SRI
& Performance
by LFDE

2019

CONTENTS

PREFACE

Open a newspaper or check social media and it is obvious the world is crying out **for a new and more equitable ecosystem**, one which is more resilient and where we can breathe more freely. Turning this awareness into concrete actions is somewhat trickier. Savers may be keen to build a better world, but in practice the quest for profit quickly gets the upper hand.

So, does the choice to invest responsibly necessarily mean sacrificing performance? This is (still) one of the most widely debated issues in asset management. Mention socially responsible investment and most people will think of the era of the Quakers, or the 1970s, when it meant ethical investing and steering clear of "sinful stocks". **Socially responsible investment** (SRI) has come a long way since then. It has become **a powerful risk management tool** and a field rich with investment opportunities.

As a pioneer of SRI in France, La Financière de l'Echiquier (LFDE) has, ever since its foundation, paid close attention to corporate governance at the companies it invests in. At bottom, our business is to entrust the capital of our clients to men and women - the best business leaders, carefully selected - who will make it grow. Since 2007, we have made our responsible investing process a cornerstone of LFDE's SRI policy. The process draws on in-depth knowledge of companies, refined over years of meetings and discussions, and has at its heart an in-house methodology for **analysing Environmental, Social and Governance (ESG) criteria**.

With twelve years' experience in responsible investing, we are both motivated and well-qualified to **contribute to the debate on Socially Responsible Investment (SRI) and performance**. In this study we set out the evidence and argue our case: SRI and performance are not incompatible. Quite the opposite! Investing in companies with the best ESG ratings generates, over the long term, higher performance than stocks in the leading indexes and also beats investing in firms with intermediate or low ESG scores. There are other and more surprising conclusions, which we will come to later.

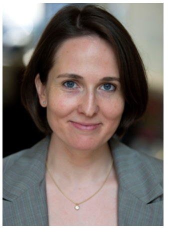
At the moment, integrating ESG criteria is on a roll. This success is deeply gratifying for long-standing advocates such as ourselves, but also hints at a need for prudence. The trend has brought a host of new products onto the market. After years of ignoring ESG criteria, this sudden popularity could create a massive influx of capital to the same companies, at the risk of inflating their prices. We must keep in mind that to generate strong performance ESG criteria must go hand-in-hand with financial criteria.

How have we responded to these findings? Our SRI funds, **Echiquier Major SRI Growth Europe** and **Echiquier Positive Impact** invest in companies with the best possible ESG ratings, while also complying with the requirements of their investment guidelines and other financial criteria. Over recent years, the average ESG rating of these portfolios has been rising, learning the lessons from an earlier 2015 study which reached similar conclusions to those we present today.

Rolling out ESG screening to all our funds is one of the targets we set at end-2017 to act on these conclusions. **Target close to being met.**

We have steadily deepened our commitment to socially responsible investment over the years. 2019 will be no exception.

DIDIER LE MENESTREL
Chairman



SONIA FASOLO
SRI portfolio manager

MAIN FINDINGS

SRI & performance *by* LFDE

Far from destroying value, taking account of environmental, social and governance (ESG) criteria tends to be positive for long-term performance. Our report highlights the relationship between ambitious ESG policies and a company's stock market performance. The rating scale used by La Financière de l'Echiquier (LFDE) and the weightings of each criterion allow us to identify a the firms that will tend to create long-term financial value.

KEY TAKE-AWAYS

1 SRI and performance are not incompatible, quite the opposite!

- Investing systematically in companies with the highest ESG scores delivers a stronger performance in the long term than investing in companies with poor scores or an investment in the stock market indices. The portfolio of companies with the best ESG scores generates a performance which is **2.3 times** better over 9 years than the portfolio of companies with the worst ESG scores.

2 E, S or G?

- Taken separately, good Environmental, Social and Governance profiles are all drivers of performance. Portfolios made up of companies with the best Environmental scores, the best Social scores and the best Governance scores outperform indices as well as the three portfolios composed, using the same approach, of stocks with the worst scores.
- The portfolio comprising the best social scored stocks outperformed those with the top environmental and governance scores. But it still lagged the portfolio of the overall best-rated ESG stocks.
- Companies with poor governance ratings performed least well. **The average annual performance differential** between the portfolio of companies with poor governance scores and that with the good ESG scores was **-13%**.

3 SRI and risk

- Risk was broadly similar for the low- and high-scoring ESG portfolios.
- Over 9 years the risk/return ratio of the high-scoring ESG portfolio significantly outperformed the benchmark indices as well as the poorly rated portfolios. This was thanks to a significant differentiating factor: **the risk/return ratio** of the best rated ESG portfolios is **1.7 times better** than that of the poor-scoring ESG portfolio.

INTRODUCTION

Drawing on our 12-year commitment to responsible investment our aim in this empirical study is to contribute concrete evidence to the ongoing debate on the **compatibility of SRI and performance.**

General aim of the study

This study is based entirely on the ratings of nearly 500 companies over the last 9 years by the SRI team of La Financière de l'Echiquier (LFDE), using its proprietary methodology for ESG analysis (see page 53). The report reviews and compares the performances of mock asset portfolios compiled according to a single criterion, their ESG rating. An initial study in 2015 (for internal use) had already tried to analyse the relationship between ESG ratings and the performance of companies. Results were conclusive. In 2018, with the support of LFDE's risk management team, we have enhanced the data analysis and deepened the report's statistical base to include a longer historical record.

LFDE's intention with this report is to contribute to the market theory and debate, often influenced by academic research and non-financial data providers, on the issue of SRI and performance. The case we want to argue is that **integrating non-financial criteria into the fundamental analysis of companies** inherently creates value. The study also has the merit of endorsing the relevance of LFDE's proprietary approach to investment. Besides this conclusion regarding our methodology, we are convinced the study has far wider implications in that it highlights the **positive impact** on investment of extending fundamental analysis to include non-financial criteria.

The study, carried out by the Risk management and SRI teams using our in-house resources, examines a 9-year period (from 1 January 2010 to 31 December 2018). It incorporates all the Environmental, Social and Governance scores of companies in the LFDE data base.

Our non-financial (ESG) rating method

Since the start of 2018, all our funds have been part of a policy to integrate ESG, which involves analysts and portfolio managers in assigning an ESG rating to all stocks in their portfolios. In our SRI funds, the ESG rating is done by the SRI team and has a direct impact on the companies picked for the fund.

Our SRI team has rated not only all the investee companies of our SRI funds but also the potential "investables" and any others which the portfolio managers consider interesting. The sample of rated stocks over our 9-year period includes nearly 500 companies.

Each rating follows in-depth work by our analysts, without input from non-financial rating agencies. Each of the three criteria - Environmental, Social and Governance - is scrutinised in detail and we systematically meet with companies to fine-tune our analyses (see methodological note, page 53).

Over the long term, companies with good Environmental, Social and Governance (ESG) profiles outperform not only those with poor ESG profiles but also the leading indices. This is one of the main conclusions of our report on Socially Responsible Investment (SRI) based on a 9-year performance history.

It comes as confirmation rather than a surprise, as we have long been convinced that **integrating non-financial criteria into fundamental analysis of companies is a source of long-term performance**. Non-financial risks often have direct financial consequences, such as pushing up operating or borrowing costs. They may also come with indirect effects such as reputational risk, undermining brand value, etc. Companies that successfully manage their non-financial risks usually have good risk management. They also tend to enjoy wider margins, lower capital costs and better valuation multiples than their peers*.

The key non-financial criteria we consider include:

- environmental criteria: applying an environmental policy, environmental metrics (energy consumption, water, CO_2 emissions, waste management), environmental impact of the products and services sold.

- social criteria: the ability to attract and retain talent, employee satisfaction and safety at work, management of restructuring, social impact of products, relations with civil society.

- governance criteria: management quality, balance of powers, good alignment of interests, respect for minority shareholders, assessment of non-financial risks.

These criteria are analysed and companies are then rated using LFDE's methodology on a scale of 0-10. This overall rating is compiled from the individual scores for Governance (around 60% of the rating), Environmental (around 20% of the rating for industrial companies, around15%, for service companies) and a Social score (around 20% for industrial companies, around 25% for service companies).

* *Foundations of ESG investing – Part 1: How ESG affects equity valuation, risk and performance*, MSCI, November 2017

The ESG analysis multiples calculated by the SRI team over the last 9 years have allowed us to compile a data base of nearly 500 ratings, constantly being enriched, which is the source data for our study.

The method we used for this first part is based on creating mock portfolios of assets. The only criteria for selecting companies was their ESG rating at the date the portfolio was created or rebalanced, using the method described above. Remember that the SRI team will only assess and rate a particular company if a member of the fund management team is already considering investing in it.

Presentation of portfolios

We analysed the data by putting together portfolios of shares in mainly European companies, an approach in line with LFDE's core investment expertise. We took two angles of approach.

• 2 portfolios of the best-rated ("Top 40") and worst-rated ("Flop 40") firms.

We attempt to distinguish the performance of the two opposite portfolios, one of the 40 best-rated stocks in our universe the other of the 40 worst-rated. The aim is to compare their performances by creating two mock portfolios whose concentration, like our traditional equity funds, is determined by La Financière de l'Echiquier's trademark high-conviction management.

- The Top 40 comprises the 40 stocks with the best ESG ratings in our database
- The Flop 40 comprises the 40 stocks with the worst ESG ratings in our database

The average ESG score can vary widely. In 2010, for instance, the ratings of the Top 40 ranged from 8.9 to 7.0 out of 10. In 2018 they were between 8.5 and 7.6.

• 3 portfolios ("Committed", "Intermediate" and "Laggards")

To get a second angle on the issue, we split all the ratings in our database into three, based on the ESG scores of the companies. This created three portfolios constructed from a number of different companies. The number varied over time, unlike in the two previous portfolios where the number of positions was fixed.

The 3 portfolios:

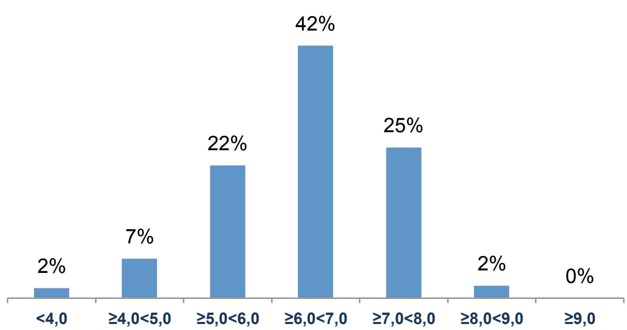
- The **Committed** portfolio was composed exclusively of firms with ESG scores above 7/10. In our experience, any company scoring above 7/10 has an excellent ESG profile.
- The **Intermediates** portfolio comprises companies rated 6 or 7/10 (at least 6/10 and up to 7/10). The 6/10 threshold is the minimum score tolerated in LFDE's SRI funds. We consider that any company scoring below 6 is too poorly rated to be eligible for our SRI fund.
- The **Laggards** portfolio was composed exclusively of firms with ESG scores below 6/10.

The limits on ESG rating do not change, unlike the Top 40 and Flop 40 portfolios. However, the number of positions invested in each portfolio will change over time. The classification, though, remains fairly consistent and its portfolios are weighted equally. Over the last three years, the Committed portfolio averaged 57 stocks, the Intermediates 74 and the Laggards 42.

All three are well diversified and less concentrated than the Top 40 and Flop 40 portfolios for the same period.

- Breakdown of ESG ratings

The chart below shows the distribution of all ESG ratings in our data base at end-2018. There is a heavy preponderance of 6 and 7 ratings, which explains why the **Intermediates** portfolio has more positions than the others.



Source: La Financière de l'Echiquier. Data as at 31/12/2018

As with the Top 40 and Flop 40, the portfolios are constructed solely using an ESG ratings screen. No financial screening is applied. There is, though, a certain selection bias, which we will come back to, in that before a stock can be rated by the SRI team it needs to pre-selected by a member of LFDE's portfolio management team. The ratings used are those done in the last 3 years. We took the view that any rating done before then would be insufficiently up-to-date and there was a risk they would no longer reflect the realities of the firms studied. Ratings of invested stocks are updated every two years, which gives an excellent snapshot of the dynamics and positioning of the company.

These portfolios are rebalanced regularly, annually between 2010 and 2015 (at 31 December each year), and quarterly from 2016 on (last day of each quarter).

Portfolio performances.

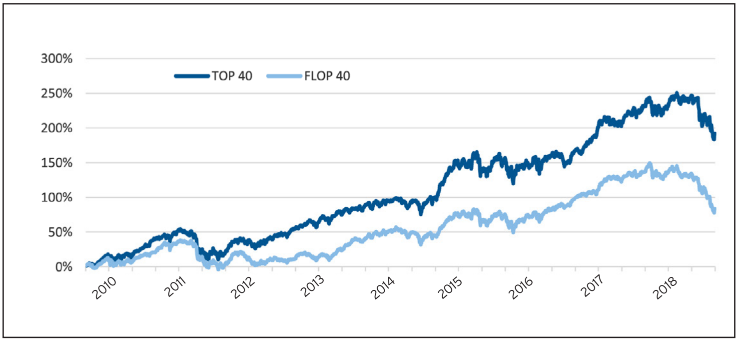
The best ESG-rated portfolios - Top 40 and Committed - outperform over the long term against whichever indices or portfolios they are compared to.

The perhaps surprising finding related to the performance of the worst ESG-rated portfolios, which were far less mediocre than expected. This suggests two things.

First, the "bad" portfolios were getting a boost from the pre-selection bias mentioned above. Even if no financial screening is applied in constructing the portfolios, the securities in our data have undergone an "invisible" selection process by the portfolio managers. Managers and analysts screen them financially to preselect stocks in the European equity universe. Meetings with companies and deeper investigation of their business model allows them to form a more rounded picture of the stock.

Secondly, the portfolios of the weakest-scoring stocks - Flop 40 and the Laggards - are mainly small caps. We therefore compared their performances with those of the MSCI Europe Small Cap (see section 2 below). We found that over the period reviewed, these portfolios failed to beat their index.

Comparison Top 40 vs. Flop 40

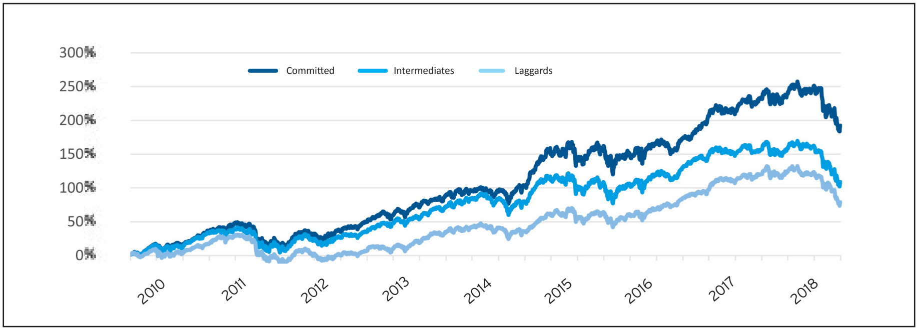


Period	Top 40	Flop 40
2010	39.5%	21.3%
2011	-13.7%	-14.3%
2012	28.6%	7.3%
2013	22.2%	26.4%
2014	5.5%	2.7%
2015	28.3%	20.6%
2016	4.3%	13.7%
2017	24.5%	19.4%
2018	-12.2%	-22.6%
Cumulative performance:	191.7%	83.5%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performance is not a reliable indication of future return and is not constant over time.

The Top 40 portfolio, made up of good ESG profiles, outperforms the Flop portfolio of bad ESG profiles by more than two times over the period analysed. The Top 40 beat the Flop 40 in 7 of the 9 years studied.

Comparison Committed vs. Intermediates vs. Laggards



Period	Committed vs.	Intermediates vs.	Laggards
2010	35.6%	32.8%	17.7%
2011	-13.5%	-15.9%	-20.8%
2012	27.9%	21.1%	15.0%
2013	26.4%	27.7%	26.3%
2014	7.3%	4.2%	0.1%
2015	28.5%	15.0%	20.6%
2016	4.5%	11.1%	12.9%
2017	21.9%	11.7%	19.5%
2018	-12.2%	-18.7%	-19.0%
Cumulative performance:	192.4%	108.8%	78.8%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performance is not a reliable indication of future return and is not constant over time.

The trend of each portfolio is striking. The near-linear correlation between ESG rating and portfolio performance stands out over time. The Committed portfolio offers better performances that the Intermediate portfolio which itself outperformed the Laggards portfolio over the 9 years of the study.

The higher the ESG rating, the stronger the performance over the long-term seems to be. According to our estimates, investing in the Intermediates portfolio (average ESG ratings of 6.3/10) rather than the Laggards (average ESG ratings of 5.4) yields a 3.6% annual performance bonus. The gain from investing in the Committed portfolio (average ESG rating of 7.4/10, approx a 1-point improvement), rather than Intermediates, is around 6.5% annually on average.

Portfolio performance vs. stock market index

We tested for size, style and methodological biases by comparing the performance of each of our portfolios with a set of stock market indices.

The MSCI indices selected are commonly relied on by asset managers for their robustness. They also act as benchmarks for most LFDE funds. As the portfolios are almost entirely made up of European shares, the indices selected are European. Finally, they are expressed as net return, dividends reinvested allowing for dividend taxes - the same as our mock portfolios.

- **Size bias**

This bias, tested against the MSCI Europe Small Cap, could manifest itself when a portfolio is more exposed than its index to companies with very different sizes of capitalisation. If the Small Cap index outperforms the Large Cap index, the portfolios most exposed to small caps should outperform their less exposed peers. We found this was not the case.

- **Style bias**

This bias, tested against the MSCI Europe Small Cap, could manifest itself when a portfolio is more exposed than its index to growth stocks. In fact, the companies with the best ESG scores include a high proportion of growth stocks. If the Growth index outperforms others, the portfolios most exposed to growth companies should also outperform their less growth-sensitive peers. Our portfolios are generally balanced and deliver performances well above those of the Growth index. In other words, the strong performance of the portfolios made up of best-rated stocks cannot be fully attributed to their overweight to growth stocks.

- **Methodological bias**

We compared the mock portfolios with the SRI index.

The idea is to compare the non-financial analysis approach of LFDE with another methodology. We find that the top-rated portfolios significantly outperformed the MSCI Europe SRI index. The portfolios composed of poor ESG scores - Flop 40 and Laggards - underperformed this index.

Comparison Top 40 vs. Flop 40 vs. stock market indices

Period	Top 40	Flop 40	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
2010	39.5%	21.3%	11.1%	11.6%	18.0%	29.9%
2011	-13.7%	-14.3%	-8.1%	-5.1%	-6.7%	-17.4%
2012	28.6%	7.3%	17.3%	18.6%	17.9%	27.0%
2013	22.2%	26.4%	19.8%	24.4%	18.2%	33.4%
2014	5.5%	2.7%	6.8%	6.0%	8.0%	6.5%
2015	28.3%	20.6%	8.2%	14.8%	15.9%	23.5%
2016	4.3%	13.7%	2.6%	0.1%	-2.2%	0.9%
2017	24.5%	19.4%	10.2%	11.1%	12.3%	19.0%
2018	-12.2%	-22.6%	-10.6%	-7.3%	-9.5%	-15.9%
Cumulative performance	191.7%	83.5%	67.8%	96.1%	90.8%	141.4%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performance is not a reliable indication of future return and is not constant over time.

As stated, the Top 40 portfolio beats all indices over the full period. The Flop 40 only beat the MSCI Europe over 9 years. But it failed to beat the Small Cap index, even though it is the most small-cap heavy of the portfolios.

The table giving an annual breakdown of net returns shows that the best-rated portfolio beat the lower-rated portfolio in every year but two - 2013 and 2016 - when value style investments outperformed growth style. A point that stands out in the comparison of the MSCI Europe Growth with the MSCI Europe.

There is a big body of empirical research to show that growth companies are overrepresented in SRI funds. They cannot neglect ESG issues if they are to succeed and have more resources available to implement ambitious policies in these areas. Companies trading at discounts or undergoing restructures, i.e. value stocks, may however let certain social and/or environmental issues fall by the wayside.

Finally, the supposed market cap bias was not confirmed. As we said, the substantial weighting of small caps in the funds with the worst ESG profiles should have automatically boosted their performance as the MSCI Europe Small Cap was the best performer of all the indices we looked at over the period. However, the Flop 40 portfolio, which averages over 57% small caps, underperformed both the MSCI European Small Cap and the Top 40. The small cap segment gained only 43% (see table below) over the 9 years we studied, three times less than the MSCI Europe Small Cap over the same period.

The tables below compare the average weighting and total performance of each market-cap segment in the Top 40 and Flop 40. The results are striking. Small caps in the Flop 40 did two times worse than their peers in the Top 40.

Top 40	Average weighting 2010-2018	Cumulative Total
Large caps	66%	198%
Mid-caps	12%	207%
Small caps	22%	102%

Flop 40	Average weighting 2010-2018	Cumulative Total
Large caps	36%	146%
Mid-caps	8%	124%
Small caps	57%	43%

Source: La Financière de l'Echiquier and Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performance is not a reliable indication of future return and is not constant over time.

We can therefore conclude that the poor performances of the Flop 40 are largely attributable to their poor ESG rating rather than their capitalisation, as over the same period the MSCI Europe Small Cap gained 141%, three times what the Flop 40 small caps could manage.

Comparison Committed vs. Intermediates vs. Laggards vs. stock market indices

Period	Committed	Intermediates	Laggards	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
2010	35.6%	32.8%	17.7%	11.1%	11.6%	18.0%	29.9%
2011	-13.5%	-15.9%	-20.8%	-8.1%	-5.1%	-6.7%	-17.4%
2012	27.9%	21.1%	15.0%	17.3%	18.6%	17.9%	27.0%
2013	26.4%	27.7%	26.3%	19.8%	24.4%	18.2%	33.4%
2014	7.3%	4.2%	0.1%	6.8%	6.0%	8.0%	6.5%
2015	28.5%	15.0%	20.6%	8.2%	14.8%	15.9%	23.5%
2016	4.5%	11.1%	12.9%	2.6%	0.1%	-2.2%	0.9%
2017	21.9%	11.7%	19.5%	10.2%	11.1%	12.3%	19.0%
2018	-12.2%	-18.7%	-19.0%	-10.6%	-7.3%	-9.5%	-15.9%
Cumulative performance	192.4%	108.8%	78.8%	67.8%	96.1%	90.8%	141.4%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performances do not guarantee future performances and are not constant over time.

The second approach (dividing stocks among 3 portfolios by rating) yields fairly similar results. The Laggards portfolio is beaten by all indices except the MSCI Europe. The Intermediates beat all indices except the MSCI Europe Small Cap. The Committed portfolio, with ESG ratings above 7/10 beat all indices and the other fictional portfolios.

We see the same turnaround in performances in 2013 and 2016 with value styles outperforming growth. However, the differential in 2013 between the Committed and Laggard portfolios is smaller than the gap between the Top 40 and Flop 40. Probably, diversification effects helped dilute the style effects on the Committed portfolio compared to the Top 40. We also find that the portfolios generally underperformed indices in 2011.

As with size bias in the Top and Flop portfolios, we find that only the Committed portfolio outperformed the MSCI Europe Small Cap despite being the least exposed to small caps which delivered the best performances over the period.

Our conclusion is confirmed: the good ESG profiles beat the bad. Bias analysis also confirms that ESG ratings are playing a major role in creating performance.

Comparison: all portfolios vs. stock market indices

Both Top 40 and Committed portfolios significantly outperformed all benchmark indices and all other mock portfolios.

Their performances were fairly similar: The Top 40 gained 191.7% over 9 years and the Committed portfolio 192.4%. There is in fact a fairly large overlap in their stocks.

Irrespective of the strategy pursued by ESG portfolios, investing in companies with the best ESG ratings significantly outperforms, over the long term, the leading stock market indices.

Portfolio characteristics

The breakdown by market capitalisation shows the portfolios to be broadly balanced with a preference for large caps (over EUR 5 billion). In contrast, portfolios have marked geographical biases. They are also less sector-diverse than the indices. Diversification improves over time as more companies had been rated by 2018 than in 2010.

• Geographical

A trend emerges: exposure to French companies dominates, even though they make up just 18% of the MSCI Europe at end-2018 (see table). Two factors may explain this. First, Modigliani's "preferred habitat" hypothesis seems to be at work. LFDE is a French investment management firm and most of its portfolio managers are French. The natural tendency is to invest more in the domestic companies that are more familiar and have more easily accessible managements. Remember that the ratings awarded by the SRI team are mainly for stocks on fund managers' watchlists. There is, then, a close link between the decision to invest or to include a company in an investment universe and the decision to analyse its ESG profile.

Second, French companies are more heavily involved in CSR issues than their European neighbours. French firms had a 25% weighting in the MSCI Europe SRI index at end-2018 (see table) higher than their presence in the MSCI Europe. Soon, with the Grenelle and Energy transition laws coming into force, French firms will have to provide greater transparency on environmental, social and governance criteria. This should yield richer data seams for ESG analysis and should also incentivise companies to put the right policies and actions in place.

Average weighting at end-2018	MSCI Europe	MSCI Europe SRI
UK	27.1%	15.8%
France	17.8%	24.9%
Germany	14.1%	19.8%
Switzerland	13.9%	12.2%

Source: MSCI. Data as at 31/12/2018

• Sectors

Weightings are stable and balanced, even if the discretionary consumer segment is an outlier, with just under 9% of MSCI Europe and MSCI Europe SRI stocks on average at end-2018 (see tables). This sector works closely with final consumers and feels strong pressure to communicate on environmental and social issues. LFDE has historically invested little in the financial and energy stocks that made up more than a quarter of the two indices at end-2018, for financial reasons and because of the major non-financial risks they pose. Hence their underweight.

Sectors here are defined in line with the Global Industry Classification Standard (GICS), an economic classification standard designed and maintained by MSCI and S&P for the financial sector.

Average weighting at end-2018	MSCI Europe	MSCI Europe SRI
Finance	18.9%	17.7%
Consumer staples	14.1%	12.7%
Healthcare	13.1%	14.3%
Industrials	12.9%	11.5%
Consumer discretionary	9.1%	9.3%
Energy	8.3%	10.1%
Materials	7.5%	6.9%
Communication services	5.3%	7.2%
Information technology	5.2%	5.3%
Utilities	4.2%	3.6%
Property	1.5%	1.6%

Source: MSCI. Data as at 31/12/2018

• Market capitalisation

The portfolios offering the best ESG scores are heavily exposed to large caps (market capitalisation above EUR 5 billion), with low exposure to mid-caps (EUR 2-5 billion) and still less to small caps (below EUR 2 billion). Conversely, the lowest ESG-scoring portfolios have more exposure to the smallest caps. Average capitalisation of MSCI Europe stocks is EUR 18 billion. Average capitalisation of the MSCI Europe Small Cap is EUR 1.2 billion*.

MSCI. Data as at 31/12/2018.

We explain this by the fact that large caps have more resources to train an CSR team, calculate environmental and social indicators and report transparently on these points. They are also under greater pressure than smaller companies to meet demanding governance standards. This explains why large cap companies tend to average better ESG ratings than small caps. However, LFDE's SRI team has found a way to overcome the small cap transparency issue and rates small caps by meeting managers and discussing the issues face to face.

The portfolios

Top 40

• Geographical exposure

Top 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
France	52.5%	40.0%	48.4%
UK	12.5%	15.0%	11.2%
Denmark	7.5%	5.0%	8.5%
Germany	5.0%	5.0%	8.3%
Netherlands	0.0%	12.5%	4.7%
Switzerland	5.0%	5.0%	4.7%
Sweden	5.0%	0.0%	2.6%
Italy	0.0%	5.0%	2.4%
Austria	2.5%	0.0%	2.3%
Belgium	2.5%	0.0%	2.2%
Spain	2.5%	2.5%	1.8%
Ireland	0.0%	7.5%	1.7%
Finland	2.5%	0.0%	0.9%
Turkey	2.5%	0.0%	0.3%
United States	0.0%	2.5%	0.1%

Source: Bloomberg. Data as at 31/12/2018

On average we found a significant overweight in France, over the period. Nearly 50% of portfolio stocks are French. Although this proportion fell in 2018, the France weighting is still substantial (40% at 31/12/2018).

• Sector exposure

Top 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Industrials	25.0%	17.5%	19.7%
Consumer discretionary	22.5%	17.5%	17.7%
Materials	15.0%	12.5%	15.8%
Information technology	7.5%	32.5%	13.5%
Consumer staples	15.0%	10.0%	9.8%
Healthcare	2.5%	7.5%	8.2%
Communication services	7.5%	0.0%	8.0%
Finance	2.5%	2.5%	6.2%
Property	2.5%	0.0%	0.6%
Energy	0.0%	0.0%	0.5%

Source: Bloomberg. Data as at 31/12/2018

Sector exposure is more even than the geographical distribution. Industrials average less than 20% of the portfolio, closely followed by the consumer discretionary (nearly 18%) and materials (16%) sectors.

We find that the portfolio profile has changed recently. In 2018, exposure to information technology stocks dominated with nearly 30% of the portfolio.

• Market capitalisation

Top 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Large caps	32.5%	72.5%	65.7%
Mid-caps	15.0%	15.0%	11.9%
Small caps	52.5%	12.5%	22.4%

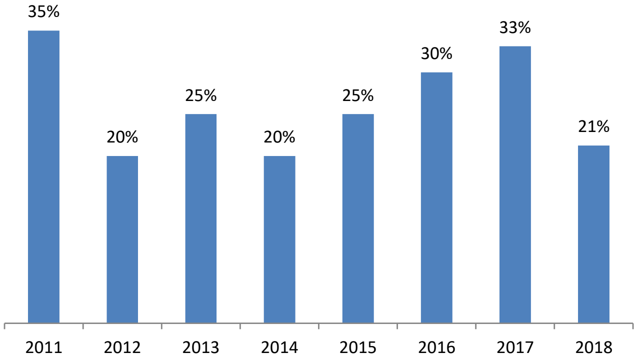
Source: Bloomberg. Data as at 31/12/2018

As we said, this portfolio of good ESG ratings is made up on average of two-thirds large capitalisation stocks. The large cap weighting has risen since 2010.

• Turnover of the Top 40 portfolio

We calculated the portfolio's turnover ratio to check whether movements in its component stocks led to excessive churn, incompatible with a realistic approach of a long-term CSR investor.

Turnover was calculated as the number of movements in the portfolio as a proportion of total positions, i.e. 40, at each rebalancing.



Source: MSCI. Data as at 31/12/2018

We drew two conclusions:

• Since 2010 the average turnover ratio of the portfolio has been 26%. The average holding period for a stock is therefore four years, which can be considered long-term for an equity investment.

• The turnover ratio rose between 2015 and 2017, years when the La Financière de l'Echiquier team expanded. The number of rated companies increased sharply at this time, analyses were rerun and new companies were brought into the data base. Nonetheless, turnover remained reasonable at around 30%.

Flop 40

• Geographical exposure

Flop 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010-2018
France	70.0%	35.0%	57.3%
Germany	12.5%	7.5%	12.3%
Switzerland	2.5%	2.5%	8.7%
UK	2.5%	15.0%	6.2%
Sweden	2.5%	15.0%	2.7%
Italy	5.0%	2.5%	2.1%
Spain	2.5%	5.0%	1.8%
Belgium	0.0%	2.5%	1.8%
Netherlands	2.5%	0.0%	1.7%
United States	0.0%	2.5%	1.7%
Other	0.0%	12.5%	3.7%

Source: Bloomberg. Data as at 31/12/2018

The overweight to France is still more marked. Nearly 58% on average of portfolio companies are French. That said, the range of countries represented is also wider.

• Sector exposure

Flop 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Industrials	22.5%	32.5%	25.7%
Consumer discretionary	17.5%	12.5%	16.7%
Communication services	10.0%	12.5%	11.2%
Materials	10.0%	5.0%	11.2%
Consumer staples	7.5%	10.0%	7.7%
Information technology	12.5%	7.5%	7.5%
Healthcare	2.5%	15.0%	6.7%
Property	10.0%	2.5%	4.8%
Finance	5.0%	0.0%	4.2%
Utilities	2.5%	0.0%	3.2%
Energy	0.0%	2.5%	1.3%

Source: Bloomberg. Data as at 31/12/2018

Industrials make up on average more than a quarter of the portfolio over the 9 years. This over-representation of industrial stocks among the "bad boys" can be attributed to two factors. Industrial stocks are more exposed to social and environmental controversies and their relative positioning is often less good.

• Market capitalisation

Flop 40	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Large caps	20.0%	30.0%	35.7%
Mid-caps	5.0%	15.0%	7.7%
Small caps	75.0%	55.0%	56.6%

Source: Bloomberg. Data as at 31/12/2018

As we said, this portfolio of poor ESG ratings also averaged a small-cap exposure of over 56%.

The Committed portfolio

• Geographical exposure

Committed	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
France	62.2%	40.8%	46.9%
UK	8.9%	18.4%	12.9%
Germany	2.2%	4.1%	8.4%
Denmark	6.7%	6.1%	5.7%
Switzerland	4.4%	4.1%	5.3%
Netherlands	0.0%	10.2%	4.1%
Sweden	2.2%	0.0%	3.2%
Spain	2.2%	2.0%	2.4%
Ireland	0.0%	6.1%	2.4%
Italy	0.0%	4.1%	2.1%
Other	11.0%	4.0%	6.6%

Source: Bloomberg. Data as at 31/12/2018

The same "France" bias is evident.

• Sector exposure

Committed	Weighting at 01/01/2010	Weighting 31/12/2018	Average weighting 2010 -2018
Industrials	24.4%	18.4%	21.1%
Consumer discretionary	26.7%	16.3%	19.0%
Information technology	8.9%	28.6%	14.9%
Materials	13.3%	12.2%	11.8%
Consumer staples	15.6%	10.2%	11.1%
Healthcare	2.2%	8.2%	11.1%
Communication services	8.9%	2.0%	6.1%
Finance	0.0%	4.1%	4.5%
Energy	0.0%	0.0%	0.6%

Source: Bloomberg. Data as at 31/12/2018

The Top 40 and Committed portfolios are very similar in structure. It is, then, unsurprising that the sector spread of the Committed portfolio is close to that of the Top 40, with a higher weighting toward Industrials and Consumer discretionary.

• Market capitalisation

Committed	Weighting at 01/01/2010	Weighting 31/12/2018	Average weighting 2010-2018
Large caps	44.4%	69.4%	62.1%
Mid-caps	17.8%	16.3%	13.9%
Small caps	37.8%	14.3%	24.0%

Source: MSCI. Data as at 31/12/2018

Unsurprisingly, this portfolio of high ESG-rated stocks mainly comprises large capitalisations.

The Intermediate portfolio

• Geographical exposure

Intermediates	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
France	50.0%	31.8%	42.8%
Germany	13.5%	6.4%	15.7%
UK	8.3%	17.5%	10.8%
Sweden	8.3%	17.5%	7.3%
Switzerland	5.2%	4.8%	6.5%
Italy	2.1%	0.0%	2.9%
Netherlands	4.2%	1.6%	2.5%
Belgium	4.2%	3.2%	2.3%
Spain	0.0%	6.4%	2.2%
Denmark	1.0%	1.6%	1.2%
Other	3.1%	9.6%	6.4%

Source: Bloomberg. Data as at 31/12/2018

The "France" bias is also evident with a similar downward trend over time to the other portfolios.

• Sector exposure

Intermediates	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Industrials	27.1%	27.0%	26.6%
Consumer discretionary	17.7%	12.7%	17.2%
Consumer staples	12.5%	14.3%	12.2%
Information technology	10.4%	11.1%	11.0%
Healthcare	6.3%	15.9%	9.9%
Communication services	3.1%	9.5%	7.4%
Materials	5.2%	4.8%	5.4%
Property	9.4%	0.0%	3.5%
Finance	3.1%	1.6%	2.7%
Energy	3.1%	0.0%	2.4%
Utilities	2.1%	3.2%	1.8%

Source: Bloomberg. Data as at 31/12/2018

The main finding relates to the high weighting of industrial stocks, making up over 26% of the portfolio.

• Market capitalisation

Intermediates	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Large caps	45.8%	47.6%	44.9%
Mid-caps	13.5%	17.5%	14.7%
Small caps	40.6%	34.9%	40.4%

Source: Bloomberg. Data as at 31/12/2018

The Intermediates portfolio is more balanced, with around 45% large caps and nearly 40% small caps. It has no dominant concentration in any of the capitalisation segments.

The Laggards portfolio

• Geographical exposure

Laggards	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
France	67.9%	39.1%	53.1%
Germany	11.1%	8.7%	12.1%
Switzerland	2.5%	4.4%	9.0%
UK	1.2%	8.7%	6.7%
Italy	2.5%	4.4%	3.5%
Netherlands	3.7%	0.0%	3.2%
Belgium	2.5%	4.4%	2.7%
Sweden	1.2%	13.0%	1.6%
United States	0.0%	4.4%	1.4%
Luxembourg	1.2%	0.0%	1.2%
Other	6.0%	13.3%	6.4%

Source: Bloomberg. Data as at 31/12/2018

We also find the same "France" bias in this portfolio.

• Sector exposure

Laggards	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Industrials	22.2%	39.1%	22.8%
Consumer discretionary	14.8%	13.0%	17.1%
Materials	8.6%	4.4%	11.4%
Communication services	8.6%	13.0%	9.6%
Consumer staples	6.2%	4.4%	7.2%
Finance	9.9%	0.0%	6.7%
Healthcare	4.9%	8.7%	6.5%
Property	12.4%	4.4%	6.3%
Information technology	7.4%	8.7%	5.8%
Utilities	3.7%	0.0%	4.5%
Energy	1.2%	4.4%	2.3%

Source: Bloomberg. Data as at 31/12/2018

Sector exposure in this portfolio of the lowest ESG rated stocks is heavily concentrated: nearly a third of the portfolio are in consumer discretionary and industrials.

• Market capitalisation

Laggards	Weighting as at 01/01/2010	Weighting as at 31/12/2018	Average weighting 2010 -2018
Large caps	22%	31%	34%
Mid-caps	7%	9%	10%
Small caps	70%	60%	56%

Source: Bloomberg. Data as at 31/12/2018

Like the Flop 40 the portfolio of stocks with the lowest ESG ratings shows a majority concentration of small caps.

Deeper analysis reveals geographical and, less so, sector biases - giving a insight into the thinking of LFDE's stock pickers. In building the portfolios, managers create pockets of concentration which allow them to decouple from the indices and generate outperformance. The portfolios in the study thus faithfully reflect LFDE's investment philosophy.

TAKEAWAYS

1. The good ESG portfolios beat the bad ESG portfolios and the benchmark indices over the long term.

2. The higher the ESG rating, the higher the long-term performance.

3. Even where there is an overweight to growth style management and/or small capitalisation stocks, the portfolios still outperformed their benchmarks over the long term.

4. Selection bias among LFDE portfolio managers may explain the good overall performance of the set of portfolios. Nevertheless, we found that the best-rated portfolios beat the worst-rated over the long term even when the latter benefited from selection bias. There seems to be an intrinsic performance boost from taking ESG criteria into account.

x2.3

Performance differential between portfolios of best and worst ESG ratings over 9 years

+3.6%

Minimal average annual performance differential over 9 years if the ESG rating increases by around 1 point

II. TAKEN INDIVIDUALLY, GOOD ENVIRONMENTAL, SOCIAL AND GOVERNANCE PROFILES ARE PERFORMANCE DRIVERS

The Environmental (E), Social (S) and Governance (G) components of ESG ratings are combined in La Financière de l'Echiquier's internal methodology, which weights the Governance score at 60% and Environmental and Social scores at around 40%.

In section I, we concentrated on analysing portfolios screened by their overall ESG rating. In section II, we refined our analysis to look separately at the Environmental, Social and Governance criteria.

Extending our examination of performance linked to companies with good ESG scores, we thought it would be interesting to understand what was driving this performance. Below, we give details of the E, S and G criteria separately, before going on to analyse the performance of portfolios constructed around a single screen, three each for E, S or G criteria.

The Environmental, Social and Governance portfolios.

We now focus on the scores earned by companies in each ESG area: Environmental (ENV), Social (SOCIAL) or Governance (GOV). For each area, we created 3 portfolios.

For the environmental criteria, for instance (see methodology page 53):

1) We screened the Environmental scores in our internal data base at regular intervals*, to rank stocks in descending order of environmental rating.
2) Ratings older than three years were excluded. We consider them too old to reflect the company's current profile.
3) Companies with ratings above 7/10 go into the ENV >7 portfolio. Ratings between 6 and 7 (at least 6 and up to 7) make up the ENV 6-7 portfolio. Ratings below 6 are in the ENV<6 portfolio.

The same method was repeated to create the Social and Governance portfolios. We thus ended up with 9 E, S and G portfolios.

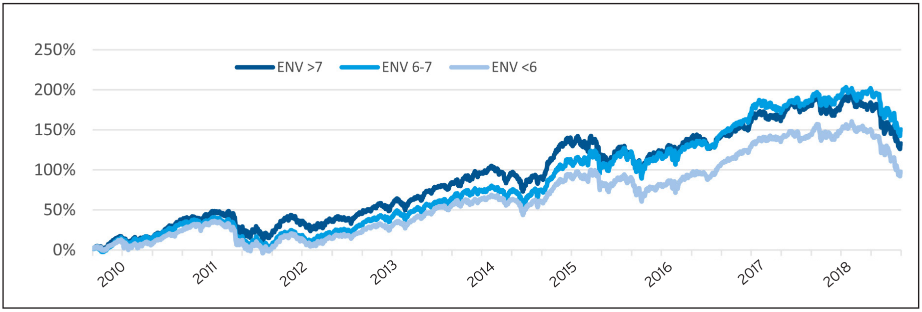
The geographical, sector and size biases identified in section I for the Committed, Intermediates and Laggards portfolios are broadly repeated in these portfolios.

* Portfolios were rebalanced at year end from 2010 to 2015 and at the end of each quarter from 2016 on.

Distinguishing between environmental, social and governance criteria allowed us to gauge whether companies with strong positions in one of these areas perform equally well and to know if one of these environmental, social and governance criteria contributed more to performance than the others* over the long term.

Performance of Environmental, Social and Governance portfolios

• The Environmental portfolios



Period	ENV >7	ENV 6-7	ENV <6
2010	36.4%	31.9%	24.2%
2011	-11.6%	-19.2%	-17.4%
2012	20.8%	22.6%	19.3%
2013	26.6%	26.3%	27.7%
2014	3.7%	6.0%	2.8%
2015	15.3%	27.0%	18.1%
2016	10.0%	10.3%	9.1%
2017	15.8%	17.2%	17.9%
2018	-17.0%	-12.7%	-19.1%
Cumulative performance:	132.7%	150.5%	97.5%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.

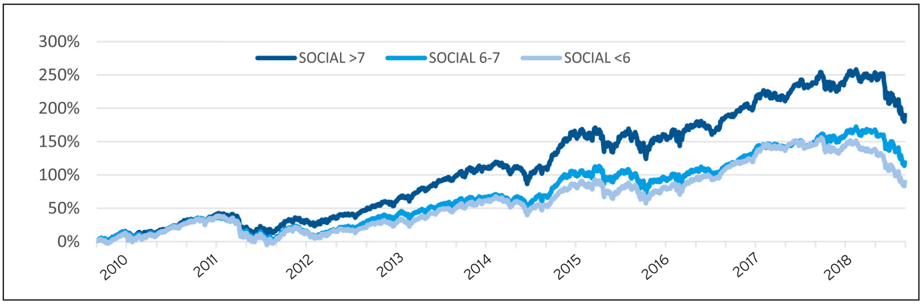
Past performance is not a reliable indication of future return and is not constant over time.

* We included several sub-criteria in each of the E, S and G pillars, summarised at the start of section I of this study and in our methodological note page 53.

While the portfolio of the poorest environmental scores performed least well over 9 years (+97.5%), the well-rated environmental stocks slightly underperformed the Intermediates portfolio.

This difference suggests that environmental excellence does not automatically guarantee a better stock market performance over time. Our view is that environmental scores cover a range of risks that will take longer to affect companies (climate change, biodiversity, water, etc.) than the social and governance issues. It would seem that financial markets have not yet priced in environmental risks given their longer-term horizon.

• Social portfolios



Period	SOCIAL >7	SOCIAL 6-7	SOCIAL <6
2010	30.7%	27.5%	26.9%
2011	-10.1%	-17.4%	-19.0%
2012	25.6%	21.5%	17.9%
2013	35.2%	25.7%	24.5%
2014	5.6%	4.9%	2.5%
2015	23.8%	19.6%	19.0%
2016	9.8%	5.7%	13.8%
2017	18.0%	17.0%	17.3%
2018	-14.4%	-12.4%	-22.9%
Cumulative performance:	189.7%	118.6%	89.4%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.

Past performance is not a reliable indication of future return and is not constant over time.

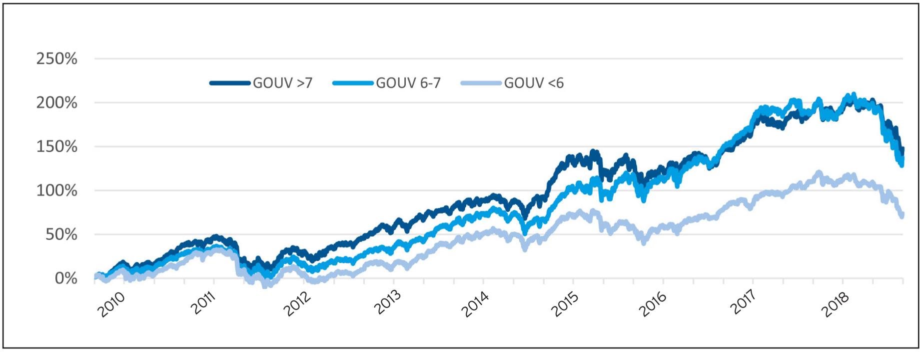
The performance of the best-rated Social portfolio (+189.7%) is more than twice that of the worst-rated stocks (+89.4%).

Each year, the portfolio of companies with Social responsibility ratings above 7/10 tends to outperform those with scores of 6-7. These in turn tend to outperform the portfolio of companies rated below 6. In 2016, however, the portfolio of low Social ratings gained 13.8%, beating both the Social 6-7 portfolio (+5.7%) and the Social >7 (+9.8%). Looking into why this might be, we noted that exposure to growth stocks is greater in the better-scoring portfolios. But in 2016, growth investing underperformed value investing in companies trading at a discount. Discounted companies, some in the throes of restructuring, rarely score high on social issues.

The performance of the portfolio of companies with the best social scores (above 7/10) was +189.7% over the period of our study. This is close to matching the Committed and Top 40 portfolios, which gained 192.4% and 191.7%, respectively, over the period.

A synergy effect is at work here, even if it is small given the little differences between these three portfolios over 9 years. By investing in a portfolio of high ESG-rated companies rather than one of companies with good scores in only one of the Environmental, Social or Governance fields, adds performance over the long term. We are nonetheless aware that the narrow margins of these differences shows the synergy effect cannot, so far, be deemed a long-term trend.

• The Governance portfolios



Period	GOV >7	GOV 6-7	GOV <6
2010	37.2%	27.3%	18.4%
2011	-16.3%	-16.6%	-18.8%
2012	26.9%	18.3%	15.1%
2013	24.7%	30.0%	27.4%
2014	6.0%	2.6%	2.8%
2015	21.1%	29.9%	8.9%
2016	5.3%	14.4%	12.9%
2017	18.3%	16.5%	18.1%
2018	-14.8%	-18.4%	-17.6%
Cumulative performance:	147.4%	136.7%	73.5%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.

Past performance is not a reliable indication of future return and is not constant over time.

The performances of the GOV >7 and GOV 6-7 portfolios were similar, at 147.4% and 136.7% over 9 years, respectively, with the higher-rated stocks doing better. Both performed nearly twice as well as the portfolio with the poor governance ratings GOV <6, with 73.5%.

The portfolio of poor governance scores was the worst performer over the 9 years studied, except for a few annual disparities. Comparing all 9 portfolios confirms our conviction: it was very often advantageous to avoid companies with weak governance.

Environmental, social and governance portfolios vs. stock market indices

Period	ENV >7	ENV 6-7	ENV <6	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
2010	36.4%	31.9%	24.2%	11.1%	11.6%	18.0%	29.9%
2011	-11.6%	-19.2%	-17.4%	-8.1%	-5.1%	-6.7%	-17.4%
2012	20.8%	22.6%	19.3%	17.3%	18.6%	17.9%	27.0%
2013	26.6%	26.3%	27.7%	19.8%	24.4%	18.2%	33.4%
2014	3.7%	6.0%	2.8%	6.8%	6.0%	8.0%	6.5%
2015	15.3%	27.0%	18.1%	8.2%	14.8%	15.9%	23.5%
2016	10.0%	10.3%	9.1%	2.6%	0.1%	-2.2%	0.9%
2017	15.8%	17.2%	17.9%	10.2%	11.1%	12.3%	19.0%
2018	-17.0%	-12.7%	-19.1%	-10.6%	-7.3%	-9.5%	-15.9%
Cumulative performance	132.7%	150.5%	97.5%	67.8%	96.1%	90.8%	141.4%

Period	SOCIAL >7	SOCIAL 6-7	SOCIAL <6	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
2010	30.7%	27.5%	26.9%	11.1%	11.6%	18.0%	29.9%
2011	-10.1%	-17.4%	-19.0%	-8.1%	-5.1%	-6.7%	-17.4%
2012	25.6%	21.5%	17.9%	17.3%	18.6%	17.9%	27.0%
2013	35.2%	25.7%	24.5%	19.8%	24.4%	18.2%	33.4%
2014	5.6%	4.9%	2.5%	6.8%	6.0%	8.0%	6.5%
2015	23.8%	19.6%	19.0%	8.2%	14.8%	15.9%	23.5%
2016	9.8%	5.7%	13.8%	2.6%	0.1%	-2.2%	0.9%
2017	18.0%	17.0%	17.3%	10.2%	11.1%	12.3%	19.0%
2018	-14.4%	-12.4%	-22.9%	-10.6%	-7.3%	-9.5%	-15.9%
Cumulative performance	189.7%	118.6%	89.4%	67.8%	96.1%	90.8%	141.4%

Period	GOV >7	GOV 6-7	GOV <6	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
2010	37.2%	27.3%	18.4%	11.1%	11.6%	18.0%	29.9%
2011	-16.3%	-16.6%	-18.8%	-8.1%	-5.1%	-6.7%	-17.4%
2012	26.9%	18.3%	15.1%	17.3%	18.6%	17.9%	27.0%
2013	24.7%	30.0%	27.4%	19.8%	24.4%	18.2%	33.4%
2014	6.0%	2.6%	2.8%	6.8%	6.0%	8.0%	6.5%
2015	21.1%	29.9%	8.9%	8.2%	14.8%	15.9%	23.5%
2016	5.3%	14.4%	12.9%	2.6%	0.1%	-2.2%	0.9%
2017	18.3%	16.5%	18.1%	10.2%	11.1%	12.3%	19.0%
2018	-14.8%	-18.4%	-17.6%	-10.6%	-7.3%	-9.5%	-15.9%
Cumulative performance	147.4%	136.7%	73.5%	67.8%	96.1%	90.8%	141.4%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.

Past performance is not a reliable indication of future return and is not constant over time.

Comparing portfolios with the usual benchmark indices leads to the same conclusions. Those with good environmental, social and governance scores outperformed those with poor scores and all the indices except the MSCI Europe Small Cap for the environment.

The portfolio of the best social ratings stands out clearly from the rest. Its performance is, nonetheless, slightly less good than the portfolios of top overall ESG scores (Top 40 and Committed), which underlines that there is a synergy effect at work among the E, S and G criteria.

The portfolio of companies with the lowest governance ratings (below 6/10) was the least well-performing. It also underperformed most of the benchmark indices (except the MSCI Europe). This is a positive sign for La Financière de l'Echiquier's long-standing positioning to invest in good governance. Avoiding companies with inferior governance seems also to be a wise management decision.

Taken individually, environmental, social and governance criteria are all sources of performance.

We note two main takeaways:

- **Stocks with good social ratings made the biggest contribution to performance**. Companies with good awareness of social issues have more satisfied and more productive employees. That said, they still underperformed companies with the best ESG ratings, which underlines the synergies between the three components of the ESG rating.
- **Companies with poor Governance scores performed least well:** Governance scores under 6 gained two times less than those above 7/10. The governance overweight in the ESG rating therefore means we can reduce the risk of portfolio underperformance in the long term.

TAKEAWAYS

1. All the portfolios of companies with the best social or governance ratings outperformed the indices as well as the portfolios of the lowest Environmental, Social or Governance ratings except for the MSCI Europe Small Cap for the environment.

2. The good social ratings made the biggest contribution to performance. Portfolios of stocks with high social ratings beat those of the best environmental and governance ratings, but still slightly underperformed the portfolios of top ESG ratings.

3. The portfolio of companies with the worst governance ratings was the worst performer of all those studied.

+11%

The average annual performance differential between the portfolio of companies with good social scores (> 7/10) and those with poor social scores (< 6/10) over 9 years.

-13%

The average annual performance differential between the portfolio of companies with poor governance scores (>6/10) and the portfolio of companies with good ESG scores over 9 years.

The portfolios of companies with the best ESG profiles and the best environmental, social and governance profiles taken separately, were therefore the best performers over the long term[1]. Are they also less risky?

The two main elements in any investment decision are performance and risk. This is often captured as the risk/return ratio, which links the two factors. In this final section, we investigate the concept of risk to analyse the second dimension of investment decisions.

A portfolio's risk can be viewed in a number of ways. As a first step we reviewed the risk metrics intrinsic to the portfolio, volatility and maximum drawdown[2]. As a second step we considered risk from the perspective of beta correlations with the help of a correlation matrix. Lastly, we analysed the risk/return ratio, which synthesises risk and performance.

Intrinsic risk of portfolios

• 1-year volatility

The indicator most commonly used to assess risk is 1-year volatility. This measures *ex-post* variations in the price of the stocks composing the portfolio. The higher the volatility, the greater the risk has been.

Portfolio/Index	Annualised volatility over 9 years
Top 40	14.8%
Flop 40	12.9%
MSCI Europe	16.0%
MSCI Europe SRI	15.6%
MSCI Europe Growth	15.3%
MSCI Europe Small Cap	15.7%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

1. Conclusion of our two first sections
2. The maximum historical loss on an asset or portfolio

The Flop 40 portfolio was less volatile than the Top 40 over the period of the study. This could be explained by the fact that the Top 40 substantially outperformed the Flop 40 over the 9 years, which generally implies greater volatility. Portfolio volatilities were lower than but relatively close to those of the indices over 9 years.

Portfolio	Annualised volatility 9 years
Committed	14.2%
Intermediates	13.8%
Laggards	12.7%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

The volatility of the Committed portfolio was higher than that of the other two. As with the Top 40 and Flop 40, the portfolios were less volatile than the indices but not significantly so.

Portfolio	Annualised volatility over 9 years
ENV >7	14.6%
ENV 6-7	14.2%
ENV <6	12.8%
SOCIAL >7	13.6%
SOCIAL 6-7	13.3%
SOCIAL <6	13.6%
GOV >7	14.3%
GOV 6-7	13.7%
GOV <6	12.2%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

Taking each of the Environmental (E), Social (S) and Governance (G) criteria separately we find the same result. Portfolios of companies with the best ratings were more volatile than the others but less volatile than the indices.

All portfolios were less volatile than the indices. But the differential is not significant.

• Maximum drawdown

Analysis of the maximum 9-year drawdown measures the worst historical loss recorded by a portfolio since 2010.

Portfolio / Index	Maximum drawdown over 9 years
Top 40	-28.9%
Flop 40	-30.4%
MSCI Europe	-25.9%
MSCI Europe SRI	-21.4%
MSCI Europe Growth	-21.0%
MSCI Europe Small Cap	-27.0%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

Analysis of the maximum drawdown over 9 years again shows a proximity between the two portfolios, the Top 40 recorded a slightly lower historical loss than the Flop 40.

We find that the maximum drawdown was lower for the MSCI benchmark indices. It was effectively diluted by the higher number of stocks in the index which meant that the concentration of stocks was lower than in the portfolios.

Portfolio	Maximum drawdown over 9 years
Committed	-26.4%
Intermediates	-26.3%
Laggards	-34.0%
ENV >7	-24.6%
ENV 6-7	-30.0%
ENV <6	-29.6%
SOCIAL >7	-23.4%
SOCIAL 6-7	-27.8%
SOCIAL <6	-31.7%
GOV >7	-27.6%
GOV 6-7	-27.6%
GOV <6	-32.5%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

The conclusion is similar for the maximum drawdowns. We find greater historical resilience to the downside among the portfolios with ESG ratings above 7/10 and between 6 and 7. However, **the difference in the maximum drawdown between the portfolios over the period of the study was too small to be significant.**

Maximum annual drawdowns	Top 40	Flop 40
2010	-11.0%	-10.6%
2011	-28.9%	-30.4%
2012	-10.5%	-26.2%
2013	-6.7%	-21.2%
2014	-11.9%	-16.1%
2015	-13.3%	-13.2%
2016	-14.2%	-18.4%
2017	-4.4%	-3.8%
2018	-19.2%	-28.8%

Source: Bloomberg. Data at 31/12/2018 based on monthly net returns (net dividends reinvested).

The tables of maximum annual drawdowns show the worst annual loss recorded by the portfolio.

On average the maximum drawdown of the Top 40 portfolio was less than that of the Flop 40 on an annual measure. Of the 9 years considered, 5 showed a significantly lower maximum drawdown for the Top 40 than for the Flop 40. In the other years there was little to choose between the two portfolios.

Looking at the two risk indicators (maximum drawdown and 1-year volatility), we cannot draw any conclusions as to whether there is a significant difference in risk between the good and bad portfolios.

Risk profile: Correlations

• Beta

Beta measures the correlation between the movements of a portfolio and a benchmark index. The higher the beta, the more “offensive” the portfolio is considered with respect to the index. The portfolio will then exaggerate market rises and fall and will therefore be more volatile.

Key beta values:

- **> 1:** an "offensive" portfolio which is riskier than the market
- **= 1:** risk is identical to that of the market
- **< 1:** a “defensive” portfolio which is less risky
- **= 0 :** the portfolio is decorrelated from market variations

9-year beta	MSCI EUROPE	MSCI EUROPE SRI	MSCI EUROPE GROWTH	MSCI EUROPE SMALL CAP
Committed	0.90	0.87	0.92	0.87
Intermediates	0.87	0.85	0.89	0.85
Laggards	0.81	0.80	0.82	0.81
Top 40	0.92	0.90	0.95	0.89
Flop 40	0.82	0.81	0.83	0.81
ENV >7	0.90	0.88	0.92	0.88
ENV 6-7	0.91	0.89	0.93	0.89
ENV <6	0.90	0.88	0.92	0.88
SOCIAL >7	0.91	0.89	0.94	0.89
SOCIAL 6-7	0.87	0.85	0.88	0.85
SOCIAL <6	0.76	0.76	0.77	0.76
GOV >7	0.85	0.83	0.87	0.83
GOV 6-7	0.85	0.83	0.87	0.83
GOV <6	0.86	0.85	0.88	0.86

Source: Bloomberg. Data as at 31/12/2018.

Two conclusions stand out:

- All the portfolios, without exception, have a beta below 1, irrespective of which index the correlations are measured against since 2010. The portfolios therefore have a more defensive bias.
- The portfolios of poor ESG ratings tend to have lower betas than those of the high ESG ratings, suggesting they are still less correlated with the indices.

• Correlation matrix of performance

The correlation matrix of performance groups all the correlation indices for the portfolios in a double entry table. A score of 100% means the correlation is absolute. This is the case, for instance, when a portfolio is compared against itself. The lower the score, the less strongly the two portfolios are correlated.

The correlation coefficient is an indicator similar to beta for evaluating the correlation of the portfolios among themselves rather than with the market.

9-year correlation matrix

	Committed	Intermediates	Laggards	Top 40	Flop 40
Committed	100.0%	94.8%	91.7%	98.5%	91.5%
Intermediates	94.8%	100.0%	92.7%	94.3%	92.6%
Laggards	91.7%	92.7%	100.0%	90.6%	97.4%
Top 40	98.5%	94.3%	90.6%	100.0%	89.8%
Flop 40	91.5%	92.6%	97.4%	89.8%	100.0%

Source: Bloomberg. Data at 31/12/2018 based on daily net returns (net dividends reinvested).

The good ESG portfolios (Top 40 and Committed) are strongly correlated with each other (98.5%), which makes sense as they are constructed from virtually the same stocks. Conversely, the Top 40 is less strongly correlated with the portfolios of poor ESG ratings (Flop 40 at 89.8%, Laggards at 90.6%).

9-year correlation matrix

	ENV >7	ENV 6-7	ENV <6	SOCIAL >7	SOCIAL 6-7	SOCIAL <6	GOV >7	GOV 6-7	GOV <6
ENV >7	100%	94.8%	100.0%	96.6%	95.0%	95.3%	96.1%	95.6%	92.0%
ENV 6-7	94.8%	100%	94.8%	95.7%	97.6%	96.8%	97.8%	97.2%	92.1%
ENV <6	100.0%	94.8%	100%	96.6%	95.0%	95.3%	96.1%	95.6%	92.0%
SOCIAL >7	96.6%	95.7%	96.6%	100%	94.5%	94.1%	96.8%	95.6%	91.1%
SOCIAL 6-7	95.0%	97.6%	95.0%	94.5%	100%	95.4%	97.7%	96.6%	93.0%
SOCIAL <6	95.3%	96.8%	95.3%	94.1%	95.4%	100%	96.5%	97.2%	94.7%
GOV >7	96.1%	97.8%	96.1%	96.8%	97.7%	96.5%	100%	95.7%	90.5%
GOV 6-7	95.6%	97.2%	95.6%	95.6%	96.6%	97.2%	95.7%	100%	91.2%
GOV <6	92.0%	92.1%	92.0%	91.1%	93.0%	94.7%	90.5%	91.2%	100%

Source: Bloomberg. Data at 31/12/2018 based on daily net returns (net dividends reinvested).

The level of granularity obtained by analysing the portfolios of E, S and G ratings is interesting because it highlights an important point. The portfolio with the lowest governance ratings (GOV < 6/10) is the least closely correlated with the portfolio of the high social ratings (above 7/10) and with the portfolio of good governance scores.

A company with poor governance tends to also have poor environmental and social profiles. This is consistent with our vision of governance and its importance as a driver of environmental and social practices.

• Downside resilience

In years when markets fell, the portfolios made up of the best-rated companies seemed to hold up better. 2011 and 2018 are good examples. As we see from the performance table below, the Committed portfolio held up better than the two others in a difficult market.

As a result, even if the ESG contribution seems to be neutral on risk indicators, during market falls the portfolios of the best ESG ratings were more resilient than those made up of companies with poor ESG ratings.

Period	Committed	Intermediates	Laggards
2010	35.6%	32.8%	17.7%
2011	-13.5%	-15.9%	-20.8%
2012	27.9%	21.1%	15.0%
2013	26.4%	27.7%	26.3%
2014	7.3%	4.2%	0.1%
2015	28.5%	15.0%	20.6%
2016	4.5%	11.1%	12.9%
2017	21.9%	11.7%	19.5%
2018	-12.2%	-18.7%	-19.0%
Cumulative performance:	192.4%	108.8%	78.8%

Source: Bloomberg. Data: *Net return* (net dividends reinvested) at 31/12/2018.
Past performance is not a reliable indication of future return and is not constant over time.

Risk/return ratio

Investors are risk-averse. The risk taken needs to be viewed in light of the expected gains associated with it. Adding a lot of performance for a little extra risk is therefore a good thing. This is what the risk/return ratio shows. It is calculated as annual performance divided by annual volatility. The higher the ratio, the better the portfolio can be expected to perform relative to the risks taken.

This ratio effectively summarises this study, showing that the performances of the portfolios with the best ESG ratings are better than those of the portfolios with the poorest ESG ratings, even though both are running similar levels of risk. The ratio is therefore higher for the best ESG portfolios.

Portfolio/Index	Risk/return ratio annualised over 9 years
Top 40	0.85
Flop 40	0.54
MSCI Europe	0.37
MSCI Europe SRI	0.50
MSCI Europe Growth	0.49
MSCI Europe Small Cap	0.66

Source: Bloomberg. Data as at 31/12/2018.

The Top 40 portfolio has a long-term risk/return ratio nearly one-and-a-half times higher than the Flop 40, which means this investment is more attractive as it offers more performance for the same risk. It is also superior to the risk/return ratio on any of the indices.

Portfolio	Risk/return ratio annualised over 9 years
Committed	0.89
Intermediates	0.62
Laggards	0.52

Source: Bloomberg. Data as at 31/12/2018.

The risk/return ratio of the Committed portfolio is the highest: it therefore represents the best choice for investors. Its ratio is nearly double than the one of the Laggards portfolio.

Portfolio	Risk/return ratio annualised over 9 years
ENV >7	0.67
ENV 6-7	0.76
ENV <6	0.62
SOCIAL >7	0.92
SOCIAL 6-7	0.68
SOCIAL <6	0.54
GOV >7	0.74
GOV 6-7	0.73
GOV <6	0.52

Source: Bloomberg. Data as at 31/12/2018.

For these portfolios, the trend that emerges is the same as for the two preceding groups. **Investing in the best ESG-rated stocks offers better returns on risk than investing in stocks with the worst ESG ratings.**

While the risk is no lower, the risk/return ratios on portfolios of companies with good ESG ratings are better, thanks to their stronger performances.

The takeaways from this final section of the study are less clear-cut. While we found a real difference in risk between the portfolios in favour of those with the best ESG ratings, it was not significant. Other studies have shown that SRI portfolios have more favourable risk indicators than indices, a result that we did not replicate here.

That said, the risk/return ratio was still superior in the portfolios made up of good ESG ratings, and in those with the best social and governance ratings taken individually. This can be explained by the surplus performance recorded by these portfolios for a constant level of risk.

TAKEAWAYS

1. The level of risk was broadly similar for the low- and high-scoring ESG portfolios. There was no significant difference in volatility or maximum drawdown between the portfolios over the long term.

2. The portfolios with the best ESG scores were less closely correlated with those having the worst ESG scores.

3. The 9-year risk/return ratio is superior for portfolios with the best ESG ratings: performance is much better for the same level of risk.

4. Portfolios with the best ESG ratings were more resilient than the poorer-rated portfolios in bear markets over the period 2010-2018.

5. Lower correlation between the bad governance ratings and good social ratings: companies with poor governance tend also to have less impressive social profiles.

x1.7

Differential in risk/return ratio between the best and worst portfolios by ESG rating.

~91%

Correlation between poor governance scores and good social scores, i.e. the weakest correlation between any of the combinations tested.

CONCLUSIONS

1. The outperformance of portfolios made up of stocks with the best ESG ratings is significant and robust over the long term.
2. Taken individually, Environmental (E), Social (S) and Governance (G) criteria are all sources of long-term performance.
3. Of the E, S and G criteria taken separately, social criteria was the biggest contributors to performance.
4. Poor governance ratings are the most destructive of performance.
5. Portfolios made up oof good ESG scores had similar levels of risk to the bad ESG scores and not far off the risk levels of the indices. Risk/return was nevertheless more favourable for the portfolios of good ESG ratings, whose ratios were boosted by their strong performances.

In 2018, La Financière de l'Echiquier made new commitments to socially responsible investment: extending the inclusion of ESG criteria to all its funds, setting up an Ethics Committee to rule on the most controversial cases and systematic voting at General Meetings. The conclusions of this study reinforce our commitment and our conviction: taking account of ESG criteria is a source of long-term performance.

The ESG rating attributed by LFDE to each issuer is determined by a set of criteria. A score out of 10 breaks down as follows:

• Governance
The Governance score makes up around 60% of the total ESG rating. This is a historic commitment by La Financière de l'Echiquier, which, ever since it was founded, has attached special importance to this criterion.

• Social and Environmental
Social and Environmental criteria are bundled into a single "Responsibility rating" (around 40%), whose calculation varies depending on the type of company affected:

- for industrial companies, social and environmental considerations are given equal weighting.
- For services companies, the social score makes up two-thirds of the Responsibility rating and the environmental factor only one-third.

• Controversies
A controversy penalty is applied to the total ESG rating. It can deduct up to 2 points.

Key ESG criteria considered

Governance

Competence of the management team: for the chief executive officer, industry legitimacy, track-record, managerial capacity, leadership and structure of the compensation scheme. For the executive committee, composition, diversity, relevance of the functions represented and CSR engagement.

Checks & balances: presence of checks and balances within the board of directors, succession planning for the chief executive officer, alignment of the directors' profiles with the company's needs, gender diversity on the board of directors, geographic diversity, availability and engagement of directors.

Respect for minority shareholders: benefits for the company of being listed, anti-takeover mechanisms and financial reporting transparency.

Non-financial risk assessment: identification and management of non-financial risks, business ethics, quality of CSR reporting and positive momentum for ESG improvements.

Environment

Policies and actions: existence of an environmental roadmap (precise and time-dated objectives making it possible to identify trends) choice of roadmap indicators, the level of the company's ambitions with respect to meeting its environmental objectives, an environmental management system and significant environmental initiatives.

Results: communication by the company of the results of its action plan (results presented over the long term and development trends), evolution of the main environmental ratios (water, CO_2, energy, waste, use of chemical products, etc.) and investments made to reduce its environmental impact.

Suppliers: exposure of suppliers to environmental risks, complexity of the supply chain, supplier dependency, assisting suppliers in adopting best practices and supplier auditing.

Product environmental impact: positive or negative environmental impact of products, sustainable approach, product life cycle analysis, circular economy, percentage of "green" sales and end-of-life product management.

Social

Employee loyalty & development, attractiveness of the employer brand, recruitment capacity, employee satisfaction, career management policy, training policy and employee retention.

Employee protection: combating discrimination, employee health and safety protection, quality of employee relations and assisting employees in the case of restructuring measures.

Suppliers: exposure of suppliers to social risks, complexity of the supply chain, supplier dependency, assisting suppliers in adopting best practices and supplier auditing.

Product social impact: for the customer and the company (see avoided costs) and product accessibility.

Relationship with civil society: the company's philanthropic approach (including skill- based sponsorships), relations with local communities, customer satisfaction and participation in market CSR initiatives.

Methodology of the study and structuring of the portfolios

- The study includes all the internal ratings assigned between 1 January 2010 and 31 December 2018, a data set of 3,450 inputs over 9 years.
- Ratings cover the whole ratings base without sector or normative exclusions.
- Only ratings awarded within the last 3 years are considered. Ratings older than this no longer reflect the current profile of the company, which could have substantially changed its ESG practices.
- These are mostly European listed companies of all sizes of market capitalisation.

The portfolios are:

- equally weighted
- created solely on the basis of the ESG and E, S and G screens
- 100% invested, i.e., with no cash position
- solely composed of equities
- regularly rebalanced to allow for changes and the introduction of new ratings (annually between 2010 and the end of 2015, quarterly after 1 January 2016)
- without management or associated fees
- dividends reinvested (net return)

The ESG, E, S and G screens are applied directly to the stocks to create the selection. Where ESG ratings are similar, the stock with the highest governance rating is ranked higher.

The Committed portfolio is made up of an average 57 stocks, the Intermediates portfolio of 74 stocks, and the Laggards portfolio of 42 stocks, over the last three years. The three portfolios are diversified and so less concentrated over the period in review than the Top 40 and Flop 40.

All performance indicators are given, unless stated otherwise, without management or other fees and costs. Likewise, all performances are calculated net dividends reinvested (net return) where the company pays a dividend.

This study was carried out by La Financière de l'Echiquier

Authors of the study:
Luc Olivier, financial and SRI analyst
Sonia Fasolo, SRI manager
Mamadou Bah, risk controller

About La Financière de l'Echiquier – www.lfde.com

Founded in 1991 by Didier Le Menestrel and Christian Gueugnier, and managed by Christophe Mianné, La Financière de l'Echiquier (LFDE), owned by the Primonial group, has over €9 billion in assets under management and a team of 130 employees. LFDE is one of France's leading investment management companies in terms of ESG integration and SRI. Its core business: managing investments on behalf of retail clients, IFAs and institutional investors. A pioneer in Socially Responsible Investing (SRI), LFDE has been a UN PRI signatory since 2008, and has since signed the Carbon Disclosure Project, the Montreal Carbon Pledge, and partnered with the French Sustainable Investment Forum (FIR).

LA FINANCIERE DE L'ECHIQUIER

LA FINANCIERE DE L'ECHIQUIER - SAVINGS SINCE 1991

53, AVENUE D'IENA - 75116 PARIS - TEL.: 01.47.23.90.90 - FAX: 01.47.23.91.91 - www.lfde.com

LIMITED LIABILITY COMPANY (SA) WITH SHARE CAPITAL OF 10,000,000 € - SIREN 352 045 454 - R.C.S. PARIS - AMF ACCREDITED N° 91004