1991–2003                              | 1989–2006                     | 1996–2008                     |
| No. of SRI funds | 61          | 440                                   | 61                            | 24                            |
| Mean age (months) | 68            | 71                                    | 86                            | 113                           |
| Mean AUM (million) | 93.0         | 63.9                                  | 120                           | 46                            |
| Mean management fees | na          | 1.4%                                 | na                            | na                            |
| % Global fund  | 7%                    | 39%                                   | na                            | na                            |
| No. of screens (% of funds with) | 7.79 (100%) | 3.81 (72%)                          | Between 1 and 11              | (100%)                        |
| Sin screens  |                       | 2.52 (69%)                           |                               |                               |
| Ethical screens |                 | 0.68 (51%)                           |                               |                               |
| Gov. & social screens |             | 2.45 (70%)                           |                               |                               |
| Environmental screens |             | 1.47 (80%)                           |                               |                               |

© 2012 Blackwell Publishing Ltd

© 2012 John Wiley & Sons Ltd
Table A
Continued.

|                                | CAPM\(^b\) | 4-factors | 4-factors | 4-factors |
|--------------------------------|------------|-----------|-----------|-----------|
| Returns and SRI screens \(^a\) |            |           |           |           |
| Activism policy (D)            | −0.000     | 0.010     | (−0.20)   | (0.57)    |
| Community involvement (D)      | 0.002**    |           | (2.34)    |           |
| Community investment (D)       | −0.138     | 0.001**   | (−0.84)   | (2.40)    |
| Community relations (D)        | 0.535**    |           | (2.22)    |           |
| Environment (D)                | −0.381**   | −0.001    | (−1.91)   | (−1.66)   |
| Labour relations (D)           | −0.099     |           | (−0.51)   |           |
| Equal employment (D)           | −0.471**   |           | (−2.07)   |           |
| In-house SRI research (D)      | 0.001**    | −0.007**  | (2.57)    | 0.010***  |
| Islamic fund (D)               | 0.005*     | 0.000     | (1.68)    | (0.22)    |
| No. of sin screens             | 0.000      |           | (0.22)    |           |
| No. of ethical screens         | −0.001     |           | (−1.50)   |           |
| No. of social screens          | −0.001*    |           | (−1.66)   |           |
| No. of environ. screens        | 0.001      |           | (1.36)    |           |
| No. of screens \(^2\)          | −0.202**   | −0.007**  | (−1.78)   | (−2.57)   |
| Fund age                       | 0.014**    | 0.000     | (1.77)    | (1.88)    |
| Fund size (AUM)                | 0.001      |           | (0.88)    | (1.35)    |
| Global fund (D)                | −0.698***  | −0.001    | (−2.46)   | (0.95)    |
| Risk                           | −0.097***  | −0.005    | (−2.80)   | (−1.37)   |
| Management fees                | −0.105***  | 0.000     | (−2.54)   | (1.12)    |
| Constant                       | 1.090***   | 0.091     | (2.56)    | (1.12)    |
|                                | 0.950***   | 0.071     | (3.58)    | (0.98)    |

Fixed effects (D)

Others variables

|                                | Time, Mutual Funds | Time, Countries | Time, Institut’l fund (D), Turnover, % stocks | No Institut’l fund (D), Closed fund (D) |
|--------------------------------|--------------------|-----------------|---------------------------------------------|----------------------------------------|
|                                | % stocks, % bonds  | Invest. styles, Load Fees, Family Size | Time, Institut’l fund (D), Turnover, % stocks | No Institut’l fund (D), Closed fund (D) |
| No. of obs.                    | 4,821              | 15,182          | 145                                         |                                        |
| Chi-sq\(^d.f\.)                | 101.35***          | 134.24***       | 0.11                                        | 0.42                                   |
| R\(^2\)                        | (17)               | (19)            | 0.28                                        |                                        |

Notes: \(^a\) The dependent variable is the risk-adjusted returns of SRI fund \(i\) in month \(t\); \(^D\) denotes dummy variables. \(^b\) Using the Fama-French 3-factor model or the Carhart 4-factor model does not change the results; \(^c\) RTZ08b also examine the cross-sectional differences between SRI funds and conventional funds, while LHBA and HL also analyse the link between screening intensity and risk, but we left these results aside. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.
References

Ammann, M., Huber, O. and Schmid, M., ‘Hedge fund characteristics and performance persistence’, *European Financial Management*, Vol. 19(2), 2013, pp. 209–50.

Barnett, M. and Salomon, M., ‘The curvilinear relationship between social responsibility and financial performance’, *Strategic Management Journal*, Vol. 27 (11), 2006, pp. 1101–22.

Barnett, M. and Salomon, M., ‘Does it pay to be really good? Addressing the shape of the relationship between social and financial performance’, *Strategic Management Journal*, Vol. 33(11), 2012, pp. 1304–20.

Bauer, R., Koedijk, K. and Otten, R., ‘International evidence on ethical mutual fund performance and investment style’, *Journal of Banking & Finance*, Vol. 29, 2005, pp. 1751–67.

Biehl, C.F., Hoepner, A.G.F. and Wilson, J.O.S., 2011, ‘SRI funds: does more social mean less financial performance?’ Mimeo CEPII.

Capelle-Blancard, G. and Monjon, S., ‘Socially responsible investing: it takes more than words’, *CEPII Working paper* N’2010–15 (2010).

Capelle-Blancard, G. and Monjon, S., ‘The performance of socially responsible funds: does the screening process matter?’, *CEPII Working paper* N’2011–12 (2011).

Capelle-Blancard, G. and Monjon, S., ‘Trends in the literature on socially responsible investment: looking for the keys under the lamppost’, *Business Ethics: A European Review*, July 2012 issue.

Chegut, A., Schenk, H. and Scholtens, B., ‘Assessing SRI fund performance research: best practices in empirical analysis’, *Sustainable Development*, Vol. 19(2), 2011, pp. 77–94.

Chen, J., Hong, H., Huang, M. and Kubik, J., ‘Does fund size erode mutual fund performance? The role of liquidity and organization’, *American Economic Review*, Vol. 94, 2004, pp. 1276–1302.

Chevalier, J. and Ellison, G., ‘Are some mutual fund managers better than others? Cross-sectional patterns in behavior and performance’, *Journal of Finance*, Vol. 54(3), 1999, pp. 875–99.

Derwall, J., Koedijk, K. and Ter Horst, J., ‘A tale of values-driven and profit-seeking social investors’, *Journal of Banking & Finance*, Vol. 35(8), 2011, pp. 2137–47.

Edmans, A., ‘Does the stock market fully value intangibles? Employee satisfaction and equity prices’, *Journal of Financial Economics*, Vol. 101, 2011, pp. 621–40.

Guenster, N., Bauer, R., Derwall, J. and Koedijk, K., ‘The economic value of corporate eco-efficiency’, *European Financial Management*, Vol. 17(4), 2011, pp. 679–704.

Hong, H. and Kacperczyk, M., ‘The price of sin: the effects of social norms on markets’, *Journal of Financial Economics*, Vol. 93, 2009, pp. 15–36.

Humphrey, J.E. and Lee, D.D., ‘Australian socially responsible funds: performance, risk and screening intensity’, *Journal of Business Ethics*, Vol. 102, 2012, pp. 519–535.

Jégourel, Y. and Maveyraud, S., ‘The underperformance hypothesis of SRI funds: the intensity of extra-financial negative screening matters’, *Working Paper* (2008).

Kempf, A. and Osthoff, P., ‘The effect of socially responsible investing on portfolio performance’, *European Financial Management*, Vol. 13(5), 2007, pp. 908–22.

King, A. and Lenox, M., ‘Does it really pay to be green?’ *Journal of Industrial Ecology*, Vol 5(1), 2001, pp. 105–16.

Kreander, N., Gray, R.H., Power, D.M. and Sinclair, C.D., ‘Evaluating the performance of ethical and non-ethical funds: a matched pair analysis’, *Journal of Business Finance & Accounting*, Vol. 32(7–8), 2005, pp. 1465–93.

Laurel, D., ‘Socially responsible investments in Europe: the effects of screening on risk and the clusters in the fund space’, *Working Paper* (2011).

Lee, D.D., Humphrey, J.E., Benson, K.L. and Ahn, J.Y.K., ‘Socially responsible investment fund performance: the impact of screening intensity’, *Accounting & Finance*, Vol. 50(2), 2010, pp. 351–70.

Le Sourd, V., ‘The performance of socially responsible investment – a study of the French market’, *Working Paper* (EDHEC Risk and Asset Management Research Centre, 2008).

Louche, C. and Lydenberg, S., ‘Socially responsible investment: differences between Europe and United States’, *Working Paper* (Vlerick Leuven Gent, 2006).
Renneboog, L., Ter Horst, J., and Zhang, C., ‘Socially responsible investments: institutional aspects, performance, and investor behavior’, *Journal of Banking & Finance*, Vol. 32(9), 2008a, pp. 1723–42.

Renneboog, L., Ter Horst, J. and Zhang, C., ‘The price of ethics and stakeholder governance: evidence from socially responsible mutual funds’, *Journal of Corporate Finance*, Vol. 14(3), 2008b, pp. 302–32.

Renneboog, L., J. Ter Horst, C. Zhang, Is ethical money financially smart? Nonfinancial attributes and money flows of socially responsible investment funds, *Journal of Financial Intermediation*, 20(4), 2011, pp. 562–88.

Sandberg, J., Juravle, C., Hedesström, T.D. and Hamilton, I., ‘The heterogeneity of socially responsible investment’, *Journal of Business Ethics*, Vol. 87, 2009, pp. 519–33.

Scholtens, B., ‘Financial and social performance of socially responsible investments in the Netherlands’, *Corporate Governance: An International Review*, Vol. 15(6), 2007, pp. 1090–1105.

Spekl, A., ‘European evidence on SRI mutual fund performance’, Master Thesis (Universiteit Maastricht, 2009).

Statman, M., ‘Socially responsible mutual funds’, *Financial Analysts Journal*, Vol. 56(3), 2000, pp. 30–39.

Statman, M., and D. Glushkov, The wages of social responsibility, *Financial Analysts Journal*, Vol. 64(2), 2009, 20–29.

Sun, Z., Wang, A. and Zheng, L., ‘The road less traveled: Strategy distinctiveness and hedge fund performance’, *Review of Financial Studies*, Vol. 26(3), 2013, pp. 667–94.