

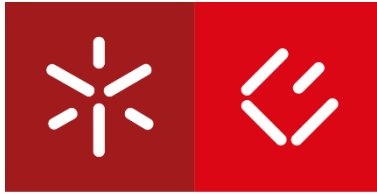


Universidade do Minho
Escola de Economia e Gestão

Miguel Santos Fonseca Picado

**Performance of SRI Funds
During Market Crises:
Evidence for the US Market**





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Market**

Masters Dissertation

Master's in Finance

Dissertation realized by the orientation of
Professora Doutora Florinda Silva

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This section is dedicated to everyone that contributed in some way to help me reach this step in my life, to whom I would love to leave a word of appreciation.

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To the University, even though it was a short time, I am grateful for how I was received and for having another great experience in my life.

STATEMENT OF INTEGRITY

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RESUMO

Nos últimos anos, a sociedade tem vindo a ficar mais consciente em relação a assuntos sociais tais como, o ambiente, direitos humanos e civis, assim como condições de trabalho. Isto levou a um crescimento de investimentos socialmente responsáveis (ISR), nas últimas décadas. Este crescimento tem produzido um debate sobre o desempenho deste tipo de investimentos e, especialmente, a comparação com o desempenho de investimentos convencionais. Dentro do ISR os fundos de investimento são o principal instrumento sujeito a este debate. A maior parte dos estudos empíricos não encontram diferenças no desempenho dos fundos ISR e os seus pares convencionais.

O propósito desta dissertação é avaliar o desempenho financeiro dos fundos ISR do mercado americano e compará-los com fundos convencionais selecionados de acordo com as características dos fundos ISR. O outro objetivo deste estudo é avaliar o desempenho destes fundos em períodos financeiramente instáveis, de forma a testar a possibilidade de os fundos ISR servirem como um seguro para os investidores durante crises, limitando o risco de uma potencial descida nos mercados financeiros.

A amostra de dados consiste em 149 fundos de ações ISR americanos e 447 fundos de ações convencionais americanas que foram combinados segundo as características dos fundos ISR, durante o período de janeiro de 2005 a janeiro de 2021. Nesta amostra incluímos fundos sobreviventes e não sobreviventes e a partir destes criaram-se dois portefólios igualmente ponderados. O portefólio de fundos convencionais é composto por fundos com características similares às dos fundos ISR ao nível da classificação do fundo, idade e total de ativos líquidos. Para cada fundo ISR foram selecionados três fundos convencionais.

O desempenho dos fundos é avaliado usando abordagens não condicionais e condicionais para o modelo de quatro fatores de Carhart (1997), o modelo de cinco fatores de Fama e French (2015) e o modelo de seis fatores de Fama e French (2018). Para analisar os períodos de recessão são adicionadas variáveis dummy aos modelos de múltiplos fatores de forma a distinguir o desempenho dos fundos nos diferentes

períodos de mercado. Estes períodos foram identificados seguindo o NBER.

Em geral, os fundos ISR mostram ter um desempenho neutro, e os convencionais, na maioria dos modelos, também mostram um desempenho neutro com uma pequena evidência de um desempenho negativo, especialmente em períodos de crise. Em relação ao desempenho em crises, os fundos ISR claramente tem um melhor desempenho em comparação com os fundos convencionais, na recessão de 2020. Os dois tipos de fundos estão mais expostos a ações de pequena capitalização e empresas de elevado investimento. Em suma, não existe evidência de os fundos ISR terem um pior desempenho em relação aos convencionais com características similares, desta forma, os investidores podem acrescentar os fundos ISR aos seus portfólios sem penalização no seu desempenho. Também deve ser referido que estes fundos podem servir como um seguro em períodos de recessão, pois é óbvio não colocam o investidor em desvantagem perante os fundos convencionais.

Palavras-Chave: Investimentos Socialmente Responsáveis, Desempenho de Fundos de Investimento, Fundos de Investimento Socialmente Responsáveis, Fundos Convencionais, Crise Financeira.

ABSTRACT

In the past years, society has become more aware of social issues, such as the environment, human and civil rights, labour conditions and relations, which led to a growth of Socially responsible investment (SRI) in the last decades. This growth has produced a debate on the performance of this type of investment and especially the comparison with the performance of conventional investments. In the SRI set of investment possibilities, mutual funds are the main instrument subject to this debate. Most empirical studies find that SRI mutual funds do not perform differently from their conventional peers.

The purpose of this dissertation is to evaluate the financial performance of US SRI mutual funds and compare them against matched US conventional mutual funds. The other objective of this study is to evaluate the performance of such funds during times of financial distress, in order to test the possibility of SRI mutual funds serving as insurance to investors during recessions, by limiting the downside risk.

The dataset consists of 149 US Equity SRI funds and 447 matched US Equity conventional funds over the period between January 2005 to January 2021. The dataset includes both surviving and non-surviving funds and from them, we create two equally weighted portfolios. The portfolio of conventional funds is composed of matched funds by the classification of the fund, age, and Total Net Assets. For each SRI fund three conventional funds were selected.

Fund performance is evaluated using unconditional and conditional approaches of the Carhart (1997) four-factor model, the Fama and French (2015) five-factor model and the Fama and French (2018) six-factor model. To analyze the recessions periods, we added dummy variables to the multi-factor models to distinguish the performance of the funds in different market states. These periods were identified following the US Business Cycle expansions and contractions of NBER.

Overall, SRI funds present a neutral performance and their conventional peers tend to present either a neutral performance or a slight evidence of underperformance, especially in recessions. In terms of the performance in recessions, SRI funds clearly

perform better compared to their conventional peers in the 2020 recession. Both types of funds are more exposed to small-cap stocks and high investment firms. In sum, there is no evidence of SRI funds underperforming their conventional peers, so investors can add SRI funds to their portfolio without a performance cost. Also, it should be noted that these funds can serve as some type of insurance in recessions, and it is obvious that they do not place investors at disadvantage to conventional funds.

Keywords: Socially Responsible Investing, mutual fund performance, SRI funds, Conventional Funds, Financial Crisis.

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1. INTRODUCTION

The beginning of ethical investments dates back hundreds of years and has its roots in religious doctrines. From the medieval Christian times, where there were restrictions on loans and investments based on the Old Testament to the Islamic tradition that leads to Islamic investors avoiding companies related to pork production, pornography, gambling, and interest-based financial institutions. Most ethical investments are based on religious beliefs. An example is the Quakers, a religious movement from the 17th Century in which they refused to invest in companies related to war (Renneboog *et al.*, 2008a).

The Pioneer Fund founded in 1928 can be considered the first modern mutual fund, which screened investments based on religious beliefs and traditions. Yet, even though SRI is still based on religions the modern SRI is more concentrated on ethical and social motivations of individual investors. The roots for ethical and social investments as we have nowadays come from the 1960s and 1970s and are linked to anti-war and anti-racist movements. The first SRI mutual fund similar to the ones we have today was founded in 1971 in the US, the PAX World Fund avoided investments in weapon contractors due to investors opposing the Vietnam War. In the following decades concerns about the environment grew due to climate incidents and new information related to global warming, this led to the environment being one of the concerns to social and ethical investors (Renneboog *et al.*, 2008a).

These concerns led to an increase in socially responsible investment in the financial markets. In fact, in the US, according to the USSIF (2020) report, the total US-domiciled assets under management using SRI strategies grew from \$12.0 trillion at the start of 2018 to \$17.1 trillion at the start of 2020, which represents an increase of 42%. The \$17.1 trillion represents 33% of the total US assets under professional management, this value in 2018 was 26% which demonstrates the growth of the SRI industry. The GSIA (2018) report shows that in 2018, Europe, the US, Japan, Australia, and Canada had a total of \$30.7 trillion in sustainable investments.

There are several points of view on the impact of integrating social and ethical

criteria in investment decisions. On one side, some defend that by applying social criteria as mentioned before, managers are reducing their investment opportunities, and consequently, managers should get lower risk-adjusted returns. On the other side, it is believed by some that incorporating social and ethical criteria is helpful for managers to identify better-managed firms, which will enable them to achieve better financial performance. This debate leads to the question of whether investors benefit from SRI or do they incur in a cost by doing this type of investment.

This issue can be investigated just by analyzing the performance of SRI funds, or and more commonly by comparing their performance to that of conventional funds. The first studies on the performance of SRI funds used the traditional performance measures of Treynor (1965), Sharpe (1966), and Jensen (1968). More recent studies adopt multi-factor models, such as Fama and French (1993) and Carhart (1997) models, while also adding the conditional models of Ferson and Schadt (1996), and Christopherson *et al.* (1998). Several studies also distinguish SRI funds by types of screens to study how different strategies affect fund performance.

Some recent studies in the SRI literature investigate the performance of SRI funds in different market states, intending to understand SRI fund performance in times of recessions and analyzing whether SRI funds can serve as protection for investors during periods of financial market turmoil.

This dissertation adds to this topic of SRI performance in general, with the purpose of knowing if SRI funds can serve as insurance to investors in periods of recession. The motivation to study this topic related to financial crisis comes from the 2008 financial crisis and more recently the crisis created by the global pandemic in 2020. But also, from understanding the behavior of SRI funds during times like these and keeping in mind the growth of SRI in the last decade.

Considering these subjects linked with SRI our study has two main objectives. The first one is to contribute to the debate on whether investors benefit or incur in a cost by investing in US SRI instead of US conventional funds. We intend to compare the performance of both types of funds and check whether SRI funds underperform,

outperform, or match the performance of their conventional peers. The second purpose of this study is to test if SRI funds can limit downside risk in periods of financial market turmoil and protect investors. To test this possibility, we compare the performance of US SRI and conventional funds in recession periods. This is motivated by the interest in observing how the 2008 global financial crisis and the Covid-19 pandemic impact on the financial markets influence the SRI funds.

The performance of SRI funds in recessions can serve as an important information for the future keeping in mind the growth of SRI in the last decade and the growing concerns to ethical and social issues of investors all around the world. Some studies that focus on this issue state that SRI funds outperform conventional funds in recessions but in expansion periods conventional outperform SRI funds (e.g. Nofsinger and Varma 2014; Muñoz *et al.*, 2014; Leite and Cortez 2015; Becchetti *et al.*, 2015). This conclusion may help investors understand that they may lose some performance in expansion periods but then be protected in recessions and at the same time support ethical and social motivations.

The period of the analysis is from January 2005 to January 2021. To evaluate the performance of the funds this study uses multi-factor models: the Carhart (1997) four-factor model, Fama and French (2015) five-factor model, and Fama and French (2018) six-factor model. The models are used following unconditional and conditional approaches, to produce more robust results. The performance of the funds in different market states is measured through dummy variables to distinguish the recession and expansion periods and to capture time-varying performance and risk.

Overall, we find that US SRI funds exhibit neutral influence performance in relation to the market and are not at disadvantage compared to US conventional funds, which varies the performance between neutral and some underperformance. About the performance controlled for different market states, again US SRI funds do not show underperformance in both market states, as for their conventional peers there is some evidence of underperformance in recessions. Both types of funds underperform in the 2008 global financial crisis, yet overperform in the Covid-19 recession with the US SRI funds clearly having a better performance compared with US conventional funds. In

general, we can affirm that investors are not at disadvantage by investing in US SRI funds whether in expansions or recessions compared to their conventional peers, plus there is some evidence pointing to some insurance by the US SRI funds in the 2020 Covid-19 recession.

This dissertation is structured into six chapters. Following a brief introduction to the topic in chapter 1, in chapter 2 we discuss the previous work done on this topic. After that, in chapters 3 and 4 we describe the methodology and data, respectively. The empirical results are reported and discussed in chapter 5, and, lastly, chapter 6 summarizes the results and presents the main conclusions, as well as some limitations and suggestions for future research.

2. LITERATURE REVIEW

This chapter aims to presents a brief discussion of some past studies, starting with the ones which focus on the performance of SRI funds and then turning the focus to the performance of such funds in different market states.

2.1. Performance of SRI

The literature on the performance of SRI has increased in the last decades, mostly due to the growing concern by investors to social and ethical issues, which led to the development of the SRI market all around the world. Research on SRI is highly concentrated on the differences between the performance of SRI and conventional investments (Rathner, 2013). The first studies on this matter focus on the performance of socially responsible firms and those that are less socially responsible, then other studies evaluate the performance of SRI indices and compare them to conventional indices. The third approach to SRI studies is related to mutual funds and focuses on the performance of SRI funds compared with that of conventional funds (Cortez *et al.*, 2009).

According to Renneboog *et al.* (2008a, p. 1723) “Unlike conventional types of investments, SRI applies a set of investment screens to select or exclude assets based on ecological, social, corporate governance or ethical, and often engages in local communities and in shareholder activism to further corporate strategies towards the above aims”. If investors decide to invest in SRI, they limit their investment alternative to assets of firms whose products or actions are considered socially suitable (Bollen, 2007). These investors, unlike others, focus on financial performance and social responsibility, rather than only concentrate on financial returns (Derwall *et al.*, 2011).

SRI funds are considered the main vehicle for SRI (Rathner, 2013), and also Liang and Renneboog (2020) state that academic work done on SRI mostly focuses on the performance of SRI funds. These funds include social and ethical screens, as other SRI assets also do. An example of screening activities is when investors avoid investing in firms that produce or sell addictive substances such as tobacco, liquor products, or gambling or with another approach an investor which decides to invest in firms linked to alternative energy (Statman, 2004).

The impact of screening activities is a matter of debate by researchers who study the performance of SRI portfolios. There are two main competing arguments. On the one hand, the argument linked with the modern portfolio theory, which suggests that an efficient portfolio should consist of diversified and non-correlated stocks so that it can maximize the expected returns of the portfolio and reduce the risk (Lean *et al.*, 2015). By imposing restrictions due to the screens, the diversification of the portfolio will be reduced and consequently, the portfolio risk-adjusted performance will also suffer negatively (Adler and Kritzman, 2008). One aspect which is commonly referred to by supporters of this view is the fact that SRI investors pay a cost for this type of investment, mostly due to the shunning of sin stocks which provide abnormal returns (e.g., Renneboog *et al.*, 2008b; Derwall *et al.*, 2011). Liang and Renneboog (2020) consider that SRI screening creates limitations on portfolio optimization by reducing the investment opportunities and with this is expected that investors incur a cost due to the reduction of diversification.

On the other hand, supporters of SRI claim that the use of social and ethical screens enables fund managers to identify and select firms with good management or avoid firms with bad management, which will allow improved performance in the future (Bollen, 2007). It is also possible that markets do not price SRI in the most proper way, which provides SRI funds better returns than their conventional peers (Hamilton *et al.*, 1993). Liang and Renneboog (2020) also allude to this point and refer that if the market underestimates the impact of SRI screening activities or ESG criteria, SRI funds may reach higher returns due to underpricing. Nevertheless, Renneboog *et al.* (2008) conclude that higher SRI performance is instantly reflected in the prices.

Empirically, most literature on SRI mutual funds finds no performance difference compared with their conventional peers (e.g., Hamilton *et al.*, 1993; Goldreyer and Diltz, 1999; Statman, 2000; Schroder, 2004). The first analysis of SRI fund performance was done by Moskowitz (1970). Since then, several studies evaluate SRI fund performance in the US market since it is considered by many the biggest SRI market. Hamilton *et al.*, (1993) investigate the performance of 32 SRI funds and 320 randomly selected non-SRI funds in the US for the period of 1981–1990. No statistically significant difference

between SRI and non-SRI funds was found in this study. Statman (2000), also in the US market, finds no statistically significant difference between 31 SRI funds and 62 non-SRI funds.

Climent and Soriano (2011) study the performance of US environmental mutual funds between 1987 and 2009. The results demonstrate a lower return for SRI funds in relation to conventional funds, at the beginning of the period analyzed. This poor initial performance may be due to the small investment opportunity set, selection criteria, poor fund management, or low value of the environmental funds. The second sub-period (2001-2009) shows no performance difference between the different types of funds. The authors conclude that as fund managers and investors have more experience with SRI funds and the investment set grows, returns of SRI funds tend to reach the ones of the conventional funds.

Schroder (2004) analyze the performance of German, Swiss, and US funds for the period between 1990 to 2002. The market at the time was small but growing, as the author described. In general, the author finds that the funds do not significantly underperform their benchmarks. Also using a similar period, Bauer *et al.* (2005) study the performance of ethical mutual funds in Germany, the UK, and the US using the Carhart (1997) four-factor asset-pricing model. The results support the idea that ethical funds passed a “catching-up” phase at the beginning of 1990, which is consistent with previous findings. Nevertheless, from 1998 to 2001 the returns of ethical mutual funds matched those of the conventional funds.

For the UK market, Gregory and Whittaker (2007) investigate the performance of UK SRI funds in comparison to conventional funds from 1989 to 2002 with multi-factor models. They find no evidence of differences between the performance of SRI funds and their conventional peers. In addition, the authors refer that investors with social or ethical motivations can improve the risk-adjusted investment performance in UK funds by investing in past “winners” and avoid past “losers”.

Cortez *et al.* (2009) study the performance of SRI funds from seven countries in Europe (Austria, Belgium, France, Germany, Italy, Netherlands, and the UK) using

unconditional and conditional models of performance. Their findings show that European SRI funds have a neutral performance compared with conventional and SR benchmarks. Consistent with Bauer *et al.* (2005), SRI funds are more exposed to conventional indices than SR indices raising the question of whether SRI funds are different from their conventional peers in terms of the securities selected. Also, Cortez *et al.* (2012) conclude that the performance of European global SRI funds does not show abnormal performance considering both conventional and SR benchmarks. On the contrary, US funds show evidence of underperformance. These results contrast with previous studies that show neutral performance, the reason for this may be the 2008 financial crisis.

Lean *et al.* (2015) evaluate the performance and the performance persistence of SRI funds in Europe and North America. The authors choose these markets because they consider that SRI is a concept that comes from these two regions, also the size of the markets represents 96% of global SRI funds (KMPG, 2013). Their results show that European and North American SRI funds outperform the market benchmark, which lead the authors stating that investors do not sacrifice financial performance with SRI funds and the lack of diversification in these funds. Another conclusion is that North American SRI funds perform better than their European peers. Besides this, the authors state that European SRI funds have a higher downside risk than North American SRI funds, indicating that European SRI funds are more vulnerable to market returns in recessions.

Despite most studies finding no difference between SRI and conventional funds' performance, Gil-Bazo *et al.* (2010) reach an interesting conclusion on the performance of US SRI funds between 1997 and 2005. They state that the SRI funds operated by firms specialized in the management of SRI funds outperform their conventional peers, while SRI funds managed by generalist firms underperform conventional funds.

Apart from the US and Europe, Bauer *et al.* (2006) study the performance and investment style of retail ethical funds in Australia during the 1992-2003 period, comparing 25 ethical funds to benchmarks and their conventional peers, with multi-factor models. They find no difference in the performance of ethical and conventional funds for both domestic and international funds. The authors also investigate the

returns using three equal sub-periods and conclude that there was a catching-up phase for the Australian domestic ethical funds, consistent with Bauer *et al.* (2005) that find the same pattern for German, UK, and US ethical funds. In addition, Bauer *et al.* (2007) study the performance of ethical mutual funds in the rapidly growing Canadian market. Their results demonstrate no difference between the performance of ethical mutual funds and their conventional peers using a single-factor model and a multi-factor model.

Renneboog *et al.* (2008b) investigate the under and over-performance hypotheses for SRI funds from different countries around the world. Their results show that SRI funds in many European, North American, and Asia-Pacific countries underperform domestic market benchmarks. However, when comparing the alphas of the SRI funds with those of the matched conventional funds, they find no statistically significant evidence of underperformance, with exceptions for France, Ireland, Sweden and Japan where the evidence shows that investors pay a cost for ethics. In addition, they find no evidence that less diversification leads to a cost for investors. Nevertheless, the results show that screening activities are important since funds with a higher number of corporate governance and social screens have lower risk-adjusted returns.

Riedl and Smeets (2017) investigate why investors hold SRI funds by analyzing the Dutch¹ market. They conclude that investors' intrinsic social preferences are the major factor to the holding of SRI funds, with financial motivations also playing a role in the decision, but the financial aspect may be less considered by investors with strong social motivations. Also, in this study, the authors state that social motivation may influence asset prices as the market grows which has to append in the last years.

Different factors of socially responsible investment have been analyzed, and it is important to refer that there have been studies that identify SRI firms as providers of positive abnormal returns (e.g., Derwall *et al.*, 2005; Statman and Glushkov, 2009), in contrast to SRI funds or indices. Guenster (2012) states that SRI portfolios incorporate positive alphas firms, nevertheless, exclude sin stocks that have a positive alpha, and for

¹ Due to the fact that the United States is a larger market than the Netherlands, the findings cannot be generalized to other countries. However, the authors considered the amount invested in SRI is considerable for a country the size of the Netherlands.

that, the performance is adjusted. This difference in performance over SRI firms and mutual funds has diminished through the years (e.g., Derwall *et al.*, 2011; Bebchuk *et al.*, 2013).

It is important to underline that studies using single-factor models to evaluate the performance of SRI funds have limitations and the vast majority of recent studies use multi-factor models such as the Fama and French (1993) three-factor model, the Carhart (1997) four-factor model, and the Fama and French (2015) five-factor model. Also, some studies use conditional models such as those proposed by Ferson and Schadt (1996) and Christopherson *et al.* (1998).

In general, the literature indicates that SRI funds have a similar performance to that of conventional funds and there is no financial advantage or disadvantage in SRI funds. Rathner (2013) stated that nearly 75% of the performance comparisons between SRI and conventional funds do not find significant differences in the performance of both types of funds.

2.2. The Performance of SRI in Different Market States

While there is a vast number of studies on the performance of SRI funds and the costs for investors for such investments, the performance of these funds in periods of economic crises is not as comprehensively studied. Some studies argue that responsible investments attract loyal investors due to the motivation and priority behind these types of investments being nonfinancial reasons and investors are more likely to stick with SRI even in recessions when is a normal time to sell to minimize losses (Bollen, 2007; Nofsinger and Varma, 2014; Becchetti *et al.*, 2015). In addition, Liang and Renneboog (2020) state that even when underperforming SRI funds continue to attract net money inflows by investors with social and ethical motivations, consistent with Bollen (2007) which shows that even in periods of low returns investors in US SRI funds do not withdraw their investments.

There are some studies regarding the performance of conventional funds during financial crises. Glode (2011) concludes that actively managed US Equity mutual funds

perform better in recessions than in expansions. Kosowski (2011) shows that conventional funds are likely to perform better in times of distress. According to Kacperczyk *et al.* (2014) skilled fund managers tend to demonstrate selectivity during expansions and a good timing capacity during recessions.

Related to the performance of SRI funds in different market periods it is important to highlight the work done by Nofsinger and Varma (2014) on the US market testing if SRI funds limit downside risk, which is relevant in times of economic distress. The authors analyze the performance of 240 US domestic equity mutual funds in the SRI category over the period 2000 to 2011 by applying the Carhart (1997) model with dummy variables to capture different states of the market. They find evidence that in crisis periods SRI funds outperform their conventional peers, yet in times of non-crisis, the conventional funds outperform SRI funds. The authors also point to the fact that positive screens are the reason behind positive alphas during market distress. On the contrary, negative screens like the ones for sin stocks do not outperform in the same periods. The main conclusion is the pattern present in the performance of SRI funds in crises that can be valued by investors searching for downside risk protection.

Leite and Cortez (2015) investigate the performance of 40 French SRI funds and 120 characteristics-matched conventional funds. They find evidence of SRI funds performing considerably better in periods of crisis than in non-crisis periods, consistent with evidence from conventional mutual funds (e.g., Glode, 2011; Kosowski, 2011). Additionally, SRI funds underperform their conventional peers during the non-crisis period and match the performance in crisis periods. The underperformance in times of non-crisis is due to funds with negative screens, which is consistent with Nofsinger and Varma (2014).

Becchetti *et al.* (2015) examine the performance of SRI funds in different markets² in relation to conventional funds during the period 1992-2012. They reach a similar conclusion to Nofsinger and Varma (2014), that during the 2007/2008 financial crisis, SRI funds outperform their conventional peers. Furthermore, the authors also

² The data for this study includes global, US, European and Asian funds.

conclude that while SRI funds outperform during the global financial crisis, the same was not verified in the 2001 dot-com crisis mainly due to the higher exposure to high-tech stocks. Another conclusion from this study linked with the diversification factor, which is viewed as a disadvantage of SRI funds, is that it seems this is not a limitation as SRI funds perform better in limited markets than in the global one.

Muñoz *et al.* (2014) analyze the financial performance and managerial abilities of US and European SRI mutual funds, more precisely, green funds from January 1994 to January 2013, a period including the 2001 and 2007/2008 recessions. Their results show that US and European green funds perform as well as SRI funds. The SRI funds in the US market have a statistically insignificant performance in crisis periods, whereas in non-crisis periods US SRI funds underperform the market. In Europe, SRI funds have statistically insignificant performance regardless of market states. In terms of managerial abilities in general managers of green funds are not able to successfully apply stock-picking or timing investments strategies. Nevertheless, when controlling the results for crisis and non-crisis market periods US green fund managers are more successful than European fellow managers in crisis periods.

Silva and Cortez (2016) analyze US and European green funds using conditional models and conclude that green funds underperform mainly in times when short-term interest rates are lower than normal and in non-crisis periods. Furthermore, the results also document a higher performance in crisis periods. Additionally, the authors conclude that US green funds outperform other SRI funds in crisis periods, and it appears that US green funds provide some level of protection in crisis. European green funds underperform other SRI funds during non-crisis periods, which contrasts with Muñoz *et al.* (2014) who conclude that European green funds perform similarly to the market, conventional peers and other SRI funds. The good or neutral performance of green funds is consistent with Nofsinger and Varma (2014), when they mention that the outperformance of SRI funds in crisis periods is steered by the mutual funds that focus on environmental issues and others, more explicitly funds with positive screens instead of negative ones.

Nakai *et al.* (2016) compare SRI and conventional funds' performance with

respect to the 2008 financial crisis in the Japanese market, which is a market that remains at a development stage. The authors use an event study approach to show the instant impact of the financial recession on fund performance considering the Lehman Brothers bankruptcy filing as the event. The results show that SRI funds resisted better to the initial impact of the crisis, mainly due to international funds which led the authors to suggest that this happens because international funds have more opportunities to diversify their portfolios compared to domestic funds.

Besides studies done on SRI funds, there is also work done on Corporate Social Responsibility (CSR), ESG scores of firms, or SRI indices, which are all within the SRI area. Concerning CSR, Lins *et al.* (2017) evaluate the performance of high-CSR US firms in the 2008 financial crisis and conclude that firms with high CSR ratings outperform those with a low rating during the recession period. Berkman *et al.* (2020) do not agree with the approach³ of Lins *et al.* (2017), so the authors analyze a similar dataset with a calendar-time portfolio approach. This study concludes that there is no evidence of high CSR firms outperforming low CSR firms during the 2008 recession, which is different from the previous study.

Lean and Pizzutilo (2020) study the performance of SRI indices across regions⁴ using multi-factor models. The period under analysis, 2007 to 2017, comprises the 2008 financial recession. Their results show that SRI and conventional indices perform identically, consistent with Leite and Cortez (2015). SRI indices are not at disadvantage in normal periods or perform better in recessions. Another conclusion from this work is that there is small evidence that SRI can reduce the downside risk during the 2008 crisis in North America.

The studies mentioned above analyze mainly the 2008 global financial crisis, however, at the beginning of 2020, the world went through a worldwide pandemic due to Covid-19. The World Health Organization (WHO) declared Covid-19 as a pandemic on March 11, through this month countries imposed lockdowns that had a negative impact

³ Lins *et al.* (2017) use a panel regression to perform a long-term event study with a clustered event. In the opinion of Berkman *et al.* (2020) this approach leads to inflated t-statistics due to cross-correlations in abnormal returns.

⁴ Europe, North America, Japan and Asia Pacific.

on most of the world economies. This led to enormous and heterogeneous stock price movements: the Standard&Poors (S&P) 500, from its peak on February 19th, 2020, lost 34% by March 23rd, 2020. These events can be seen as another great opportunity to evaluate the role of SRI performance during recessions.

There are already some studies on SRI performance during the pandemic even though the timeline in the analysis is relatively shorter, but it can be withdrawn similar conclusions to the performance on the 2008 global financial crisis.

Pástor and Vortsatz (2020) analyze the performance and flows of US equity mutual funds from January 2017 to April 2020 and they define the crisis period as the ten-week period between February 20 and April 30, 2020. They conclude that funds with higher sustainability ratings performed better than funds with lower sustainability ratings. The authors refer that their findings support the view of sustainability as a necessity rather than a luxury good.

Omura *et al.* (2020) analyze the financial performance of ESG ETFs in the US market and SRI indices from several markets before and during the Covid-19 period. The authors compare these SRI assets with conventional indices. The main conclusion is that SRI indices outperform their conventional peers before and during the pandemic crisis period. On the contrary, the ESG ETFs do not outperform the conventional indices. The results from the ETFs might have been impacted by the screening activities, the management fees, and lastly the time necessary to reflect benchmark changes.

Albuquerque *et al.* (2020) analyze the performance of environmental and social stocks at the beginning of the Covid-19 pandemic and conclude that firms with high environmental and social (“ES”) pillars of the traditional ESG combined score outperform the other firms. Also, the volatility of these stocks was lower than their counterparts. Demers *et al.* (2021) investigate whether ESG immunizes stocks during the Covid-19 crisis in the US market because many market participants like Morningstar consider ESG to be an “equity vaccine” against the Covid-19 crisis and the market selloff period (Willis, 2020)⁵. The results of this study show that firms with a higher ESG score

⁵ This study questions the generality of the conclusions related to the resilience factor of CSR in times of

did not have a superior return during the beginning of the pandemic in the first quarter of 2020 which is normally a selloff period or the entire 2020 year. This contradicts the conclusion of Albuquerque *et al.* (2020).

Singh (2020) examine the performance of safer investments at the beginning of the pandemic and by analyzing three different portfolios he concludes that the ESG portfolio had a recovery after Covid-19 was declared a pandemic, which matches other past studies (Nofsinger and Varma, 2014; Lins *et al.*, 2017) with the belief that ESG or SRI portfolios outperform during the crisis. The author also states that investors may look at ESG as a refuge and the fact that investors become more alert to corporate fundamentals during recessions.

Ding *et al.* (2021) analyze corporate immunity to the Covid-19 pandemic by studying several factors within firms, among them the Corporate Socially Responsibility. The authors conclude that stock prices of firms with a higher pre-2020 CSR performance were more resilient to the pandemic, which is a similar conclusion to the one reached by Lins *et al.* (2017) when analyzing the 2008 recession. The results prove that CSR can improve the relationship between firms and investors, which is an advantage for firms in times of distress. These results are consistent with the view that CSR enhances loyalty and strengthens the relationship with stakeholders, which makes workers, suppliers, and customers more amenable to making adjustments to support the business in times of duress.

Chiappini *et al.* (2021) study the effects of the lockdown's announcements in the US and Europe on SRI indices. The authors concluded that these announcements negatively impacted the performance of the indices. Nevertheless, there is not a statistically significant difference between SRI and conventional indices, meaning that investors which decide to invest in sustainable indices do not pay a cost in bear market periods.

Considering other markets besides the US and Europe, Broadstock *et al.* (2021) analyze high and low ESG portfolios in the Chinese market, a market where ESG investing

crisis specially in the 2008 global financial crisis.

is not at the same level as in the United States or Europe. The main conclusion of this study is that ESG performance mitigates financial risk during recessions and in “normal” financial times this performance is diminished. The authors suggest that high-ESG portfolios are more resilient during the pandemic and this may be due to investors' behavior which is calmer and avoid selling stocks. This argument is in concordance with past studies like Omura *et al.* (2020) who stated that responsible firms attract loyal investors who are not fully driven by financial purposes, and these investors normally stick with responsible investments even during recessions when the trend is to sell.

In this chapter, the focus is on past studies related to the performance of SRI funds, comparisons between the performance of SRI and conventional funds, and also these two subjects in different market states. These three themes can be considered the basis of our research. Regarding the performance of SRI and conventional funds, the majority of the studies conclude that there is not a statistically significant difference between both types of funds (e.g., Hamilton *et al.*, 1993; Schroder, 2004; Gregory and Whittaker, 2007; Renneboog⁶ *et al.*, 2008b). For the performance in different market states, the studies point to SRI outperforming their conventional peers in recessions and the other way around in expansions (e.g., Nofsinger and Varma, 2014; Muñoz *et al.*, 2014; Leite and Cortez, 2015; Becchetti *et al.*, 2015).

⁶ The study shows some exceptions pointed out before in this chapter.

3. METHODOLOGY

The performance of SRI and conventional funds is measured using both unconditional and conditional models. For the unconditional performance evaluation, it is used the Carhart (1997) four-factor model, the Fama and French (2015) five-factor model, and also the Fama and French (2018) six-factor model. For the conditional performance evaluation, we consider two alternative approaches: models that use public information variables to proxy for the state of the economy, as in the Ferson and Schadt (1996) and Christopherson *et al.* (1998), and models that include a dummy variable to distinguish performance and risk factors in different market states.

3.1. Unconditional Models

Jensen's (1968) alpha is the performance measure resulting from the basic unconditional single-factor model using a market benchmark as the only risk factor and based on the Capital Asset Pricing Model (CAPM). Although Jensen's (1968) alpha has been widely used in literature, it has limitations, such as not being able to fully explain the cross-section of the expected returns (Fama and French, 1993). Multi-factor models have been acknowledged as more robust to evaluate portfolio returns than a single-factor model (Climent and Soriano, 2011).

The Fama and French (1993) model, which is one of the most commonly used multi-factor models, proposes a three-factor model including two risk factors in addition to the market factor, which are size (*SMB*) and book-to-market (*HML*). The Carhart (1997) four-factor model includes the original factors of the Fama and French (1993) three-factor model and adds a momentum factor (*MOM*). This model is expressed by the following equation:

$$r_{p,t} = \alpha_p + \beta_{p1}(r_{m,t}) + \beta_{p2}(SMB_t) + \beta_{p3}(HML_t) + \beta_{p4}(MOM_t) + \varepsilon_{p,t} \quad (1)$$

Where $r_{p,t}$ is the excess return of the portfolio p over period t , the α_p represents the fund performance measure, $r_{m,t}$ is the market excess return in the same period t , SMB_t is the difference in returns of a portfolio of small-capitalization stocks and a portfolio of large-capitalization stocks over period t , HML_t is the difference in the returns of a portfolio of high book-to-market stocks and a portfolio of low book-to-market stocks over period t , and MOM_t is the difference in the returns of a portfolio of past winners and a portfolio of past losers over period t and lastly the $\varepsilon_{p,t}$ is the error term.

The Fama and French (2015) five-factor model adds two factors to the three-factor model, the profitability (RMW) and investment (CMA) factors, and is expressed by the following equation:

$$r_{p,t} = \alpha_p + \beta_{p1}r_{m,t} + \beta_{p2}(SMB_t) + \beta_{p3}(HML_t) + \beta_{p4}(RMW_t) + \beta_{p5}(CMA_t) + \varepsilon_{p,t} \quad (2)$$

Where RMW_t is the difference between the returns on diversified portfolios of stocks with robust and weak profitability, CMA_t is the difference between the returns on diversified portfolios of the stocks of low and high investment firms, which distinguishes conservative and aggressive firms.

The last model used is the Fama and French (2018) six-factor model that combines the previous two models by adding the momentum factor (MOM) to the Fama and French (2015) model. The model is expressed in the following equation:

$$r_{p,t} = \alpha_p + \beta_{p1}r_{m,t} + \beta_{p2}(SMB_t) + \beta_{p3}(HML_t) + \beta_{p4}(RMW_t) + \beta_{p5}(CMA_t) + \beta_{p6}(MOM_t) + \varepsilon_{p,t} \quad (3)$$

3.2. Conditional Models

In the literature, it is argued that unconditional models just as the ones presented so far can lead to biased estimates of performance since these models assume constant expected returns and risk.

With the purpose to overcome this limitation, Ferson and Schadt (1996) propose a conditional approach to performance evaluation that allows beta to be time-varying. In this model, the conditional beta is a linear function of a vector of predetermined information variables, Z_{t-1} , which represents the public information variable at time $t - 1$ for predicting returns at time t . The conditional single-factor model of Ferson and Schadt (1996) is expressed by the following equation:

$$r_{p,t} = \alpha_p + \beta_{0p}(r_{m,t}) + \beta'_p(Z_{t-1}r_{m,t}) + \varepsilon_{p,t} \quad (4)$$

Where α_p represents the conditional performance measure, Z_{t-1} is a vector of the deviations of Z_{t-1} from unconditional means, β'_p is a vector that measures the relationship of the conditional beta and the information variables, lastly β_{0p} is the average beta.

Christopherson *et al.* (1998) extend the model of Ferson and Schadt (1996) with the inclusion of time-varying alphas, as follows:

$$r_{p,t} = \alpha_{0p} + A'_p Z_{t-1} + \beta_p(r_{m,t}) + \beta'_p(Z_{t-1}r_{m,t}) + \varepsilon_{p,t} \quad (5)$$

Where α_{0p} is the average alpha, and A'_p measures the sensitivity of the conditional alpha with the information variables.

Combining equation 5 with the Carhart (1997) four-factor, Fama and French (2015) five-factor and Fama and French (2018) six-factor models gives us conditional multi-factor models with time-varying alphas and betas, resulting in the following

expressions:

$$\begin{aligned}
r_{p,t} = & \alpha_{0p} + A'_p z_{t-1} + \beta_{1p} r_{m,t} + \beta'_{1p}(z_{t-1} r_{m,t}) + \beta_{2p} SMB_t + & (6) \\
& \beta'_{2p,SMB}(z_{t-1} SMB_t) + \beta_{3p} HML_t + \beta'_{3p,HML}(z_{t-1} HML_t) + \\
& \beta_{4p} MOM_t + \beta'_{4p,MOM}(z_{t-1} MOM_t) + \varepsilon_{p,t}
\end{aligned}$$

$$\begin{aligned}
r_{p,t} = & \alpha_{0p} + A'_p z_{t-1} + \beta_{1p} r_{m,t} + \beta'_{1p}(z_{t-1} r_{m,t}) + \beta_{2p} SMB_t + & (7) \\
& \beta'_{2p,SMB}(z_{t-1} SMB_t) + \beta_{3p} HML_t + \beta'_{3p,HML}(z_{t-1} HML_t) + \beta_{4p} RMW_t + \\
& \beta'_{4p,RMW}(z_{t-1} RMW_t) + \beta_{p5} CMA_t + \beta'_{5p,CMA}(z_{t-1} CMA_t) + \varepsilon_{p,t}
\end{aligned}$$

$$\begin{aligned}
r_{p,t} = & \alpha_{0p} + A'_p z_{t-1} + \beta_{1p} r_{m,t} + \beta'_{1p}(z_{t-1} r_{m,t}) + \beta_{2p} SMB_t + & (8) \\
& \beta'_{2p,SMB}(z_{t-1} SMB_t) + \beta_{3p} HML_t + \beta'_{3p,HML}(z_{t-1} HML_t) + \beta_{4p} RMW_t + \\
& \beta'_{4p,RMW}(z_{t-1} RMW_t) + \beta_{p5} CMA_t + \beta'_{5p,CMA}(z_{t-1} CMA_t) + \\
& \beta_{6p} MOM_t + \beta'_{6p,MOM}(z_{t-1} MOM_t) + \varepsilon_{p,t}
\end{aligned}$$

3.3. Fund Performance in Different Market States

We evaluate the performance of SRI and conventional funds in expansion and recession periods by adding dummy variables to the unconditional multi-factor models mentioned previously as in Areal *et al.* (2013). The dummy variable is used to distinguish between crisis periods and non-crisis periods. This approach can be considered a conditional model that captures time-varying performance and risk in different market periods (Silva and Cortez, 2016).

We decide to use one approach with just one dummy variable that considers the two recession periods in our dataset as one, and another approach where we use two dummy variables in order to test whether fund performance suffers changes between recessions.

In the first approach with just one dummy variable, the Carhart (1997) four-model with the dummy variable is given by:

$$r_{p,t} = \alpha_{NC} + \alpha_C D_{C,t} + \beta_{1NC}(r_{m,t}) + \beta_{1C}(r_{m,t})D_{C,t} + \beta_{2NC}SMB_t + \beta_{2C}SMB_t D_{C,t} + \beta_{3NC}HML_t + \beta_{3C}HML_t D_{C,t} + \beta_{4NC}MOM_t + \beta_{4C}MOM_t D_{C,t} + \varepsilon_{p,t} \quad (9)$$

Where the D_t is the dummy variable that is equal to 0 in expansion periods and 1 in recession periods.

The dummy variable is also added to the Fama and French (2015) five-factor model and the Fama and French (2018), represented as:

$$r_{p,t} = \alpha_{NC} + \alpha_C D_{C,t} + \beta_{1NC}(r_{m,t}) + \beta_{1C}(r_{m,t})D_{C,t} + \beta_{2NC}SMB_t + \beta_{2C}SMB_t D_{C,t} + \beta_{3NC}HML_t + \beta_{3C}HML_t D_{C,t} + \beta_{4NC}RMW_t + \beta_{4C}RMW_t D_{C,t} + \beta_{5NC}CMA_t + \beta_{5C}CMA_t D_{C,t} + \varepsilon_{p,t} \quad (10)$$

$$r_{p,t} = \alpha_{NC} + \alpha_C D_{C,t} + \beta_{1NC}(r_{m,t})D_{NC,t} + \beta_{1C}(r_{m,t})D_{C,t} + \beta_{2NC}SMB_t + \beta_{2C}SMB_t D_{C,t} + \beta_{3NC}HML_t + \beta_{3C}HML_t D_{C,t} + \beta_{4NC}RMW_t + \beta_{4C}RMW_t D_{C,t} + \beta_{5NC}CMA_t + \beta_{5C}CMA_t D_{C,t} + \beta_{6NC}MOM_t + \beta_{6C}MOM_t D_{C,t} + \varepsilon_{p,t} \quad (11)$$

Regarding the second approach with two dummy variables to evaluate fund performance in recessions we have in the following equation an example with the Fama and French (2015) five-factor model, which is given by:

$$r_{p,t} = \alpha_{NC} + \alpha_C D_{1C,t} + \alpha_C D_{2C,t} + \beta_{1NC}(r_{m,t}) + \beta_{1C}(r_{m,t})D_{1C,t} + \beta_{1C}(r_{m,t})D_{2C,t} + \beta_{2NC}SMB_t + \beta_{2C}SMB_t D_{1C,t} + \beta_{2C}SMB_t D_{2C,t} + \beta_{3NC}HML_t + \beta_{3C}HML_t D_{1C,t} + \beta_{3C}HML_t D_{2C,t} + \beta_{4NC}RMW_t + \beta_{4C}RMW_t D_{1C,t} + \beta_{4C}RMW_t D_{2C,t} + \beta_{5NC}CMA_t + \beta_{5C}CMA_t D_{1C,t} + \beta_{5C}CMA_t D_{2C,t} + \varepsilon_{p,t} \quad (12)$$

Where D_1 represents the first recession period in our dataset, which starts in January of 2008 and ends in June of 2009, and D_2 is for the second recession period, which starts in March of 2020 and we consider the end of this state as January of 2021⁷. By using these two dummy variables we can observe if fund performance is different between the 2008 financial crisis and the 2020 Covid-19 crisis, as well as risk factor influence in performance.

⁷ These periods are defined following the NBER US Business Cycles which are explain in the next chapter.

4. DATA

The dataset of this study consists of US Equity mutual funds. To identify US equity funds that are classified as socially responsible, we use Refinitiv Eikon Fund Screener, where it is possible to filter for Ethical and Green mutual funds.

After identifying all the SRI mutual funds, fund information was collected from Refinitiv Datastream and additional information related to fund style from The Center for Research in Security Prices (CRSP) database. We selected SRI mutual funds that are classified as equity and that invest domestically (US equity funds). In terms of Lipper Global Classification⁸, we only consider funds classified as Equity US, Equity US Income, and Equity US Sm&Mid Cap. Funds with less than 24 monthly observations were excluded⁹. These criteria led to a final dataset of 149 funds, of which 119 are surviving funds and 30 are non-surviving.

To compare the performance of US Equity SRI funds with their conventional peers we follow Nofsinger and Varma (2014) and use a matching approach where the funds are paired within their characteristics with the aim of having SRI and conventional funds as similar as they can be. With that purpose, US Equity conventional funds were identified following the same procedure as for the SRI funds using Refinitiv Eikon Fund Screener, Datastream, and CRSP. The matching process was based on the following criteria: base date/inception date, Lipper Global Classification and Objective, and total net assets, as in Nofsinger and Varma (2014). For each SRI fund, three conventional funds were selected to give a greater possibility of comparing both types of funds.

Firstly, funds were filtered by Lipper Global Classification and Objective, then were selected inception dates of funds within a year of the SRI funds, lastly, the fund with the closest total net assets was selected. In case of funds' inception dates did not match within a year, we extended the period for 3 years for the most part, and for a few cases for 4 were needed. The list of SRI and conventional funds is presented in Appendix

⁸ We do not have US large cap funds in our study because we could not find funds with that Lipper Global Classification.

⁹ Also, when a fund had different classes, we only selected the oldest one or the class that provided matching.

1 and 2.

The returns of the funds were collected from the Refinitiv Datastream and then the discrete monthly returns were calculated, with these returns two equally weighted portfolios were created for the SRI funds and conventional funds.

Table 1 reports the descriptive statistics for the two equally weighted portfolios. The mean excess returns of both portfolios are positive, with the SRI portfolio mean being slightly higher than the conventional portfolio. According to the Jarque-Bera (JB) test, the two portfolios do not follow a normal distribution because the p-value is zero.

Table 1: Summary statistics of the SRI and conventional portfolios.

	SRI	CONVENTIONAL
Observations	193	193
Mean (%)	0.7474	0.7168
Median (%)	1.1656	1.1325
Standard Deviation (%)	4.5919	4.5645
Minimum (%)	-18.5644	-18.4828
Maximum (%)	12.9713	13.1063
Skewness	-0.6141	-0.6571
Kurtosis	4.9976	5.1213
Jarque-Bera (JB)	44.2201	50.0738
ρ – value (JB)	0.0000	0.0000

This table reports the summary statistics for the monthly excess returns of the two equally-weighted portfolios, for the period between January of 2005 to January of 2021. ρ -value (JB) is the probability that the *Jarque-Bera* statistic test exceeds (in absolute value) the observed value under the null hypothesis of a normal distribution.

Furthermore, related to the excess returns for both portfolios, table 2 presents the monthly mean excess returns from 2005 to 2020. From this table, it seems that SRI and conventional funds have similar fluctuations over the years in analysis. Focusing on the notable recession periods, in 2008 the year of the global financial crisis, the mean monthly excess returns falls significantly to negative values for both SRI and conventional funds. In the pandemic related recession of 2020, the mean monthly

excess returns values are not negative, but they drop in relation to the previous year. Overall, conventional funds for the most part present higher values for the mean excess returns, yet in 2008 and 2020 the SRI portfolio has better mean excess returns, still there are no statistically significant differences between portfolios.

Table 2: Mean excess returns by years for SRI and conventional funds.

	SRI (1) (%)	Conventional (2) (%)	Difference (1)-(2) (%)	ρ -value
2005	0.3212	0.4044	-0.0832	0,9423
2006	0.6009	0.6266	-0.0257	0,9791
2007	0.1269	0.2399	-0.1130	0,9227
2008	-3.6855	-3.8771	0.1916	0,9463
2009	2.6058	2.6132	-0.0074	0,9977
2010	1.5841	1.5357	0.0484	0,9837
2011	-0.0182	0.0388	-0.0570	0,9793
2012	1.1875	1.2040	-0.0164	0,9905
2013	2.9914	2.4210	0.5704	0,6221
2014	0.7070	0.7099	-0.0029	0,9980
2015	-0.0962	0.0253	-0.1215	0,9374
2016	1.0027	0.8183	0.1844	0,9010
2017	1.4621	1.5867	-0.1246	0,7717
2018	-0.6616	-0.5700	-0.0916	0,9615
2019	2.0394	1.9739	0.0655	0,9688
2020	1.8546	1.7902	0.0644	0,9847

This table reports the mean excess returns for the two equally-weighted portfolios, and for the difference between those two, by years. The ρ -value of the t test is calculated for the difference of the mean between SRI and conventional funds.

These results suggest the importance of controlling the funds' performance in different market states. To do that, we use the US Business Cycles Expansions and Contractions of NBER¹⁰. Following this we have two recession periods, the first one is the 2008 global financial crisis, which goes from January 2008 to June 2009. The second one starts in March of 2020 with the worldwide Covid-19 pandemic, and since NBER considers that this period has not ended we make January of 2021 the last month of this recession, due to our dataset ending in this month.

¹⁰ <https://www.nber.org/research/data/us-business-cycle-expansions-and-contractions>

To reinforce the importance of the differences between the expansion and recession periods, table 3 reports the differences in the descriptive statistics of the SRI and conventional portfolios between the periods of expansion and recession. The statistics show that in both market states the mean is higher for SRI funds, which can be relevant for our study specially in the recession period.

Table 3: Summary statistics for SRI and conventional portfolios in expansions and recessions periods.

	SRI-EXP	CONV-EXP	SRI-REC	CONV-REC
Observations	164	164	29	29
Mean (%)	0.9005	0.8864	-0.1185	-0.2421
Median (%)	1.1659	1.2177	0.4598	0.3613
Maximum (%)	12.0231	12.1771	12.9713	13.1063
Minimum (%)	-9.9065	-9.4971	-18.5644	-18.4828
Standard Deviation (%)	3.7375	3.6701	7.8962	7.9584
Skewness	-0.2695	-0.3167	-0.4129	-0.3903
Kurtosis	3.5716	3.6764	2.7147	2.6497
ρ-value	0.1214	0.0532	0.6305	0.6426

This table reports the summary statistics for the monthly excess returns of the SRI and conventional funds for expansions and recessions, for the period between January of 2005 to January of 2021. SRI-EXP and CONV-EXP represent the monthly excess returns between the January of 2005 to December of 2007 and July of 2009 to February of 2020. SRI-REC and CONV-REC represent the monthly excess returns between January of 2008 to June of 2009 and March of 2020 to January of 2021. ρ -value (JB) is the probability that the *Jarque-Bera* statistic teste exceeds (in absolute value) the observed value under the null hypothesis of a normal distribution.

As market benchmarks, we use two market indices, so that it is possible to compare the exposure of SRI and conventional funds to a socially responsible index and a conventional index. The socially responsible benchmark used is the FTSE4Good US and for the conventional index, it is used the S&P500. Monthly returns for both indices were collected from Refinitiv Datastream.

The risk-free rate was proxied by the 1-month US Treasury bill rate, and it was obtained from Professor Kenneth French's¹¹ website. Also, from this website, it was collected the risk factors: the *SMB* factor, the *HML* factor, the *MOM* factor, the *RMW* factor, and the *CMA* factor.

¹¹ http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Table 4 reports the descriptive statistics of the two alternative benchmarks and the other risk factors. Both benchmarks in terms of monthly excess returns means are positive, with the FTSE4GOOD US having a higher value. According to the Jarque-Bera (JB) test, both benchmarks do not follow a normal distribution, since we do not accept the null hypothesis of normality at the 5% level.

For the risk factors only the *HML* and *CMA* have negative means. This indicates that, on average, a portfolio of low book-to-market stocks had lower returns, as well as a portfolio of high investment firms had lower returns. Regarding normality, we can only reject the null hypothesis for the for *HML* and *MOM*.

Table 4: Summary statistics of the market benchmarks and risk factors.

	Observations	Mean(%)	Median(%)	Standard Deviation (%)	Minimum (%)	Maximum (%)	Skewness	Kurtosis	Jarque-Bera (JB)	p-value (JB)
S&P500	193	0.7451	1.0788	4.2641	-16.8751	12.8194	-0.6188	4.7657	37.3904	0.0000
FTSE4GOODUS	193	0.7911	1.2328	4.4551	-16.4646	12.5862	-0.5706	4.2972	24.0063	0.0000
SMB	193	0.124	0.16	2.403	-5.03	7.18	0.3074	2.8066	3.3407	0.1882
HML	193	-0.2821	-0.36	2.7812	-13.96	8.22	-0.5284	6.759	122.6107	0.0000
MOM	193	0.1273	0.33	4.5237	-34.39	12.54	-2.448	19.9181	2494.4671	0.0000
RMW	193	0.2129	0.25	1.5802	-3.93	4.94	0.1509	3.1506	0.9146	0.633
CMA	193	-0.0168	-0.06	1.466	-3.35	4.68	0.3661	3.089	4.3746	0.1122

This table reports the summary statistics for the S&P500 index, FTSE4GOOD US index, size (SMB) factor, book-to-market (HML), momentum (MOM) factor, profitability (RMW) factor and the investment (CMA) factor, for the period between January of 2005 to January of 2021. p -value (JB) is the probability that the *Jarque-Bera* statistic teste exceeds (in absolute value) the observed value under the null hypothesis of a normal distribution.

To estimate the conditional models, we selected two public information variables: the dividend yield and the short-term rate. The dividend yield is based on the FTSE US index and the short-term rate variable is proxied by the 3-month US Treasury bill yield. Both variables were obtained from Refinitiv Datastream. These variables tend to be highly autocorrelated. To prevent this problem, we apply the stochastic detrending procedure of Ferson *et al.* (2003), which consists of detrending these variables by subtracting their 12-month moving average. To avoid possible scale effects on the results, these variables are used in their corresponding mean zero values (Bernhardt & Jung, 1979). Besides the variables being used in their zero-mean values they are also

lagged one-month, since investors make their decisions based on past information. Table 5 reports the descriptive statistics of the two public information variables.

Table 5: Summary statistics for public information variables.

	DY	ST
Observation	193	193
Mean (%)	0.0000	0.0000
Median (%)	-0.0071	0.0486
Standard Deviation (%)	0.2034	0.5746
Minimum (%)	-0.6846	-2.0856
Maximum (%)	0.9646	1.0636
Skewness	0.7351	-1.1268
Kurtosis	9.3363	5.1053
Jarque-Bera (JB)	340.2398	76.4878
ρ – value (JB)	0.0000	0.0000

This table reports the summary statistics for the public information variables: short-term interest rate (ST) and dividend yield (DY) for the period between January of 2005 to January of 2021. ρ -value (JB) is the probability that the *Jarque-Bera* statistic teste exceeds (in absolute value) the observed value under the null hypothesis of a normal distribution.

Finally, the correlation matrix of the market benchmarks, risk factors and public information variables is presented in Appendix 3.

5. EMPIRICAL RESULTS

In this chapter, we evaluate the performance of the US SRI and conventional funds that compose the dataset. Fund performance is analyzed at the aggregate level, through two equally-weighted portfolios of funds, and at the individual fund level. The chapter is divided into three parts, starting with the unconditional approach to the models analyzed followed by the conditional approach, and lastly the performance in different markets states.

5.1. Fund Performance Using Unconditional Models

The first part of this chapter analyses the results obtained from the Carhart (1997) four-factor model, Fama and French (2015) five-factor model that adds the profitability (RMW) and the investment (CMA) factors, excluding the momentum (MOM) factor from the Carhart (1997) model, and also the Fama and French (2018) model which combines all the factors from the other two models. The performance is evaluated within an unconditional framework.

Table 6 shows the results for the three models with a conventional (S&P500) benchmark and table 7 reports the results with SRI (FTSE4GOOD US) as benchmark.

Starting with the explanatory power of the models, all the adjusted R^2 values are very high meaning that the models are capable of explaining the portfolios' excess returns. One aspect that is consistent in all three models is that the conventional (S&P500) benchmark explains better the excess returns of both portfolios, since the adjusted R^2 are always higher with the S&P500.

Regarding fund performance, all alphas are negative and not statistically significant, with the exception of the alpha for the conventional portfolio using the Carhart (1997) four-factor model, which shows underperformance in relation to the market at the 10% level¹². At the individual level, the vast majority of funds also have negative alphas however only a few are statistically significant at the 5% level.

¹² At the individual fund level, this model with the S&P500 benchmark is the one presenting the highest number of conventional funds with negative and statistically significant alphas of all unconditional models.

Table 6: Estimates for the unconditional models with the conventional benchmark.

Panel A - Unconditional Carhart (1997) Four-Factor Model								
BENCHMARK S&P500								
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{MOM}	$R^2_{adj.}$ (%)		
SRI (1)	-0.0004	0.9961***	0.3206***	-0.0411*	-0.0133	97.62		
N+	38 [2]	149 [149]	138 [116]	66 [33]	71 [21]			
N-	111 [25]	0 [0]	11 [1]	83 [49]	78 [25]			
Conventional (2)	-0.0008*	1.0053***	0.2964***	-0.0513*	-0.0073	98.59		
N+	83 [2]	447 [447]	403 [327]	212 [122]	208 [67]			
N-	364 [79]	0 [0]	44 [11]	235 [174]	239 [90]			
Difference (1)-(2)	0.0004	-0.0092	0.0242**	0.0102	-0.0060	-0.0039		
Panel B - Unconditional Fama and French (2015) Five-Factor Model								
BENCHMARK S&P500								
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{RMW}	β_{CMA}	$R^2_{adj.}$ (%)	
SRI (1)	-0.0002	0.9803***	0.3158***	-0.0410*	-0.0391	-0.1492***	97.86	
N+	42 [8]	149 [149]	138 [115]	62 [36]	66 [8]	30 [2]		
N-	107[23]	0[0]	11[1]	87[45]	83[24]	119[51]		
Conventional (2)	-0.0005	0.9848***	0.2896***	-0.0409	-0.0502**	-0.1842***	98.95	
N+	136 [7]	447 [447]	403 [294]	209 [114]	157 [24]	84 [12]		
N-	311 [61]	0 [0]	44 [6]	238 [162]	290 [85]	363 [215]		
Difference (1)-(2)	0.0003	-0.0045	0.0263**	-0.0001	0.0112	0.0349**	-0.43	
Panel C – Unconditional Fama and French (2018) Six-Factor Model								
BENCHMARK S&P500								
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{RMW}	β_{CMA}	β_{MOM}	$R^2_{adj.}$ (%)
SRI (1)	-0.0002	0.9786***	0.3153***	-0.0451	-0.0388	-0.1478***	-0.0064	97.85
N+	45 [9]	149 [149]	139 [114]	62 [28]	67 [9]	36 [2]	72 [26]	
N-	104 [23]	0 [0]	10 [1]	87 [40]	82 [24]	113 [54]	77 [23]	
Conventional (2)	-0.0005	0.9849***	0.2896***	-0.0407	-0.0503**	-0.1842***	0.0003	98.94
N+	137 [8]	447 [447]	403 [302]	207 [109]	158 [24]	84 [14]	219 [78]	
N-	310 [63]	0 [0]	44 [7]	240 [159]	289 [82]	363 [216]	228 [87]	
Difference (1)-(2)	0.0003	-0.0063	0.0257**	-0.0044	0.0115	0.0365**	-0.0067*	-0.76

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the multi-factor models regressions with the S&P500 as benchmark, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (*SMB*), book-to-market (*HML*), momentum (*MOM*), profitability (*RMW*) and investment (*CMA*) factors and the adjusted coefficient of determination ($R^2_{adj.}$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

Table 7: Estimates for unconditional models with the SRI benchmark.

Panel A - Unconditional Carhart (1997) Four-Factor Model							
BENCHMARK FTSE4GOOG US							
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{MOM}	$R^2_{adj.}$ (%)	
SRI (1)	-0.0004	0.9314***	0.3638***	-0.0296	0.0085	93.82	
N+	31 [0]	149 [149]	142 [123]	68 [32]	82 [27]		
N-	118 [14]	0 [0]	7 [1]	81 [42]	67 [19]		
Conventional (2)	-0.0008	0.9411***	0.3395***	-0.0398	0.0151	94.70	
N+	74 [1]	447 [447]	426 [349]	220 [105]	247 [73]		
N-	373 [52]	0 [0]	21 [5]	227 [153]	200 [51]		
Difference (1)-(2)	0.0004	-0.0098	0.0243**	0.0102	-0.0065	-0.32	

Panel B - Unconditional Fama and French (2015) Five-Factor Model							
BENCHMARK FTSE4GOOG US							
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{RMW}	β_{CMA}	$R^2_{adj.}$ (%)
SRI (1)	-0.0002	0.9103***	0.3647***	-0.0470	-0.0048	-0.1578**	93.96
N+	41 [2]	149 [149]	144 [119]	57 [25]	76 [9]	34 [1]	
N-	108 [15]	0 [0]	5 [0]	92 [41]	73 [16]	115 [37]	
Conventional (2)	-0.0005	0.9152***	0.3384***	-0.0472	-0.0155	-0.1923***	95.06
N+	125 [3]	447 [447]	427 [340]	199 [96]	179 [20]	100 [11]	
N-	322 [49]	0 [0]	20 [1]	248 [147]	268 [57]	347 [177]	
Difference (1)-(2)	0.0003	-0.0049	0.0263**	0.0003	0.0107	0.0345**	-0.40

Panel C – Unconditional Fama and French (2018) Six-Factor Model								
BENCHMARK FTSE4GOOG US								
Portfolios	α_p	β_{MKT}	β_{SMB}	β_{HML}	β_{RMW}	β_{CMA}	β_{MOM}	$R^2_{adj.}$ (%)
SRI (1)	-0.0002	0.9146***	0.3660***	-0.0373	-0.0051	-0.1609**	0.0155	93.94
N+	40 [2]	149 (149) [149]	144 [119]	63 [19]	75 [10]	40 [2]	86 [30]	
N-	109 [16]	0 [0]	5 [1]	86 [35]	74 [18]	109 [39]	63 [16]	
Conventional (2)	-0.0006	0.9215***	0.3403***	-0.0331	-0.0159	-0.1968***	0.0226	95.07
N+	120 [3]	447 [447]	426 [340]	204 [80]	177 [21]	98 [12]	266 [89]	
N-	327 [49]	0 [0]	21 [1]	243 [131]	270 [60]	349 [181]	181 [46]	
Difference (1)-(2)	0.0003	-0.0069	0.0257**	-0.0042	0.0109	0.0359**	-0.0071*	-0.71

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the multi-factor models regressions with the FTSE4GOOD US as benchmark, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), momentum (MOM), profitability (RMW) and investment (CMA) factors and the adjusted coefficient of determination ($R^2_{adj.}$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***) , 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

In terms of market exposure, all market betas are statistically¹³ significant and positive, which is normal. The values are higher with the conventional (S&P500) benchmark meaning that both types of funds are more exposed to the conventional index. Also, the conventional portfolio demonstrates to be more exposed to the market than the SRI portfolio, since the betas for the conventional portfolio are always superior. However, there is no statistically significant difference regarding the market risk between the portfolios.

Analyzing the other risk factors of the models, the size (*SMB*) and the investment (*CMA*) factors are the most relevant ones, as they have statistically significant coefficients in all models. The coefficients for the size (*SMB*) factor are positive meaning that both types of funds are more exposed to small-cap stocks¹⁴. Also, the coefficients of the SRI portfolio are higher compared to those of their conventional peers which could indicate that SRI funds are even more exposed to small-cap stocks than the conventional funds. The difference between portfolios is statistically significant and positive in every model, confirming that SRI funds are more exposed to small-cap stocks than their conventional peers. At the individual level, in the three models, the majority of funds present a positive coefficient with many of them being statistically significant.

As for the investment (*CMA*) factor, the coefficients are negative and statistically significant demonstrating that both portfolios are more exposed to high investment firms. The values in panels B and C of the two tables for the difference between the portfolios show that the conventional portfolio is even more exposed to high investment firms than the SRI portfolio.

Regarding the book-to-market (*HML*) factor, it does not appear as a significant factor. Nevertheless, considering the S&P500 index and only the Carhart (1997) four-factor and the Fama and French (2015) five-factor models the coefficients are negative and statistically significant at the 10% level. The SRI portfolio demonstrates to be more

¹³ With all the funds exhibiting positive and statistically significant values.

¹⁴ The exposure to small-cap stocks suggests that SRI funds exclude large firms from their holdings and this conclusion is consistent with other studies (e.g. Bauer *et al.*, 2005; Renneboog *et al.*, 2008; Cortez *et al.*, 2012).

exposed to growth stocks in the two models and regarding the conventional portfolio the exposure to growth stocks is verified only with the Carhart (1997) four-factor models.

The profitability (*RMW*) factor only presents statistically significant coefficients for the case of the conventional portfolio with the S&P500 as the market benchmark (table 6), showing that this portfolio is more exposed to weak profitability firms. Lastly, the coefficients of momentum (*MOM*) factor are not statistically significant for any of the portfolios. However, for the Fama and French (2018) six-factor model the coefficients of the difference portfolios are statistically significant at the 10% level and negative, suggesting that the SRI portfolio is less exposed to past winners.

In the following sections of this chapter, we only present the results for the Fama and French (2015) five-factor model since the of momentum (*MOM*) factor is not statically significant throughout the models used. So, with that in mind the other two models, which incorporate this risk factor, do not produce different conclusions from the model we decide to analyze.

5.2. Fund Performance Using Conditional Models

In this last part of this chapter, we evaluate fund performance following Chistopherson *et al.* (1998) approach to allow for time-varying betas and alphas. So, as mentioned in chapter 3, the conditional approach is added to the multi-factor models used in the previous analysis. In these models, we used the short-term rate (ST) and the dividend yield (DY) as public information variables.

Table 8 and 9 reports the results for the conditional Fama and French (2015) five-factor model. The difference between the tables is the benchmark used in model. The results of the Carhart (1997) four-factor model and the Fama and French (2018) six-factor model are in appendixes 4 e 5.

Table 8: Estimates for the conditional Fama and French (2015) five-factor model with the conventional benchmark.

Portfolios	Benchmark S&P500						Difference (1)-(2)
	SRI (1)	N+	N-	Conventional (2)	N+	N-	
α_p	-0.0005	47 [4]	102 [31]	-0.0008*	121 [2]	326 [76]	0.0003
α_{ST}	0.0001	75 [7]	74 [6]	0.0009	274 [27]	173 [6]	-0.0008**
α_{DY}	-0.0033	58 [6]	91 [18]	-0.0019	208 [17]	239 [33]	-0.0014
β_{p*rm}	0.9857***	149 [149]	0 [0]	0.9853***	447 [446]	0 [0]	0.0004
β_{ST*rm}	0.0248	92 [22]	57 [10]	0.0066	235 [33]	212 [23]	0.0182*
β_{DY*rm}	-0.0332	70 [9]	79 [9]	-0.0245	198 [29]	249 [42]	-0.0087
β_{SMB}	0.3258***	137 [109]	12 [1]	0.2985***	405 [301]	42 [6]	0.0273**
β_{ST*SMB}	-0.0272	56 [7]	93 [16]	-0.0222	181 [27]	266 [48]	-0.0050
β_{DY*SMB}	0.1756	110 [21]	39 [2]	0.1203	308 [43]	139 [9]	0.0553
β_{HML}	-0.0171	75 [36]	74 [43]	-0.0156	227 [137]	220 [154]	-0.0015
β_{ST*HML}	0.0507	96 [16]	53 [9]	0.0456	262 [67]	185 [32]	0.0051
β_{DY*HML}	-0.1383**	49 [6]	100 [21]	-0.1946***	165 [16]	282 [98]	0.0563
β_{RMW}	-0.0361	65 [13]	84 [31]	-0.0432**	156 [38]	291 [104]	0.0070
β_{ST*RMW}	0.0222	84 [14]	65 [9]	-0.0135	237 [40]	210 [44]	0.0357
β_{DY*RMW}	-0.0512	68 [6]	81 [16]	-0.1236	184 [17]	263 [60]	0.0724
β_{CMA}	-0.1654***	32 [3]	117 [57]	-0.2057***	70 [29]	377 [237]	0.0403***
β_{ST*CMA}	0.1172**	98 [27]	51 [2]	0.1079**	303 [86]	144 [18]	0.0093
β_{DY*CMA}	0.0066	72 [19]	77 [14]	-0.0588	213 [69]	234 [74]	0.0654
w1	0.4841			0.3888			
w2	0.0000			0.0000			
w3	0.0000			0.0000			
R² adj. (%)	97.93			99.12			-5.25

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the five-factor model regressions with S&P500 as benchmark, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA) factors and the adjusted coefficient of determination ($R^2 adj.$). The predetermined information variables are the short-term rate (ST) and the dividend (DY). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented. W1, w2 and w3 correspond to p values of Wald tests on the null hypothesis of no time-varying alphas, no time-varying betas and no time-varying alphas and betas, respectively.

Table 9: Estimates for the conditional Fama and French (2015) five-factor model with the SRI benchmark.

Benchmark FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0011	30 [2]	119 [26]	-0.0014	63 [0]	384 [68]	0.0003
α_{ST}	0.0010	96 [1]	53 [1]	0.0018	317 [16]	130 [2]	-0.0008**
α_{DY}	-0.0114*	26 [6]	123 [34]	-0.0099*	97 [11]	350 [81]	-0.0015
β_{p*rm}	0.9291***	149 [149]	0 [0]	0.9299***	447 [447]	0 [0]	-0.0007
β_{ST*rm}	0.0614	112 [28]	37 [1]	0.0429	306 [49]	141 [6]	0.0185**
β_{DY*rm}	0.2140**	133 [44]	16 [0]	0.2158**	390 [139]	57 [7]	-0.0018
β_{SMB}	0.3756***	141 [116]	8 [1]	0.3475***	426 [334]	21 [3]	0.0281**
β_{ST*SMB}	0.0551	94 [11]	55 [6]	0.0605	296 [48]	151 [10]	-0.0054
β_{DY*SMB}	0.3049*	127 [23]	22 [2]	0.2481*	375 [58]	72 [7]	0.0568
β_{HML}	0.0349	87 [40]	62 [27]	0.0359	253 [139]	194 [122]	-0.0010
β_{ST*HML}	0.1737*	106 [36]	43 [2]	0.1681*	321 [87]	126 [15]	0.0056
β_{DY*HML}	-0.4963***	24 [2]	125 [50]	-0.5507***	82 [5]	365 [187]	0.0543
β_{RMW}	0.0158	75 [14]	74 [19]	0.0085	192 [39]	255 [68]	0.0073
β_{ST*RMW}	-0.0383	64 [6]	85 [9]	-0.0780	181 [18]	266 [48]	0.0398*
β_{DY*RMW}	-0.0565	61 [5]	88 [7]	-0.1286	164 [5]	283 [43]	0.0721
β_{CMA}	-0.2020***	33 [3]	116 [47]	-0.2424***	79 [20]	368 [209]	0.0404***
β_{ST*CMA}	0.1655	111 [31]	38 [0]	0.1595	341 [88]	106 [8]	0.0060
β_{DY*CMA}	0.3137	105 [23]	44 [7]	0.2504	286 [84]	161 [11]	0.0632
$w1$	0.4841			0.2281			
$w2$	0.0000			0.0000			
$w3$	0.0000			0.0000			
$R^2 adj. (%)$	94.66			95.91			-5.17

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the five-factor model regressions with FTSE4GOOD US as benchmark, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA) factors and the adjusted coefficient of determination ($R^2 adj.$). The predetermined information variables are the short-term rate (ST) and the dividend (DY). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented. W1, w2 and w3 correspond to p values of Wald tests on the null hypothesis of no time-varying alphas, no time-varying betas and no time-varying alphas and betas, respectively.

Analyzing the adjusted R^2 of the model the values are higher for the conventional (S&P500) benchmark meaning that there is a higher explanatory power with this index, which is consistent with the unconditional models.

The alpha shows that the conventional funds underperform the market¹⁵, when the conventional (S&P500) benchmark is used, whereas the SRI portfolio and even the conventional portfolio with the SRI benchmark present a neutral performance. Individually, most of the funds show a neutral performance, although the conventional funds in table 8 are the ones with more statistically significant negative alphas.

The difference between portfolios with either benchmark shows that SRI funds have a lower performance in times of higher short-term rate interest rates compared against conventional funds. The results of table 9 shows that with the FTSE4GOOD US both portfolios present lower performance in times of higher dividend yield.

Regarding market risk, the two portfolios are more exposed to the conventional index since the betas are higher in table 8. Individually all betas are positive and just one fund is not statistically significant when the S&P500 is used. SRI funds tend to be more exposed to market risk in periods of higher short-term interest rates compared to their conventional peers when considering the FTSE4GOOD US (table 9).

The size (*SMB*) factor coefficients for both SRI and conventional funds are positive and statistically significant, meaning that these funds are more exposed to small-cap stocks, as in the unconditional models. The difference between the portfolios is positive and statistically significant, so SRI funds are even more exposed to small-cap stocks than their conventional peers. Also related to this factor and observing table 9, both portfolios seem to increase their exposure to small-cap stocks in periods of high dividend yield.

Furthermore, the coefficients of the book-to-market (*HML*) factor are not statistically significant, yet when analyzing the results for the influence of HML factor in periods of high dividend yield both funds demonstrate to be more exposed to growth

¹⁵ The same happens for the Fama and French (2018) six-factor model.

stocks. Also, with the FTSE4GOOD US benchmark, SRI and conventional funds are more exposed to value stocks in periods of high short-term interest rates.

Concerning the other risk factors, starting with profitability (*RMW*) conventional funds in table 8 present a negative and statistically significant coefficient at the 5% level, so these funds are more exposed to firms with weak profitability. In terms of the investment (*CMA*) factor, both portfolios are more exposed to high investment firms, with SRI funds being less exposed to these firms compared to conventional funds. Besides this conclusion also with S&P500 as a benchmark, the two portfolios demonstrate to reduce their exposure to high invest firms in periods of high short-term interest rates.

To assess the overall significance of the conditioning information variables, we performed several Wald tests. We cannot reject the null hypothesis of the time-varying alphas being equal to zero, meaning that the performance of SRI and conventional funds does not vary with time. For the conditional betas, the null hypothesis that conditional betas are equal to zero is rejected, so we conclude that risk varies over time according to the public information variables.

5.3. Fund Performance in Different Market States

This last part of the chapter focuses on fund performance in different market states. We analyze this matter with two alternative approaches. In the first approach, we use one dummy variable to distinguish periods of recessions and expansions, the variable assumes the value of 1 in recession periods and 0 in expansion periods. In our case the dummy¹⁶ is equal to 1 from January of 2008 to June of 2009 and from March of 2020 to January of 2021, the variable assumes 0 in the rest of the period under analysis. This variable is added to the Carhart (1997) four-factor model, Fama and French (2015) five-factor model and Fama and French (2018) six-factor model. We only present and discuss the results of Fama and French (2015) five-factor model, the results for the other two models are in appendixes 6 e 7.

¹⁶ The dummy variable is computed using the NBER US Business Cycles.

The other approach is also focused on dummy variables, instead of using just one dummy variable and consider the two periods of recession together, we used two dummy variables in order to evaluate if there are differences in fund performance between the 2008 and 2020 recessions. The variable D_1 is for the first recession period (2008 financial crisis) and D_2 is for the second recession period (Covid-19 crisis). For this second approach to measure the performance in different market states we only estimate the results for the Fama and French (2015) five-factor model as the momentum (*MOM*) factor does not appear as a significant factor in our dataset.

Table 10 reports the results for the Fama and French (2015) five-factor model with one dummy variable¹⁷.

Regarding financial performance, the alphas of the SRI and conventional portfolios in expansion periods are not statistically significant meaning that both portfolios have neutral performance. The same happens in recessions except for the conventional portfolio with the S&P500 as the market benchmark. In this case, the conventional portfolio presents a statistically significant (at the 10% level) lower performance in the recession periods¹⁸. This lower performance can be one reason for the evidence of underperformance in the conditional and unconditional models.

For the market risk factor, in times of expansions as in the previous analysis, the exposure is always higher with the conventional (S&P500) benchmark. In troubled times, the beta does not change for the conventional portfolio, yet for the SRI portfolio in the five-factor the beta decreases, the significance level is 10% for this risk factor.

¹⁷ We were not able to estimate the regressions with the dummy variable for all the individual funds as some of them only have returns in one market state.

¹⁸ The lower performance in recession periods by the conventional portfolio it is also verified in the Fama and French (2018) six-factor model.

Table 10: Estimates for the Fama and French (2015) five-factor model with a dummy variable.

Panel: Fama and French (2015) Five-Factor Model							
Panel A: benchmark S&P500							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0002	44[4]	104[23]	-0.0003	147 [13]	296 [74]	0.0001
α_D	-0.0016	56[17]	92[22]	-0.0029*	150 [36]	293 [82]	0.0012
β_{MKT}	0.9875***	148[148]	0[0]	0.9845***	443 [442]	0 [0]	0.0031
β_{MKT*D}	-0.0425*	53[14]	95[30]	-0.0242	183 [36]	260 [63]	-0.0183*
β_{SMB}	0.3064***	135[100]	13[1]	0.2812***	392 [265]	51 [6]	0.0252*
β_{SMB*D}	0.0882	97[16]	51[9]	0.1072*	296 [46]	147 [31]	-0.0191
β_{HML}	-0.0266	71[30]	77[43]	-0.0197	220 [129]	223 [147]	-0.0070
β_{HML*D}	-0.0511	63[13]	85[24]	-0.0828	173 [46]	270 [76]	0.0317**
β_{RMW}	-0.0531*	64[14]	84[32]	-0.0605***	153 [47]	290 [114]	0.0074
β_{RMW*D}	0.0490	88[14]	60[14]	0.0476	245 [76]	198 [52]	0.0014
β_{CMA}	-0.1235***	44[7]	104[50]	-0.1650***	101 [33]	342 [225]	0.0415***
β_{CMA*D}	-0.2206***	39[2]	109[48]	-0.1886**	114 [22]	329 [104]	-0.0320
$R^2_{adj.}$ (%)	97.91			99.05			-2.83
Panel B: benchmark FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	0.0002	58 [4]	90 [14]	0.0001	179 [12]	264 [46]	0.0001
α_D	-0.0058	40 [17]	108 [34]	-0.0071	103 [55]	340 [110]	0.0013
β_{MKT}	0.9225***	148 [148]	0 [0]	0.9206***	443 [443]	0 [0]	0.0019
β_{MKT*D}	-0.0500	49 [13]	99 [22]	-0.0331	187 [28]	256 [32]	-0.0168*
β_{SMB}	0.3777***	142 [124]	6 [1]	0.3519***	428 [341]	15 [1]	0.0257*
β_{SMB*D}	0.0732	79 [9]	69 [19]	0.0929	229 [10]	214 [64]	-0.0197
β_{HML}	0.0084	73 [29]	75 [34]	0.0151	225 [124]	218 [131]	-0.0067
β_{HML*D}	-0.1478	50 [17]	98 [20]	-0.1806	128 [56]	315 [69]	0.0328**
β_{RMW}	-0.0329	63 [11]	85 [29]	-0.0400	159 [35]	284 [91]	0.0071
β_{RMW*D}	0.1590	103 [27]	45 [11]	0.1599	316 [105]	127 [38]	-0.0009
β_{CMA}	-0.1530**	44 [5]	104 [37]	-0.1943***	109 [28]	334 [177]	0.0413***
β_{CMA*D}	-0.2716	26 [2]	122 [54]	-0.2393	73 [8]	370 [125]	-0.0323
$R^2_{adj.}$ (%)	94.31			95.49			-2.83

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the five-factor model regression with a dummy for both S&P500 (Panel A) and FTSE4GOOD US (Panel B) as benchmarks, from January 2005 – January 2021. The dummy variable is added in order to distinguish recessions from expansions periods. It reports for both periods, estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA) factors and the adjusted coefficient of determination ($R^2_{adj.}$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observation. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are

In expansion periods both portfolios are more exposed to small-cap stocks. The exposure to small-cap stocks is superior for SRI funds due to the difference between the portfolios. In recession periods, the results from table 10 show that conventional funds become even more exposed to small-cap stocks. Regarding the book-to-market (*HML*) factor the coefficients are not statistically significant.

Furthermore, related to the profitability (*RMW*) factor there is evidence of both types of funds being more exposed to weak profitability firms in expansions, when considering the conventional (S&P500) benchmark, this evidence is more noted for the conventional funds, since the significance levels are higher. In recessions, the coefficient of this factor remains unchanged.

For the investment (*CMA*) factor, the two portfolios are more exposed to high investment firms in expansion periods. In recessions, considering the FTSE4GOOD US index this factor remains unchanged, yet with the S&P500 index the exposure of both portfolios to high investment firms grows in relation to expansion periods.

Table 11 e 12 reports the results for the second approach to the performance in different market states with the Fama and French (2015) five-factor model with two dummy variables.¹⁹ Again as before the difference between tables is the benchmark used.

Starting with the alphas and for expansion periods the performance remains neutral as in the previous analyses. In this approach, we distinguish the two crises of our period of analysis and by doing this we observe differences in fund performance on the 2008 and the 2020 recessions. Regarding the 2008 recession, both portfolios perform worse specially when considering the FTSE4GOOD US benchmark. For the 2020 recession, the behavior changes and both portfolios show a better performance, again from the significance levels this evidence is more noted with the FTSE4GOOD US benchmark. It should be referred that in the second recession period the SRI funds clearly outperform their conventional peers.

¹⁹ We were not able to estimate the regressions with the dummy variables for all the individual funds as some of them only have returns in one market state.

Table 11: Estimates for the Fama and French (2015) five-factor model with two dummy variables for the conditional benchmark.

Portfolios	Benchmark S&P500						
	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_ρ	-0.0002	31 [3]	60 [11]	-0.0003	103 [11]	164 [43]	0.0001
α_{D1}	-0.0027*	28 [8]	63 [27]	-0.0030**	101 [35]	166 [72]	0.0002
α_{D2}	0.0036***	60 [40]	31 [8]	0.0017*	156 [78]	111 [48]	0.0020***
β_{MKT}	0.9875***	91 [91]	0 [0]	0.9845***	267 [267]	0 [0]	0.0031
$\beta_{MKT \cdot D1}$	-0.0374	26 [8]	65 [24]	-0.0107	121 [31]	146 [70]	-0.0267*
$\beta_{MKT \cdot D2}$	0.0240	49 [17]	42 [8]	0.0399	167 [60]	100 [30]	-0.0159*
β_{SMB}	0.3064***	82 [64]	9 [1]	0.2812***	244 [163]	23 [2]	0.0252*
$\beta_{SMB \cdot D1}$	0.1232**	67 [23]	24 [4]	0.0933**	166 [71]	101 [25]	0.0299
$\beta_{SMB \cdot D2}$	-0.2052***	21 [4]	70 [40]	-0.1509***	100 [26]	167 [79]	-0.0542***
β_{HML}	-0.0266	40 [19]	51 [31]	-0.0197	128 [74]	139 [101]	-0.0070
$\beta_{HML \cdot D1}$	-0.0850*	28 [4]	63 [23]	-0.1321***	55 [12]	212 [83]	0.0471***
$\beta_{HML \cdot D2}$	0.1679***	70 [40]	21 [8]	0.1403***	175 [103]	91 [24]	0.0276***
β_{RMW}	-0.0531*	36 [9]	55 [23]	-0.0605***	83 [28]	184 [81]	0.0074
$\beta_{RMW \cdot D1}$	0.1698*	61 [24]	30 [6]	0.1431	180 [59]	87 [26]	0.0267
$\beta_{RMW \cdot D2}$	-0.2852**	24 [12]	67 [37]	-0.2467**	92 [49]	175 [100]	-0.0385
β_{CMA}	-0.1235***	28 [3]	63 [30]	-0.1650***	61 [19]	206 [145]	0.0415***
$\beta_{CMA \cdot D1}$	-0.3726***	22 [6]	69 [35]	-0.3208***	68 [17]	199 [103]	-0.0518
$\beta_{CMA \cdot D2}$	-0.2819***	30 [11]	61 [40]	-0.2204**	85 [49]	182 [103]	-0.0615***
$R^2_{adj.}$ (%)	97.99			99.20			-5.16

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the five-factor model regressions with two dummy for S&P500 as benchmark, from January 2005 – January 2021. The two dummy variables are added in order to distinguish recessions from expansions periods. It reports for both periods, estimates of performance (α_ρ), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA) and momentum (MOM) factors and the adjusted coefficient of determination ($R^2_{adj.}$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observation. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

Table 12: Estimates for the Fama and French (2015) five-factor model with two dummy variables for the conditional benchmark.

Benchmark FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	0.0002	45 [3]	46 [3]	0.0001	133 [11]	134 [16]	0.0001
α_{D1}	-0.0101***	6 [1]	85 [60]	-0.0104***	23 [4]	244 [155]	0.0003
α_{D2}	0.0072***	76 [55]	15 [3]	0.0053***	205 [121]	62 [15]	0.0019***
β_{MKT}	0.9225***	91 [91]	0 [0]	0.9206***	267 [267]	0 [0]	0.0019
β_{MKT+D1}	-0.0006	43 [2]	48 [9]	0.0333	158 [30]	109 [23]	-0.0340**
β_{MKT+D2}	0.0936*	73 [32]	18 [2]	0.1085**	212 [99]	55 [4]	-0.0149**
β_{SMB}	0.3777***	87 [80]	4 [1]	0.3519***	263 [227]	4 [0]	0.0257*
β_{SMB+D1}	-0.0630	36 [6]	55 [13]	-0.1036	100 [16]	167 [62]	0.0407*
β_{SMB+D2}	-0.4741***	2 [0]	89 [65]	-0.4220***	8 [2]	259 [157]	-0.0521***
β_{HML}	0.0084	46 [18]	45 [26]	0.0151	138 [75]	129 [90]	-0.0067
β_{HML+D1}	-0.1887	11 [1]	80 [18]	-0.2429**	29 [2]	238 [87]	0.0542***
β_{HML+D2}	0.3209***	85 [58]	6 [0]	0.2960***	239 [146]	28 [4]	0.0249***
β_{RMW}	-0.0329	39 [7]	52 [19]	-0.0400	91 [23]	176 [55]	0.0071
β_{RMW+D1}	0.6012***	85 [63]	6 [1]	0.5959***	252 [178]	15 [3]	0.0053
β_{RMW+D2}	-0.5222**	14 [4]	77 [48]	-0.4871**	68 [18]	199 [118]	-0.0351
β_{CMA}	-0.1530**	23 [1]	68 [25]	-0.1943***	53 [12]	214 [122]	0.0413***
β_{CMA+D1}	-0.7004***	8 [1]	83 [53]	-0.6415***	23 [1]	244 [159]	-0.0589*
β_{CMA+D2}	-0.3695**	22 [4]	69 [43]	-0.3097**	77 [30]	190 [114]	-0.0597***
$R^2 adj.$ (%)	94.99			96.36			-4.96

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the five-factor model regressions with two dummy for FTSE4GOOD US as benchmark, from January 2005 – January 2021. The two dummy variables are added in order to distinguish recessions from expansions periods. It reports for both periods, estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA) and momentum (MOM) factors and the adjusted coefficient of determination ($R^2 adj.$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observation. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***), 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

Regarding the market risk, both portfolios have positive and statistically significant coefficients. There is no change in exposure of the funds for this risk in the 2008 crisis, yet for the 2020 crisis both portfolios increase their exposure to the FTSE4GOOD US.

Furthermore, the size (SMB) factor in expansions as in previous analyses is positive meaning that both portfolios are more exposed to small-cap stocks. For the recession periods, in the previous approach the conventional portfolios demonstrate to become even more exposed to small-cap stocks, by separating the two crises we observe

that for the 2008 recession the trend is the same for the conventional funds, and in addition the SRI funds also become more exposed to small-cap stocks, considering the S&P500 benchmark. In the 2020 recession and considering the two benchmarks both portfolios change behavior and become less exposed to small-cap stocks.

Concerning the profitability (*RMW*) factor we observe in panel A that in expansion periods both portfolios are more exposed to weak profitability firms, especially the conventional portfolio. Now considering only the 2008 recession, SRI and conventional funds become less exposed to weak profitability firms than in expansion periods, and for the 2020 recession period both types of funds increase their exposure to weak profitability firms compared to expansion periods. This is interesting since we observe a change in the influence of this factor on the fund performance depending on the recession.

Lastly, for the investment (*CMA*) factor as in previous analyses in expansion periods both portfolios show to be more exposed to high investment firms and for both recession periods the exposure for these types of firms increases, especially in the 2008 financial crisis since the values are higher for the first dummy variable.

In general, both portfolios have a neutral performance in expansion periods. For recessions, if we use the two periods of crisis aggregated only the conventional funds show underperformance. Considering the two periods of recessions periods separately the SRI portfolio shows a worse performance in the 2008 recession, yet the same portfolio has a better performance in the 2020 recession relative to the expansion period. The conventional portfolio has the same behavior, nevertheless the SRI portfolio clearly overperforms their conventional peers in the 2020 recession since the value for the difference between portfolios is positive and statistically significant. Also, the coefficients of some risk factors like the size (*SMB*) and profitability (*RMW*) suffer changes depending on the recession analyzed.

6. CONCLUSION

Socially responsible investments have received increasing attention from investors over the last decades worldwide, especially in the US. With this in mind, academics debate the financial impact of investing with social criteria with the question “doing well while doing good?” being at the center of discussion. The SRI world is composed of various assets. We decide to study SRI funds due to the fact that this financial asset is considered by many the main vehicle of SRI.

This dissertation evaluates and compares the performance of 149 US SRI equity funds and 447 matched US conventional funds over the period January 2005 to January 2021, using both a conventional index and an SRI index as market benchmarks. Fund performance is evaluated using the Carhart (1997) four-factor model, Fama and French (2015) five-factor model, and Fama and French (2018) six-factor model, in their unconditional and conditional versions.

Besides analyzing the performance of the funds, this study focuses also on evaluating the performance across different market states by using the unconditional models with the addition of a dummy variable that distinguishes periods of expansions and recession according to the NBER US business cycles. The purpose is to observe whether SRI funds can reduce downside risk, as Nofsinger and Varma (2014), which is an advantage to investors in a financial crisis. Our aim is to analyze the impact of the 2008 global financial crisis and the 2020 pandemic crisis on SRI funds' performance.

Overall, the results of our study regarding fund performance, without distinguishing market states, show that SRI funds have a neutral performance whatever the model used. In the case of their conventional peers, the results shows that their performance varies between neutral and some underperformance, this evidence is also verified with the conditional models where with the conventional benchmark the portfolio shows again some underperformance. The size (SMB) and investment (CMA) risk factors are the most relevant ones, with both types of funds being more exposed to small-cap stocks and high investment firms.

Concerning the benchmarks, the conventional (S&P500) index had in all models a higher explanatory power of the excess returns for both portfolios. As expected, the conditional approach leads to an increase of the explanatory power of the models, as in Cortez *et al.* (2009).

When controlling the analysis for expansion and recession periods, the SRI and conventional funds present neutral performance, nevertheless using the Fama and French (2015) and Fama and French (2018) models there is some evidence that conventional funds perform worse in recession periods. This evidence can be the reason for the conventional funds demonstrating some underperformance in the unconditional and conditional models referred before.

If we analyze the two recession periods in our period of analysis separately, we reach an interesting conclusion that both types of funds perform worse in the 2008 recession period and show a higher performance in the 2020 recession period. So we can state that the 2008 global financial crisis was tougher to fund performance than the Covid-19 recession. In addition, there is evidence to show that SRI funds clearly have a higher performance in the pandemic recession than their conventional peers. Again there is a tendency for both types of funds to invest more in small-cap stocks and high investment firms, and the exposure to these types of firms increases in recession periods for SRI and conventional funds.

In general, investing in US SRI funds does not put investors at a disadvantage since these types of funds exhibit neutral performance, while their conventional peers present either neutral or some evidence of underperformance when a conventional index is used as the market benchmark. Regarding the possibility of SRI funds serving as some type of insurance or limiting downside risk, there is some evidence supporting these ideas, since SRI demonstrate to not perform worse in recessions, in contrast to the conventional funds that experience a worse performance. Even though in the 2008 recession both type of funds have a worse performance, in the 2020 recession SRI funds clearly perform better compared to their conventional peers. So investors can look at US SRI funds as a good way to diversify their portfolios and minimize some possible losses from conventional funds in periods of market turmoils.

For future research, we suggest extending this study to include also European funds to evaluate the performance in the two largest SRI markets and compare their performances. In addition, another interesting possibility is to deepen the research on the differences in performance between the 2008 global financial crisis and the Covid-19 recession.

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Appendixes

Appendixes 1: Surviving SRI and conventional mutual funds in the sample.

The list of 119 surviving funds and 357 surviving conventional funds. It is specified, for each fund the Name, Inception Date, Lipper Global Classification, Lipper Objective, and Total Net Assets.

	Fund	Name	Inception Date	Lipper Global Classification	Lipper Objective	Total Net Assets
1	SRI	Northern Lights Fund Trust: 13D Activist Fund; Class A Shares	28/12/11	Equity US Sm&Mid Cap	G	26,22
	Conventional	FundVantage Trust: Private Capital Management Value Fund; Class I Shares	28/05/10	Equity US Sm&Mid Cap	G	24,8714
		Wells Fargo Funds Trust: Wells Fargo Common Stock Fund; Class R6 Shares	01/07/13	Equity US Sm&Mid Cap	G	31,5906
		First Trust Series Fund: First Trust/Confluence Small Cap Value Fund; Class I Shares	13/01/11	Equity US Sm&Mid Cap	G	34,276
2	SRI	Alger Funds II: Alger Responsible Investing Fund; Class A Shares	11/01/07	Equity US	G	40,80
	Conventional	Columbia Funds Series Trust II: Columbia Disciplined Core Fund; Class C Shares	19/09/07	Equity US	G	41,54
		Wisconsin Capital Funds, Inc: Plumb Equity Fund	29/05/07	Equity US	G	30,2871
		Advisors Series Trust: Chase Growth Fund; Institutional Class Shares	31/01/07	Equity US	G	32,9425
3	SRI	Allied Asset Advisors Funds: Iman Fund	28/08/00	Equity US	G	142,40
	Conventional	BNY Mellon Funds Trust: BNY Mellon Large Cap Stock Fund; Class M Shares	16/10/00	Equity US	G	136,40
		AB Core Opportunities Fund, Inc; Class A Shares	18/01/01	Equity US	G	132,71
		North Country Funds: North Country Equity Growth Fund	05/04/01	Equity US	G	151,33
4	SRI	Amana Mutual Funds Trust: Income Fund; Investor Class Shares	14/06/93	Equity US Income	EI	787,82
	Conventional	American Century Capital Portfolios, Inc: Equity Income Fund; Class A Shares	23/04/97	Equity US Income	EI	786,75
		BlackRock Equity Dividend Fund; Investor C Shares	23/05/96	Equity US Income	EI	660,21
		Nuveen Investment Funds, Inc: Nuveen Dividend Value Fund; Class I Shares	16/08/94	Equity US Income	EI	452,15
5	SRI	Amana Mutual Funds Trust: Growth Fund; Investor Class Shares	18/07/95	Equity US	G	1 537,49
	Conventional	SEI Institutional Managed Trust: Large Cap Growth Fund; Class F Shares	07/03/95	Equity US	G	1 445,15
		Harris Associates Investment Trust: Oakmark Select Fund; Investor Class Shares	14/11/96	Equity US	G	1 608,99
		Fidelity Capital Trust: Fidelity Disciplined Equity Fund	05/01/94	Equity US	G	1 634,32
6	SRI	Aberdeen Funds: Aberdeen Focused US Equity Fund; Class A Shares	01/11/01	Equity US	G	8,2091
	Conventional	Massachusetts Investors Growth Stock Fund; Class 529C Shares	20/08/02	Equity US	G	6,7029
		State Street Institutional Funds: State Street Institutional Premier Growth Equity Fund; Service Class Shares	23/10/01	Equity US	G	9,0133
		American Century Quantitative Equity Funds, Inc: Equity Growth Fund; Class C Shares	04/04/03	Equity US	G	5,8097
7	SRI	Aberdeen Funds: Aberdeen US Multi-Cap Equity Fund; Class A Shares	19/07/01	Equity US	G	290,5637
	Conventional	Hotchkis & Wiley Funds: Hotchkis & Wiley Value Opportunities Fund; Class I Shares	31/12/02	Equity US	G	273,7153
		Calamos Investment Trust: Calamos Growth Fund; Class I Shares	01/09/00	Equity US	G	325,1201
		Fidelity Destiny Portfolios: Fidelity Advisor Diversified Stock Fund; Class A Shares	26/05/00	Equity US	G	333,1882
8	SRI	Advisors Series Trust: American Trust Allegiance Fund	16/11/98	Equity US	G	23,90
	Conventional	Harris Associates Investment Trust: Oakmark Select Fund; Service Class Shares	04/01/99	Equity US	G	22,88
		Prudential Investment Portfolios 9: PGIM QMA Large-Cap Core Equity Fund; Class C Shares	15/03/99	Equity US	G	22,837

		Voya Equity Trust: Voya Large-Cap Growth Fund; Class C Shares	29/06/99	Equity US	G	21,31
9	SRI	American Century Mutual Funds, Inc: Sustainable Equity Fund; Class A Shares	30/11/04	Equity US	GI	60,40
	Conventional	Investment Managers Series Trust: Zacks All-Cap Core Fund; Institutional Class Shares	22/12/05	Equity US	GI	49,96
		Delaware Group Equity Funds II: Delaware Value Fund; Class R Shares	02/09/05	Equity US	GI	53,34
		MFS Series Trust I: MFS Core Equity Fund; Class R3 Shares	01/04/05	Equity US	GI	67,93
10	SRI	Ariel Investment Trust: Ariel Fund; Investor Class Shares	16/03/87	Equity US Sm&Mid Cap	SG	1 174,19
	Conventional	Longleaf Partners Funds Trust: Longleaf Partners Small-Cap Fund	21/04/89	Equity US Sm&Mid Cap	SG	1 792,70
		AB Cap Fund, Inc: AB Small Cap Growth Portfolio; Class A Shares	31/03/86	Equity US Sm&Mid Cap	SG	994,05
		Janus Investment Fund: Janus Henderson Venture Fund; Class T Shares	07/05/85	Equity US Sm&Mid Cap	SG	970,17
11	SRI	Ariel Investment Trust: Ariel Focus Fund; Investor Class Shares	01/02/06	Equity US	G	35,51
	Conventional	Lazard Funds, Inc: Lazard US Equity Concentrated Portfolio; Open Shares	04/10/05	Equity US	G	34,84
		Professionally Managed Portfolios: CAN SLIM Select Growth Fund	04/10/05	Equity US	G	32,54
		American Century Quantitative Equity Funds, Inc: Disciplined Growth Fund; Class A Shares	30/09/05	Equity US	G	38,42
12	SRI	Artisan Partners Funds, Inc: Artisan Small Cap Fund; Investor Shares	24/04/95	Equity US Sm&Mid Cap	SG	1 081,85
	Conventional	AB Cap Fund, Inc: AB Small Cap Growth Portfolio; Advisor Class Shares	17/04/97	Equity US Sm&Mid Cap	SG	1 417,60
		Royce Fund: Royce Total Return Fund; Investment Class Shares	28/10/96	Equity US Sm&Mid Cap	SG	882,93
		Fidelity Capital Trust: Fidelity Stock Selector Small Cap Fund; Stock Selector Small Cap Shares	02/08/93	Equity US Sm&Mid Cap	SG	1 130,55
13	SRI	Artisan Partners Funds, Inc: Artisan Mid Cap Fund; Investor Shares	04/03/98	Equity US Sm&Mid Cap	MC	2 299,96
	Conventional	BNY Mellon Funds Trust: BNY Mellon Mid Cap Multi-Strategy Fund; Class M Shares	16/10/00	Equity US Sm&Mid Cap	MC	2 607,72
		BlackRock Funds: BlackRock Mid-Cap Growth Equity Portfolio; Investor A Shares	27/01/99	Equity US Sm&Mid Cap	MC	2 181,92
		Baird Funds, Inc: Baird MidCap Fund; Institutional Class Shares	02/02/01	Equity US Sm&Mid Cap	MC	1 944,44
14	SRI	Aspiration Funds: Aspiration Redwood Fund	16/11/15	Equity US	GI	112,57
	Conventional	Transamerica Funds: Transamerica Large Core; Class I3 Shares	10/03/17	Equity US	GI	119,36
		Touchstone Strategic Trust: Touchstone Large Cap Focused Fund; Institutional Class Shares	23/12/14	Equity US	GI	149,9801
		SEI Institutional Managed Trust: Large Cap Fund; Class Y Shares	31/12/14	Equity US	GI	108,58
15	SRI	Schwartz Investment Trust: Ave Maria Value Fund	19/07/01	Equity US Sm&Mid Cap	G	236,78
	Conventional	Hennessy Funds Trust: Hennessy Cornerstone Mid Cap 30 Fund; Investor Class Shares		Equity US Sm&Mid Cap	G	211,3345
		Kinetics Mutual Funds, Inc: Paradigm Fund; No Load Class		Equity US Sm&Mid Cap	G	253,13
		Federated Equity Funds: Federated Kaufmann Fund; Class C Shares		Equity US Sm&Mid Cap	G	154,7791
16	SRI	Schwartz Investment Trust: Ave Maria Growth Fund	01/05/03	Equity US	G	922,34
	Conventional	Virtus Asset Trust: Virtus Zevenbergen Innovative Growth Stock Fund; Class I Shares	01/03/04	Equity US	G	908,16
		AMCAP Fund; Class R4 Shares	31/05/02	Equity US	G	891,20
		Trust for Advised Portfolios: Miller Opportunity Trust; Class I Shares	12/02/04	Equity US	G	989,70
17	SRI	Schwartz Investment Trust: Ave Maria Rising Dividend Fund	10/05/05	Equity US Income	EI	840,63
	Conventional	Fidelity Financial Trust: Fidelity Equity Dividend Income Fund; Class K	15/05/08	Equity US Income	EI	693,7676
		Federated Equity Funds: Federated Strategic Value Dividend Fund; Class C Shares	30/03/05	Equity US Income	EI	748,28
		Schwab Capital Trust: Schwab Dividend Equity Fund	02/09/03	Equity US Income	EI	631,44
18	SRI	Forum Funds II: Baywood SociallyResponsible Fund; Institutional Class Shares	31/01/05	Equity US	G	4,09
	Conventional	AB Core Opportunities Fund, Inc; Class I Shares	07/03/05	Equity US	G	4,36
		Dunham Funds: Dunham Large Cap Value Fund; Class C Shares	13/12/04	Equity US	G	4,21

		SEI Institutional Managed Trust: Large Cap Growth Fund; Class I Shares	16/11/05	Equity US	G	3,58
19	SRI	BlackRock Funds: BlackRock Impact US Equity Fund; Institutional Class Shares	05/10/15	Equity US	GI	103,76
	Conventional	American Century Capital Portfolios, Inc: Value Fund; Class Y Shares	10/04/17	Equity US	GI	87,87
		John Hancock Funds II: Blue Chip Growth Fund; Class C Shares	27/03/15	Equity US	GI	94,11
		AMG Funds: AMG Yacktman Focused Fund - Security Selection Only; Class I Shares	30/01/17	Equity US	GI	119,25
20	SRI	Boston Trust Walden Funds: Boston Trust Small Cap Fund	09/01/06	Equity US Sm&Mid Cap	SG	552,62
	Conventional	Victory Portfolios: Victory Integrity Small-Cap Value Fund; Class Y Shares	18/07/05	Equity US Sm&Mid Cap	SG	547,29
		AMG Funds IV: AMG River Road Small Cap Value Fund; Class I Shares	13/12/06	Equity US Sm&Mid Cap	SG	593,63
		Optimum Fund Trust: Optimum Small-Mid Cap Value Fund; Institutional Class Shares	23/07/03	Equity US Sm&Mid Cap	SG	563,67
21	SRI	Professionally Managed Portfolios: Boston Common ESG Impact US Equity Fund	30/04/12	Equity US	G	46,71
	Conventional	SunAmerica Specialty Series: AIG Focused Growth Fund; Class W Shares	24/01/12	Equity US	G	45,94
		AQR Funds: AQR Large Cap Momentum Style Fund; Class N Shares	17/12/12	Equity US	G	49,80
		Managed Portfolio Series: Great Lakes Large Cap Value Fund; Institutional Class Shares	28/09/12	Equity US	G	40,59
22	SRI	Boston Trust Walden Funds: Boston Trust Equity Fund	01/10/03	Equity US	G	165,05
	Conventional	MainStay Funds: MainStay Large Cap Growth Fund; Class R2 Shares	01/04/05	Equity US	G	171,71
		Sterling Capital Funds: Sterling Capital Special Opportunities Fund; Institutional Class Shares	18/06/03	Equity US	G	180,3312
		Diamond Hill Funds: Diamond Hill All Cap Select Fund; Class I Shares	30/12/05	Equity US	G	163,10
23	SRI	Boston Trust Walden Funds: Walden Equity Fund	22/06/99	Equity US	G	253,86
	Conventional	American Century Quantitative Equity Funds, Inc: Equity Growth Fund; Class I Shares	26/02/98	Equity US	G	282,8076
		William Blair Funds: Growth Fund; Class I Shares	30/09/99	Equity US	G	240,00
		Davis New York Venture Fund, Inc: Davis New York Venture Fund; Class C Shares	08/09/99	Equity US	G	217,52
24	SRI	Boston Trust Walden Funds: Boston Trust Midcap Fund	02/10/07	Equity US Sm&Mid Cap	G	135,89
	Conventional	Victory Portfolios: Victory RS Value Fund; Class Y Shares	17/07/07	Equity US Sm&Mid Cap	G	136,54
		Putnam Funds Trust: Putnam Small Cap Growth Fund; Class Y Shares	25/01/07	Equity US Sm&Mid Cap	G	133,77
		Hennessy Funds Trust: Hennessy Cornerstone Mid Cap 30 Fund; Institutional Class Shares	03/03/08	Equity US Sm&Mid Cap	G	151,0793
25	SRI	Brown Advisory Funds: Brown Advisory Sustainable Growth Fund; Investor Class Shares	29/06/12	Equity US	G	1 533,78
	Conventional	Advisers Investment Trust: Independent Franchise Partners US Equity Fund	28/02/12	Equity US	G	1776,666
		Transamerica Funds: Transamerica Large Cap Value; Class I2 Shares	16/11/10	Equity US	G	1 684,95
		USAA Mutual Funds Trust: Growth Fund; Institutional Class Shares	27/10/11	Equity US	G	1220,602
26	SRI	BNY Mellon Sustainable US Equity Fund, Inc; Class A Shares	25/07/00	Equity US	GI	39,4509
	Conventional	AB Relative Value Fund; Class C Shares	09/09/99	Equity US	GI	30,3463
		Sterling Capital Funds: Sterling Capital Behavioral Large Cap Value Equity Fund; Class A Shares	09/08/99	Equity US	GI	26,7889
		Natixis Funds Trust II: Natixis Oakmark Fund; Class Y Shares	12/05/99	Equity US	GI	36,6559
27	SRI	Calvert World Values Fund, Inc: Calvert Mid-Cap Fund; Class A Shares	17/10/95	Equity US Sm&Mid Cap	MC	163,91
	Conventional	Fidelity Advisor Series I: Fidelity Advisor Stock Selector Mid Cap Fund; Class Z Shares	20/02/96	Equity US Sm&Mid Cap	MC	149,71
		Delaware Group Equity Funds IV: Delaware Smid Cap Growth Fund; Class C Shares	14/03/97	Equity US Sm&Mid Cap	MC	153,73
		MFS Series Trust IV: MFS Mid Cap Growth Fund; Class C Shares	26/06/97	Equity US Sm&Mid Cap	MC	119,00
28	SRI	Calvert Impact Fund, Inc: Calvert Small Cap Fund; Class A Shares	01/10/04	Equity US Sm&Mid Cap	SG	216,16
	Conventional	Federated Equity Funds: Federated Kaufmann Small Cap Fund; Class R Shares	08/11/05	Equity US Sm&Mid Cap	SG	221,69
		Deutsche DWS Investment Trust: DWS Small Cap Growth Fund; Class S Shares	21/12/04	Equity US Sm&Mid Cap	SG	197,31

		Principal Funds, Inc: SmallCap Fund; Class J Shares	31/10/03	Equity US Sm&Mid Cap	SG	201,79
29	SRI	Legg Mason Partners Equity Trust: ClearBridge Large Cap Growth Fund; Class A Shares	04/09/97	Equity US	G	2 967,09
	Conventional	Fidelity Advisor Series I: Fidelity Advisor Growth Opportunities Fund; Class A Shares	24/02/97	Equity US	G	3 036,89
		Laudus Trust: Laudus US Large Cap Growth Fund	25/10/99	Equity US	G	2949,391
		Fidelity Hastings Street Trust: Fidelity Growth Discovery Fund	15/04/98	Equity US	G	2 524,59
30	SRI	Legg Mason Partners Equity Trust: ClearBridge Sustainability Leaders Fund; Class I Shares	31/03/15	Equity US	G	17,51
	Conventional	Mutual Fund Series Trust: Catalyst Insider Buying Fund; Class I Shares	06/06/14	Equity US	G	18,91
		John Hancock Funds II: Fundamental All Cap Core Fund; Class R6 Shares	27/03/15	Equity US	G	18,29
		Russell Investment Company: Multifactor US Equity Fund; Class M Shares	31/07/14	Equity US	G	17,20
31	SRI	Legg Mason Partners Equity Trust: ClearBridge Dividend Strategy Fund; Class A Shares	20/01/93	Equity US Income	EI	3 712,05
	Conventional	Fidelity Financial Trust: Fidelity Equity Dividend Income Fund	08/07/91	Equity US Income	EI	4 411,59
		BlackRock Equity Dividend Fund; Investor A Shares	07/11/94	Equity US Income	EI	4 784,04
		American Century Capital Portfolios, Inc: Equity Income Fund; Investor Class Shares	22/11/94	Equity US Income	EI	4 196,06
32	SRI	Legg Mason Partners Equity Trust: ClearBridge Small Cap Value Fund; Class A Shares	23/03/99	Equity US Sm&Mid Cap	SG	89,50
	Conventional	Loomis Sayles Funds I: Loomis Sayles Small Cap Value Fund; Retail Class	12/12/97	Equity US Sm&Mid Cap	SG	93,13
		Franklin Strategic Series: Franklin Small Cap Growth Fund; Class C Shares	30/06/00	Equity US Sm&Mid Cap	SG	82,37
		T Rowe Price Small-Cap Value Fund, Inc; Advisor Class Shares	07/04/00	Equity US Sm&Mid Cap	SG	92,85
33	SRI	Legg Mason Partners Equity Trust: ClearBridge Small Cap Growth Fund; Class A Shares	05/08/99	Equity US Sm&Mid Cap	SG	1 122,77
	Conventional	State Street Institutional Funds: State Street Institutional Small-Cap Equity Fund; Investment Class Shares	22/01/99	Equity US Sm&Mid Cap	SG	1 127,52
		Franklin Strategic Series: Franklin Small Cap Growth Fund; Class A Shares	31/05/00	Equity US Sm&Mid Cap	SG	1 044,98
		Loomis Sayles Funds II: Loomis Sayles Small Cap Growth Fund; Institutional Class	16/12/98	Equity US Sm&Mid Cap	SG	1 196,12
34	SRI	Valued Advisers Trust: Dana Epiphany ESG Equity Fund; Institutional Class Shares	29/03/10	Equity US	G	16,47
	Conventional	Principal Funds, Inc: Principal Capital Appreciation Fund; Class R-3 Shares	02/03/10	Equity US	G	15,61
		Trust for Professional Managers: Jensen Quality Value Fund; Class J Shares	31/03/10	Equity US	G	17,17
		Hennessy Funds Trust: Hennessy Cornerstone Large Growth Fund; Institutional Class Shares	20/03/09	Equity US	G	14,13
35	SRI	DFA Investment Dimensions Group Inc: US Social Core Equity 2 Portfolio; Institutional Class Shares	19/11/07	Equity US	G	1 405,93
	Conventional	SEI Institutional Investments Trust: US Managed Volatility Fund; Class A Shares	09/01/09	Equity US	G	1 330,01
		Fidelity Securities Fund: Fidelity Dividend Growth Fund; Class K Shares	15/05/08	Equity US	G	1 361,64
		Fidelity Magellan Fund; Class K Shares	15/05/08	Equity US	G	1 093,75
36	SRI	DFA Investment Dimensions Group Inc: US Sustainability Core 1 Portfolio; Institutional Class Shares	11/04/08	Equity US	G	3 669,60
	Conventional	Fidelity Devonshire Trust: Fidelity Series All-Sector Equity Fund	23/10/08	Equity US	G	3 630,97
		Janus Investment Fund: Janus Henderson Forty Fund; Class T Shares	06/07/09	Equity US	G	3 863,08
		RBB Fund, Inc: Free Market US Equity Fund; Institutional Class Shares	31/12/07	Equity US	G	3 036,26
37	SRI	Domini Investment Trust: Domini Impact Equity Fund; Class R Shares	28/11/03	Equity US	G	6,7304
	Conventional	Delaware Group Adviser Funds: Delaware US Growth Fund; Class R Shares	23/07/03	Equity US	G	6,404
		Victory Portfolios: Victory Newbridge Large Cap Growth Fund; Class A Shares	31/12/03	Equity US	G	8,4765
		Principal Funds, Inc: LargeCap Value Fund III; Class R-5 Shares	25/06/03	Equity US	G	7,727
38	SRI	Driehaus Mutual Funds: Driehaus Small Cap Growth Fund; Institutional Share Class	21/08/17	Equity US Sm&Mid Cap	SG	293,42
	Conventional	Baron Investment Funds Trust: Baron Small Cap Fund; Class R6 Shares	29/01/16	Equity US Sm&Mid Cap	SG	235,45
		Goldman Sachs Trust: Goldman Sachs Small Cap Growth Insights Fund; Class R6 Shares	31/07/15	Equity US Sm&Mid Cap	SG	286,46

		John Hancock Funds II: New Opportunities Fund; Class A Shares	27/05/15	Equity US Sm&Mid Cap	SG	296,55
39	SRI	Deutsche DWS Investment Trust: DWS ESG Core Equity Fund; Class S Shares	12/08/05	Equity US	MC	100,94
	Conventional	Principal Funds, Inc: MidCap Fund; Class R-1 Shares	11/08/06	Equity US	MC	99,7315
		PGIM Jennison Mid-Cap Growth Fund; Class R Shares	06/12/05	Equity US	MC	137,1074
		Goldman Sachs Trust: Goldman Sachs Growth Opportunities Fund; Investor Class Shares	03/12/07	Equity US	MC	94,9642
40	SRI	Eaton Vance Mutual Funds Trust: Eaton Vance Stock Fund; Class A Shares	02/08/05	Equity US	G	58,62
	Conventional	AB Portfolios: AB Growth Fund; Class I Shares	07/03/05	Equity US	G	62,90
		MainStay Funds: MainStay Large Cap Growth Fund; Class R3 Shares	28/04/06	Equity US	G	60,61
		Fidelity Destiny Portfolios: Fidelity Advisor Diversified Stock Fund; Class I Shares	19/07/05	Equity US	G	61,10
41	SRI	Eaton Vance Mutual Funds Trust: Eaton Vance Tax-Managed Equity Asset Allocation Fund; Class A Shares	26/07/02	Equity US	G	422,50
	Conventional	Franklin Custodian Funds: Franklin Growth Fund; Class R Shares	12/04/02	Equity US	G	431,58
		Fidelity Securities Fund: Fidelity Blue Chip Value Fund	18/06/03	Equity US	G	415,52
		Columbia Funds Series Trust II: Columbia Disciplined Core Fund; Institutional 3 Class Shares	24/04/03	Equity US	G	395,55
42	SRI	Eaton Vance Mutual Funds Trust: Eaton Vance Tax-Managed Value Fund; Class A Shares	09/08/00	Equity US	G	403,43
	Conventional	Forum Funds: DF Dent Premier Growth Fund	18/07/01	Equity US	G	392,42
		Thrivent Mutual Funds: Thrivent Large Cap Growth Fund; Class A Shares	22/08/00	Equity US	G	386,38
		MassMutual Select Funds: MassMutual Select Blue Chip Growth Fund; Administrative Class Shares	25/06/01	Equity US	G	402,86
43	SRI	Eaton Vance Growth Trust: Eaton Vance Focused Growth Opportunities Fund; Class I Shares	08/03/11	Equity US	G	245,89
	Conventional	USAA Mutual Funds Trust: Value Fund; Institutional Class Shares	27/10/11	Equity US	G	246,52
		Johnson Mutual Funds Trust: Johnson Enhanced Return Fund	12/04/10	Equity US	G	253,32
		Franklin Custodian Funds: Franklin DynaTech Fund; Class R Shares	14/09/11	Equity US	G	246,6882
44	SRI	Eaton Vance Mutual Funds Trust: Eaton Vance Tax-Managed Growth Fund 1.1; Class A Shares	09/07/96	Equity US	G	1 721,73
	Conventional	Calamos Investment Trust: Calamos Growth Fund; Class A Shares	20/02/97	Equity US	G	1 221,9
		Prudential Investment Portfolios, Inc: PGIM Jennison Growth Fund; Class A Shares	13/11/95	Equity US	G	1 939,00
		Fidelity Advisor Series I: Fidelity Advisor Equity Growth Fund; Class M Shares	18/12/92	Equity US	G	1 746,94
45	SRI	Eaton Vance Mutual Funds Trust: Eaton Vance Tax-Managed Multi-Cap Growth Fund; Class A Shares	09/01/03	Equity US	MC	113,81
	Conventional	Principal Funds, Inc: MidCap Fund; Class R-4 Shares	25/06/03	Equity US	MC	80,0506
		First Eagle Funds: First Eagle US Value Fund; Class C Shares	05/10/01	Equity US	MC	105,9231
		American Century Capital Portfolios, Inc: Mid Cap Value Fund; Class R Shares	29/07/05	Equity US	MC	89,6703
46	SRI	Eaton Vance Growth Trust: Eaton Vance Focused Value Opportunities Fund; Class I Shares	07/03/11	Equity US	GI	209,02
	Conventional	Columbia Funds Series Trust II: Columbia Select Large Cap Value Fund; Advisor Class Shares	09/11/12	Equity US	GI	157,4142
		American Century Capital Portfolios, Inc: Large Company Value Fund; Class R6 Shares	26/07/13	Equity US	GI	175,3339
		MFS Series Trust XI: MFS Blended Research Core Equity Fund; Class R6 Shares	01/06/12	Equity US	GI	195,38
47	SRI	Gabelli ESG Fund, Inc; Class I Shares	01/06/07	Equity US	G	12,40
	Conventional	World Funds Trust: Applied Finance Core Fund; Investor Class Shares	02/06/06	Equity US	G	11,9988
		Nuveen Investment Trust: Nuveen NWQ Large-Cap Value Fund; Class I Shares	18/01/07	Equity US	G	12,59
		Goldman Sachs Trust: Goldman Sachs Capital Growth Fund; Class R Shares	03/12/07	Equity US	G	10,1912
48	SRI	Glenmede Fund, Inc: Responsible ESG US Equity Portfolio	22/12/15	Equity US	G	24,97
	Conventional	Baron Investment Funds Trust: Baron Opportunity Fund; Class R6 Shares	31/08/16	Equity US	G	28,97
		T Rowe Price Quantitative Management Funds, Inc: T Rowe Price QM US Value Equity Fund	26/02/16	Equity US	G	19,53

		World Funds Trust: Union Street Partners Value Fund; Advisor Class Shares	27/04/16	Equity US	G	21,60
49	SRI	Glenmede Fund, Inc: Women in Leadership US Equity Portfolio	22/12/15	Equity US	G	23,89
	Conventional	Transamerica Funds: Transamerica Large Cap Value; Class R6 Shares	29/05/15	Equity US	G	29,1506
		PIMCO Equity Series: PIMCO RAE US Fund; Class I-2 Shares	05/06/15	Equity US	G	19,79
		Northern Lights Fund Trust: Athena Behavioral Tactical Fund; Class I Shares	15/05/15	Equity US	G	20,02
50	SRI	GMO Trust: GMO Quality Fund; Class III Shares	27/02/04	Equity US	G	3 401,51
	Conventional	Columbia Funds Series Trust II: Columbia Disciplined Core Fund; Class A Shares	23/12/04	Equity US	G	3 683,07
		T Rowe Price Growth Stock Fund, Inc; Advisor Class Shares	07/01/02	Equity US	G	2 929,29
		Principal Funds, Inc: LargeCap Growth Fund I; Institutional Class Shares	25/09/02	Equity US	G	2 879,84
51	SRI	Green Century Funds: Green Century Equity Fund; Individual Investor Class Shares	22/09/97	Equity US	G	290,03
	Conventional	Voyageur Mutual Funds III: Delaware Select Growth Fund; Class A Shares	09/06/97	Equity US	G	296,61
		Litman Gregory Funds Trust: Litman Gregory Masters Equity Fund; Institutional Class Shares	09/01/97	Equity US	G	257,88
		John Hancock Capital Series: John Hancock Classic Value Fund; Class A Shares	20/07/98	Equity US	G	304,21
52	SRI	Goldman Sachs Trust: Goldman Sachs Blue Chip Fund; Class A Shares	30/11/09	Equity US	G	5,82
	Conventional	Morgan Stanley Institutional Fund, Inc: Advantage Portfolio; Class L Shares	24/05/10	Equity US	G	5,24
		World Funds Trust: Union Street Partners Value Fund; Class A Shares	03/01/11	Equity US	G	3,43
		Victory Portfolios: Victory Newbridge Large Cap Growth Fund; Class I Shares	02/03/11	Equity US	G	6,6196
53	SRI	GuideStone Funds: Small Cap Equity Fund; Institutional Class Shares	21/12/98	Equity US Sm&Mid Cap	SG	405,17
	Conventional	Fidelity Advisor Series I: Fidelity Advisor Small Cap Fund; Class I Shares	25/11/98	Equity US Sm&Mid Cap	SG	378,80
		Franklin Strategic Series: Franklin Small-Mid Cap Growth Fund; Advisor Class	26/08/97	Equity US Sm&Mid Cap	SG	499,77
		Columbia Funds Series Trust II: Columbia Select Small Cap Value Fund; Class A Shares	20/06/97	Equity US Sm&Mid Cap	SG	327,19
54	SRI	GuideStone Funds: Growth Equity Fund; Institutional Class Shares	13/09/05	Equity US	G	1 032,04
	Conventional	American Century Quantitative Equity Funds, Inc: NT Equity Growth Fund; Class G Shares	12/05/06	Equity US	G	1 044,46
		Pioneer Series Trust X: Pioneer Fundamental Growth Fund; Class A Shares	16/12/05	Equity US	G	1 089,62
		Thrivent Mutual Funds: Thrivent Large Cap Value Fund; Class S Shares	06/04/05	Equity US	G	999,28
55	SRI	GuideStone Funds: Value Equity Fund; Institutional Class Shares	13/09/05	Equity US	G	868,43
	Conventional	Massachusetts Investors Growth Stock Fund; Class R4 Shares	01/04/05	Equity US	G	846,27
		SEI Institutional Managed Trust: Tax-Managed Managed Volatility Fund; Class F Shares	21/12/07	Equity US	G	881,20
		Federated Equity Funds: Federated Kaufmann Large Cap Fund; Class A Shares	04/12/07	Equity US	G	824,86
56	SRI	Harbor Funds: Harbor Large Cap Value Fund; Institutional Class Shares	15/01/90	Equity US	GI	985,49
	Conventional	Homestead Funds, Inc: Value Fund	08/01/93	Equity US	GI	914,56
		Virtus Asset Trust: Virtus Ceredex Large-Cap Value Equity Fund; Class I Shares	22/02/93	Equity US	GI	583,68
		Deutsche DWS Investment Trust: DWS CROCI Equity Dividend Fund; Class A Shares	12/02/93	Equity US	GI	764,22
57	SRI	Harbor Funds: Harbor Small Cap Growth Fund; Institutional Class Shares	15/12/86	Equity US Sm&Mid Cap	SG	706,92
	Conventional	Delaware Group Equity Funds V: Delaware Small Cap Value Fund; Class A Shares	06/10/87	Equity US Sm&Mid Cap	SG	551,59
		Nicholas Limited Edition, Inc; Class I Shares	21/07/87	Equity US Sm&Mid Cap	SG	477,79
		Heartland Group, Inc: Heartland Value Fund; Investor Class Shares	24/04/85	Equity US Sm&Mid Cap	SG	565,90
58	SRI	Highland Funds II: Highland Socially Responsible Equity Fund; Class A Shares	07/04/98	Equity US	G	54,96
	Conventional	Voyageur Mutual Funds III: Delaware Select Growth Fund; Institutional Class Shares	03/08/98	Equity US	G	56,99
		Putnam Investment Funds: Putnam Growth Opportunities Fund; Class B Shares	22/10/97	Equity US	G	55,17

		Touchstone Strategic Trust: Growth Opportunities Fund; Class A Shares	10/09/97	Equity US	G	54,94
59	SRI	Integrity Funds: Integrity Growth & Income Fund; Class A Shares	25/04/05	Equity US	GI	43,48
	Conventional	MainStay Funds: MainStay MacKay Common Stock Fund; Class I Shares	31/12/04	Equity US	GI	38,50
		AB Relative Value Fund; Class I Shares	07/03/05	Equity US	GI	36,91
		PIMCO Funds: PIMCO StocksPLUS Fund; Class R Shares	11/03/03	Equity US	GI	46,29
60	SRI	John Hancock Investment Trust: John Hancock ESG Large Cap Core Fund; Class I Shares	06/06/16	Equity US	G	64,27
	Conventional	T Rowe Price US Large-Cap Core Fund, Inc; Class I Shares	29/11/16	Equity US	G	61,92
		Putnam Funds Trust: Putnam Dynamic Asset Allocation Equity Fund; Class P Shares	31/08/16	Equity US	G	69,96
		ALPS Series Trust: Clarkston Fund; Institutional Class Shares	01/04/16	Equity US	G	55,63
61	SRI	JPMorgan Trust I: JPMorgan Intrepid Growth Fund; Class I Shares	04/03/03	Equity US	G	151,0416
	Conventional	Glenmede Fund, Inc: Quantitative US Large Cap Core Equity Portfolio; Institutional Class Shares	27/02/04	Equity US	G	153,18
		Loomis Sayles Funds II: Natixis Loomis Sayles Growth Fund; Class C Shares	15/09/03	Equity US	G	132,44
		Janus Investment Fund: Janus Henderson Forty Fund; Class C Shares	01/10/02	Equity US	G	147,63
62	SRI	JPMorgan Trust I: JPMorgan Value Advantage Fund; Class L Shares	04/03/05	Equity US	GI	1 645,73
	Conventional	John Hancock Funds II: Blue Chip Growth Fund; Class NAV Shares	17/10/05	Equity US	GI	1 679,89
		Columbia Funds Series Trust I: Columbia Contrarian Core Fund; Class A Shares	09/12/02	Equity US	GI	1 675,00
		Washington Mutual Investors Fund; Class R3 Shares	31/05/02	Equity US	GI	1 659,31
63	SRI	JPMorgan Trust I: JPMorgan Intrepid Value Fund; Class I Shares	03/03/03	Equity US	G	116,60
	Conventional	Pacific Funds Series Trust: Pacific Funds Portfolio Optimization Growth; Class C Shares	31/12/03	Equity US	G	116,01
		AB Large Cap Growth Fund, Inc; Class R Shares	09/02/04	Equity US	G	107,69
		AMCAP Fund; Class 529-C Shares	13/03/02	Equity US	G	110,69
64	SRI	JPMorgan Trust II: JPMorgan Intrepid Mid Cap Fund; Class I Shares	13/06/91	Equity US Sm&Mid Cap	MC	137,08
	Conventional	RBC Funds Trust: RBC SMID Cap Growth Fund; Class I Shares	29/08/94	Equity US Sm&Mid Cap	MC	94,54
		Nuveen Investment Funds, Inc: Nuveen Mid Cap Growth Opportunities Fund; Class I Shares	11/01/95	Equity US Sm&Mid Cap	MC	172,35
		SEI Institutional Managed Trust: Mid-Cap Fund; Class F Shares	04/05/93	Equity US Sm&Mid Cap	MC	62,08
65	SRI	JPMorgan Trust I: JPMorgan US Equity Fund; Class L Shares	17/01/94	Equity US	GI	2 574,46
	Conventional	Franklin Managed Trust: Franklin Rising Dividends Fund; Class C Shares	18/07/96	Equity US	GI	2 058,51
		Franklin Mutual Series Funds: Franklin Mutual Shares Fund; Class A Shares	11/12/96	Equity US	GI	2 897,23
		MFS Series Trust I: MFS Core Equity Fund; Class A Shares	10/04/97	Equity US	GI	1 923,33
66	SRI	JPMorgan Trust I: JPMorgan Small Cap Core Fund; Class R5 Shares	08/01/97	Equity US Sm&Mid Cap	SG	155,42
	Conventional	Third Avenue Trust: Third Avenue Small-Cap Value Fund; Institutional Class Shares	17/06/97	Equity US Sm&Mid Cap	SG	147,67
		Hennessy Funds Trust: Hennessy Cornerstone Growth Fund; Investor Class Shares	27/05/97	Equity US Sm&Mid Cap	SG	129,64
		Unified Series Trust: Dean Small Cap Value Fund	24/07/97	Equity US Sm&Mid Cap	SG	140,40
67	SRI	JPMorgan Trust II: JPMorgan Small Cap Growth Fund; Class A Shares	08/07/91	Equity US Sm&Mid Cap	SG	705,08
	Conventional	Victory Portfolios: Victory RS Small Cap Growth Fund; Class A Shares	01/02/91	Equity US Sm&Mid Cap	SG	785,19
		Sterling Capital Funds: Sterling Capital Stratton Small Cap Value Fund; Institutional Class Shares	15/12/93	Equity US Sm&Mid Cap	SG	541,72
		Gabelli Equity Series Funds, Inc: Gabelli Small Cap Growth Fund; Class AAA Shares	15/11/91	Equity US Sm&Mid Cap	SG	971,14
68	SRI	JPMorgan Trust I: JPMorgan Small Cap Blend Fund; Class A Shares	11/08/97	Equity US Sm&Mid Cap	SG	171,63
	Conventional	Franklin Strategic Series: Franklin Small-Mid Cap Growth Fund; Class C Shares	06/06/96	Equity US Sm&Mid Cap	SG	189,65
		Goldman Sachs Trust: Goldman Sachs Small Cap Equity Insights Fund; Institutional Class Shares	26/08/97	Equity US Sm&Mid Cap	SG	178,51

		Columbia Acorn Trust: Columbia Acorn USA Fund; Institutional Class Shares	24/09/96	Equity US Sm&Mid Cap	SG	161,76
69	SRI	JPMorgan Trust I: JPMorgan US Research Enhanced Equity Fund; Class I Shares	17/09/01	Equity US	GI	646,11
	Conventional	Investment Company of America; Class R2 Shares	31/05/02	Equity US	GI	607,80
		Washington Mutual Investors Fund; Class R2 Shares	31/05/02	Equity US	GI	642,94
		American Funds Fundamental Investors; Class R2 Shares	31/05/02	Equity US	GI	664,27
70	SRI	JPMorgan Trust I: JPMorgan US Small Company Fund; Class L Shares	06/01/94	Equity US Sm&Mid Cap	SG	288,80
	Conventional	SEI Institutional Managed Trust: Small Cap Value Fund; Class F Shares	07/03/95	Equity US Sm&Mid Cap	SG	299,13
		Heartland Group, Inc: Heartland Value Plus Fund; Investor Class Shares	07/01/94	Equity US Sm&Mid Cap	SG	252,11
		Carillon Series Trust: Carillon Scout Small Cap Fund; Class I Shares	22/10/92	Equity US Sm&Mid Cap	SG	313,69
71	SRI	JPMorgan Trust II: JPMorgan Small Cap Value Fund; Class I Shares	14/02/95	Equity US Sm&Mid Cap	SG	150,68
	Conventional	Victory Portfolios: Victory RS Partners Fund; Class A Shares	10/05/96	Equity US Sm&Mid Cap	SG	148,58
		Sit Mutual Funds, Inc: Sit Small Cap Growth Fund	28/03/95	Equity US Sm&Mid Cap	SG	123,13
		LKCM Funds: LKCM Small Cap Equity Fund; Institutional Class Shares	18/01/95	Equity US Sm&Mid Cap	SG	176,70
72	SRI	JPMorgan Trust I: JPMorgan Intrepid Sustainable Equity Fund; Class I Shares	03/03/03	Equity US	G	38,90
	Conventional	Thornburg Investment Trust: Thornburg Core Growth Fund; Class R3 Shares	16/07/03	Equity US	G	35,1357
		Franklin Strategic Series: Franklin Growth Opportunities Fund; Class R Shares	01/04/02	Equity US	G	39,75
		Bragg Capital Trust: Queens Road Value Fund	29/06/04	Equity US	G	38,61
73	SRI	JPMorgan Trust II: JPMorgan Equity Income Fund; Class C Shares	15/12/99	Equity US Income	EI	1334,795
	Conventional	Pioneer Equity Income Fund; Class Y Shares	03/04/01	Equity US Income	EI	1035,567
		Hartford Mutual Funds, Inc: Hartford Equity Income Fund; Class A Shares	28/08/03	Equity US Income	EI	1516,93
		Columbia Funds Series Trust I: Columbia Dividend Income Fund; Class C Shares	25/11/02	Equity US Income	EI	1152,921
74	SRI	Advisors' Inner Circle Fund III: Catholic Investor Large Cap Value Fund; Class I Shares	27/02/15	Equity US	G	80,95
	Conventional	Northern Lights Fund Trust III: ACM Dynamic Opportunity Fund; Class I Shares	16/01/15	Equity US	G	79,70
		SEI Institutional Managed Trust: Tax-Managed Managed Volatility Fund; Class Y Shares	30/04/15	Equity US	G	78,07
		FundVantage Trust: Gotham Large Value Fund; Institutional Class Shares	31/12/15	Equity US	G	79,29
75	SRI	Advisors' Inner Circle Fund III: Catholic Investor Large Cap Growth Fund; Class I Shares	27/02/15	Equity US	G	98,19
	Conventional	Northern Lights Fund Trust III: HCM Tactical Growth Fund; Investor Class Shares	30/07/14	Equity US	G	98,21
		Deutsche DWS Investment Trust: DWS CROCI US Fund; Class A Shares	10/04/15	Equity US	G	100,7872
		Smead Funds Trust: Smead Value Fund; Class Y Shares	21/11/14	Equity US	G	91,83
76	SRI	FundVantage Trust: Lateef Focused Growth Fund; Class A Shares	06/09/07	Equity US	G	28,68
	Conventional	Goldman Sachs Trust: Goldman Sachs Large Cap Growth Insights Fund; Class R Shares	03/12/07	Equity US	G	29,5588
		Prospector Funds, Inc: Capital Appreciation Fund	07/01/08	Equity US	G	25,034
		Ivy Funds: Ivy Large Cap Growth Fund; Class E Shares	04/04/07	Equity US	G	29,04
77	SRI	LKCM Funds: LKCM Aquinas Catholic Equity Fund	08/02/94	Equity US	GI	50,90
	Conventional	Advisors' Inner Circle Fund: TS&W Equity Portfolio; Institutional Class Shares	08/09/93	Equity US	GI	34,86
		Massachusetts Investors Trust; Class B Shares	20/04/94	Equity US	GI	41,83
		Williamsburg Investment Trust: Government Street Equity Fund	20/09/93	Equity US	GI	66,17
78	SRI	Morgan Stanley Institutional Fund Trust: Discovery Portfolio; Class I Shares	26/08/92	Equity US Sm&Mid Cap	MC	1 823,53
	Conventional	MFS Series Trust IV: MFS Mid Cap Growth Fund; Class A Shares	17/05/94	Equity US Sm&Mid Cap	MC	1 657,68
		Thrivent Mutual Funds: Thrivent Mid Cap Stock Fund; Class A Shares	11/08/93	Equity US Sm&Mid Cap	MC	1322,816

		Wasatch Funds Trust: Wasatch Ultra Growth Fund; Investor Class Shares	29/07/94	Equity US Sm&Mid Cap	MC	1 922,10
79	SRI	Morgan Stanley Institutional Fund, Inc: US Core Portfolio; Class I Shares	27/05/16	Equity US	G	18,35
	Conventional	Putnam Investment Funds: Putnam Research Fund; Class R6 Shares	29/06/15	Equity US	G	17,32
		Franklin Custodian Funds: Franklin Focused Growth Fund; Advisor Class Shares	12/04/16	Equity US	G	18,24
		Lord Abbett Securities Trust: Lord Abbett Growth Leaders Fund; Class R5 Shares	30/06/15	Equity US	G	15,1418
80	SRI	Morgan Stanley Insight Fund; Class L Shares	23/03/98	Equity US	MC	57,5604
	Conventional	Capital Management Investment Trust: Wellington Shields All-Cap Fund; Institutional Class Shares	28/09/99	Equity US	MC	49,6034
		MassMutual Select Funds: MassMutual Select Equity Opportunities Fund; Class A Shares	09/10/01	Equity US	MC	59,1763
		Northern Lights Fund Trust III: Marathon Value Portfolio	19/07/01	Equity US	MC	59,0193
81	SRI	Neuberger Berman Equity Funds: Neuberger Berman Sustainable Equity Fund; Investor Class Shares	18/04/96	Equity US	G	391,40
	Conventional	Oak Associates Funds: White Oak Select Growth Fund	23/10/96	Equity US	G	386,56
		WesMark Funds: WesMark Growth Fund	29/04/97	Equity US	G	364,31
		LKCM Funds: LKCM Equity Fund; Institutional Class Shares	23/02/96	Equity US	G	436,3235
82	SRI	Neuberger Berman Equity Funds: Neuberger Berman Guardian Fund; Investor Class	25/08/89	Equity US	GI	1 471,14
	Conventional	SEI Institutional Managed Trust: Large Cap Value Fund; Class F Shares	10/12/90	Equity US	GI	1 207,14
		American Century Quantitative Equity Funds, Inc: Income & Growth Fund; Investor Class Shares	10/07/91	Equity US	GI	1 791,24
		Janus Investment Fund: Janus Henderson Growth & Income Fund; Class T Shares	25/07/91	Equity US	GI	1 899,20
83	SRI	Neuberger Berman Equity Funds: Neuberger Berman Large Cap Value Fund; Investor Class	02/01/73	Equity US	G	1 230,90
	Conventional	Eaton Vance Series Trust: Tax-Managed Growth Fund 1.0	06/01/75	Equity US	G	1 152,44
		MFS Series Trust V: MFS Research Fund; Class A Shares	02/01/73	Equity US	G	1 355,36
		Ivy Funds: Ivy Accumulative Fund; Class A Shares	02/01/73	Equity US	G	1 430,92
84	SRI	Neuberger Berman Equity Funds: Neuberger Berman Small Cap Growth Fund; Investor Class	09/02/99	Equity US Sm&Mid Cap	SG	81,14
	Conventional	Principal Funds, Inc: SmallCap Fund; Class R-6 Shares	06/12/00	Equity US Sm&Mid Cap	SG	87,25
		Victory Portfolios: Victory RS Small Cap Equity Fund; Class A Shares	26/06/97	Equity US Sm&Mid Cap	SG	70,19
		Eaton Vance Mutual Funds Trust: Eaton Vance Tax-Managed Small-Cap Fund; Class A Shares	04/08/98	Equity US Sm&Mid Cap	SG	87,70
85	SRI	Neuberger Berman Equity Funds: Neuberger Berman Dividend Growth Fund; Institutional Class Shares	15/12/15	Equity US Income	EI	54,07
	Conventional	Two Roads Shared Trust: Hanlon Tactical Dividend and Momentum Fund; Class I Shares	09/09/15	Equity US Income	EI	62,08
		John Hancock Funds II: Equity-Income Fund; Class A Shares	27/03/15	Equity US Income	EI	64,91
		Integrity Funds: Integrity Dividend Harvest Fund; Class I Shares	01/08/16	Equity US Income	EI	60,07
86	SRI	Neuberger Berman Equity Funds: Neuberger Berman Mid Cap Intrinsic Value Fund; Investor Class	11/09/00	Equity US Sm&Mid Cap	MC	26,11
	Conventional	Lord Abbett Mid Cap Stock Fund Inc; Class P Shares	03/10/00	Equity US Sm&Mid Cap	MC	31,5025
		Sterling Capital Funds: Sterling Capital Mid Value Fund; Class A Shares	05/03/02	Equity US Sm&Mid Cap	MC	21,5758
		Harbor Funds: Harbor Mid Cap Value Fund; Investor Class Shares	04/11/02	Equity US Sm&Mid Cap	MC	29,78
87	SRI	Neuberger Berman Equity Funds: Neuberger Berman Focus Fund; Class A Shares	21/06/10	Equity US	G	3,0629
	Conventional	Columbia Funds Series Trust II: Columbia Disciplined Core Fund; Class R Shares	14/09/11	Equity US	G	2,8144
		MainStay Funds Trust: MainStay MacKay Growth Fund; Class C Shares	22/01/13	Equity US	G	3,3402
		Guggenheim Funds Trust: Guggenheim StylePlus - Large Core Fund; Institutional Class Shares	01/03/12	Equity US	G	3,8126
88	SRI	Neuberger Berman Equity Funds: Neuberger Berman Genesis Fund; Advisor Class	15/12/98	Equity US Sm&Mid Cap	SG	135,7449
	Conventional	Diamond Hill Funds: Diamond Hill Small Cap Fund; Class A Shares	13/03/01	Equity US Sm&Mid Cap	SG	120,2
		WesMark Funds: WesMark Small Company Growth Fund	23/01/01	Equity US Sm&Mid Cap	SG	113,1542

		Aegis Funds: Aegis Value Fund; Class I Shares	20/09/00	Equity US Sm&Mid Cap	SG	114,7966
89	SRI	New Covenant Funds: New Covenant Growth Fund	28/06/00	Equity US	G	509,28
	Conventional	Growth Fund of America; Class 529-C Shares	13/03/02	Equity US	G	513,61
		Touchstone Funds Group Trust: Touchstone Sands Capital Select Growth Fund; Class Z Shares	01/09/00	Equity US	G	537,78
		Columbia Funds Series Trust: Columbia Large Cap Growth Fund III; Institutional Class Shares	24/04/98	Equity US	G	527,2449
90	SRI	Northern Funds: Northern US Quality ESG Fund	02/10/17	Equity US	G	206,03
	Conventional	Fidelity Puritan Trust: Fidelity Value Discovery K6 Fund	25/05/17	Equity US	G	183,6492
		Nationwide Mutual Funds: Nationwide Loomis All Cap Growth Fund; Eagle Class Shares	27/06/18	Equity US	G	190,18
		Northern Lights Fund Trust: RiskPro PFG Equity 30+ Fund; Class R Shares	11/12/17	Equity US	G	206,38
91	SRI	Neuberger Berman Equity Funds: Neuberger Berman Intrinsic Value Fund; Institutional Class Shares	10/05/10	Equity US Sm&Mid Cap	SG	602,63
	Conventional	Wells Fargo Funds Trust: Wells Fargo Emerging Growth Fund; Institutional Class Shares	01/04/08	Equity US Sm&Mid Cap	SG	566,31
		SEI Institutional Managed Trust: Small Cap Fund; Class F Shares	05/10/09	Equity US Sm&Mid Cap	SG	580,27
		John Hancock Funds II: Small Cap Value Fund; Class NAV Shares	16/12/08	Equity US Sm&Mid Cap	SG	584,90
92	SRI	Neuberger Berman Equity Funds: Neuberger Berman Multi-Cap Opportunities Fund; Institutional Class Shares	21/12/09	Equity US	G	589,81
	Conventional	Financial Investors Trust: Vulcan Value Partners Fund; Investor Class Shares	30/12/09	Equity US	G	562,32
		AQR Funds: AQR Large Cap Momentum Style Fund; Class I Shares	09/07/09	Equity US	G	612,52
		Morgan Stanley Institutional Fund, Inc: Advantage Portfolio; Class I Shares	24/05/10	Equity US	G	621,59
93	SRI	Nuveen Investment Trust II: Nuveen Winslow Large-Cap Growth Fund; Class I Shares	27/02/97	Equity US	G	785,63
	Conventional	TCW Funds, Inc: TCW Select Equities Fund; Class I Shares	02/06/98	Equity US	G	700,67
		Goldman Sachs Trust: Goldman Sachs Large Cap Growth Insights Fund; Institutional Class Shares	04/06/97	Equity US	G	809,25
		Marsico Investment Fund: Marsico Focus Fund	16/01/98	Equity US	G	843,84
94	SRI	Parnassus Funds: Parnassus Fund; Investor Class Shares	27/08/87	Equity US	G	821,97
	Conventional	Goldman Sachs Trust: Goldman Sachs Capital Growth Fund; Class A Shares	30/04/90	Equity US	G	804,28
		GAMCO Growth Fund; Class AAA Shares	21/07/88	Equity US	G	801,26
		Fidelity Advisor Series I: Fidelity Advisor Equity Growth Fund; Class I Shares	23/05/85	Equity US	G	770,59
95	SRI	Parnassus Funds: Parnassus Mid Cap Fund; Investor Class Shares	29/04/05	Equity US Sm&Mid Cap	MC	2 649,64
	Conventional	William Blair Funds: Small-Mid Cap Growth Fund; Class I Shares	29/12/03	Equity US Sm&Mid Cap	MC	2963,931
		Touchstone Funds Group Trust: Touchstone Mid Cap Fund; Class Y Shares	08/03/05	Equity US Sm&Mid Cap	MC	2 905,66
		Janus Investment Fund: Janus Henderson Triton Fund; Class T Shares	25/02/05	Equity US Sm&Mid Cap	MC	2 749,77
96	SRI	Pax World Funds Series Trust I: Pax Small Cap Fund; Institutional Class Shares	27/03/08	Equity US Sm&Mid Cap	G	318,52
	Conventional	Prospector Funds, Inc: Opportunity Fund	17/01/08	Equity US Sm&Mid Cap	G	216,1654
		Advisors' Inner Circle Fund II: Champlain Mid Cap Fund; Advisor Shares	30/06/08	Equity US Sm&Mid Cap	G	290,38
		Janus Investment Fund: Janus Henderson Mid Cap Value Fund; Class I Shares	01/12/05	Equity US Sm&Mid Cap	G	333,2871
97	SRI	Pax World Funds Series Trust I: Pax ESG Beta Quality Fund; Individual Investor Class Shares	30/01/98	Equity US	G	165,45
	Conventional	Prudential Investment Portfolios, Inc: PGIM Jennison Growth Fund; Class C Shares	21/03/96	Equity US	G	173,09
		Professionally Managed Portfolios: Osterweis Fund	17/06/97	Equity US	G	152,70
		Columbia Funds Series Trust: Columbia Select Large Cap Equity Fund; Institutional Class Shares	15/10/98	Equity US	G	160,11
98	SRI	Pax World Funds Series Trust I: Pax ESG Beta Dividend Fund; Institutional Class Shares	09/12/16	Equity US Income	EI	131,03
	Conventional	Voya Equity Trust: Voya US High Dividend Low Volatility Fund; Class I Shares	06/12/16	Equity US Income	EI	113,54
		Lord Abbett Affiliated Fund, Inc; Class F3 Shares	04/04/17	Equity US Income	EI	102,52

		Northern Lights Fund Trust III: HCM Dividend Sector Plus Fund; Investor Class Shares	11/03/15	Equity US Income	El	116,10
99	SRI	Pioneer Fund; Class A Shares	02/01/73	Equity US	Gl	5 827,80
	Conventional	Vanguard Windsor Funds: Vanguard Windsor Fund; Investor Shares	02/01/73	Equity US	Gl	5 234,66
		GE RSP Program Funds: GE RSP US Equity Fund	02/01/73	Equity US	Gl	6 046,86
		AIM Sector Funds (Invesco Sector Funds): Invesco Comstock Fund; Class A Shares	02/01/73	Equity US	Gl	4 991,79
100	SRI	Putnam Investment Funds: Putnam Sustainable Future Fund; Class A Shares	23/05/01	Equity US	G	434,75
	Conventional	Fidelity Devonshire Trust: Fidelity Stock Selector Large Cap Value Fund; Large Cap Value Shares	19/11/01	Equity US	G	377,42
		Prudential Investment Portfolios 3: PGIM Jennison Focused Growth Fund; Class A Shares	15/06/00	Equity US	G	459,42
		Ivy Funds: Ivy Accumulative Fund; Class I Shares	24/11/00	Equity US	G	358,87
101	SRI	Parnassus Funds: Parnassus Endeavor Fund; Investor Class Shares	29/04/05	Equity US	G	2 152,46
	Conventional	Janus Investment Fund: Janus Henderson Forty Fund; Class I Shares	01/12/05	Equity US	G	1 920,44
		Lazard Funds, Inc: Lazard US Equity Concentrated Portfolio; Institutional Shares	04/10/05	Equity US	G	1 888,09
		MFS Series Trust II: MFS Growth Fund; Class R4 Shares	01/04/05	Equity US	G	1825,745
102	SRI	RBC Funds Trust: RBC Small Cap Core Fund; Class I Shares	28/11/12	Equity US Sm&Mid Cap	SG	78,73
	Conventional	Great West Fund, Inc: Great West Loomis Sayles Small Cap Value Fund; Initial Class Shares	07/04/10	Equity US Sm&Mid Cap	SG	68,16
		Janus Investment Fund: Janus Henderson Venture Fund; Class S Shares	06/05/11	Equity US Sm&Mid Cap	SG	60,57
		Columbia Acorn Trust: Columbia Acorn USA Fund; Institutional 3 Class Shares	09/11/12	Equity US Sm&Mid Cap	SG	71,13
103	SRI	RBC Funds Trust: RBC Small Cap Value Fund; Class I Shares	03/12/14	Equity US Sm&Mid Cap	G	63,24
	Conventional	MFS Series Trust X: MFS Blended Research Small Cap Equity Fund; Class A Shares	15/09/15	Equity US Sm&Mid Cap	G	61,0478
		Loomis Sayles Funds II: Loomis Sayles Small/Mid Cap Growth Fund; Institutional Class Shares	30/06/15	Equity US Sm&Mid Cap	G	61,9005
		Professionally Managed Portfolios: Villere Equity Fund	31/05/13	Equity US Sm&Mid Cap	G	47,0338
104	SRI	Russell Investment Company: Sustainable Equity Fund; Class Y Shares	08/06/00	Equity US	G	11,95
	Conventional	Managed Portfolio Series: Jackson Square Select 20 Growth Fund; IS Class Shares	07/06/00	Equity US	G	7,7411
		TANAKA Funds, Inc: TANAKA Growth Fund; Class R Shares	19/07/01	Equity US	G	11,10
		AB Core Opportunities Fund, Inc; Class C Shares	20/04/01	Equity US	G	12,08
105	SRI	Segall Bryant & Hamill Trust: Segall Bryant & Hamill Workplace Equality Fund; Institutional Class Shares	08/10/07	Equity US Income	El	10,6328
	Conventional	Carillon Series Trust: Carillon Eagle Growth & Income Fund; Class R-5 Shares	15/09/08	Equity US Income	El	7,6478
		Voya Equity Trust: Voya Large Cap Value Fund; Class C Shares	28/12/07	Equity US Income	El	11,0684
		Centaur Mutual Funds Trust: Centaur Total Return Fund	11/10/06	Equity US Income	El	9,0063
106	SRI	Investment Managers Series Trust: Segall Bryant & Hamill All Cap Fund	31/07/13	Equity US	G	163,1887
	Conventional	AQR Funds: AQR Large Cap Momentum Style Fund; Class R6 Shares	10/07/14	Equity US	G	147,4681
		Managed Portfolio Series: Port Street Quality Growth Fund; Institutional Class Shares	31/03/14	Equity US	G	173,7854
		City National Rochdale Funds: City National Rochdale US Core Equity Fund; Class N Shares	03/12/12	Equity US	G	182,6956
107	SRI	Investment Managers Series Trust: Segall Bryant & Hamill Small Cap Value Fund	31/07/13	Equity US Sm&Mid Cap	SG	370,6165
	Conventional	Williamsburg Investment Trust: Davenport Small Cap Focus Fund	31/12/14	Equity US Sm&Mid Cap	SG	355,5381
		Nationwide Mutual Funds: Nationwide Geneva Small Cap Growth Fund; Class R6 Shares	19/09/13	Equity US Sm&Mid Cap	SG	385,8516
		Great-West Funds, Inc: Great-West Loomis Sayles Small Cap Value Fund; Institutional Class Shares	01/05/15	Equity US Sm&Mid Cap	SG	353,7024
108	SRI	Segall Bryant & Hamill Trust: SB&H Small Cap Growth Fund; Institutional Class Shares	20/12/13	Equity US Sm&Mid Cap	SG	96,77
	Conventional	SEI Institutional Managed Trust: Tax-Managed Small/Mid Cap Fund; Class Y Shares	31/12/14	Equity US Sm&Mid Cap	SG	95,55
		Fenimore Asset Management Trust: FAM Small Cap Fund; Institutional Class Shares	04/01/16	Equity US Sm&Mid Cap	SG	70,89

		Nationwide Mutual Funds: Nationwide Bailard Cognitive Value Fund; Class M Shares	16/09/13	Equity US Sm&Mid Cap	SG	75,22
109	SRI	RBB Fund, Inc: SGI US Large Cap Equity Fund; Class I Shares	01/03/12	Equity US	G	500,34
	Conventional	Putnam Funds Trust: Putnam Multi-Cap Core Fund; Class Y Shares	29/09/10	Equity US	G	504,56
		Franklin Strategic Series: Franklin Growth Opportunities Fund; Class R6 Shares	24/06/13	Equity US	G	514,33
		Sound Shore Fund, Inc; Institutional Class Shares	09/12/13	Equity US	G	514,15
110	SRI	RBB Fund, Inc: SGI US Small Cap Equity Fund; Class I Shares	31/03/16	Equity US Sm&Mid Cap	SG	46,13
	Conventional	SEI Institutional Managed Trust: Small Cap Growth Fund; Class Y Shares	30/10/15	Equity US Sm&Mid Cap	SG	38,19
		CornerCap Group of Funds: CornerCap Small-Cap Value Fund; Institutional Class Shares	29/12/15	Equity US Sm&Mid Cap	SG	53,45
		Lord Abbett Securities Trust: Lord Abbett Alpha Strategy Fund; Class F3 Shares	04/04/17	Equity US Sm&Mid Cap	SG	38,22
111	SRI	TIAA-CREF Funds: Social Choice Equity Fund; Institutional Class Shares	20/11/01	Equity US	G	4 477,28
	Conventional	DFA Investment Dimensions Group Inc: Tax-Managed US Equity Portfolio; Institutional Class Shares	26/10/01	Equity US	G	4 685,64
		Jensen Quality Growth Fund; Class I Shares	01/08/03	Equity US	G	4 754,81
		Growth Fund of America; Class C Shares	19/07/01	Equity US	G	3 961,54
112	SRI	Timothy Plan: Timothy Plan Large/Mid-Cap Value Fund; Class A Shares	28/10/02	Equity US	GI	139,00
	Conventional	American Funds Fundamental Investors; Class 529-C Shares	13/03/02	Equity US	GI	135,23
		Spirit of America Investment Fund, Inc: Spirit of America Large Cap Value Fund; Class A Shares	10/09/02	Equity US	GI	127,65
		Advisors' Inner Circle Fund: Cambiar Opportunity Fund; Investor Class Shares	23/07/01	Equity US	GI	120,6489
113	SRI	Timothy Plan: Timothy Plan Strategic Growth Fund; Class A Shares	28/10/02	Equity US	GI	34,28
	Conventional	Janus Investment Fund: Janus Henderson Growth & Income Fund; Class S Shares	29/04/02	Equity US	GI	23,4059
		American Mutual Fund; Class 529-E Shares	13/03/02	Equity US	GI	38,6398
		Asset Management Fund: Large Cap Equity Fund; Class AMF Shares	05/04/02	Equity US	GI	35,57
114	SRI	Timothy Plan: Timothy Plan Aggressive Growth Fund; Class A Shares	28/10/02	Equity US Sm&Mid Cap	G	30,18
	Conventional	Federated Equity Funds: Federated Kaufmann Fund; Class B Shares	19/07/01	Equity US Sm&Mid Cap	G	38,1641
		American Century Mutual Funds, Inc: Heritage Fund; Class C Shares	04/04/03	Equity US Sm&Mid Cap	G	35,7206
		Papp Investment Trust: Papp Small & Mid-Cap Growth Fund	25/09/01	Equity US Sm&Mid Cap	G	43,028
115	SRI	Timothy Plan: Timothy Plan Large/Mid-Cap Growth Fund; Class A Shares	28/10/02	Equity US	G	76,72
	Conventional	Davis New York Venture Fund, Inc: Davis New York Venture Fund; Class R Shares	16/01/04	Equity US	G	78,62
		Hotchkis & Wiley Funds: Hotchkis & Wiley Value Opportunities Fund; Class A Shares	31/12/02	Equity US	G	79,95
		Principal Funds, Inc: LargeCap Value Fund III; Class J Shares	25/09/02	Equity US	G	69,9166
116	SRI	Transamerica Funds: Transamerica Large Growth; Class R4 Shares	11/09/00	Equity US	G	59,06
	Conventional	Nationwide Mutual Funds: Nationwide Dynamic US Growth Fund; Class A Shares	12/05/00	Equity US	G	57,3705
		PACE Select Advisors Trust: PACE Large Co Growth Equity Investments; Class A Shares	01/03/01	Equity US	G	58,92
		Northern Funds: Large Cap Value Fund	30/11/00	Equity US	G	57,76
117	SRI	Transamerica Funds: Transamerica Capital Growth; Class A Shares	12/06/00	Equity US	G	993,01
	Conventional	Deutsche DWS Investment Trust: DWS Capital Growth Fund; Class S Shares	10/10/00	Equity US	G	1 073,18
		BlackRock Focus Growth Fund, Inc; Investor A Shares	15/03/00	Equity US	G	1 002,90
		AMCAP Fund; Class R3 Shares	31/05/02	Equity US	G	1 046,63
118	SRI	UBS Funds: UBS US Small Cap Growth Fund; Class P Shares	03/12/97	Equity US Sm&Mid Cap	SG	136,05
	Conventional	Ivy Funds: Ivy Small Cap Core Fund; Class A Shares	05/04/99	Equity US Sm&Mid Cap	SG	138,88
		American Century Quantitative Equity Funds, Inc: Small Company Fund; Investor Class Shares	09/02/99	Equity US Sm&Mid Cap	SG	144,62

		HSBC Funds: HSBC Opportunity Fund; Class I Shares	18/06/97	Equity US Sm&Mid Cap	SG	106,96
119	SRI	Wells Fargo Funds Trust: Wells Fargo Large Cap Core Fund; Institutional Class Shares	18/12/07	Equity US	G	135,72
	Conventional	GAMCO Growth Fund; Class I Shares	29/04/08	Equity US	G	143,2121
		BMO Funds, Inc: BMO Large-Cap Growth Fund; Class I Shares	01/02/08	Equity US	G	121,38
		MainStay Funds: MainStay Large Cap Growth Fund; Investor Class Shares	28/02/08	Equity US	G	121,51

Appendix 2: Non-surviving SRI and conventional mutual funds in the sample.

The list of 30 non-surviving funds and 90 non-surviving conventional funds. It is specified, for each fund the Name, Inception Date, Lipper Global Classification, Lipper Objective, and Total Net Assets.

Fund	Name	Inception Date	Dead Date	Lipper Global Classification	Lipper Objective	Total Net Assets	
1	SRI	Schwartz Investment Trust: Ave Maria Opportunity Fund	09/05/06	31/07/15	Equity US Sm&Mid Cap	SG	36,3
	Conditional	Frontegra Funds, Inc: Frontegra Phocas Small Cap Value Fund; Class L Shares	29/09/06	20/10/14	Equity US Sm&Mid Cap	SG	22,6
		Northern Funds: Multi-Manager Small Cap Fund	05/07/06	22/07/16	Equity US Sm&Mid Cap	SG	32,3
		Principal Funds, Inc: SmallCap Growth Fund II; Class J Shares	20/04/04	25/04/14	Equity US Sm&Mid Cap	SG	35,1
2	SRI	Forum Funds II: Baywood SociallyResponsible Fund; Investor Class Shares	15/08/05	16/08/19	Equity US	G	2,3
	Conditional	Bishop Street Funds: Strategic Growth Fund; Class I Shares	10/07/02	07/04/17	Equity US	G	2,1
		Growth Fund of America; Class 529-B Shares	13/03/02	01/05/17	Equity US	G	3,4
		State Farm Mutual Fund Trust: State Farm Equity Fund; Class R-3 Shares	13/09/04	16/11/18	Equity US	G	2,3
3	SRI	Calvert Fund: Calvert New Vision Small Cap Fund; Class C Shares	05/06/98	20/01/11	Equity US Sm&Mid Cap	SG	7,2
	Conditional	Prudential Investment Portfolios 5: Prudential Small-Cap Value Fund; Class B Shares	24/06/02	19/06/15	Equity US Sm&Mid Cap	SG	4
		Legg Mason Partners Equity Trust: ClearBridge Small Cap Value Fund; Class B Shares	23/03/99	14/03/14	Equity US Sm&Mid Cap	SG	4,6
		American Beacon Funds: American Beacon Small Cap Value Fund; AMR Class Shares	28/03/00	01/12/15	Equity US Sm&Mid Cap	SG	11,1
4	SRI	Calvert Impact Fund, Inc: Calvert Large Cap Growth Fund; Class B	02/01/01	03/02/12	Equity US	G	13,4
	Conditional	Principal Funds, Inc: LargeCap Blend Fund II; Class R-3 Shares	24/06/03	24/04/15	Equity US	G	13,9
		SunAmerica Series, Inc: SunAmerica Strategic Value Portfolio; Class B Shares	31/05/00	27/01/15	Equity US	G	9,8
		Sentinel Group Funds, Inc: Sentinel Growth Leaders Fund; Class A Shares	25/10/00	24/11/14	Equity US	G	18,9
5	SRI	Calvert Social Investment Fund: Calvert Equity Fund; Class Y Shares	31/10/08	08/12/17	Equity US	G	219,1
	Conditional	MainStay Funds Trust: MainStay ICAP Select Equity Fund; Investor Class Shares	29/04/08	05/05/17	Equity US	G	161,2
		Columbia Funds Series Trust II: Columbia Disciplined Growth Fund; Class I Shares	19/09/07	27/03/17	Equity US	G	226,6
		JPMorgan Trust I: JPMorgan Dynamic Growth Fund; Class R5 Shares	30/11/07	27/10/17	Equity US	G	197,8
6	SRI	Calvert Social Investment Fund: Calvert Equity Portfolio; Class B Shares	20/09/00	20/04/15	Equity US	G	11,9
	Conditional	Turner Funds: Turner Large Growth Fund; Institutional Class Shares	22/03/01	23/01/15	Equity US	G	15
		JP Morgan Fleming Mutual Fund Group, Inc: JPMorgan Mid Cap Value Fund; Class B Shares	19/07/01	19/06/15	Equity US	G	6,8
		Wilmington Funds: Wilmington Large-Cap Growth Fund; Class A Shares	23/01/01	20/06/14	Equity US	G	18,6
7	SRI	Calvert World Values Fund, Inc: Calvert Capital Accumulation Fund; Class B Shares	27/06/00	20/04/15	Equity US Sm&Mid Cap	MC	1,4

	Conditional	Nuveen Investment Funds, Inc: Nuveen Mid Cap Growth Opportunities Fund; Class B Shares	20/02/01	23/06/14	Equity US Sm&Mid Cap	MC	1,2
Alger Funds: Alger SMid Cap Growth Fund; Class B Shares		20/09/02	29/11/16	Equity US Sm&Mid Cap	MC	1,7	
PNC Funds: PNC Mid Cap Fund; Class I Shares		18/07/02	31/10/16	Equity US Sm&Mid Cap	MC	1,2	
8	SRI	CAMCO Investors Trust: CAMCO Investors Fund	03/09/04	06/11/13	Equity US	GI	6,8
	Conditional	AMG Funds IV: AMG Managers Cornerstone Large Cap Value Fund; Class I Shares	20/09/05	28/10/16	Equity US	GI	6,3
MainStay Funds Trust: MainStay ICAP Equity Fund; Class C Shares		01/09/06	05/05/17	Equity US	GI	8,4	
UBS Funds: UBS US Equity Opportunity Fund; Class C Shares		01/12/03	16/03/16	Equity US	GI	3,1	
9	SRI	City National Rochdale Funds: City National Rochdale Diversified Equity Fund; Class N Shares	03/03/03	24/03/14	Equity US	G	2,8
	Conditional	Nuveen Investment Trust: Nuveen NWQ Multi-Cap Value Fund; Class B Shares	03/12/03	23/06/14	Equity US	G	2,5
Pioneer Series Trust I: Pioneer Oak Ridge Large Cap Growth Fund; Class R Shares		24/02/04	17/10/14	Equity US	G	1,1	
Allianz Funds: AllianzGI NFJ All-Cap Value Fund; Institutional Class Shares		01/04/05	11/12/15	Equity US	G	1,6	
10	SRI	Valued Advisers Trust: Dana Epiphany ESG Equity Fund; Investor Class Shares	29/03/10	04/06/20	Equity US	G	7,41
	Conditional	Advisors' Inner Circle Fund II: Westfield Capital Large Cap Growth Fund; Institutional Class Shares	13/07/11	01/07/20	Equity US	G	2,1255
John Hancock Investment Trust: John Hancock Fundamental Large Cap Core Fund; Class R1 Shares		22/05/09	23/10/20	Equity US	G	4,3583	
RMB Investors Trust: RMB Dividend Growth Fund; Class I Shares		30/03/12	28/04/20	Equity US	G	4,4548	
11	SRI	DFA Investment Dimensions Group Inc: CSTG&E US Social Core Equity 2 Portfolio	23/08/07	18/03/19	Equity US	G	0,1
	Conditional	Franklin Strategic Series: Franklin Select U.S. Equity Fund; Class R Shares	13/12/07	07/02/20	Equity US	G	0,1545
Prudential Investment Portfolios 16: PGIM QMA Defensive Equity Fund; Class R Shares		01/12/05	14/12/18	Equity US	G	0,1	
AIM Equity Funds (Invesco Equity Funds): Invesco Summit Fund; Class B Shares		11/11/05	26/01/18	Equity US	G	0,3	
12	SRI	Federated High Yield Trust: Federated Equity Advantage Fund; Class A Shares	26/02/16	25/09/20	Equity US Sm&Mid Cap	G	0,09349
	Conditional	Pacific Funds Series Trust: Pacific Funds Small-Cap Growth; Class C Shares	11/01/16	31/07/20	Equity US Sm&Mid Cap	G	0,3482
Northern Lights Fund Trust II: Orchard Small Cap Value Fund; Class N Shares		29/12/15	28/09/20	Equity US Sm&Mid Cap	G	0,1354	
Walthausen Funds: Walthausen Select Value Fund; R6 Class Shares		01/11/16	15/05/20	Equity US Sm&Mid Cap	G	0,1818	
13	SRI	JPMorgan Trust I: JPMorgan Intrepid America Fund; Class I Shares	03/03/03	08/11/19	Equity US	G	54
	Conditional	Transamerica Funds: Transamerica Multi-Cap Growth; Class A Shares	19/07/01	02/08/19	Equity US	G	57
Dreyfus/Laurel Funds, Inc: Dreyfus Core Equity Fund; Class C Shares		14/08/02	14/12/18	Equity US	G	39,5	
Principal Funds, Inc: LargeCap Growth Fund; Institutional Class Shares		13/03/03	11/10/19	Equity US	G	28,9	
14	SRI	LKCM Funds: LKCM Aquinas Growth Fund	22/01/97	01/08/16	Equity US	G	25,8
	Conditional	Legg Mason Partners Equity Trust: ClearBridge Large Cap Growth Fund; Class B Shares	03/09/97	15/12/15	Equity US	G	10,4
Prudential Investment Portfolios 16: PGIM QMA Defensive Equity Fund; Class C Shares		13/03/00	14/12/18	Equity US	G	31,5	
Eaton Vance Growth Trust: Eaton Vance Multi-Cap Growth Fund; Class C Shares		25/02/97	27/02/15	Equity US	G	19,5	
15	SRI	LKCM Funds: LKCM Aquinas Small Cap Fund	08/02/94	01/08/16	Equity US Sm&Mid Cap	SG	6,4
	Conditional	PNC Funds: PNC Multi-Factor Small Cap Value Fund; Class I Shares	15/02/95	15/11/19	Equity US Sm&Mid Cap	SG	6,9
John Hancock Investment Trust II: John Hancock Small Cap Equity Fund; Class B Shares		29/07/94	13/05/16	Equity US Sm&Mid Cap	SG	6,8	
Forward Funds: Salient Adaptive US Equity Fund; Institutional Class Shares		29/07/94	13/08/18	Equity US Sm&Mid Cap	SG	9,5	
16	SRI	Morgan Stanley Insight Fund: Class B Shares	20/03/96	28/05/19	Equity US	MC	0,1
	Conditional	BlackRock Funds: Mid-Cap Value Equity Portfolio; Investor B Shares	30/03/98	27/12/17	Equity US	MC	0,4
Guggenheim Funds Trust: Guggenheim StylePlus - Mid Growth Fund; Class B Shares		29/07/94	08/07/15	Equity US	MC	1,2	
PGIM Jennison Mid-Cap Growth Fund; Class B Shares		16/01/97	26/06/20	Equity US	MC	1,4512	
17	SRI	Parnassus Funds: Parnassus Small Cap Fund	29/04/05	24/04/15	Equity US Sm&Mid Cap	SG	437

	Conditional	Target Portfolio Trust: Target Small Capitalization Growth Portfolio; Class R Shares	01/09/06	05/06/15	Equity US Sm&Mid Cap	SG	115,8
Principal Funds, Inc: SmallCap Growth Fund II; Institutional Class Shares		13/03/03	25/04/14	Equity US Sm&Mid Cap	SG	181,9	
Prudential Investment Portfolios 5: Prudential Small-Cap Value Fund; Class A Shares		24/06/02	19/06/15	Equity US Sm&Mid Cap	SG	141,1	
18	SRI	Pax World Funds Series Trust I: Pax ESG Beta Quality Fund; Class R Shares	05/04/07	01/05/17	Equity US	G	1,6
	Conditional	American Independence Funds Trust: American Independence Navellier Defensive Alpha Fd; Class C Shares	08/03/07	31/01/17	Equity US	G	2,1
		American Century Growth Funds, Inc: Legacy Large Cap Fund; Advisor Class Shares	01/06/06	21/10/16	Equity US	G	1,1
		Advance Capital I, Inc: Core Equity Fund; Retail Class Shares	02/01/08	22/12/16	Equity US	G	1,1
19	SRI	Pax World Funds Series Trust I: Pax Small Cap Fund; Class R Shares	27/03/08	01/05/17	Equity US Sm&Mid Cap	G	5,1
	Conditional	Wells Fargo Funds Trust: Wells Fargo Small/Mid Cap Value Fund; Class C Shares	01/08/07	22/07/16	Equity US Sm&Mid Cap	G	3,1
		American Century Mutual Funds, Inc: Heritage Fund; Class B Shares	28/09/07	16/10/15	Equity US Sm&Mid Cap	G	2,3
		AMG Funds IV: AMG Managers Montag & Caldwell Mid Cap Growth Fund; Class N	02/11/07	26/10/18	Equity US Sm&Mid Cap	G	3,5
20	SRI	Praxis Mutual Funds: Praxis Core Stock Fund; Class A Shares	24/11/99	18/01/13	Equity US	GI	38,9
	Conditional	Advisors' Inner Circle Fund II: Hancock Horizon Value Fund; Investor Class Shares	28/02/01	26/01/17	Equity US	GI	31,2
		UBS Funds: UBS US Equity Opportunity Fund; Class A Shares	14/02/02	16/03/16	Equity US	GI	29,5
		Allianz Funds: AllianzGI NFJ Large-Cap Value Fund; Class D Shares	10/03/03	13/11/15	Equity US	GI	34,3
21	SRI	Putnam Sustainable Leaders Fund; Class M Shares	05/04/95	25/11/19	Equity US	G	58,7
	Conditional	Rainier Investment Management Mutual Funds: Rainier Large Cap Equity Fund; Original Shares	20/01/95	04/12/17	Equity US	G	43,1
		Nuveen Investment Funds, Inc: Nuveen Large Cap Growth Opportunities Fund; Class A Shares	12/01/93	13/10/17	Equity US	G	78,1
		Wells Fargo Funds Trust: Wells Fargo Advantage C&B Large Cap Value Fund; Investor Class Shares	29/07/91	23/10/15	Equity US	G	62,6
22	SRI	Putnam Investment Funds: Putnam Sustainable Future Fund; Class M Shares	29/01/07	25/11/19	Equity US	G	4,6
	Conditional	MFS Series Trust XII: MFS Equity Opportunities Fund; Class B Shares	03/01/07	25/10/19	Equity US	G	7,1
		FundVantage Trust: Mount Lucas US Focused Equity Fund; Class I Shares	17/10/07	25/10/19	Equity US	G	7,2
		Principal Funds, Inc: LargeCap Growth Fund; Class C Shares	17/01/07	11/01/19	Equity US	G	12,6
23	SRI	Russell Investment Company: Sustainable Equity Fund; Class E Shares	20/10/99	09/07/20	Equity US	G	1,6015
	Conditional	John Hancock Capital Series: John Hancock Classic Value Fund; Class R1 Shares	12/08/03	23/10/20	Equity US	G	1,3773
		Prudential Investment Portfolios 3: PGIM Jennison Focused Growth Fund; Class B Shares	15/06/00	26/06/20	Equity US	G	2,5619
		Monteagle Funds: Monteagle Quality Growth Fund; Institutional Shares	13/05/98	26/06/20	Equity US	G	0,3253
24	SRI	Segall Bryant & Hamill Trust: SB&H Small Cap Value Dividend Fund; Retail Class Shares	13/12/04	25/09/20	Equity US Income	EI	5,0564
	Conditional	AIM Equity Funds (Invesco Equity Funds): Invesco Oppenheimer Dividend Opportunity Fund; Class Y Shares	08/03/04	17/04/20	Equity US Income	EI	9,5773
		ICON Funds: ICON Equity Income Fund; Class C Shares	11/10/02	10/07/20	Equity US Income	EI	13,6902
		Prudential Investment Portfolios, Inc 10: PGIM Jennison Equity Income Fund; Class B Shares	06/11/07	26/06/20	Equity US Income	EI	8,4397
25	SRI	Segall Bryant & Hamill Trust: SB&H Mid Cap Value Dividend Fund; Institutional Class Shares	01/10/98	17/09/20	Equity US Sm&Mid Cap	MC	2,1908
	Conditional	Columbia Acorn Trust: Columbia Acorn Select Fund; Class C Shares	14/03/01	10/07/20	Equity US Sm&Mid Cap	MC	1,964
		Russell Investment Company: US Small Cap Equity Fund; Class E Shares	26/08/99	09/07/20	Equity US Sm&Mid Cap	MC	0,6547
		AB Discovery Growth Fund, Inc; Class B Shares	23/08/96	07/11/19	Equity US Sm&Mid Cap	MC	0,7
26	SRI	Sentinel Group Funds, Inc: Sentinel Sustainable Core Opportunities Fund; Class A Shares	14/09/98	27/10/17	Equity US	G	359,8
	Conditional	Prudential Investment Portfolios 16: PGIM QMA Defensive Equity Fund; Class A Shares	13/03/00	14/12/18	Equity US	G	173,2
		Putnam Investors Fund; Class Y Shares	26/10/98	22/06/18	Equity US	G	330,2
		MainStay Funds Trust: MainStay ICAP Select Equity Fund; Class I Shares	23/06/99	05/05/17	Equity US	G	342

27	SRI	Sentinel Group Funds, Inc: Sentinel Sustainable Mid Cap Opportunities Fund; Class I Shares	28/01/00	30/03/16	Equity US Sm&Mid Cap	MC	5,9
	Conditional	PNC Funds: PNC Mid Cap Fund; Class A Shares	19/07/02	31/10/16	Equity US Sm&Mid Cap	MC	5
		Lazard Funds, Inc: Lazard US Mid Cap Equity Portfolio; Open Shares	20/03/01	31/08/16	Equity US Sm&Mid Cap	MC	6,4
		Vantagepoint Funds: Aggressive Opportunities Fund; Investor Shares	15/03/99	16/09/16	Equity US Sm&Mid Cap	MC	9
28	SRI	UBS Funds: UBS US Sustainable Equity Fund; Class C Shares	14/11/01	12/10/18	Equity US	GI	1,6
	Conditional	Baird Funds, Inc: Baird LargeCap Fund; Investor Class Shares	01/02/01	28/12/17	Equity US	GI	0,7
		MassMutual Select Funds: MassMutual Select Large Cap Value Fund; Service Class Shares	19/03/01	29/01/18	Equity US	GI	2,5
		Advisors' Inner Circle Fund II: Hancock Horizon Value Fund; Class C Shares	28/02/01	26/01/17	Equity US	GI	1
29	SRI	Boston Trust Walden Funds: Walden Small Cap Fund	30/10/08	03/04/20	Equity US Sm&Mid Cap	SG	103,0307
	Conditional	Royce Fund: Royce Small/Mid-Cap Premier Fund; Investment Class Shares	22/03/07	14/06/19	Equity US Sm&Mid Cap	SG	65,3
		State Farm Mutual Fund Trust: State Farm Small/Mid Cap Equity Fund; Class A Shares	01/05/06	16/11/18	Equity US Sm&Mid Cap	SG	74,5
		John Hancock Funds II: New Opportunities Fund; Class NAV Shares	17/10/05	13/03/19	Equity US Sm&Mid Cap	SG	103
30	SRI	Wells Fargo Funds Trust: Wells Fargo Advantage Social Sustainability Fund; Class C Shares	01/10/08	05/04/12	Equity US	G	0,2
	Conditional	Allianz Funds Multi-Strategy Trust: AllianzGI Disciplined Equity Fund; Class D Shares	16/07/08	16/05/14	Equity US	G	0,2
		Allianz Funds: AllianzGI Large-Cap Growth Fund; Class P Shares	07/07/08	30/05/14	Equity US	G	0,4
		Prudential Investment Portfolios 3: Prudential Jennison Select Growth Fund; Class X Shares	29/10/07	11/04/14	Equity US	G	0,1

Appendix 3: Correlation matrix for market benchmarks indices, risk factors, and public information variables.

The appendix presents correlation matrix between the excess returns of the S&P500, FTS4GOOD US, size (*SMB*) factor, book-to-market (*HML*), momentum (*MOM*) factor, profitability (*RMW*) factor, investment (*CMA*) factor, short-term interest rate (*ST*) and dividend yield (*DY*) during the period January of 2005 to December of 2021.

	S&P500	FTSE4GOODUS	SMB	HML	RMW	CMA	MOM	DY	SR
S&P500	1								
FTSE4GOODUS	0,984	1							
SMB	0,3653	0,3519	1						
HML	0,2678	0,2725	0,3447	1					
RMW	-0,2545	-0,2656	-0,3423	-0,1178	1				
CMA	-0,082	-0,0825	0,0976	0,4762	-0,0002	1			
MOM	-0,3795	-0,4042	-0,2727	-0,4452	0,1417	-0,1	1		
DY	-0,0675	-0,068	-0,0543	-0,1625	0,1052	-0,0958	-0,1235	1	
SR	0,0633	0,0657	-0,0422	0,1834	-0,1566	0,0777	-0,005	-0,2659	1

Appendix 4: Estimates using the conditional Carhart (1997) four-factor model

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the four-factor model regressions with both S&P500 (Panel A) and FTSE4GOOD US (Panel B) as benchmarks, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML) and momentum (MOM) factors and the adjusted coefficient of determination ($R^2adj.$). The predetermined information variables are the short-term rate (ST) and the dividend (DY). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***) , 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented. W1, w2 and w3 correspond to p values of Wald tests on the null hypothesis of no time-varying alphas, no time-varying betas and no time-varying alphas and betas, respectively.

Panel A: Benchmark S&P500							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0007	40 [1]	109 [37]	-0.0010**	80 [1]	367 [106]	0.0003
α_{ST}	0.0001	74 [5]	75 [5]	0.0007	257 [27]	190 [11]	-0.0006**
α_{DY}	-0.0051	38 [5]	111 [19]	-0.0034	173 [14]	274 [31]	-0.0017
β_{p*rm}	0.9954***	149 [149]	0 [0]	0.9987***	447 [447]	0 [0]	-0.0032
β_{ST*rm}	0.0030	79 [13]	70 [8]	-0.0169	191 [25]	256 [33]	0.0199*
β_{DY*rm}	-0.0176	86 [9]	63 [9]	0.0056	227 [30]	220 [22]	-0.0232
β_{SMB}	0.3275***	139 [116]	10 [2]	0.3040***	416 [323]	31 [11]	0.0235**
β_{ST*SMB}	-0.0121	52 [3]	97 [23]	-0.0032	184 [15]	263 [50]	-0.0089
β_{DY*SMB}	0.2355	120 [25]	29 [0]	0.2153*	350 [75]	97 [4]	0.0203
β_{HML}	-0.0225	72 [38]	77 [46]	-0.0326	221 [133]	226 [170]	0.0101
β_{ST*HML}	0.0494	83 [22]	66 [6]	0.0380	257 [50]	190 [26]	0.0113
β_{DY*HML}	-0.0775	68 [9]	81 [13]	-0.1452*	204 [37]	243 [77]	0.0677**
β_{MOM}	-0.0062	75 [21]	74 [18]	0.0031	227 [74]	220 [73]	-0.0092
β_{ST*MOM}	-0.0096	54 [2]	95 [16]	-0.0095	192 [13]	255 [41]	-0.0001
β_{DY*MOM}	-0.0665	56 [15]	93 [26]	-0.0636	199 [57]	248 [82]	-0.0029
w1	0.3255			0.3938			
w2	0.1481			0.2679			
w3	0.1792			0.4354			
$R^2adj.$ (%)	97.62			98.65			-4.29

Panel B: BENCHMARK FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0010	26 [0]	123 [34]	-0.0013	58 [0]	389 [86]	0.0003
α_{ST}	0.0002	78 [3]	71 [3]	0.0007	260 [18]	187 [18]	-0.0006**
α_{DY}	-0.0101	30 [3]	119 [23]	-0.0084	96 [5]	351 [70]	-0.0017
β_{p*rm}	0.9403***	149 [149]	0 [0]	0.9448***	447 [447]	0 [0]	-0.0045
β_{ST*rm}	0.0447	106 [18]	43 [5]	0.0244	272 [31]	175 [13]	0.0203*
β_{DY*rm}	0.2230*	136 [46]	13 [0]	0.2441*	397 [133]	50 [5]	-0.0211
β_{SMB}	0.3721***	145 [127]	4 [1]	0.3478***	429 [358]	18 [6]	0.0243**
β_{ST*SMB}	0.0673	91 [14]	58 [14]	0.0776	282 [46]	165 [24]	-0.0103
β_{DY*SMB}	0.4247**	132 [50]	17 [0]	0.4051**	399 [123]	48 [3]	0.0196
β_{HML}	0.0289	87 [40]	62 [30]	0.0183	244 [147]	203 [132]	0.0106
β_{ST*HML}	0.2158**	107 [45]	42 [6]	0.2047*	344 [132]	103 [16]	0.0111
β_{DY*HML}	-0.2520	53 [3]	96 [15]	-0.3272	147 [17]	300 [82]	0.0752**
β_{MOM}	0.0078	88 [20]	61 [11]	0.0171	253 [64]	194 [51]	-0.0093
β_{ST*MOM}	0.0005	54 [1]	95 [13]	-0.0020	195 [12]	252 [41]	0.0026
β_{DY*MOM}	0.0287	91 [13]	58 [4]	0.0299	256 [57]	191 [22]	-0.0012
w1	0.2872			0.3426			
w2	0.0766			0.0899			
w3	0.0291			0.0562			
$R^2adj.$ (%)	94.19			95.30			-4.15

Appendix 5: Estimates using the conditional Fama and French (2018) six-factor model

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the six-factor model regressions with both S&P500 (Panel A) and FTSE4GOOD US (Panel B) as benchmarks, from January 2005 – January 2021. It reports estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (SMB), book-to-market (HML), profitability (RMW) and investment (CMA), momentum (MOM) factors and the adjusted coefficient of determination (R^2_{adj}). The predetermined information variables are the short-term rate (ST) and the dividend (DY). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observations. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***) , 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented. W1, w2 and w3 correspond to p values of Wald tests on the null hypothesis of no time-varying alphas, no time-varying betas and no time-varying alphas and betas, respectively.

Panel A: Benchmark S&P500							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0006	48 [3]	101 [34]	-0.0008**	107 [3]	340 [86]	0.0003
α_{ST}	0.0002	81 [2]	68 [3]	0.0010	285 [22]	162 [6]	-0.0008**
α_{DY}	-0.0048*	48 [7]	101 [24]	-0.0027	188 [26]	259 [43]	-0.0021
β_{p*rm}	0.9848***	149 [149]	0 [0]	0.9854***	447 [446]	0 [0]	-0.0006
β_{ST*rm}	0.0168	84 [16]	65 [10]	-0.0027	193 [38]	254 [30]	0.0195
β_{DY*rm}	-0.0504	68 [8]	81 [11]	-0.0366	187 [29]	260 [51]	-0.0138
β_{SMB}	0.3220***	138 [112]	11 [1]	0.2971***	411 [291]	36 [6]	0.0249*
β_{ST*SMB}	-0.0208	53 [3]	96 [21]	-0.0188	179 [16]	268 [61]	-0.0020
β_{DY*SMB}	0.1714	113 [19]	36 [4]	0.1288	312 [48]	135 [12]	0.0426
β_{HML}	-0.0140	74 [32]	75 [41]	-0.0090	229 [126]	218 [141]	-0.0050
β_{ST*HML}	0.0317	86 [14]	63 [12]	0.0242	235 [45]	212 [29]	0.0075
β_{DY*HML}	-0.2123**	47 [3]	102 [25]	-0.2706***	143 [20]	304 [101]	0.0583
β_{RMW}	-0.0392	61 [15]	88 [29]	-0.0462**	152 [45]	295 [120]	0.0070
β_{ST*RMW}	0.0257	79 [10]	70 [7]	-0.0036	236 [31]	211 [39]	0.0293
β_{DY*RMW}	-0.0260	69 [8]	80 [18]	-0.1054	189 [13]	258 [64]	0.0795
β_{CMA}	-0.1707***	33 [5]	116 [62]	-0.2108***	77 [25]	370 [234]	0.0402***
β_{ST*CMA}	0.1211**	96 [31]	53 [6]	0.1113**	307 [74]	140 [14]	0.0098
β_{DY*CMA}	0.0944	87 [18]	62 [9]	0.0243	253 [50]	194 [43]	0.0701
β_{MOM}	-0.0014	79 [26]	70 [15]	0.0061	243 [91]	204 [73]	-0.0075
β_{ST*MOM}	-0.0198	53 [4]	96 [15]	-0.0192	178 [26]	269 [49]	-0.0005
β_{DY*MOM}	-0.0804*	59 [11]	90 [23]	-0.0660	189 [43]	258 [81]	-0.0144
w1	0.2171			0.2223			
w2	0.0000			0.0000			
w3	0.0000			0.0000			
R^2_{adj} (%)	97.92			99.12			-6.70

Panel B: BENCHMARK FTSE4GOOG US

Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_ρ	-0.0010	28 [0]	121 [31]	-0.0013	60 [0]	387 [81]	0.0003
α_{ST}	0.0009	103 [3]	46 [1]	0.0017	323 [19]	124 [2]	-0.0008**
α_{DY}	-0.0109*	26 [6]	123 [29]	-0.0088	115 [12]	332 [68]	-0.0021
β_{p*rm}	0.9310***	149 [149]	0 [0]	0.9330***	447 [446]	0 [0]	-0.0020
β_{ST*rm}	0.0528	106 [15]	43 [7]	0.0322	278 [40]	169 [14]	0.0206*
β_{DY*rm}	0.2183**	132 [49]	17 [0]	0.2256**	383 [159]	64 [9]	-0.0073
β_{SMB}	0.3788***	143 [124]	6 [0]	0.3530***	432 [343]	15 [3]	0.0258*
β_{ST*SMB}	0.0526	77 [5]	72 [13]	0.0553	253 [30]	194 [26]	-0.0027
β_{DY*SMB}	0.3316*	127 [30]	22 [3]	0.2888*	391 [65]	56 [5]	0.0428
β_{HML}	0.0442	87 [33]	62 [24]	0.0492	251 [133]	196 [108]	-0.0050
β_{ST*HML}	0.1558	102 [27]	47 [5]	0.1460	315 [79]	132 [20]	0.0098
β_{DY*HML}	-0.5526**	23 [0]	126 [43]	-0.6178***	72 [3]	375 [145]	0.0652
β_{RMW}	0.0147	73 [18]	76 [20]	0.0075	192 [41]	255 [75]	0.0072
β_{ST*RMW}	-0.0223	57 [3]	92 [7]	-0.0549	175 [12]	272 [44]	0.0326
β_{DY*RMW}	-0.0573	64 [7]	85 [7]	-0.1344	167 [6]	280 [39]	0.0771
β_{CMA}	-0.2054***	32 [3]	117 [44]	-0.2462***	83 [20]	364 [212]	0.0408***
β_{ST*CMA}	0.1663	108 [28]	41 [0]	0.1599	344 [75]	103 [10]	0.0064
β_{DY*CMA}	0.3611	116 [23]	33 [3]	0.3023	326 [79]	121 [7]	0.0588
β_{MOM}	0.0146	91 [26]	58 [11]	0.0222	266 [95]	181 [37]	-0.0076
β_{ST*MOM}	-0.0144	55 [3]	94 [24]	-0.0167	175 [14]	272 [56]	0.0024
β_{DY*MOM}	-0.0159	70 [9]	79 [7]	-0.0064	232 [33]	215 [32]	-0.0095
w1	0.2559			0.3396			
w2	0.0000			0.0000			
w3	0.0000			0.0000			
R² adj. (%)	94.59			95.89			-6.59

Appendix 6: Estimates using the Carhart (1997) four-factor model with a dummy variable

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the four-factor model regression with a dummy for both S&P500 (Panel A) and FTSE4GOOD US (Panel B) as benchmarks, from January 2005 – January 2021. The dummy variable is added in order to distinguish recessions from expansions periods. It reports for both periods, estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (*SMB*), book-to-market (*HML*) and momentum (*MOM*) factors and the adjusted coefficient of determination ($R^2 adj.$). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[3]{N}$, where N is the number of observation. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***) , 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

Panel A: Benchmark S&P500							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0004	41 [0]	107 [24]	-0.0005	105 [5]	339 [79]	0.0002
α_D	-0.0015	59 [14]	89 [12]	-0.0026	167 [19]	277 [40]	0.0011
β_{MKT}	0.9964***	148 [148]	0 [0]	0.9959***	444 [444]	0 [0]	0.0004
$\beta_{MKT \cdot D}$	-0.0105	62 [8]	86 [17]	0.0091	232 [32]	212 [29]	-0.0196*
β_{SMB}	0.3188***	137 [109]	11 [2]	0.2949***	397 [303]	47 [11]	0.0239**
$\beta_{SMB \cdot D}$	0.0267	83 [11]	65 [7]	0.0461	251 [21]	193 [16]	-0.0194
β_{HML}	-0.0347**	71 [36]	77 [46]	-0.0412**	215 [135]	229 [165]	0.0066
$\beta_{HML \cdot D}$	-0.0243	73 [11]	75 [20]	-0.0421	203 [36]	241 [53]	0.0178
β_{MOM}	-0.0016	78 [20]	70 [19]	0.0087	230 [55]	214 [55]	-0.0103
$\beta_{MOM \cdot D}$	-0.0261	54 [7]	94 [16]	-0.0317	172 [15]	272 [47]	0.0057
$R^2 adj.$ (%)	97.58			98.61			-2.07
Panel B: BENCHMARK FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	0.0000	49 [0]	99 [15]	-0.0002	149 [3]	295 [48]	0.0002
α_D	-0.0044	44 [9]	104 [8]	-0.0055	115 [29]	329 [42]	0.0011
β_{MKT}	0.9343***	148 [148]	0 [0]	0.9351***	444 [444]	0 [0]	-0.0008
$\beta_{MKT \cdot D}$	-0.0185	62 [6]	86 [14]	-0.0002	221 [22]	223 [18]	-0.0183*
β_{SMB}	0.3837***	142 [124]	6 [1]	0.3593***	423 [365]	21 [5]	0.0244**
$\beta_{SMB \cdot D}$	-0.0262	44 [4]	104 [14]	-0.0070	165 [6]	279 [49]	-0.0192
β_{HML}	0.0112	81 [37]	67 [36]	0.0045	237 [142]	207 [137]	0.0066
$\beta_{HML \cdot D}$	-0.1270	51 [13]	97 [25]	-0.1460	133 [49]	311 [68]	0.0190
β_{MOM}	0.0215	90 [20]	58 [17]	0.0321	273 [70]	171 [43]	-0.0106
$\beta_{MOM \cdot D}$	-0.0480	40 [5]	108 [13]	-0.0535	122 [13]	322 [40]	0.0054
$R^2 adj.$ (%)	93.72			94.81			-2.03

Appendix 7: Estimates using the Fama and French (2018) six-factor model with a dummy variable

This table presents regression estimates for the equally weighted portfolios of US SRI and conventional funds, as well as the difference between the two portfolios, obtained from the six-factor model regression with a dummy for both S&P500 (Panel A) and FTSE4GOOD US (Panel B) as benchmarks, from January 2005 – January 2021. The dummy variable is added in order to distinguish recessions from expansions periods. It reports for both periods, estimates of performance (α_p), systematic risk (β_{MKT}), factor loadings associated to size (*SMB*), book-to-market (*HML*), profitability (*RMW*) and investment (*CMA*) and momentum (*MOM*) factors and the adjusted coefficient of determination (R^2_{adj}). Standard errors are corrected for autocorrelation and heteroscedasticity following Newey and West (1987), as in Baum (2006), the number of lags is determined by the rule of thumb: $\sqrt[4]{N}$, where N is the number of observation. The asterisks are used to identify statistical significance of the coefficients to a level of significance of 1% (***) , 5% (**) and 10% (*). N+ and N- indicate the number of the funds that have positive and negative estimates, respectively. Within brackets the number of funds whose estimates are statistically significant at a 5% significance level are presented.

Panel A: Benchmark S&P500							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	-0.0002	46 [3]	102 [3]	-0.0003	141 [11]	302 [73]	0.0002
α_D	-0.0019	48 [17]	100 [27]	-0.0030*	138 [30]	305 [85]	0.0011
β_{MKT}	0.9873***	148 [148]	0 [0]	0.9856***	443 [442]	0 [0]	0.0017
β_{MKT*D}	-0.0481*	54 [16]	94 [29]	-0.0289	178 [44]	265 [63]	-0.0191*
β_{SMB}	0.3066***	135 [102]	13 [1]	0.2807***	397 [270]	46 [6]	0.0259*
β_{SMB*D}	0.0856	101 [22]	47 [13]	0.1063*	300 [62]	143 [38]	-0.0207
β_{HML}	-0.0276	66 [30]	82 [40]	-0.0153	217 [121]	226 [130]	-0.0122
β_{HML*D}	-0.0592	63 [13]	85 [22]	-0.0927	166 [48]	277 [79]	0.0335*
β_{RMW}	-0.0529*	64 [14]	84 [31]	-0.0616***	152 [47]	291 [118]	0.0088
β_{RMW*D}	0.0526	87 [20]	61 [21]	0.0511	244 [79]	199 [57]	0.0015
β_{CMA}	-0.1236***	44 [6]	104 [53]	-0.1642***	100 [33]	343 [224]	0.0406***
β_{CMA*D}	-0.2125***	38 [4]	110 [51]	-0.1844**	112 [22]	331 [110]	-0.0281
β_{MOM}	-0.0018	77 [21]	71 [20]	0.0083	236 [67]	207 [63]	-0.0100
β_{MOM*D}	-0.0117	62 [14]	86 [15]	-0.0166	204 [40]	239 [50]	0.0049
R^2_{adj} (%)	97.90			99.04			-3.71

Panel B: BENCHMARK FTSE4GOOG US							
Portfolios	SRI (1)	N+	N-	Conventional (2)	N+	N-	Difference (1)-(2)
α_p	0.0002	52 [4]	96 [14]	-0.0000	166 [11]	277 [45]	0.0002
α_D	-0.0059	32 [11]	116 [37]	-0.0071	92 [42]	351 [115]	0.0011
β_{MKT}	0.9255***	148 [148]	0 [0]	0.9251***	443 [443]	0 [0]	0.0003
β_{MKT*D}	-0.0580	54 [18]	94 [23]	-0.0403	186 [52]	257 [38]	-0.0177**
β_{SMB}	0.3763***	143 [123]	5 [1]	0.3499***	427 [340]	16 [2]	0.0264*
β_{SMB*D}	0.0725	83 [10]	65 [21]	0.0939	234 [12]	209 [76]	-0.0214
β_{HML}	0.0191	78 [29]	70 [32]	0.0312	233 [120]	210 [110]	-0.0121
β_{HML*D}	-0.1657	46 [21]	102 [22]	-0.2004	124 [66]	319 [84]	0.0347*
β_{RMW}	-0.0354	60 [11]	88 [30]	-0.0438	152 [35]	291 [101]	0.0084
β_{RMW*D}	0.1640	105 [31]	43 [13]	0.1650	313 [116]	130 [49]	-0.0010
β_{CMA}	-0.1511**	44 [4]	104 [38]	-0.1914***	112 [28]	331 [182]	0.0403***
β_{CMA*D}	-0.2669	24 [1]	124 [55]	-0.2387	71 [9]	372 [126]	-0.0282
β_{MOM}	0.0202	93 [21]	55 [16]	0.0305	268 [76]	175 [42]	-0.0103
β_{MOM*D}	-0.0318	53 [14]	95 [16]	-0.0366	170 [34]	273 [59]	0.0047
R^2_{adj} (%)	94.26			95.47			-3.69