Analysis

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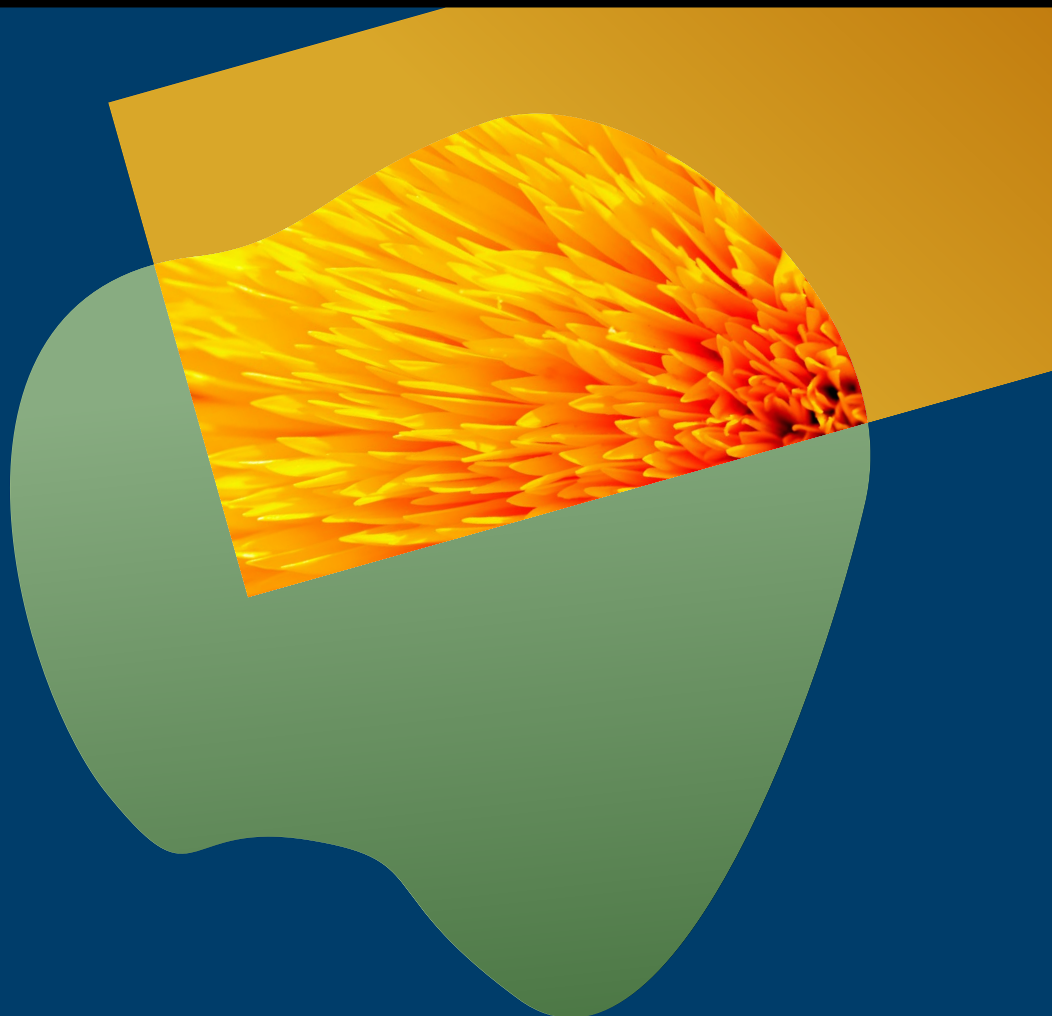

ESG Investing

March 2021

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Man Group Academic Advisory Board

The Academic Advisory Board brings together a group of respected academics from the fields of Finance and Econometrics with Man Group's market practitioners to debate topics at the intersection of academic finance and asset management. Its aim is to provide Man Group's investment managers with alternative perspectives on key issues, and to challenge and develop investment processes by introducing new and insightful ideas. The collaboration continues to bear fruit: members have co-authored a number of academic papers, and the discussions have led to material improvements to a variety of Man Group strategies.

Initially meeting as the Man AHL Academic Advisory Board in 2014, the board held a discussion on whether momentum was a behavioural phenomenon. Since then, the group has expanded to include colleagues from Man Numeric, Man Solutions, Man GLG and Man GPM, providing a forum for debate where the academics can meet with thought leaders from Man Group's investment teams to spur new insights on contemporary themes.

In 2020, the focus was on ESG Investing. Previous topics include momentum as a behavioural phenomenon, overfitting and its impact on the investor, skewness, crowding and factor investing.

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Executive Summary

Part I: The Basics of ESG

Why do we need ESG Investing?: There are at least three reasons why we need ESG. First, companies may be better placed than individuals to provide a social good, and an ESG mindset may help persuade companies to act on this. Second, there are certain issues that governments cannot regulate (like corporate culture), or which extend beyond the boundaries of any one country (like air pollution). In these situations, ESG awareness may induce better behaviour. Third, ESG can create shareholder value by recognising and exploiting opportunities that are difficult to quantify with traditional methods, like a net present value analysis.

Why is ESG relevant now?: Investors are increasingly conscious about maximising total welfare for all stakeholders, not just shareholder value. Additionally, more evidence (some robust, some dubious) is now available on the positive impact of incorporating ESG information into investment strategies. As larger asset managers and pension funds become more concerned with the broader impact of their portfolios, ESG investing is set to have a greater effect on markets and asset prices.

Academic evidence and estimation issues: While numerous academic studies have been conducted to determine the efficacy of ESG investing, the most convincing evidence is in the G category – all things being equal, better corporate governance correlates to better returns. The evidence is not as strong for the E and S. Studies linking better ESG metrics to better operating performance face well-known estimation problems, such as omitted variable bias and reverse causality.

Part II: Does ESG work?

Exclusion lists and engagement: Exclusions lists are a basic method to incorporate ESG. However, taking the easier, and certainly less controversial, route of exclusions should not be the answer. A method supported by better evidence is that of engagement, where investors influence companies to make changes, whether on specific problems (often used by activist funds) or on more general issues (usually preferred by large passive investors).

The impact on returns: There is evidence that some G metrics have a real impact on returns. The picture is more mixed for the E and S. It is also important to look at ESG using a broad perspective, as value added to society. If some investors exclude companies because of a superficial analysis based on narrow definitions of ESG, that might create an opportunity for investors who don't. An issue in evaluating the return potential of ESG metrics is that the history is short, and companies did not care about these metrics historically like they do now.

Part III: ESG in Practice

Is the push for ESG coming more from clients or asset managers?: The answer is both, as asset owners see ESG as material for their financial returns, while asset managers work to generate business and product differentiation in a sector which is otherwise increasingly commoditised. In fact, client-driven demand and asset managers-driven push might feed off each other. There may be some clients who initially care about ESG and asset management firms follow by creating products based on it. Once those products become more visible, other investors might realise that they also care about ESG issues.

The role of asset managers: Asset managers need to show some flexibility, especially as investors are moving away from restriction lists and towards engagement. ESG is a much more developed concept in cash equities than in futures, where challenges exist in offering ESG products.

ESG data: ESG data usually requires substantial pre-processing. Moreover, history is short and the way in which corporations think about ESG issues has changed over time. These issues make it very difficult to look at historical relationships as a guide for the future.

Do academics have a role in setting the standard on data?: Accessing ESG data is expensive and academics do not face the right economic incentives to be pushed towards setting the standard on data. However, they might help in areas such as understanding how ESG affects business variables or understanding how to validate ESG datasets.

1. The Basics of ESG

1.1. What Is ESG Investing and Why Do We Need It?

Alex Edmans (AE): There are at least three reasons why we need ESG. First, there are certain situations where companies have a comparative advantage in providing a social good. For example, it is presumably better for companies to reduce plastic packaging directly rather than relying on shareholders to use the higher profits that plastic packaging might generate to address the problems after the fact (for example, by donating to environmental charities). Second, there are certain issues that governments cannot regulate (e.g., government can regulate minimum wages, but they can't really regulate corporate culture). Third, ESG can lead to a firm undertaking intangible investments that ultimately improve shareholder value but would have been difficult to justify with traditional methods (e.g., net present value).

Campbell Harvey (CH): One of the problems is that ESG is very hard to define in a consistent way that everyone agrees on. This is particularly true for the S and the G. I think this leads to most research efforts and client demands to be focused on the factors that are easier to define and measure, such as carbon emissions. For the other areas in ESG, the difficulty in defining the boundaries of the problem can make it difficult to make much progress.

ESG variables are difficult to categorise. This lack of clear definitions can create measurement issues and complicate the research process.

Neil Shephard (NS): Another issue is that ESG variables are difficult to categorise. For example, gender and diversity usually fall under the S. However, they also impact governance, as paying attention to diversity is important to tap the best talent and because diverse groups of people have been shown to make better decisions. This lack of clear definitions can create measurement issues and complicate the research process.

Antoine Forterre (AF): For publicly listed companies, there is yet another battle between the willingness to do good and the need to maximise returns, which are not always aligned. Ethical and financial views may differ.

Virginia Nordback (VN): Having good performance on ESG metrics can be a prerequisite for having a competitive leadership position in the future. Therefore, from a stock-picking point of view, it can make sense to use ESG variables to identify which companies have better chances of being dominant. There are also several reasons why a strong business would intrinsically follow ESG principles, and the experience of the pandemic has offered several examples of this. We have successful players in the retail space that are continuing to pay their employees despite most of their shops being closed. This not only ensures that those companies will be ready to serve the demand when it comes back, but also encourages loyalty among their employees. This is something that is difficult to replicate, and we see it as a competitive edge.

Shamez Alibhai (SA): ESG does not need to be related to pure financial performance. It can just be a measure of the kind of values an investor wants the investments to reflect. I would add that one has to be careful when comparing the performance of an ESG portfolio with that of an unconstrained portfolio, as the latter does not consider the cost of externalities imposed on society by the companies it holds.

AE: An important issue is that of measurement. There are three main factors that make measurement difficult. First, different investors might have different preferences in what should get prioritised beyond long-term shareholder value. Second, even for measurable variables, it is not clear whether good is better. For example, the evidence on the link between diversity and long-term returns is really nuanced. Finally, some factors are intrinsically unmeasurable. For example, semiconductor companies often have poor environmental scores because of the emissions released in the manufacturing process. However, this does not consider the fact that these companies can power some of the solutions to environmental issues such as global warming.

1.2. Why Is ESG Relevant Now?

Jason Mitchell (JM): One explanation could be the leadership of large investors. Large pension funds and sovereign wealth funds in Canada, Australia and Europe were the first to show a strong preference towards responsible investing. This behaviour seems to have then trickled down to other investors and geographical areas. In other regions,

like the US, this leadership effect did not materialise and, even to this day, there are fewer investors with a preference for responsible investing. This could be because funds in Canada, Australia and Europe tend to have higher funding ratios than their US counterparts. Funding pressure might have pushed US-based funds into a shorter-term mindset, where near-term returns are more important than long-term issues, therefore discouraging responsible investing.

AE: There are three other possible explanations: First, that investors are placing increased importance on maximising stakeholder welfare, not just shareholder value. Secondly, we now have reasonable evidence that certain forms of ESG are positively correlated to shareholder value. The third reason is false data, in the form of published studies and reports biased towards the support of specific views. These can lead investors to believe that certain factors lead to long-term shareholder returns when they actually don't.

Matthew Sargaison (MS): Like so many other areas, part of the explanation might lie with the changing nature of communication. The increase in globally available information and communication around ethical and social issues could lead general investors, pension fund managers, etc, to adjust their behaviour.

1.3. Academic Evidence and Estimation Issues

AE: The most convincing academic research is in the G category. The evidence is not as strong for the E and S. A first important result is that from Gompers et al. (2003)[1], who found that stocks of companies with better governance outperformed significantly in the 1990s. Bebchuk et al. (2013)[2] found that the outperformance disappeared in the following period. Governance still mattered for operating performance, but investors had started to price it in. Giroud and Mueller (2011)[3] found that even in more recent times, better governance was linked to higher stock returns in sectors with low external product competition, suggesting that governance might be more valuable in the absence of competitive pressure.

If ESG factors are indeed mispriced, then we should find that better ESG scores lead to profits that are not just higher, but also higher than what equity analysts expected.

Nicholas Barberis (NB): Studies linking better ESG metrics to better operating performance face well-known estimation problems. The first one is omitted variable bias: a variable not considered by the study could be causing both progress on ESG metrics and performance improvements. Another problem is reverse causality: firms with better operating performance could be the only ones that can afford to worry about ESG.

AE: One way to correct for these problems is to focus on future earnings compared to analysts' expectations. If ESG factors are indeed mispriced, then we should find that better ESG scores lead to profits that are not just higher, but also higher than what equity analysts expected. However, analysts might not consider all the relevant variables. Hence, to get more precise results, more sophisticated methods might be needed, such as the regression discontinuity approach of Flammer (2015)[4].

Rob Furdak (RF): Many studies look at earnings or profitability metrics before extraordinary items. However, extraordinary items such as data breaches, stranded assets or large lawsuits should have an impact on the value of the company even though they are often excluded from historical studies.

NB: In general, there are many studies about whether ESG investing does – or indeed, does not – result in higher stock returns. For example, Hong and Kacperczyk (2009)[5] is a well-known study showing that sin stocks have higher average returns.

CH: ESG research results need to be approached with caution, as some researchers might have an agenda. There are ways to strategically approach the data to get the desired result. For social and governance issues, results tend to be mixed and hard to interpret. For environmental factors, the narrative is much more consistent. The environmental research is published in hard science journals and, at least in the case of climate change, the evidence is overwhelming.

1. P. Gompers, J. Ishii, A. Metrick. Extreme Governance: an analysis of dual-class firms in the United States. Review of Financial Studies, 23(3):1051-1088, 2009.
2. L. A. Bebchuk, A. Cohen, C. C. Y. Wang. Learning and the disappearing association between governance and returns. Journal of Financial Economics, 108(2):323-348.
3. X. Giroud, H. M. Mueller. Corporate governance, product market competition, and equity prices. Journal of Finance, 66(2):563-600. **4.** C. Flammer. Does Corporate Social Responsibility Lead to Superior Financial Performance? A Regression Discontinuity Approach. Management Science, 61(11):2549-2824, 2015. **5.** H. Hong, M. Kacperczyk. The price of sin: the effects of social norms on markets. Journal of Financial Economics, 93:15-36, 2009.

2. Does ESG work?

2.1. Exclusion Lists Versus Engagement

JM: Exclusions can be grouped into three categories. The first one is universal exclusions, which are the ones supported by international agreements such as UN conventions, WHO conventions, or the Paris agreement. Examples of exclusions in this category are weapons, coal and tobacco. The second category is that of conduct-related violations. This relates to corporate behaviours that are not necessarily a sign of bad business, but more of bad business practices. The third category is what we call idiosyncratic, including, for example, faith-based investing, bans on whale hunting, etc. There is a strong consensus around avoiding companies in the category of universal exclusions. When moving to the conduct-related category, a case can be made that some companies are not bad businesses, but they are just hamstrung by bad business practices. This strengthens the case for engagement or stewardship.

NB: There is an argument that exclusions could be counter-productive: if investors who care about ESG do not invest in certain firms, then they are leaving them in the hands of people with no interest in ESG. Therefore, those firms are unlikely to change. Is there evidence that divesting or excluding firms impacts their cost of capital in a way that forces them to change their business practices for the better?

JM: There are cases on both sides of the argument. We had an example of a mining company divesting certain assets on environmental grounds and those assets being acquired by companies with no transparency on their environmental impact, therefore defeating the initial purpose of the initiative. There are also some positive stories, for example in Europe, where the European Investment Bank ('EIB') and the European Bank of Reconstruction and Development ('EBRD') stopped future financing for coal plants, making some projects for future plants not economically viable and leading to their cancellation.

In some cases, engaging will just not be effective. Some companies have, at their core, lines of business which are incompatible with ESG criteria, irrespective of the amount of effort they can put into trying to change their approach. One example is that of companies whose revenue comes predominantly from tobacco products.

Sandy Rattray (SR): It might be true that if people don't invest in your company, the cost of capital might increase. However, this would require a very large number of investors to shun the company before any actual pressure materialises. Moreover, even if restrictions managed to increase the cost of capital, the targeted companies would need to know who shunned their stock and why. If that information is not public, then it is difficult for restrictions to really have an impact. Therefore, I find it unlikely that restrictions could have a material impact on the cost of capital and, consequently, corporate behaviour. I think that a better way to have an impact on a company would be via engagement.

VN: I also think engagement can be a very powerful tool. We've had experience with companies that, when engaged on their performance on ESG issues, started paying attention to and measuring these variables. And when things start getting measured then they can also be changed.

Luke Ellis (LE): In some cases, engaging will just not be effective. Some companies have, at their core, lines of business which are incompatible with ESG criteria, irrespective of the amount of effort they can put into trying to change their approach. One example is that of companies whose revenue comes predominantly from tobacco products: there is no way to reduce the health impact of tobacco consumption to a point that would make it acceptable from an ESG point of view.

RF: This is true, and indeed most asset owners put companies into two categories. The first category is that of firms whose business is unacceptable, no matter how they change. Examples include tobacco companies, cluster munitions producers, etc. The other category is that of companies for which engagement can make a difference. This includes companies with issues related to climate change, racial inequality, transparency in their remuneration policies, etc. For these companies, engagement will make a difference, and asset owners are changing their approach to them from exclusion to engagement.

AE: Some very interesting research exists on shareholder activism in a series of studies by Alon Brav, Wei Jiang, and co-authors. Brav et al. (2008)[6] found that the

6. A. Brav, W. Jiang, F. Partnoy, R. Thomas. Hedge fund activism, corporate governance, and firm performance. Journal of Finance, 63:1729-1775, 2008.

changes proposed by activist investors lead to price appreciation. Brav et al. (2015)[7] showed that this continued in the long-term and was caused by an increase in the productivity of the company. Finally, Brav et al. (2018)[8] looked at innovation, showing that these companies spend less in R&D but generate more patents. This suggests that when shareholders become active there is an improvement not just in long term shareholder value, but also social value. The approach by activist funds, which can be defined as specialised engagement, usually involves engaging with a company on a very specific issue, and with a lot of skin in the game. If such actions add value to society (for example creating more patents with fewer resources) then we should still consider them good from an ESG perspective. Another approach to be considered is that of generalised engagement. This refers to engagement with the aim of achieving broad objectives, using general principles that do not need to be tailored to a specific company. There is evidence suggesting that this method is also able to produce benefits for investors and society. For example, Appel et al. (2016)[9] show that higher institutional ownership leads to better governance and operating performance.

2.2. The Impact on Returns

NB: There are two main mechanisms through which ESG can affect returns. The first one is a discount rate mechanism: if investors get excited about ESG, they might push up prices of stocks with good ESG scores. This can make returns lower going forward. The second one is a cash flow mechanism: if a firm makes some progress on ESG, investors may not immediately realise how valuable that is. The asset will therefore earn higher returns in the future as investors eventually recognise the value. The issue is that we do not know which mechanism will prevail. And I think that is why the empirical literature often reaches conflicting conclusions.

JM: I think we have enough data to make reasonable conclusions in particular cases. We have done some work on exclusions of tobacco companies, estimating a potential exclusions-related outflow of between USD35-60 billion from the sector. This is quite meaningful given that the world tobacco index trades at approximately USD350-400 billion. It would be reasonable to expect tobacco to be structurally under-priced relative to the market because of this.

AE: There is evidence that some G metrics are related to higher returns. The picture is more mixed for the E and S. A lot of research has been conducted into ESG, but not all of that is getting into the real world perhaps due to confirmation or publication bias. It is also important to look at ESG using a broad perspective, as value added to society. If some investors exclude companies because of a superficial analysis based on narrow definitions of ESG, that might create an opportunity for investors who don't.

RF: An issue in evaluating the return potential of ESG metrics is that the history is short, and companies did not care about these metrics historically like they do now. Another important factor is the time-mismatch in evaluation: some ESG factors might play out in the next over the next decades so it is inconsistent to evaluate them with a time horizon focused on the next few quarters. Finally, we should consider ESG not just in the context of generating returns, but also as a tool to mitigate the impact of idiosyncratic risks, such as stranded assets, lawsuits, breaches in governance, etc.

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3. ESG in Practice

3.1. Is the Push for ESG Coming More From Clients or Asset Managers?

AE: The answer is a bit of both. Many asset owners see ESG as material for their financial returns, as they think these factors are going to influence long-term financial returns. Moreover, some investors might have objectives other than financial terms. However, there is also a push from asset managers. This could partly be linked to the desire to generate business and product differentiation in a sector which is otherwise increasingly commoditised.

NB: Demand for ESG from clients and asset managers may feed off each other. As human beings we have limited attention. Often, we do not realise that we care

7. A. Brav, W. Jiang, H. Kim. The real effects of hedge fund activism: productivity, asset allocation, and labour outcomes. Review of Financial Studies, 28(10):2723-2769, 2015. **8.** A. Brav, W. Jiang, S. Ma, X. Tian. How does hedge fund activism reshape corporate innovation? Journal of Financial Economics, 130(2):237-264, 2018. **9.** I. R. Appel, T. A. Gormley, D. B. Keim. Passive investors, not passive owners. Journal of Financial Economics, 121(1):111-141, 2016.

about something until it is right in front of us. Hence it might be that there are some clients who initially care about ESG and asset management firms respond by creating products based on it. Once those products become more visible, other investors might realise that they also care about ESG issues. I think these processes are mutually reinforcing.

Otto Van Hemert (OVH): There might also be a natural end to this: the process might be self-reinforcing for a while, until interest tapers off and then a reversal occurs, with fewer and fewer people caring about the topic.

NB: This is possible and has happened already in the past for other investment trends. However, problems like climate change are not going to be solved for years and decades to come, hence I believe environmental factors will be relevant for a long time.

Greg Bond (GB): I still think we must worry about the short-term returns. Investors tend to judge asset managers based on their 3- to 5-year performance. There is some fear that in three to five years' time, if ESG products underperform, investors might abandon them. We might end up with the long-term implications of climate change because of the short-termism of shareholders and investors.

OVH: We could also end up with something that is in between; that is, responsible investing is here to stay, but within a much narrower scope, maybe more focused around climate change.

NB: I think the S might also have a good chance of being relevant for the long run. We talked about diversity and racial equality, which these days are very salient topics in the US. These topics are likely to become salient for many other countries around the world going forward.

3.2. The Role of Asset Managers

RF: No two investors have the same set of values, so asset managers need to show some flexibility. Historically, specific requirements have been handled through restriction lists. Today, investors are realising that this is a blunt tool and that engagement may be more effective at changing corporate behaviour. The largest and most sophisticated investors are now starting to transition towards representing their values through engagement, either directly or indirectly, through the managers that they select.

SA: Asset managers could add value by trying to figure out what are the right metrics to focus on to achieve different environmental, social or governance outcomes, rather than financial outcomes. The private markets business is relatively lucky from this point of view, as there is intentionality and attribution in every investment. I think that asset managers wanting to achieve something similar in public markets really need to focus on attribution and making sure that there's a very clear line between the actions of the manager and the target social outcome.

AF: ESG is a much more developed concept for asset managers who deal in cash equities rather than, say, in futures or other derivatives. In equities, it is not just about applying the exclusion lists that we mentioned earlier, i.e., avoiding trading certain companies, which is usually a product design choice to accommodate client preferences. It is more generally about incorporating ESG as 'alpha' factors to improve predictive power. This is an area where we will see more work being done going forward. I think outside of the corporate equity or credit space the notions of ESG are much weaker and it is much less clear how to operate. A good summary of the problems encountered in the futures space can be found in Forterre (2019)[10].

CH: Would it be possible for asset managers to create products that are carbon neutral just by excluding commodities like oil, gas and coal?

AF: The issue is not just contained to commodity futures. For example, equity index futures might own polluting companies on a look-through basis. I think the exclusion approach is important but not enough. It is also difficult to justify from the performance point of view, unless one has a very strong view that the instruments excluded might detract from performance.

10. A. Forterre. Gatecrashing the party: can (systematic) macro managers invest responsibly?, Man Institute Article, 2019.

OVH: Some people have approached this question differently, for example by avoiding exclusions but then offsetting the carbon exposure of the portfolio by taking positions in carbon emissions futures. So, there might be more nuanced approaches than strict exclusions list.

MS: The issue is that some investors might not accept having to invest in an index future to then short polluting stocks – even if, from an economic point of view, this would be similar to never have invested in the polluting stocks in the first place. In the same way, investors might not accept a method that relies on investing in an index future and then hedging out the carbon exposure with emissions futures.

NS: Is there a way to decarbonise futures-based strategies such as trend following or risk parity?

AF: Trend following relies heavily on diversification. So, using an exclusions approach would decrease some of that benefit. Another factor to consider is that these strategies can be both long and short the instruments. The implications of this in terms of ESG are unclear. One criticism is that we provide liquidity to some carbon-intensive industries, but a counterargument is that we provide the same liquidity to industries that are looking for technological replacements.

MS: One possibility is to use ESG compliant versions of index futures. There is a move to establish such products, but they do not have enough liquidity yet.

3.3. ESG Data

RF: ESG data presents several issues. First, datasets do not have a long history. This makes it more difficult to estimate significant statistical relationships. Moreover, the way in which corporations think about issues such as diversity and data breaches has changed over time. This compounds the problem, so that any past statistical relationship might not hold going forward. This makes it very difficult to look at historical relationships as a guide for the future.

Jeremy Wee (JW): Processing ESG data is a very resource-intensive task. First, we have the already mentioned problem of defining what constitutes ESG. The same ESG factors might be defined in different ways by different people. Secondly, because the data is new, it usually requires substantial cleaning and pre-processing. It is also important to understand the underlying definition of ESG used by the data provider, and whether there is any bias in the way the data is constructed. Before using the data, it is also important to understand the client's objective: is the aim to use ESG as a risk-mitigation tool? Are absolute or relative ESG scores more important for the problem at hand? After answering these questions, it is then possible to find the data provider that aligns with the final objective. Finally, it is always useful to incorporate several points of view by using multiple providers. In some cases, investors with specific ESG requirements might have a view on what dataset should be used and on how to measure the specific ESG factor. A popular example is carbon emissions. Some investors might want to measure carbon exposures not just as current emissions, but also in the context of 2-degree alignment. Answering this type of questions often requires looking at specific datasets.

3.4. Do Academics Have a Role in Setting the Standard on Data?

CH: ESG datasets are expensive, and it is rare for a research institution to have access to all of them. Multilateral agencies that academics consult for could provide some leadership in terms of putting together comprehensive datasets, but it is unlikely that the academics will take the lead on this problem.

NB: I agree with this. There are at least six leading databases on ESG, all of them quite expensive. Very few researchers are going to be able to get hold of these databases and hire the research assistants to dig through them. Secondly, academics generally focus on different kinds of questions, more related to establishing causality, determining the underlying economic forces of a phenomenon, etc. They would not be rewarded for creating good ESG databases. The career incentive is not there.

GB: I think academics could potentially help on the study of environmental factors such as emissions. The real impact of this data could be in understanding how climate change will affect specific businesses. There is an interesting literature from the past

There is an interesting literature from the past 5-10 years of the impact of rising temperatures on a country's GDP growth. Academics could help by mapping this type of climate data to financial data like revenues and productive capabilities of companies.

5-10 years of the impact of rising temperatures on a country's GDP growth. Academics could help by mapping this type of climate data to financial data like revenues and productive capabilities of companies.

NB: Academics might be able to help by finding a way to validate one ESG database versus another. This is similar to work already done in the past, for example in the definition of sectors based on earnings correlations, returns correlations or even textual analysis of annual reports.

3.5. Final Words From the Academic Advisors

NB: Milton Friedman claimed that we should leave ethical and social issues to individuals and to governments. But it is increasingly clear that there are many issues that individuals and governments cannot solve on their own. An important conclusion from this discussion is that firms, corporations and asset management firms really do have an important role to play in this context.

NS: I find ESG a challenging area because it combines topics that are intellectually very different, such as the management of negative externalities, the design of good governance, the appropriate use of talent and having a motivated workforce. I think the area would be easier to understand, quantify and study if one was to aggressively split apart these different issues.

CH: This area is also challenging because it is difficult to make inference on such limited data and history. I believe that of the three components of ESG the one that will get more attention in the near future is the E, followed by the S. We already have plenty of products under the quality style that incorporate the G component. The low correlations among the different data sources and the different preferences means there is a lot of quantitative work to do. To be clear, I believe that ESG is a quantitative problem and, importantly, there is an opportunity for quantitative asset managers to take the lead to develop products that best achieve both the goals of the investor and society in general.

AE: When approaching ESG, I think the first question to be asked is why we are doing it: is it to further a social cause or to improve long-term risk adjusted returns? This has important implications for the optimal ESG approach as not all strategies that achieve the former also achieve the latter. The second question is what does the evidence say? There is evidence that some types of ESG data do lead to outperformance. We also have some evidence showing that engagement (whether generalised or specialised) is effective at bringing about change. There isn't much evidence instead supporting divestments. The final question is how to do it. A key priority should be to rely on the most rigorous evidence of where ESG works. There will be a lot of noise in the market from groups thinking certain factors work when they don't. This could lead to some mispricing, which a data-driven, evidence-based investor will be able to exploit.

Authors

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Nicholas Barberis is the Stephen and Camille Schramm Professor of Finance at the Yale School of Management, where he works on behavioral finance, and specifically on building psychologically-realistic models of market fluctuations and investor behavior. He is the co-author, with Richard Thaler, of the most-cited survey of behavioral finance research. He is the founder and lead instructor of the Yale Summer School in Behavioral Finance. In 2015, he took over from Robert Shiller and Richard Thaler as the organiser of the leading academic conference in behavioral finance. Professor Barberis holds a B.A. in Mathematics from Cambridge University and a Ph.D. in Business Economics from Harvard. He joined the Man Group Academic Advisory Board in 2013.

Campbell Harvey
Professor of Finance at Duke University

Professor Campbell R. Harvey, an expert financial economist, has been an investment strategy advisor to Man Group since 2005 and has contributed to a variety of research produced by the firm. Most recently, Professor Harvey co-authored 'The Impact of Volatility Targeting', which won 'Outstanding Article of 2018' from the prestigious Journal of Portfolio Management. His prior research on differentiating luck from skill won 'Best Article' in both the 2016 and 2015 Bernstein Fabozzi/Jacobs Levy Awards, and he has published more than 125 scholarly articles on topics spanning investment finance, emerging markets, corporate finance, behavioural finance, financial econometrics and computer science.

Neil Shephard
Frank B. Baird, Jr, Professor of Science, Professor of Economics and Statistics, Harvard University

Neil Shephard is the Frank B. Baird Jr., Professor of Science at Harvard University, holding his professorship in the Economics Department and the Statistics Department. He has been Chair (Head of Department) of the Statistics Department at Harvard since 2014. Before joining Harvard University in 2013, Neil was a professor at Nuffield College, Oxford University, for 23 years. He was also the founding director of the Oxford-Man Institute from 2007-2011. Neil is an elected fellow of the Econometrics Society and the British Academy, and has been awarded the Guy Medal in Silver by the Royal Statistical Society and an Honorary Doctorate by Aarhus University. He has served as an associate editor of Econometrica since 2002.

Alex Edmans
Professor of Finance at London Business School

Alex Edmans is Professor of Finance at London Business School, Academic Director of the Centre for Corporate Governance, and Managing Editor of the *Review of Finance*. Alex graduated from Oxford University and then worked for Morgan Stanley both investment banking and sales and trading. After a PhD in Finance from MIT Sloan as a Fulbright Scholar, he joined Wharton in 2007 and was tenured in 2013 shortly before moving to LBS. His book, *Grow the Pie: How Great Companies Deliver Both Purpose and Profit*, was named one of the Financial Times Best Business Books of 2020.

Shamez Alibhai

Head of Community Housing and Portfolio Manager, Man GPM

Shamez Alibhai is Head of Community Housing and Portfolio Manager at Man Global Private Markets (‘Man GPM’) and is a member of Man Group’s Responsible Investment Committee. He is responsible for managing the Man GPM RI Community Housing Fund and leading the business, team and strategy. Prior to joining Man GPM in January 2019, Shamez spent 12 years at Cheyne Capital, where he was a partner and portfolio manager of the UK’s first institutional affordable housing strategy. He previously co-ran the firm’s real estate debt business. He has also worked at Credit Suisse, where he was responsible for the mortgage loan trading platform, and at Barclays where he was a senior structurer. Shamez holds Master’s degrees from Yale University and McGill University.

Gregory Bond

President and CEO, Man Numeric

Gregory (‘Greg’) Bond is the President and CEO of Man Numeric and a special advisor to Man Group’s multi-strategy funds. He also serves on the Man Group Executive Committee and the Man Numeric Investment Committee. Previously, Greg was director of research at Man Numeric, responsible for research initiatives, including the day-to-day management of Man Numeric’s strategic alpha research team. Prior to joining Man Numeric in 2003, Greg worked as a research associate for Professor Michael E. Porter at Harvard Business School. Greg holds a Bachelor of Arts degree in economics and in biology, magna cum laude, from Yale University and a Master of Business Administration degree from Harvard Business School with distinction. He is a CFA charterholder.

Luke Ellis

CEO, Man Group

Luke Ellis is Chief Executive Officer of Man Group. He leads the firm’s Executive Committee, working with teams across investment, distribution, technology and infrastructure, while seeking to deliver the right outcomes for clients and positioning Man Group to adapt to opportunities as markets evolve. He is also the Deputy Chairman of the Standards Board for Alternative Investments ('SBAI') and Chair of the Board of Trustees for Greenhouse Sports. Luke joined Man Group in 2010 and was previously President of the firm, responsible for management across investment engines. Prior to this, he was Chairman of Man GLG’s Multi-Manager activities and was Managing Director of Man FRM from 1998 to 2008. Luke was previously a Managing Director at JPMorgan in London and Global Head of the firm’s Equity Derivatives and Equity Proprietary Trading businesses. He holds a BSc (Hons) in Mathematics and Economics from Bristol University.

Antoine Forterre

Co-CEO, Man AHL

Antoine Forterre is Co-Chief Executive Officer of Man AHL and a member of the Man Group Executive Committee. He is also a member of Man Group’s Responsible Investment Committee. Antoine was previously Man AHL’s Chief Operating Officer, with overall responsibility for technology and other non-investment functions. Prior to this, he was Head of Corporate Development and Group Treasurer of Man Group, with responsibility for sourcing and executing acquisitions, as well as managing the firm’s capital markets activities. Before joining Man Group in 2011, Antoine worked at Goldman Sachs in London and Paris. Antoine holds a Master’s Degree in Finance and Strategy from ESSEC Business School. He is a Trustee of the Man Charitable Trust and a participant in the Franco-British Young Leaders programme.

Robert Furdak
CIO of ESG, Man Group

Robert ('Rob') Furdak is Chief Investment Officer for Environmental, Social and Corporate Governance ('ESG') of Man Group. He is responsible for overseeing all aspects of responsible investing across Man Group's five investment engines. Rob serves as the chairman of the Man Group Responsible Investment Committee and is a member of the Man Group Executive Committee. He also serves on the United Nations-supported Principles for Responsible Investment Macroeconomic Risk Advisory Committee, the CFA Institute's Global Industry Standards Steering Committee and is on the Advisory Board of the Journal of Impact and ESG Investing. Rob was previously the Co-Chief Investment Officer at Man Numeric and Chairman of Man Numeric's Investment Committee. In that position, Rob led the ESG initiatives and oversaw all aspects of the investment process. Rob joined Man Numeric in 1997 as Director of International Strategies and designed and launched Man Numeric's first non-US strategies. Before joining Man Numeric, Rob was a Principal in the Active International Group at State Street Global Advisors. During his eight years there, Rob performed global quantitative research and was the principal architect of State Street's active emerging markets investment process. Previously, Rob worked at Harvard Management Company. Rob holds a Bachelor's Degree in Finance from the University of Michigan and an MBA in Finance from the University of Chicago. He is also a CFA charterholder.

Jason Mitchell
Co-Head of Responsible Investment, Man Group

Jason Mitchell is Co-Head of Responsible Investment at Man Group and co-chairs Man Group's Stewardship and Active Ownership Committee. He has held this position since July 2018. Jason worked at Man GLG from 2004 to 2008 as a portfolio manager. Between 2008 to 2010, he advised the UK government on infrastructure development across Sub-Saharan Africa. He returned to Man GLG in 2010 as a portfolio manager, before becoming a sustainability strategist across Man Group in 2017. Prior to Man GLG, he was a Vice President at Andor Capital Management and an investment research analyst with Pequot Capital Management. Besides having managed environmental and sustainability strategies, he speaks and publishes widely on responsible investment. He also hosts the award-winning podcast series, A Sustainable Future. Jason serves on the EFRAG (European Financial Reporting Advisory Group) Lab Steering Group, SASB (Sustainable Accounting Standards Board) Investor Advisory Group and the United Nations-supported Principles for Responsible Investment ('PRI') Academic Advisory Committee. He chaired the PRI Hedge Funds Advisory Committee from 2014 to 2018. He is co-editor of PRI Perspectives academic journal. Jason holds a MSc in International Political Economy from the London School of Economics and a bachelor's degree in English literature and classics. He is a Fellow of the Royal Society of the Arts and the British-American Project. He was named one of Institutional Investor's 2011 Hedge Fund Rising Stars.

Virginia Nordback
Portfolio Manager, Man GLG

Virginia Nordback is a Portfolio Manager, having joined Man GLG's European long-only equities team in 2016. Prior to joining Man GLG, Virginia spent two years at Berenberg as an equity research analyst with a focus upon Scandinavian, German and Swiss companies. This was after pursuing her own business start-up, something she developed following her time at Powe Capital where she worked with Rory as a research analyst of companies across Europe. Having started her analytical career with Deutsche Bank in 2003, Virginia's approach to stock specific research reinforces the team's knowledge of both existing and future holdings. Virginia holds a Bachelor of Arts from Yale University as well as an MBA from INSEAD.

Stefano Piu

Quantitative Analyst, Man AHL

Stefano Piu is a quantitative analyst within the Liquid Strategies team at Man AHL. Before joining Man AHL in 2018, he worked as a quantitative analyst at HSBC Global Asset Management. Stefano holds a BSc in Economics and a MSc in Finance from Bocconi University in Milan.

Sandy Rattray

CIO, Man Group

Sandy Rattray is Chief Investment Officer of Man Group and a member of the Man Group Executive Committee. He is also a member of the Man Group Responsible Investment Committee. He was previously CEO of Man AHL from 2013 to 2017, and CIO of Man Systematic Strategies from 2010 to 2013. Before joining Man Group in 2007, Sandy spent 15 years at Goldman Sachs where he was a Managing Director in charge of the Fundamental Strategy Group. He also ran Equity Derivatives Research at Goldman Sachs in London and New York. Sandy is a co-inventor of the VIX index. He is a board director of MSCI Inc and sits on the MSCI Advisory Council and the Jesus College Cambridge investment committee. Sandy is a governor of the Southbank Centre in London and is a founding patron of the London Cycling Campaign. He holds a Master's Degree in Natural Sciences and Economics from the University of Cambridge and a Licence Spéciale from the Université Libre de Bruxelles.

Matthew Sargaison

Co-CEO, Man AHL

Matthew Sargaison is Co-Chief Executive Officer and Chief Investment Officer at Man AHL, and a member of the Man Group Executive Committee. Before assuming the Co-CEO role, Matthew has held numerous positions within Man AHL, including CIO, with overall responsibility for investment management and research from 2012 and 2017, as well as Chief Risk Officer between 2009 and 2012. Before re-joining Man AHL in 2009, he spent 13 years working at Deutsche Bank, Barclays Capital and UBS. Matthew originally worked for Man AHL from 1992 to 1995 as a trading system researcher and institutional product designer. Matthew holds a degree in Mathematics from the University of Cambridge and a Master's Degree in advanced computer science from the University of Sheffield.

Otto Van Hemert

Director of Core Strategies, Man AHL

Otto Van Hemert is Director of Core Strategies and a member of Man AHL's management and investment committees. He was previously Head of Macro Research at Man AHL. Prior to joining Man AHL in 2015, Otto ran a systematic global macro fund at IMC for more than three years. Before that, he headed Fixed Income Arbitrage, Credit, and Volatility strategies at AQR, and was on the Finance Faculty at the New York University Stern School of Business, where he published papers in leading academic finance journals. Otto holds a PhD in Economics and Masters Degrees in Mathematics and Economics.

Jeremy Wee

Senior Portfolio Manager, Man Numeric

Jeremy Wee is a senior portfolio manager at Man Numeric. He leads the day-to-day management of the US and global portfolios and assists in managing other strategies. Jeremy also conducts research on model and process improvements for these strategies. He is also a member of the Man Group Responsible Investment Committee. Prior to joining Man Numeric in 2014, he was a portfolio manager at Batterymarch Financial Management for emerging markets and global managed volatility strategies. Prior to that, Jeremy held portfolio management and quantitative research roles at Blackstone and Citigroup Asset Management. Jeremy received a bachelor's degree in computer engineering from the University of Michigan and an MBA from the Massachusetts Institute of Technology Sloan School of Management. Jeremy is a CFA charterholder.

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