CFM
INSIGHT.DATA.CLARITY.

February 2019

THE WHAT, WHY, AND DECISIVELY, THE HOW OF ESG INVESTING

Observations from a Systematic Quant Manager

Executive Summary

There is a common line being dragged through financial literature on the ever-increasing importance of ESG investing, to what extent it is primed to alter the investment industry, and how managers and investors should prepare for this 'mega trend'.[1] The line has become so ubiquitous as to be caught embarrassed if one is not aligned with this kind of thinking and seemingly agreed conviction.

It is therefore important to understand the implications of ESG integration into a portfolio. It is important when clients have particular requests relating to sustainable or responsible investment, that a manager can clearly articulate and explain the likely, or probable implications for the portfolio and what the impact (if any) may be on performance. It is important to explore and forecast the direction of the market, and the likely requests that one could receive from clients. It is important to understand and anticipate the most likely exclusion requests, and how they may align and compare with other clients' exclusion requests. Since socially responsible values are in flux, it is necessary to monitor and update ESG policies accordingly. It is important to understand the shifting sands of ESG investment to be ready and prepared to offer insights as to how ESG investment strategies may affect a portfolio.

Contact details

Call us +33 1 49 49 59 49

Email us cfm@cfm.fr

Executive summary continued...

As systematic quantitative managers, our rules-based strategies should pass a minimum statistical threshold before being put into production, but the strategy should also be underpinned by economic rational. An ESG approach certainly satisfies the latter requirement, but such approaches have, thus far, not passed the first hurdle. We have, through our research, identified a variety of pitfalls of accounting for ESG as a systematic quantitative manager. Many of these same pitfalls have been identified by others, not only quants. We are committed to understanding and incorporating ESG information into our investment process when it becomes appropriate.

Introduction

A peculiar 'highlight' ringing in the New Year for the finance set of late, is the hotly anticipated 'Letter to CEOs' of Larry Fink. As CEO of the world's largest asset manager, BlackRock, the finance industry tends to sit up and take notice when you opine on what might be in store for the world and the industry.

In his 2018 letter,[2] entitled 'A Sense of Purpose', Mr Fink wrote that "a company's ability to manage environmental, social, and governance matters demonstrates the leadership and good governance that is so essential to sustainable growth". This lent a sizeable amount of credence to investors and advocates for sustainable investment, many of whom would have felt vindicated against some of the sceptics and naysayers. The 2019 letter pushed the same line. Entitled "Purpose & Profit", Mr Fink doubled down on his firm's conviction that "environmental, social, and governance issues will be increasingly material to corporate valuations".

It is not hard to find complementary commentary touting the rise in the importance of sustainable investment, or accounting for environmental, social, and governance issues, or ESG – the commonly used acronym that has become shorthand for the crusade of accounting for sustainability in investment practices.

The aim of this note is to scrutinise some of the most famous assertions of ESG investing, and highlight a selection of the major developments in the space. The inherent nature and nuanced character of ESG and sustainable investment allows for a much deeper dive into each of the unique topics, which is not the aim of this note. Although there is much room to add our own empirical input to the debate on these topics, our views are evolving on an on-going basis. We are taking this opportunity to reflect and highlight some of the common approaches employed by asset managers, but viewed and compared through the lens of a systematic quantitative manager. We will, throughout and in conclusion, refer to our own research, and future plans for ESG investment.

While the 'what' and the 'why' of ESG investing are largely settled issues, the 'how?' as the Bard put it: "There is the rub".

The what

The 'What is ESG' question depends on who you ask. It includes a broad spectrum of investment possibilities, ranging from impact investing to green bond issuance. Once you start tinkering under the hood, the scope and the divergence of topics rolled under its umbrella quickly becomes dizzying.

Of course, most of these investment approaches are not directly relevant (or importable) for a systematic quantitative manager, and it is best left alone for the purposes of this note. ESG has, nevertheless, become the moniker for all things related to sustainable and responsible investment. Although no one (wholly agreed upon) definition exists, it is implicitly understood as an incorporation of ESG metrics into the security selection and allocation process. What this incorporation entails, equally carries competing views, leading to a wide array of product offerings.

What is it for a quantitative systematic manager? It presents as an opportunity to uncover hitherto unknown trading strategies, and an opportunity to find alpha. It might also present the opportunity to uncover risk mitigation strategies.

The why

Universal acknowledgment by the scientific community that climate change is real, serious, and likely to materially alter the future is probably the most visible and tangible issue that is driving interest in sustainable investment. The implications of climate change, directly affecting all aspects of daily life, makes it one of the few truly global issues. In 2018, when the world was battered by a slew of

[1] ESG has often been cited as one of the few 'mega-trends' set to shape the asset management industry, along with Big Data and Machine learning. See for example: https://www.dbresearch.com/PROD/RPS_EN-PROD/Big_data_shakes_up_ESG_investing/RPS_EN_DOC_VIEW.calias?rwnode=PROD0000000000435639&ProdCollection=PROD0000000000478852

[2] You can find the letter on the BlackRock website here: https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

natural disasters, the talk of climate change, the damage being doled out by mankind, and talk of a transition to a zero-carbon world all received renewed fervour. There are, in addition, various other unique, distinctive developments that have driven the rise of ESG. It is useful to review some of these, in order to help us to understand how to respond.

Better performance (alpha) and improved risk profile

Most champions of ESG investing claim better performance. The intuition is after all sound: a 'sustainable' company, being concerned for the environment, caring for its employees, and paying attention to how it's governed should lead to a better long-term risk/return profile than its unscrupulous cousins.[3] This means that a belief has taken hold that a company which is 'ethically' managed, should, all else being equal, outperform its less-ethical peers. By extension, a portfolio of firms that exhibit these traits should outperform over the long term. Survey evidence corroborates this belief: according to a survey by RBC Global Asset Management, fully 90% of Institutional investors believe that "ESG-integrated portfolios are likely to perform as well or better than non-ESG-integrated portfolios".[4] The survey moreover revealed that 34% of investors claim to incorporate ESG within their alternative investment holdings. The results are not universally conclusive, as the setting, tools, data, and strategy employed in the research can all potentially skew the results.

A different measure of value

The measure of value for a company is different today than in the past. The tangible/intangible ratio of valuation has shifted, with the value of a company increasingly locked up in the 'intangibles' (think of research and development, intellectual property – the code that makes google maps work for instance – or the brand value of a company etc.). By some estimate the value of a company is roughly 84% in intangibles – see figure 1.[5] History has shown that the brand of a company can suffer serious harm if certain risks manifest themselves. Threats of legal action and/or consumer boycotts can, and do affect firm valuation, and hit the bottom line when, for instance, poor governance manifests itself in corporate scandals. The emission scandal that rocked VW is an oft-used example, where, if one could have unearthed the red flags, then one could have taken appropriate steps in terms of exposure. The goal for ESG is thus clear: with a majority of the value of a company entrenched in the intangibles, ESG metrics act as a complementary measure of this value, and, identifying certain risk indicators will allow a portfolio manager to take appropriate action.

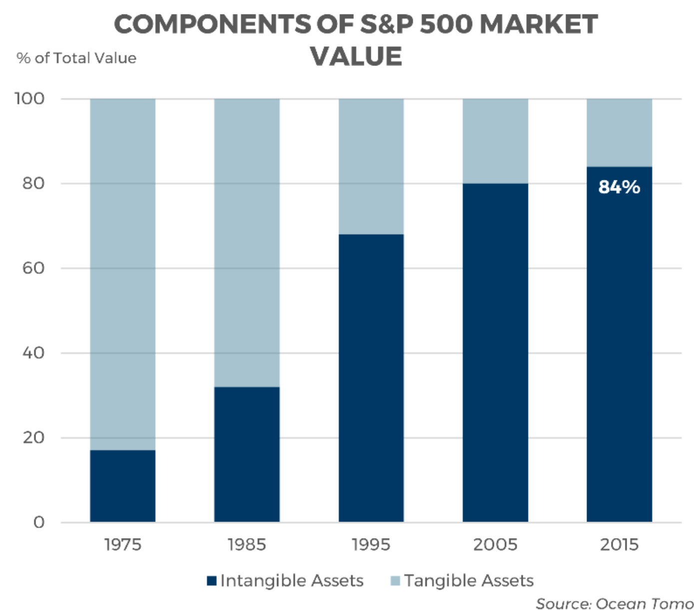


Figure 1: The methodology and full results can be found in the research paper referenced at the end of the paper. The ratio of intangible to tangible assets today are the inverse of 30 years ago. Intangible assets are commonly the most complicated to identify, and to value. Brand, reputation, customer satisfaction, social license to operate, and stakeholder relations etc. are all assets that contribute to the valuation of a firm. These assets are difficult to quantify through traditional financial analysis (and to compare cross-sectional), and are more sensitive to the material issues that resort under an ESG classification matrix. It is becoming ever more relevant to find robust measurement tools for intangible assets, since traditional investment methodologies that put emphasis on current (or short-term) earnings, are becoming less relevant (or exact). The 'Intangible Asset Market Value' study (IAMV) by Ocean Tomo has been extended to include other major indices, with similar results.

Long live the stakeholder

The increased attention of ESG is also a product of a mounting challenge to the 'Friedman doctrine' of the 1950s. Discussing the purpose of corporate governance, the doctrine highlights the alignment of the incentives of shareholders ("principals") and executives of the firm ("agents"), whereby the agents act in the best interest of

[3] CFM also attempts to adhere to such principles in a belief that such a strategy has the highest probability of generating long term success.

[4] See the result of the survey, entitled "Responsible Investing. Charting a Sustainable Advantage" on the RBC website: http://www.rbcgam.com/corporate-governance-and-responsible-investment/esg.html

[5] Refer to the study by Ocean Tomo, entitled Intangible Asset Market Value. http://www.oceantomo.com/2015/03/04/2015-intangible-asset-market-value-study/

the shareholders, aiming to maximise their wealth. This mantra is being challenged by contemporary thinking on the subject, where a focus has moved from the shareholder, to the stakeholder, with the momentum of the sustainable investment movement threatening to jump the guardrails of orthodox financial theory, i.e. ignoring the principals of shareholder wealth maximisation, in favour of stakeholder utility maximisation (the customers, communities, workers and businesses interconnected with the firm). Such a paradigm shift in business is inherently a focus on long-term profitability and sustainability, away from shareholder-centric short term profit maximisation. This rational marries well with the principles of ESG and ESG-focussed investment.

This transition is being witnessed by investors who are becoming more vocal in pressuring business leaders to consider long term sustainability (or "purpose" – refer again to the letters of Mr Fink). Along with the increase of concentrated ownership, an effect of the steady and sustained rise of passive investing, has made the trio of BlackRock, Vanguard, and State Street together, the majority owner in 88% of firms of the S&P 500.[6] This concentrated ownership lends immense influence. They are able to play a pivotal role in shareholder meetings, and exert considerable sway over the board and management. They are uniquely positioned to advance a particular agenda, and, it seems thus far, that these asset management behemoths have taken a pro-sustainability approach.

In turn, large institutional investors are putting increased pressure on managers to incorporate an ever-growing list of sustainable investment requests, and, are expected to communicate their policy of sustainable investment. Traditionally confined to rules-based systematic investment strategies, the quantitative (most often short-term oriented) investment community was able to escape the scrutiny. There was a belief that the inherent nature of the strategies of most systematic quantitative investors was immune to the pressures of asset owners. Although that is in part still the case, the tide is turning and the status quo is being challenged.

Millennials...

Proponents of ESG investing point to a shift in investing style and priorities that the massive transfer of wealth within the coming decades will bring about.[7] 'Millennials', it is said, have a stricter view on socially responsible investment, and will demand that asset managers become more discerning in how they invest. Commentators and academics argue that a newer generation will have different investment objectives than their parents, with millennials being also quite vocal in their convictions. The departure of the head of the Cambridge Endowment fund in 2018 being a high-profile result of where growing pressure from students (and staff) calling for the endowment to dump its fossil fuel holdings led to a concrete outcome.[8] (The endowment decided not to pursue the divestment strategy after investigation of its fossil fuel holdings).

Harking back to Mr Fink's 2019 letter to CEOs, millennials were singled out as one of the driving forces towards '"purpose" along with profits, citing a study in which millennials, when asked what "the primary purpose of businesses should be", sixty-three percent more of them said "improving society" rather than "generating profit."

Disruptions in the market and the need to innovate

A spate of disrupting forces in the global economy is (and has been) taking its toll. The past decade has seen a surge in the scope and influence of social media and technology companies, with large industrial companies yielding some of its erstwhile might. Electric cars have disrupted the auto industry, with heritage automakers all scrambling to compete and roll out their own visions of the future. Climate change and related activities are, as it looks now, set to act as a serious disruption. All of this has translated into a shortening of companies' longevity, reflected in the tenure of companies in the S&P 500 over the last 50 years. A study by Innosight shows that the average tenure of companies on the S&P 500 was 33 years in 1965, dropping to 20 years by 1990.[9] They forecast a further drop to 14 years by 2026. For companies to succeed in the long term, and whether the increased scope (and rate) of disruptions, it is therefore of increasing importance to monitor and adapt to a changing landscape. If the 'mega-trend' of sustainable investment and ESG are to come to full fruition, companies unable to adapt are likely to fall by the wayside.

[6] See Fichter et al. Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new Financial risk

[7] By one estimate from Cerulli Associates, U.S. households will transfer $68 trillion over the next 25 years. Eliopoulos et al. highlight this "generational component", of investment conviction where millennials (and Gen Xers etc.) show a strong desire of wanting to integrate ESG into investment decision making. They claim that millennials "have a clear desire to have a positive social impact, to make their investment dollars work for causes they think are important". See: The Next Wave of ESG Integration: Lessons from Institutional Investors

[8] Interested readers are referred to an article in Chief Investment Officer: https://www.ai-cio.com/news/cambridge-university-cio-senior-staff-resign/

[9] Please refer to their corporate longevity briefing: https://www.innosight.com/insight/creative-destruction/

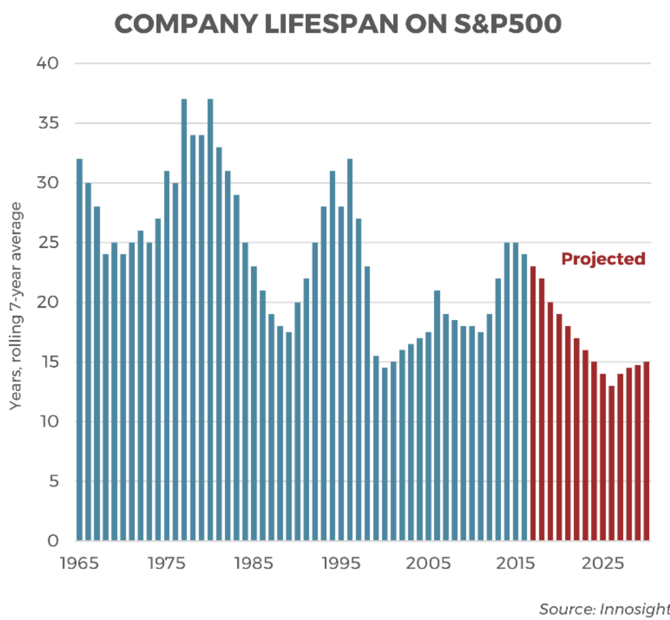


Figure 2: Tenure of companies in the S&P 500. An Innosight study shows that the time companies spend on the list oscillates in cycles, mirroring the overall state of the economy and are subject to disruption from new technologies, including social media, electrical vehicles and related innovation, biotech, cloud computing. If their projections hold true, the expected tenure of a company on the S&P 500 benchmark is expected to approximately 12 years by 2027.

Is ESG investment mainstream?

Not yet.

For all the talk of ESG investment, one would be forgiven for thinking that the market is awash with ESG offerings and a large uptake of ESG-based investment principles. This, however, does not seem to be the case. That the nominal number of ESG offerings (especially by index trackers) have exploded might be true, but many of these funds have relatively low AUM. A cursory look at the size of ESG ETFs for example betray this rather modest demand of ESG interest from the broad market. Only a few of the largest ESG ETFs crack the $100 million AUM mark, with the total size of the ESG ETF market estimated at only ~$23 billion. That is an insignificant amount compared to the $4.4 trillion assets in global ETFs.[10]

According to the Global Sustainable Investment Alliance, approximately $22.89 trillion was managed under the auspices of sustainable investment.[11] The figure may overstate the scale at which sustainable investment has made gains, since the largest component of the headline figure is exclusionary screening. While it is true that screening is a commonly employed tool, it is a stretch to claim that any strategy that constrains a portfolio by some elementary screening process could (or should) be counted towards the whole industry headline figure. It is unclear, since the data is self-reported by respondents to the study, whether every dollar is invested in a responsible way. One could hardly argue that a fund that peddles a pedestrian ESG exclusion list should be wholly counted as part of the global responsible AUM. (It would of course be very challenging to measure what part of such a fund is responsibly invested.)

The how

There exist a multitude of different ways for asset managers to incorporate ESG information into their portfolios. However, managers that choose to account for ESG information in whatever guise are confronted with an immediate, normative dilemma. While most (not all) would agree that tobacco manufacturers have no social benefit, and could easily exclude these companies from their portfolio, the decision becomes more nuanced when having to decide on, for example, energy firms.

Doing well by (thinking one is) doing good

Energy companies are an interesting case for climate change evangelicals, since most large energy companies are still in the business of producing and refining fossil-fuel products. As the science on the topic of climate change is settled, advocates for a transition to a more sustainable future of energy should be supported. Nevertheless, the world remains incessantly reliant on abundant, cheap energy sources, with nearly one billion people, or 13% of the world still lacking access to electricity.[12] The vast majority of these live in emerging countries, where, governments argue, they have the right to pursue policies – including power generation from fossil fuels – to support economic growth. This demands large scale electrical infrastructures – most often using fossil fuel. This leaves policy makers in a quandary: how does one provide access to energy and yet curb climate change. Of course, this is not a binary choice, with many new energy projects consisting of renewables, and many existing power plants being overlooked in favour of renewable options. Consensus, still however, is that global electrification is

[10] See the EY Global ETF Survey 2017: https://www.ey.com/gl/en/industries/financial-services/asset-management/ey-global-etf-survey-2017

[11] Or, roughly a quarter of the total global assets under professional management. See the GSIA report here: http://www.gsi-alliance.org/

[12] According to the International Energy Agency. See their 2017 'Energy Access Outlook. From Poverty to Prosperity': https://www.iea.org/publications/freepublications/publication/WEO2017SpecialReport_EnergyAccessOutlook.pdf

impossible without the use of some form of fossil fuel derived alternative in the short to medium term.

Getting to the rub

There are, broadly speaking, seven commonly employed ESG strategies. Remaining consistent, we again refer to the GSIA report and its breakdown of the commonly used strategies - see Figure 3.

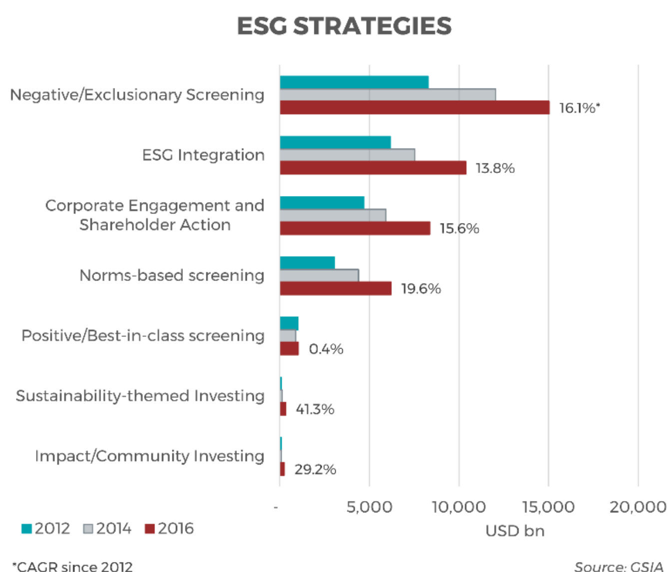


Figure 3: There are broadly speaking, seven primary methods of accounting for ESG information. All of these methods have shown impressive growth, with Screening and Integration the two preferred methods.

Screening

Negative or exclusionary screening remains the most ubiquitous strategy, for obvious reasons. It is arguably the easiest way of accounting for a certain investment objective, as the manager can simply eliminate certain 'dubious' securities (or sectors) from an investable universe that run counter to the investor's (or the asset manager's) investment convictions. This is a very blunt approach, whereby the subtleties of individual companies' efforts on ESG issues are unheeded. It also does not make allowances for idiosyncratic positive metrics amongst securities trapped under the same classification. Many oil companies spend a significant amount of capital on research and development, often on renewable energy sources. Many of these companies, while certainly reliant on their core business for the foreseeable future, are inherently plugged into the energy ecosystem and best placed to navigate through a transition to a low-carbon economy.[13]

There are, nevertheless, two key issues with this approach. It enforces a pre-defined normative judgment on investors (otherwise it has to be tailor-made to each investor, making it much more operationally costly), and will probably diminish the diversity of the portfolio. Incorporation of ESG information into a portfolio through a screening protocol will imply, in most cases, a more restricted universe and/or additional constraints which could affect future performance.

In any event, screening has become a mainstay of the ESG landscape, and is likely to remain a common tool enforced in many mandates. Whilst many managers maintain their own lists, most asset owners could provide their own. Most of these lists nevertheless have a common theme, with controversial weapons, tobacco, and fossil fuels the usual suspects. These lists also have a high correlation with the exclusion list of Norges Bank, which has become somewhat of a yardstick for exclusion lists in the industry.[14]

A major drawback of this approach, often invoked by disgruntled shareholders, is that exclusion eliminates the possibility of playing the role of 'activist' investor, whereby through a stake in a company, shareholders can exercise their voting right. This, along with direct access to management, can put pressure on the firm to address certain shortcomings. Besides negative (or exclusionary screening), investors could employ positive screening, i.e. the deliberate inclusion, or overweighting of firms (sectors) that exhibit best-in-class characteristics on all or certain ESG metrics.

Running a simulation in our Equity Market Neutral portfolio, with an arbitrary screen – we remove all securities from 4 subsectors, namely, Coal, Oil, Gas, and Oil & Gas Services – we observe a Sharpe ratio reduction of ~ 3% in the simulated backtest.[15] The removal of these sectors equates to an approximately 5% reduction in individual securities in a worldwide portfolio. This reduction in Sharpe is consistent with randomly eliminating any other sector in an equity market neutral portfolio.

[13] The reader might find the "business readiness" league table of the Carbon Disclosure Project (CDP) interesting. See the ranking of the largest oil and gas companies on their readiness for a transition to a low carbon economy on the CDP's website: https://www.cdp.net/en/investor/sector-research/oil-and-gas-report

[14] The 'Observation and Exclusion of Companies' are published and updated on the website of Norges Bank: https://www.nbim.no/en/responsibility/exclusion-of-companies/

[15] The securities, while not entirely eliminated from the pool of eligible securities, are systematically forced to receive a null predictor position, but, these stocks remain eligible for hedging purposes.

Integration

ESG integration is held out as the benchmark strategy by diehard ESG disciples as the strategy investors should endeavour to adopt. It is also the most involved, and complex.

There is a wealth of academic research showing that ESG integration (in its many guises) could produce excess returns, while some contradicting research shows the opposite (or no effect). Many studies reveal U-shaped equity returns, where both best-in-class and worst-in-class ESG stocks have performed above the market. Our own research[16] has shown that any residual performance by integrating ESG as a predictor can be wholly explained by the quality factor. As we argued in our research, we believe the main stumbling block for adoption of ESG integration in a systematic way is the lack of consistent and reliable data.

Data

Quality, Comparability, Materiality: these will be key.

All investment decisions are reliant on data, and most investment decisions are based on structured and standardised data. Typical ESG data is neither. ESG information is ill-defined and is compiled from an infinitely vast heterogeneous set of issues. It is not as well defined as most financial metrics, based on regulated corporate and reported balance sheet information.

Most of the mainstream ESG data providers are reliant on company provided disclosures, and moreover apply a distinctive methodological process in aggregating the data. This vendor-aggregated data is as such laden with subjectivity, all of which leads to low agreement between data providers.[17] The dizzying array of competing rating agencies and data providers make it very tricky for managers to decide on which vendors to use and rely on. This would require the usual data testing and verification, which is both costly and time consuming. Some have conducted research, by incorporating – in a proprietary manner – a stream of varying data vendors. Any study however that relies on one, or any amount of proprietarily aggregated streams of data providers, will be subject, to some extent, to the same discrepancies at source.

In figure 3 we plot the rankings of two popular data providers of the constituents of the S&P 500. There is a ~ 50% correlation between the two providers on the ranking of the S&P 500 – companies of which 80% report on sustainability measures.

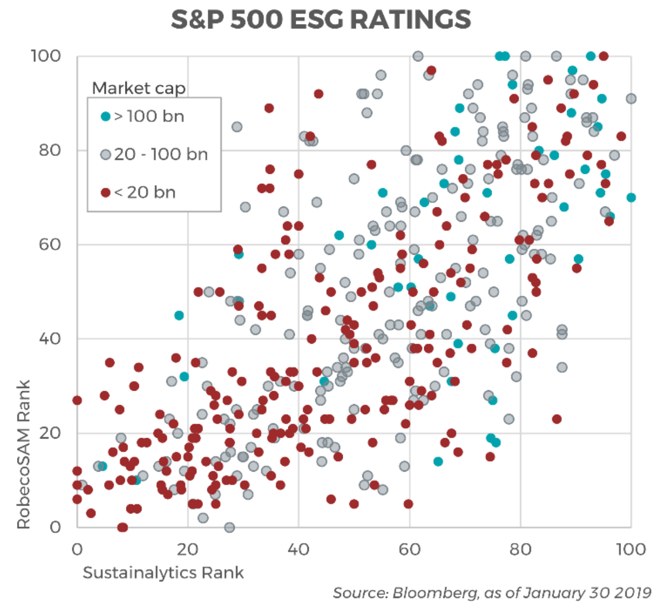


Figure 4: We plot the ratings assigned by Sustainalytics against those of RobecoSam – both well-known and oft-used provider of ESG ratings. We strictly included securities that feature a ranking by both rating firms, bringing the total to 469 securities. There is low level of agreement between the two rating agencies, with lower coverage observed on lower market cap constituents. The smaller cap constituents also typically feature lower rankings than larger-caps. This is consistent with much of the criticism directed at ratings i.e. tilted in favour of larger cap firms, the firms that have the resources, corporate and social responsibility departments with internal know-how of not only responding, but responding in such a way to rating agencies' surveys as to maximise their score. This does not amount to 'greenwashing' as such (another pervasive problem), it is merely a way of optimising a score. It is conceivable that rating firms also place a much higher emphasis on larger caps, with rating analysts focusing their efforts much more on these firms.

A relatively short history of extra-financial information related to ESG offered by data vendors, typically no more than 10-15 years, with only monthly – and often only yearly updates – further makes the search for statistically significant results difficult. The data also reveals biases, market cap and country biases most commonly. Tilting a portfolio based on simple ESG rankings might therefore expose a portfolio to unintended secondary market exposures or concentrations, likely to European stocks in a global portfolio for example.

An often overlooked aspect of ESG rating data, is the downstream connectedness of firms with suppliers. Even if a company can boast an impressive headline ESG rating, the rating of its downstream suppliers might be much

[16] See our academic paper "IS ESG an Equity Factor or Just and Investment Guide" available on our website.

[17] The low agreement of ratings between data vendors is a well-documented problem. See for instance Aaron et al. Do Ratings of Firms Converge? Implications for managers, Investors, and Strategy Researchers.

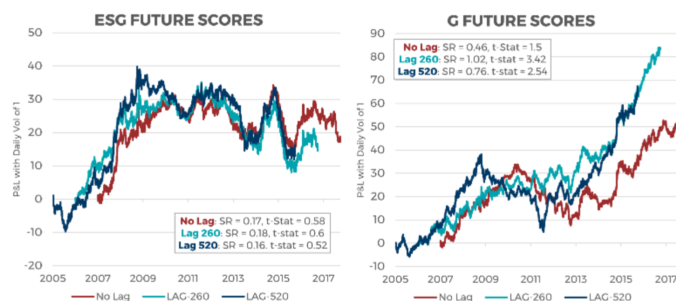
lower. It seems reasonable to account for the ESG profile of a company's suppliers, especially if the dependency (or connectedness) is high. One example is that of Foxconn. Foxconn is a key supplier to a majority of notable Technology firms. While all points to Apple being a company of high corporate responsibility credentials, its main supplier, Foxconn, has been subject to multiple allegations of poor labour practices, and, according to ESG rating vendors, scores very poorly.[18] One method to account for this, from a sustainability perspective, is to incorporate this connectedness (reliance) by increasing or decreasing the target company's ESG rating based on the rating of the supplier. A measure such as revenue earned from the target company could be used as a proxy to appropriately reweigh the ESG score of the target firm.

Of course, exclusion and integration could go hand-in-hand, where an initial rudimentary screen on a securities universe, is followed by an integration approach. Applicable ESG-signals (based on the ESG fundamentals of companies) can be appropriately weighted alongside other factors. The weight of the companies in the portfolio can be adjusted based on the weight that is given to the ESG signal. The difference might not be trivial, depending at what stage the incorporation is done, i.e. integration vs blending of identified ESG signals. ESG signals may take on different weightings depending on the needs of the client (how sensitive or high their conviction threshold is) or based on performance, the portfolio can be tweaked, creating a dynamically adjusted ESG portfolio.

Testing if ESG data contains Alpha

We run a simulation, with a lag of 260 and 520 days (one and two calendar years respectively), using the future ESG information as our signal. We test in effect, whether future ESG information could deliver alpha. On a worldwide universe of firms, we only use the future (perfectly known to us) ESG predictor. Results are disappointing – see Panel 1. Knowing in advance the future ESG scores of companies does not seem to deliver positive returns. With a lag of 260 days (knowing the ESG scores one calendar year in advance), the strategy delivers a Sharpe ratio of 0.18 with a t-statistic of 0.6 – consistent with noise. When we increase the lag to 520 days, the Sharpe ratio is even lower. One can conclude that either the market has already priced in this ESG information, a hat tip to the efficient market hypothesis disciples, or that the market does not give any weight to this information.

Consistent with our previous research, we consider the same simulation, but only with governance information as our signal. Those results are more interesting. Going long the best governance-rated firms, and short the worst rated, we obtain a Sharpe ratio of 1, with a significant t-statistic of 3.42. Governance metrics seems to contain information about future price movements. However, our research shows that this is a proxy for other information, such as profitability, which has more predictive power.



Panel 1

ETFs

ETFs have become a popular delivery method for ESG convictions. Themed, ESG ETFs have emerged as a niche and an alluring alternative to the humdrum market-cap ETFs, and, allow for a simple alignment with one's particular moral, or ethical objectives. It may even act as a diversification factor in a larger portfolio. These themed ETFs are a symptom (and a response) of the zeitgeist in the asset management industry, where passive investment is augmented by the trend in ESG.

The love-affair between ESG and ETFs has blossomed and allows for endless options to cater to all the trendy preferences of investors. A look into the size and constituents of ESG ETFs, however, reveals an interesting pattern. For one, despite the hype and interest, the inflows into these funds have been lacklustre. One of the most prominent (and earliest) ESG-focused ETFs is the iShares MSCI KLD 400 Social ETF. As of January 2018, the ETF had ~ $1.2 billion assets under management. The main culprit for low demand has ostensibly been the higher cost as compared to their more pedestrian, vanilla brethren (in an ever more cost sensitive environment). The lacklustre demand has not dissuaded other heavyweights in the passive investment space, with Vanguard launching (and responding to the higher cost concern) the Vanguard ESG US Equity ETF. Charging only 12 basis points (comparable

[18] The allegations over poor working conditions and suicides at Foxconn have been well documented. On the behest of Apple, the Fair Labor Association launched an inspection of Foxconn, and found "excessive overtime and problems with overtime compensation; several health and safety risks; and crucial communication gaps that have led to a widespread sense of unsafe working conditions among workers". See the report here: http://www.fairlabor.org/report/foxconn-investigation-report.

to some of its flagship ETFs), the fund has received only $135 million of inflows since its launch in September 2018.

Investors, spoilt for choice by the profusion of ESG tilted ETFs, and wishing to allocate funds to specific, narrowly defined causes, might be disappointed to learn that their (more expensive) ETF seems, at least within its top constituents, to resemble most other ETFs. A hallmark of ESG tilted or screened ETFs is a heavy exposure to technology stocks, with the largest ETFs by assets under management consistently overweight technology stocks, and frequently containing at least one pharmaceutical stock or large bank within the top 10 holdings. This is sensible when looking at the average score of telecoms in the MSCI ratings – and the fact that they have the added benefit of being large market cap stocks. (We have eluded in the past to the strong market cap bias observed in ESG ratings.)

It is a real challenge to beat the market, if you are essentially just tracking it. While this is beneficial from the stand point of still having an ESG mandate, with a low tracking error to the market, it emboldens the naysayers in that it does not seem to produce excess return.

The composition of ESG ETFs is an amusing insight into how ESG can easily stray into normative judgement. Take for example the Inspire Corporate Bond Impact ETF. The fund seeks to track its namesake index, consisting of 250 investment grade corporate bonds of US companies aligned with "biblical values". These values are measured by the 'Inspire Impact score', as set by the 'Biblically Responsible Investing Institute', or BRII. The BRII issues an exclusion list of companies that "are of concern to Christians" in which the Inspire ETF cannot invest.[19] These exclusions of the BRII, are amongst others, companies that receive a perfect score on the 'Human Rights Campaign Equality Index' – an organisation that advocates for equal treatment of individuals that identify as LGBTQ in the workplace. Whilst promoting equality in the workplace may run counter to their conviction, the Inspire Impact ETF is however free to include arms and weapons firms, as it does, with General Dynamics included as a constituent. General Dynamics, one of the largest US arms manufacturers is, however, routinely excluded from a whole host of controversial weapons lists, including the Norwegian Sovereign Wealth Fund's exclusion list (again, which is often considered, and copied, as a benchmark for exclusion).

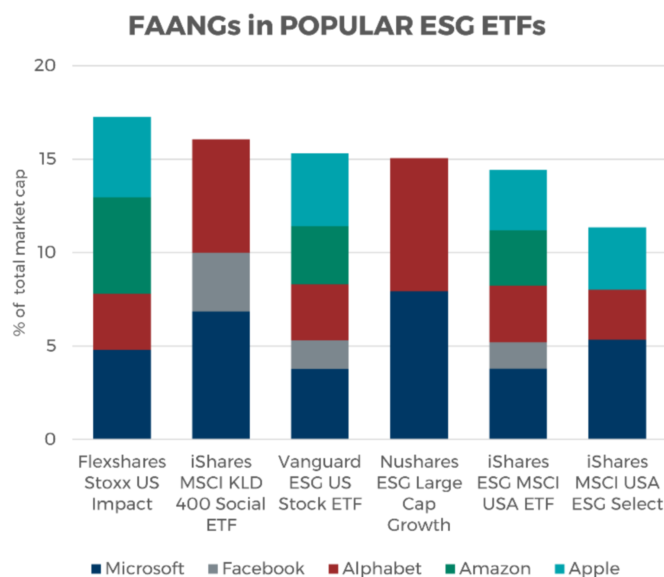


Figure 5: A selection of the largest ETFs all feature a sizeable allocation to technology firms.

It is for all these reasons that ESG investments are succumbing to a growing worry of "mis-selling".[20] Investors, one may rightly assume, would expect that a themed or issue-targeted ESG ETFs are markedly different from a market-cap index. While this is sometimes the case, it is commonly not. This worry may threaten to undermine the growth of ESG investment as investors become disillusioned, and at the same time, more savvy on ESG investment.

We as systematic managers would run the same tricky gauntlet as discretionary managers, in that our ESG investment conviction may run counter to some clients' convictions.

Divestment

Another method having gained traction (although, by no means a new strategy), is that of divestment. That is to say deliberately, and, in most cases, quite vocally selling holdings in a company as a way to publically reprimand the actions of a firm. The distinction between negative screening and divestment is more than just a subtle difference, since divestment is more of an activist slant than simply eliminating certain firms from an investable universe. It has become a popular tool (and threat) especially from large asset owners who often have substantial holdings in any one firm.

[19] See https://www.briinstitute.com/screens.htm#fn4

[20] A recent article in the Financial Times highlights the issue over "mis-selling of products marketed as having strong environmental, social and governance credentials" with a vast majority of financial advisers "very" or "fairly" concerned "about the potential for allegations of mis-selling" of ESG-badged investments. The article is available on the FT website: https://www.ft.com/content/2d3f7683-65a6-3171-8cbb-66ff5ab34405

Whether divestment is effective in bringing about change or altering the behaviour of the core business practices of firms is unclear. Many advocates of this approach claim that divestment will increase the cost of capital for the firms, forcing them to either change their business model, or, go out of business. Although the logic may seem sound, the market will always offer sufficient investors that do not share the same moral objections, or operate under the same policy scrutiny, that would still buy these stocks. Even if a targeted and coordinated divestment campaign drives down share prices, this would likely trigger opportunistic buying from neutral investors if the fall in price represents a short-term discount.

For a systematic quant investor the method of divestment throws up the same core problem as screening: a reduction in diversification and hedging opportunities.

The future: where are we now? And where do we go from here?

Data and the measurement of intangibles

It is clear that ESG data presents as both the biggest impediment to security selection, and (probably) the most commercial opportunity. ESG also fits nicely into the contemporary thinking that traditional indicators could (and should) be augmented with non-traditional data in forming a more holistic view of firm risk and value.

The story of ESG is in large part the story of alternative data, with the unstructured nature of data an opportunity for systematic quant investors being uniquely positioned to uncover and discern between what information could be alpha generating or not. As it stands, managers could either tap into the vast choice of commercially available data sources (while being cognisant of the hazards of this approach), or employ their own skill to scrutinise alternative data. This will, either way, imply a cost to those managers willing to make an investment in this research.[21]

It is, however, clear that many Hedge Funds remain uneager to embark on such an endeavour. A survey by Unigestion reveals that more than half of European-based hedge funds are reluctant about ESG integration, compared to nearly 70% of US-based hedge funds.[22]

A main concern for the lack of interest, is the unease about the quality of data. That data should be improved is a widely agreed objective, advocated by the finance industry and non-governmental organisations.[23] A few organisations are making strides into setting the pace for data quality and comparability. The Task Force on Climate-related Financial Disclosures (TCFD), which helps companies identify climate-related risks, is one. There are, furthermore, various policy initiatives driving an increase in corporate disclosures related to ESG issues. According to the Governance & Accountability Institute, 85% of S&P 500 Companies published some form of sustainability report in 2017. This is up from the 20% that published these type of reports in 2011, despite different levels of transparency.

There are claims that machine learning, big data and artificial intelligence are enabling better analysis of ESG data. Despite the benefits and opportunities this presents in a systematic framework, this claim should be met with some caution. Machine learning is not always uniquely positioned to tackle all problems in finance. A recent paper by Arnott et al. highlights one of the “crucial limitations” of machine learning, namely “data availability”, since machine learning applications work best when there exists a vast amount of data. While the amount of data that could pertain to ESG-like issues has increased, one is susceptible to overfitting and finding spurious relationships with data that are not relevant, or material.

Another barrier often cited for ESG investment practices is the limited understanding of the material ESG issues affecting firms. It is likely that firms will allocate more resources and expertise if they are truly committed to ESG investment.

How much more important might it become? What does the future hold?

Likely, very important.

BlackRock, for example, is projecting global sustainable ETF assets to grow to $400 billion by 2028.[24] Large pension funds have the opportunity, gravitas, and seemingly, a shared conviction in taking it upon themselves to act as

[21] One estimate puts the market for ESG data at $505 in 2018 (ESG content and indices), with this figure expected to reach $745 by 2020. See a study by Opimas, entitled ESG Data: Mainstream Consumption, Bigger Spending. http://www.opimas.com/research/428/detail/#

[22] See: The adoption of ESG criteria among hedge fund and private asset managers: a survey by Unigestion. https://www.unigestion.com/publication/the-adoption-of-esg-criteria-among-hedge-fund-and-private-assets-managers-a-survey-by-unigestion/

[23] Of course, strict standards and comparability metrics could potentially stymie innovation amongst data providers, although this is by no means our base case scenario.

[24] See ‘An Evolution in ESG Indexing’. BlackRock whitepaper. https://www.ishares.com/us/literature/whitepaper/an-evolution-in-esg-indexing.pdf

sustainable investment activists. Whereas politicians and governments are hamstrung by election cycles, pension funds are fundamentally managers of long term liabilities. They need to harbour a long term view, and the consensus is that sustainability matters for the long term.

Growing interest in, and awareness of sustainable investment should expand the knowledge base of the topic, and drive sophistication. Standards should become aligned, and data improved.

There are a myriad of reporting initiatives and regulatory projects that will bound firms to increase their reporting quantity and quality, all the while being more closely aligned with more exacting reporting standards. Data providers will be able to crunch this data and reduce some of the existing misalignment. The rating agencies are therefore likely to focus their attention on quantifying more metrics, as this is what the market would likely dictate. A shift towards the increased reliance on data is well under way, and a desire from asset managers for quality, and voluminous data should provide the necessary impetus towards this focus. Nevertheless only when there is an overwhelming belief in the market that data is relevant, accurate, and comparable, are managers likely to adopt it more extensively.

A hitherto gap in what is considered ‘ethical’ in investment is likely to narrow, as markets converge towards a common alignment: for instance, the United Nations’ Sustainable Development Goals, or SDGs – the broad framework for economic growth and sustainable development supported by most governments is being assimilated into many institutional investors’ sustainable investment strategies.

There is however one topic that is likely to galvanise support and agreement amongst investors and managers. Climate change is often cited as the single biggest threat facing the planet. The World Economic Forum annual Global Risk Report (2019) lists ‘Extreme weather events’ as the single biggest global risk in terms of likelihood. This is followed by ‘Failure of climate-change mitigation and adaptation’ and ‘Natural disasters’ in second and third place respectively. There is wide consensus that the transition towards a low carbon economy is vital, and that companies are likely to come under intense scrutiny to account for their activities.

It is also in the ‘E-pillar’ where more materially important metrics could be quantified and are more easily comparable across industries. Institutions like the ‘Carbon Disclosure Project’ or CDP have taken to task the measurement of companies’ impact on the environment, and, measuring their readiness for the low-carbon transition. All of this could (and should) serve as a tonic for further adoption and research into ESG measures.

ESG Migrating to a catch all for quality

From a systematic quantitative perspective, Governance, or, more specifically, the “Quality” of a company may hold the most relevant information for security selection. Our belief is in part founded on our existing research that revealed some promise for the governance factor. Although all of the exposure was fully explained by the quality factor, ESG metrics related to governance might find a place in our suite of quality predictors. Some candidates have been identified and are being researched.

For systematic managers, we believe these governance factors should have a natural universally applicable characteristic, and as such, these indicators should be comparable across all sectors. We could expect to find governance factors that are equally relevant *and* material for all firms, across all sectors. This would be more relevant for a systematic quant approach and should lend increased gravitas to any such governance factors.

For those who subscribe to the Efficient Market Hypothesis, all information should already be incorporated into the price of the company. If there is an underestimation or mispricing of ESG information, this should manifest itself at some point in the future price of a security. The premise of ESG being relevant for valuation is therefore that there is currently, i.) A mispricing of ESG factors, and ii.) Possibly a misunderstanding of how these ESG factors impact the risk and valuation of the company. If this is the case, and analysts have difficulty identifying or quantifying relevant factors that are material to valuations, systematic quant investors are well-equipped to uncover these.

Summary

It should come as little surprise that the research on ESG investing is inconclusive. Analysts often use competing databases, and those who do proprietary research do so with different methodologies. A lack of consistent, comparable data, is, in our opinion, the single largest stumbling block of hoping to find statistically significant patterns in an ESG-tilted strategy.

It is also difficult, and probably misguided to compare the ‘ESGness’ of portfolios, since no portfolios will have the same ESG strategy, benchmark, or use the same underlying data to construct the portfolio. One feasible solution could be to agree on, and assign an aggregated

ESG rank to existing benchmarks by using an independent scoring system. By aggregating (and probably controlling for the market cap bias) scores across a benchmark, this ESG score could be compared to a portfolio. This however would be tricky with a long/short market neutral strategy.

In a recent New York Times article,[25] the author argued in favour of credit card companies scrutinising and potentially regulating the purchase of weapons. As the scope of ESG increases, one could imagine a time when companies themselves, like credit card companies, become 'activists', not allowing the purchase of certain goods that run counter to their own (the company's) set of normative beliefs. This, as the spokesperson for Visa said will set "a dangerous precedent". The scope of ESG and activist actions, however well-intentioned, could have negative consequences. Although the crusade of eliminating the burning of fossil fuels to satisfy our energy demands is, most would agree, a laudable initiative, it could hamper economic growth in many developing markets. It could hinder the right of providing access to electricity – not only for households but also industries which is vital for economic development. Aggressive decarbonisation could be choreographed by targeted policy, which, with carbon taxation as one proposal, will require poorer countries to pay disproportionately more (energy consumption is projected to grow the most in developing nations).[26] Reduced access to cheap electricity could stymie economic growth.

There is little argument that most will agree or be supportive of the lauded objectives of socially responsible investment. Few will argue that tobacco companies serve a communal purpose or contribute to the well-being of society. What is akin to an artful walking of a tightrope is balancing the morally supportive intentions of an honest ESG approach with the mandate of managing money, based on empirical results, to the best of one's ability. Current, vendor provided data simply does not allow for the systematic implementation of an ESG strategy.

Our results show that integrating ESG convictions by either employing a discretionary screen, and eliminating socially reprehensible firms (based on) from our investment universe, or integrating ESG scores sourced from commercially available datasets does not enhance risk-adjusted returns. This is not to say that, armed with the right data, ESG could not be a future driver of quantitative systematic returns.

ESG investment is a complicated and nuanced topic. We don't have all the answers yet, but we have the tools.

References

- Fichtner. J, Heemskerk. E, and Garcia-Bernardo. J. "Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk." Business and Politics, 2017, vol. 19, issue 02, 298-326
- Covert. T, Greenstone. M, and Knittel C.R. "Will we ever stop using fossil fuels?" Journal of Economic Perspectives, vol. 30, no. 1, winter 2016, pp. 117–138
- Chatterji et al. "Do ratings of firms converge? Implications for managers, investors and strategy researchers." Strategic Management Journal. Volume37, Issue 8, August 2016, Pages 1597-1614
- Elsten. C, and Hill. N. "Intangible Asset Market Value Study" Les Nouvelles - Journal of the Licensing Executives Society, Volume LII No. 4, September 2017
- Ailman, C. et al. "The Next Wave of ESG Integration: Lessons from Institutional Investors." Journal of Applied Corporate Finance, Volume 29, Issue 2, pp. 32-43.
- Arnott. R et al. "A Backtesting Protocol in the Era of Machine Learning." SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3275654

Disclaimer

ANY DESCRIPTION OR INFORMATION INVOLVING MODELS, INVESTMENT PROCESSES OR ALLOCATIONS IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY.

ANY STATEMENTS REGARDING CORRELATIONS OR MODES OR OTHER SIMILAR BEHAVIORS CONSTITUTE ONLY SUBJECTIVE VIEWS, ARE BASED UPON REASONABLE EXPECTATIONS OR BELIEFS, AND SHOULD NOT BE RELIED ON. ALL STATEMENTS HEREIN ARE SUBJECT TO CHANGE DUE TO A VARIETY OF FACTORS INCLUDING FLUCTUATING MARKET CONDITIONS, AND INVOLVE INHERENT RISKS AND UNCERTAINTIES BOTH GENERIC AND SPECIFIC, MANY OF WHICH CANNOT BE PREDICTED OR QUANTIFIED AND ARE BEYOND CFM'S CONTROL. FUTURE EVIDENCE AND ACTUAL RESULTS OR PERFORMANCE COULD DIFFER MATERIALLY FROM THE INFORMATION SET FORTH IN, CONTEMPLATED BY OR UNDERLYING THE STATEMENTS HERIN.

[25] https://www.nytimes.com/interactive/2018/12/24/business/dealbook/mass-shootings-credit-cards.html

[26] See Covert et al. Will we Ever Stop using Fossil Fuels? Journal of Economic Perspectives, vol. 30, no. 1, winter 2016, pp. 117–138.

CFM has pioneered and applied an academic and scientific approach to financial markets, creating award winning strategies and a market leading investment management firm.

Contact us

Capital Fund Management S.A.
23, rue de l'Université, 75007
Paris, France
T +33 1 49 49 59 49
E cfm@cfm.fr

CFM International Inc.
The Chrysler Building, 405 Lexington Avenue - 55th Fl.,
New York, NY, 10174, U.S.A
T +1 646 957 8018
E cfm@cfm.fr

Capital Fund Management LLP – Sydney branch
Level 16, 333 George Street
Sydney, NSW, 2000, Australia
T +61 2 9159 3100
E cfm@cfm.fr

CFM Asia KK
9F Marunouchi Building, 2-4-1, Marunouchi, Chiyoda-Ku,
100-6309 Tokyo, Japan
T +81 3 5219 6180
E cfm@cfm.fr

Capital Fund Management LLP
64 St James's Street, London
SW1A 1NF, UK
T +44 207 659 9750
E cfm@cfm.fr