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Do social and environmental screens influence ethical portfolio performance? Evidence from Europe

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Abstract This work aims to test whether social and environmental screening processes could determine the financial performance of ethical or Socially Responsible Investment (SRI) strategies in the European context. We compare the risk-adjusted returns and systematic risk levels obtained by the two mainstream SRI equity indexes in Europe with those achieved by their official benchmarks. We find that, although these SRI indexes do not underperform their benchmarks in terms of risk-adjusted returns, they experience higher levels of risk. Additionally, the results show that higher screening intensity results in higher risk for the SRI indexes. Furthermore, the underperformance in terms of risk associated with the SRI indexes is worse in periods when there is a market downturn. This may indicate that SRI indexes are more sensitive to changes in the market cycle, because SRI indexes include companies that are more affected by market fluctuations.
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1. Introduction

Socially responsible investment (SRI), also known as ''ethical investment'' (Renneboog et al., 2008a), considers factors such as respect for human rights, environmental preservation, and other social issues. This investment style, which mainly focuses on SRI funds; SRI equity indexes; and SRI stocks, allow investors to match their portfolio policy with their moral and ethical principles (Domini, 2001). The most

significant increase in SRI has taken place during the last twenty years and, specifically, during the last decade. This increase has been highlighted by a recent European SRI market study[1] carried out by EUROSIF (2010), reporting that the total SRI Assets under Management (AuM) in Europe reached €4986 billion in 2009, whereas they amounted to only €336 billion in 2002. This significant growth was mainly driven

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[1] This report was released on October 13, 2010, based on information as of December 31st, 2009. The next edition of the study will be available in the fall of 2012 and will be based on data as of December 31st, 2011.

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by the increasing demand from institutional and individual investors, by the mainstreaming of environmental, social, and governance principles into traditional financial services, and by external pressure from the biggest NGOs worldwide (EUROSIF, 2010).

This great expansion of SRI has awakened the interest of academics in carrying out researches to learn about the return and risk performance associated with this investment style (see Hamilton et al., 1993; White, 1995; Bauer et al., 2007; Benson and Humphrey, 2008; Nilsson, 2008; Lee et al., 2010; among others), but focused mainly on SRI funds (Fowler and Hope, 2007). This research aims to address if it is possible to do good while doing well when carrying out SRI strategies. To that end, this work analyzes the return and risk levels of the most relevant SRI equity index families in the European context: these are the Dow Jones Sustainability Stoxx Indexes and Dow Jones Sustainability EuroStoxx Indexes, which comprise the leading European listed companies in terms of sustainability. The analysis of these Dow Jones Sustainability Indexes (DJSI) is of special relevance because they have figured highly in the growth and consolidation of SRI markets in some regions, such as the US and Europe. This could be partially explained because of these indexes were the first tracking the financial performance of leading sustainability-driven companies worldwide. It is worth mentioning that although the European SRI market comprises other SRI equity indexes,[2] the DJSI family applies a Best in Class screening approach, thus being more relevant for fostering ethical investments and environmental preservation (O'Rourke, 2003). This is crucial because the analysis of the performance of the DJSI family will allow managers to address the financial outcome of handling with reliable and objective ethical oriented portfolios (DJSI, 1999).

This paper is innovative in various aspects. First, it is focused on the European market, whereas most of the works analyzing the performance of SRI indexes are related to the US context (Kurtz and DiBartolomeo, 1996; Sauer, 1997; Statman, 2000, 2006). Second, we employ daily market data from a time-series of about nine years (2001–2010), instead of the monthly databases employed in most of the studies in the field, a decision that would make the estimations more reliable and robust. Further, the sample under analysis covers a period with a large increase in SRI at the global level, at the same time as investors have attained a significant level of knowledge about SRI equity indexes. This development has not been reflected in current literature which focuses on samples from earlier periods when there was less knowledge of SRI equity indexes by individual and institutional investors. This will bring new fresh insights about the risk/return performance of the SRI equity indexes analyzed. A third innovation is that we use two dynamic econometric models to estimate the risk levels of the SRI equity indexes, an aspect that has not been considered in the literature about SRI performance. This will give us more comprehensible and detailed results, which have not been shown by previous research in the field, which focused mainly on static econometric models and

therefore could lead to obtain biased results. Specifically, we estimate the single and Fama and French (1993) three-factor market models modified in a state-space specification and estimated by the Kalman Filter algorithm. The literature shows that this approach (state-space specifications of the market model) provides a more precise measurement of the stocks and equity indexes' systematic risk than that given by other models when daily market databases are employed (Wells, 1994; Brooks et al., 1998; Holmes and Faff, 2008). These econometric techniques will allow us to capture SRI equity indexes' systematic risk evolution across the considered sample. This information could be relevant for investors because they could appreciate the behavior of the SRI equity indexes' systematic risk both in bull and bear market periods. Fourth, the paper looks into a timeframe that covers the financial downturn, which occurred in the second half of 2008. This is of special interest because it could be tested if this event influences the return and risk levels of the SRI equity indexes considered.

The rest of the paper is organized as follows. The next section analyses the previous literature on this topic and introduces the research hypotheses. The third section focuses on the methods applied, sample selection, and data description. Section four shows the results and, finally, Section 5 contains the conclusions and implications of the work and proposes further research opportunities in this field.

2. Previous findings and hypotheses

Under the Modern Portfolio Theory (MPT), SRI will systematically underperform conventional investment strategies mainly because SRI portfolios are subsets of the market portfolio (Renneboog et al., 2008a). This idea is also in line with the proposals established by the supporters of the efficient market hypothesis. In addition, MPT states that the SRI screening process reduces the investment universe, which leads to a reduction in the risk-adjusted return and diversification opportunities of this type of investment strategy. Under this scenario, many researchers have put much effort into testing these principles. Most of them focus on measuring the performance of SRI funds (Bauer et al., 2005; Barnett and Salomon, 2006; Benson et al., 2006; Bauer et al., 2007; Renneboog et al., 2008b; Derwall and Koedijk, 2009; Lee et al., 2010). A global analysis of these works indicates that SRI funds, in general, do not underperform the conventional ones.

Previous research about SRI performance also comprises some papers that analyze the financial outcomes of investing in SRI equity Indexes. Most of the research about SRI equity indexes performance has been focused on the Domini Social Index (DSI). Luck and Pilotte (1993) and Kurtz and DiBartolomeo (1996) conclude that the DSI outperformed the S&P500 during the 1990–1992 period. However, Sauer (1997) and DiBartolomeo and Kurtz (1999) which focus on larger samples (from 1986 to 1996) find no evidence of out or underperformance of the DSI compared with its benchmark (S&P500). Other research about the performance of the DSI (Luck, 1998; Statman, 2000) conclude that this SRI equity index did not show significant differences in the performance levels than the obtained by the S&P 500. Other

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[2] Other relevant SRI indexes under the European scheme are the FTSE4Good family indexes.