KEEP IT BROAD: AN APPROACH TO ESG STRATEGIC TILTING

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EXECUTIVE SUMMARY

HOW CAN UNIVERSAL OWNERS INTEGRATE ESG PRINCIPLES WHILE MAINTAINING A BROAD AND DIVERSIFIED INVESTMENT UNIVERSE?

Institutional investors are increasingly looking for ways to integrate ESG considerations into their investment decisions. By doing so, they may aim to mitigate long-term risks, generate higher risk-adjusted performance and/or align investments with broader societal objectives. As ESG investment guidelines become more commonplace among asset owners, and as many continue to build capabilities in engagement and risk management, we have seen a small but growing set of institutional investors focus on long-termism by adopting investment strategies that explicitly build in their holistic views of the future.

Historically, investors have relied on either exclusionary or selection-based ESG index strategies, whereby companies would be screened out from an investment universe due to their involvement in controversial activities or selected due to strong ESG performance against sector peers. However, both approaches reduce the investable universe and have proven to be challenging for the largest asset owners, often referred to as universal owners, whose portfolios span the entire equity market. Additionally, approaches that exclude companies altogether may preclude opportunities to engage or incentivize progress.

In this paper, we examine a potential strategy to ESG tilting designed to target companies demonstrating both a robust ESG profile and a positive ESG trend while maintaining minimal exclusions. Such a strategy can be illustrated by the MSCI ESG Universal Index. We start by defining an investable universe minus a core set of exclusions that include involvement in controversial weapons and violations of international norms. We then utilize both static and dynamic ESG performance indicators to weight the remaining stocks in a way that preserves diversification and balances the concerns of universal owners.

Our findings highlight that the MSCI ESG Universal Index, which is designed to represent the returns of this strategy, demonstrated an annualized outperformance of 20 bps and a risk reduction of 30 bps compared to the parent MSCI ACWI Index for the period ranging from November 2009 to July 2016 while exhibiting a low tracking error with minimum sector and country bets using back-tested data[1]. The index demonstrated a significantly higher ESG profile overall and across each of the three environmental, social and governance pillars. Finally, the carbon footprint of the index was reduced by 14%.

[1] Simulated or back-tested data is not indicative of current or future returns, which may differ materially. Please see the disclosures related to back-tested and simulated data at the end of this paper.

As more investors integrate ESG into their investment process globally, such an index could potentially be used by asset owners as they determine their strategic asset allocations or implement their ESG investment strategies.

SECTION 1: UNDERSTANDING THE MOTIVATIONS, OBJECTIVES AND CONSTRAINTS OF ESG INVESTING

UNDERSTANDING INVESTOR MOTIVATIONS

Institutional investors are increasingly looking for ways to account for ESG signals in their investment decision-making process. The rise in the number of Principles for Responsible Investment (PRI) signatories moving from less than 200 (accounting for less than US$ 10 trillion) in 2006 to more than 1500 (representing more than US$ 60 trillion) in April 2016[2] is a strong evidence of the trend towards higher ESG awareness.

Institutional investors often pursue different objectives when addressing global environmental and social issues, including enhancing long-term returns, generating positive societal impact and/or aligning their investment with their beliefs.

- **Integration:** there is growing research regarding the materiality of ESG in particular when focused on industry-relevant issues.[3] Investors are increasingly using ESG factors as a way to minimize long-term risks and/or to achieve long-term financial outperformance.
- **Values:** some investors may decide to consider ESG issues as a way to align their investments with their ethical or political believes. They typically use exclusionary approaches that screen out controversial activities such as tobacco, weapons, alcohol or gambling from their investment universe.
- **Impact:** increasingly investors are contributing to the UN Sustainable Development Goals and generating positive impact through their investments. They may decide to direct capital toward companies that can provide solutions to environmental and/or social challenges and generate positive measurable/quantifiable impact alongside financial returns.

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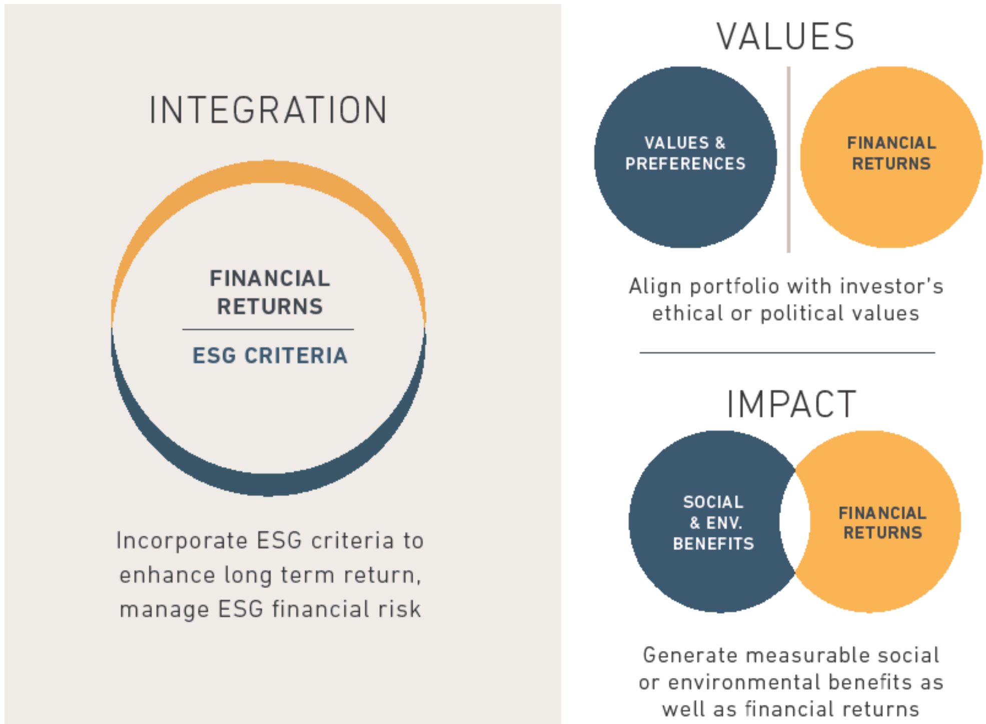
[2] UNPRI, PRI Brochure 2016

[3] Khan, Serafeim & Yoon 2015. 'Corporate Sustainability: First Evidence on Materiality' Harvard Business School Working Paper No. 15-073. Gunnar Friede, Timo Busch, and Alexander Bassen, ESG and financial performance: aggregated evidence from more than 2000 empirical studies, Journal of Sustainable Finance & Investment, 2015. Richard Hitchens, Sandra McCullagh, and Chris Parks, Finding Alpha in ESG, Credit Suisse. ESG- α Series, 19 June 2015. Northern Trust, Doing Good and Doing Well – How Quality Can Enhance Your ESG Strategy, 2014

Figure 1 –MSCI ESG Index Research Framework



Source: MSCI ESG Research

Mounting literature suggests that macro societal and environmental trends – ranging from climate change and rising sea levels to social inequality and demographic shifts – pose potentially overlooked risks for long-term institutional investors[4]. Traditionally, such risks were considered exogenous, but for the universal[5] long term investor, all risks could be considered endogenous in their portfolios. Whether tied to the negative impact of environmental externalities or the social costs of aggressive corporate tax avoidance, we observe a growing awareness that a long-term institutional investor cannot always afford to take short-term gains

[4] See for example Investment Leaders Group. 2016. "Taking the Long View: A Toolkit for Long-Term Sustainable Investment Mandate; Focusing Capital on the Long Term." 2015. "Long Term Portfolio Guide"; Center for International Finance and Regulation Research Working Paper Series. 2014. "Benefits (and Pitfalls) of Long Term Investing," "Long-Term Investing: What Determines Investment Horizon?"

[5] A Universal Owner is defined as a long-term owner of a diversified investment portfolio that is spread across the entire market or markets. As a result, Universal Owners collectively own a share of the economy and are effectively tied into this share in the longer term. They depend on the global markets to produce economic growth on a sustainable basis and thus manage their longer-term risk through asset allocation and active ownership practices.

at the expense of long term costs to the economic system as a whole – they essentially own both outcomes.

As a result, there may be increasing value for institutional investors in not only understanding their exposure to ESG headwinds and tailwinds, but also gauging how portfolio companies strategically place themselves to innovate, adapt, or see their business model go extinct. As ESG investment guidelines become more commonplace among asset owners in general, and as many continue to build capabilities in engagement and risk management, we have seen a small but growing set of institutional investors focus on long-termism by adopting investment strategies that explicitly build in their holistic views of the future.[6]

This paper focuses on the ESG Integration approach and provides an example of a strategy that aims to enhance exposure to those companies demonstrating both a robust ESG profile and a positive ESG trend while maintaining a broad and diversified investment universe.

KEY CONSIDERATIONS FOR ESG INVESTING

Institutional investors across regions typically differ in their investment beliefs, objectives and constraints when it comes to addressing ESG. However, we see some areas of convergence among those that are most advanced in articulating their approach to ESG investing:

- **Incorporating ESG factors into investment decisions:** several institutional investors explicitly consider ESG factors in their decisions to buy, sell, overweight, or underweight securities. This may include divesting from companies whose long-term ESG risk profile is considered intolerable,[7] prioritizing investments in ESG leaders and companies demonstrating improvements,[8] or favoring investments that create long-term sustainable value.[9] Rarely do such approaches apply a uniform minimum standard, rather they tend to favor a more nuanced weighting of ESG factors alongside financial considerations.
- **Exercise influence over companies as an active owner:** many institutional investors actively engage in dialogue with companies to enhance long-term value. This may include targeted unilateral engagement, collaborative engagement with other asset owners, or informed proxy voting. Exclusionary approaches to ESG investing may

[6] See for example, AP4 Low Carbon Strategy, http://www.ap4.se/en/2016/6/ap4-announces-today-a-continued-action-in-decarbonizing-its-equity-portfolio

[7] See for example, Norges Bank exclusion approach, https://www.nbim.no/en/responsibility/exclusion-of-companies/

[8] See for example, ABP, https://www.abp.nl/images/responsible-investment-report-2015.pdf

[9] See for example, CalPERS, https://www.calpers.ca.gov/page/investments/governance/sustainable-investing

prove challenging to investors focused on engagement, as they may prefer to retain ownership and use their influence as shareholders to encourage improvements.

- **Uphold international norms, laws and regulations:** divestment policies or exclusion lists are common among large institutional investors. While adoption of specific screens may vary (e.g. tobacco, coal, or faith-based divestments), we see some convergence around divestment from companies that are in breach of global norms and regulations. This includes product-based divestment – e.g. companies involved in the production of controversial weapons (cluster munitions, landmines, biological and chemical weapons) – as well as conduct-based divestment – e.g. companies in breach of global norms and standards around human rights, labor rights, the environment, and corruption.
- **Demonstrate leadership to promote responsible investment:** finally, leading institutional investors may aim to influence others by setting standards, promoting collaboration, seeding ESG-informed investment strategies, or publicizing their investment policies and beliefs. In other words, market signaling is an important objective in its own right, driving an increasing number of institutional investors to consider shifting to ESG-informed policy benchmarks.[10]

Institutional investors also typically balance these objectives against some common constraints:

- **Short-term risk:** institutional investors may have a different appetite towards short-term risks and their willingness to deviate from the market benchmark. How much tracking error they are willing to bear can be a major factor in determining how to gain exposure to companies with a robust ESG profile.
- **Diversification**: many large institutional investors consider themselves as universal owners and are looking for a broad and diversified universe to invest in. Constraints relating to size and liquidity may be a key component to consider while integrating ESG.
- **Reputational risk:** investors may face pressure from stakeholders that may affect their approaches towards ESG. Minimizing reputational risks associated with controversial investments may be an important driver for institutional investors.

[10] See for example, AP4 Low Carbon Strategy, http://www.ap4.se/en/2016/6/ap4-announces-today-a-continued-action-in-decarbonizing-its-equity-portfolio

IDENTIFYING THE CHALLENGES OF ESG INTEGRATION FOR UNIVERSAL OWNERS

Historically, ESG integration index strategies have either relied on exclusionary approaches whereby controversial activities and companies would be screened out from an investment opportunity set, or else selection approaches whereby only the above-average or best-in-class companies on ESG criteria would be included. As a result of these approaches, the investment universe could easily be reduced by more than half. However, for large asset owners whose portfolios tend to include the entire equity market, these types of strategies may be too narrow. Additionally, exclusionary approaches tend to focus on the negative impact of companies while increasingly investors we consulted with expressed interest in focusing on the positives and incentivizing progress.

An alternate approach to enhancing exposure to good ESG performers would be to strategically tilt the weight of securities with a high ESG rating and upward trend while maintaining minimal exclusions. Relying on re-weighting techniques rather than exclusion or selection allows for investment in a broad and diversified universe that is suitable for universal owners. In addition, re-weighting keeps the door open for engagement with poor ESG performers.

Typically, ESG investment strategies rely on companies' current ESG profiles and often fail to reward companies for making progress. Complementing the static ESG profile metric with one that measures ESG momentum may enable investors to incentivize companies that have improved their ESG profile. Further, several studies indicated that ESG momentum was associated with financial outperformance, as highlighted in our recent research.[11]

[11] MSCI, "Can ESG add Alpha?", 2015. MSCI, "Factor Investing and ESG Integration", 2016

SECTION 2: CONSTRUCTING THE MSCI ESG UNIVERSAL INDEX

In the following section, we present an approach to constructing an index that aims to target those companies demonstrating both a robust ESG profile and a positive ESG trend while maintaining minimal exclusions. We illustrate such a strategy using the MSCI ESG Universal as a practical example.

The approach relies on three steps. First, we identify the worst ESG performers, those companies that are likely not acceptable for institutional ESG investors to invest in as a bare minimum. Second, we define a set of simple and transparent metrics aimed at maintaining a robust current ESG profile and a positive trend. Third, we re-weight securities using a combined ESG score to create the MSCI ESG Universal Index.[12]

DEFINING A MINIMAL COMMON CORE AMONG INSTITUTIONAL INVESTORS FOR EXCLUSIONS

Investors typically vary in their definition of unacceptable investments. Some may consider excluding companies because of their ethical beliefs while others might focus on excluding companies to avoid reputational risks. In an attempt to limit the number of exclusions, we focused on identifying a common core among institutional investors for exclusion, which includes involvement in controversial weapons and violations of international norms. Other exclusions such as tobacco, alcohol or poorly ESG rated companies (i.e. rating of CCC by MSCI ESG Research)[13] were considered and discussed during a consultation with market participants but not implemented due to a lack of consensus among consultees.

The following exclusions were considered:

- **Controversial weapons:** companies with involvement in landmines, cluster munitions, depleted uranium and biological and chemical weapons were excluded from the prospective index universe. In the MSCI ACWI Index, there were seven companies involved in controversial weapons accounting for 0.57% weight as of September 2016.

[12] For more details on the methodology, please refer to “MSCI ESG Universal Index Methodology: https://www.msci.com/index-methodology

[13] For more details on the MSCI ESG Rating methodology, please refer to https://www.msci.com/eqb/methodology/meth_docs/Executive_Summary_MSCI_ESG_Ratings_Methodology.pdf

Figure 2 - Companies involved in controversial weapons

Company	Type of involvement
THE BOEING COMPANY	• Cluster Munitions
LOCKHEED MARTIN CORPORATION	• Cluster Munitions
GENERAL DYNAMICS CORPORATION	• Cluster Munitions • Depleted Uranium
HANWHA CORP	• Cluster Munitions • Landmines
LARSEN AND TOUBRO LIMITED	• Cluster Munitions
TEXTRON INC.	• Cluster Munitions • Landmines
KOREA AEROSPACE INDUSTRIES, LTD.	• Cluster Munitions

Source: MSCI ESG Research as of September 2016

- **International norms:** companies having been found in violation of international norms (i.e. having faced very severe controversies pertaining to ESG issues) in the past three years[14] were excluded. In the MSCI ACWI Index, as of September 2016, there were 35 securities that faced very severe ESG related controversies accounting for 2.55% of the index weight.

Figure 3 – Examples of companies having faced very severe ESG controversies in the past three years

Name	Sector	Controversy Type
SEVERSTAL' PAO	Materials	Labor Rights
BHP BILLITON PLC	Materials	Environment & Human Rights
SOUTHERN COPPER CORPORATION	Materials	Labor Rights
ROYAL DUTCH SHELL PLC	Energy	Environment
WAL-MART STORES, INC.	Consumer Staples	Governance & Labor Rights
SOCIETE AURIFERE BARRICK	Materials	Human Rights
BP P.L.C.	Energy	Environment & Human Rights
VOLKSWAGEN AKTIENGESELLSCHAFT	Consumer Discretionary	Environment & Governance
MONSANTO COMPANY	Materials	Environment
PETROCHINA COMPANY LIMITED	Energy	Governance

Source: MSCI ESG Research as of September 2016

[14] International norms include the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. For more information on the definition of controversies, please refer to https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b

TILTING SECURITIES' WEIGHT

In an attempt to increase the index's exposure to high ESG performers we decided to move away from a free float market cap weighted index and tilt securities' weights based on both ESG rating and ESG trend. The rationale for using both signals combined was to maximize the weight of those companies maintaining a strong current ESG profile and having improved their ESG performance.

- **ESG rating**: using MSCI ESG Ratings, which measures the ability of an issuer to manage key medium- to long-term risks and opportunities arising from ESG factors relative to industry peers, we assign an ESG score to each company in the parent universe.
    - Leaders (AAA and AA) = 2
    - Neutral(A, BBB, BB) = 1
    - Laggards(B and CCC) = 0.75
- **ESG trend**: using MSCI ESG Trend, which indicates the ESG rating change from prior period to current, we assign an ESG trend score to each company in the parent universe.
    - Positive Trend = 1.25
    - Flat Trend = 1
    - Negative Trend = 0.75
- **Combined ESG score**: combining both ESG rating and ESG trend we assign an ESG score to each company: ESG combined score = ESG rating score * ESG trend score. The combined ESG Score is winsorized between 2 and 0.5. Winsorization is required to prevent drop in weight of a AAA rated company and increase in weight of a CCC rated company. For example –
    - If the ESG Rating of the company changes from B to A then company's Combined ESG score = 1 (for ESG rating of A) * 1.25 (for Positive Trend) = 1.25.
    - If the ESG Rating of the company stays stable at B then company's combined ESG score = 0.75 (for ESG rating of A) * 1 (for Flat Trend) = 1.
    - If the ESG Rating of the company changes from AA to AAA then company's combined ESG score = 2 (for ESG rating of AA) * 1.25 (for Positive Trend) = 2.5. Since the Combined ESG score is greater than 2.5, it is winsorized to 2.

In an attempt to fully represent the effect of ESG signals, we decided not to include any constraint on sector, country or region weights. Nor did we apply optimization techniques to maintain a low tracking error to the parent index.

INDEX CHARACTERICTICS

Overall, the resulting MSCI ESG Universal Index demonstrated superior risk/returns characteristics within a reasonable tracking error during the back tested time period of Nov.

2009 through Sept. 2016. At the same time, it demonstrated notable improvement in the ESG profile relative to the parent benchmark. The MSCI ESG Universal Index is an example of an index that can be used by large asset owners at a policy level for the purpose of strategic asset allocation or at an investment strategy implementation level in accordance with their ESG integration goals.

In figure 4, we show using back tested data that the MSCI ESG Universal Index outperformed the MSCI ACWI Index by 20 bps per annum over a seven year period[15]. The MSCI ESG Universal Index also outperformed the MSCI ACWI Index on risk-adjusted basis with an Information Ratio of 0.17 during that same period. The active exposures on factors, countries and sectors contributed to the overall outperformance of the MSCI ESG Universal Index while remaining of modest magnitude.[16]

Figure 4 - Performance of MSCI ACWI ESG Universal Simulated History Index

Key Metrics

	MSCI ACWI Index	MSCI ACWI ESG Universal Index
Total Return* (%)	8.1	8.3
Total Risk (%)	14.1	13.9
Return/Risk	0.58	0.60
Sharpe Ratio	0.56	0.58
Active Return (%)	0.0	0.2
Tracking Error (%)	0.0	1.0
Information Ratio	NaN	0.17
Historical Beta	1.00	0.98
No of Stocks***	2447	1849
Turnover** (%)	2.1	9.4
Price To Book***	1.9	2.0
Price to Earnings***	16.3	16.4
Dividend Yield*** (%)	2.6	2.7

Period: 30-Nov-2009 to 30-Sep-2016

* Gross returns annualized in USD

** Annualized one-way index turnover over index reviews since 26th Nov 2014

*** Monthly averages

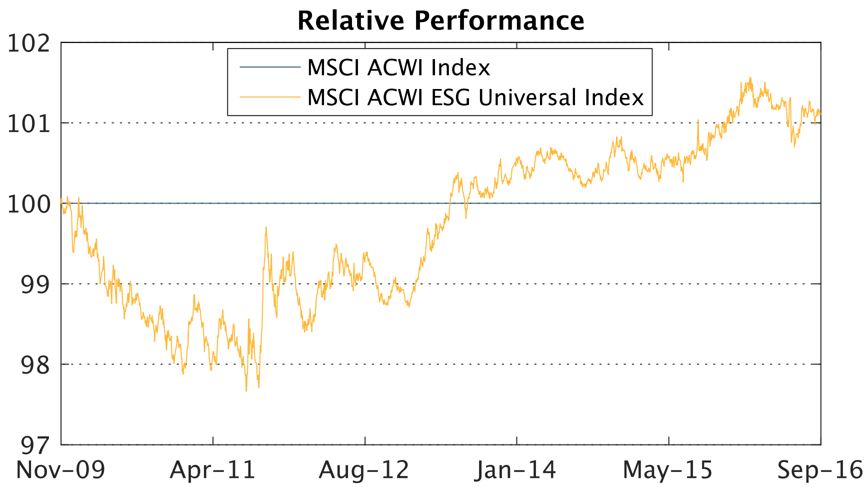
The definitions of all statistical parameters are available in the Appendix

Source: MSCI

[15] Reference period is limited by data availability for certain ESG metrics.

[16] This analysis used back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy. Such results are not indicative of future results or performance, which may also differ materially. Please see the disclosures at the end of this paper related to back tested or simulated data.

Figure 5 - Relative Performance of MSCI ACWI ESG Universal Index vs. MSCI ACWI Index



Source: MSCI

Overall, the ESG Universal Index retained the style characteristics of the MSCI ACWI Index. The active style factor exposures are very small (smaller than +/-0.1 standard deviations). While the active factor exposures are small, we can see in figure 6 that when analyzed under MSCI GEMLT model, the MSCI ESG Universal Index was over weighted on 'Profitability', 'Investment Quality' and underweight on 'Earning Variability'. The MSCI ESG Universal Index was also less weighted in volatile stocks (under weighted on Residual Volatility) compared to the MSCI ACWI Index (underweight on Residual Volatility). We can see in figure 8 that both exposures i.e., overweight on quality factors and underweight on volatile stocks contributed positively to the outperformance of MSCI ESG Universal Index.

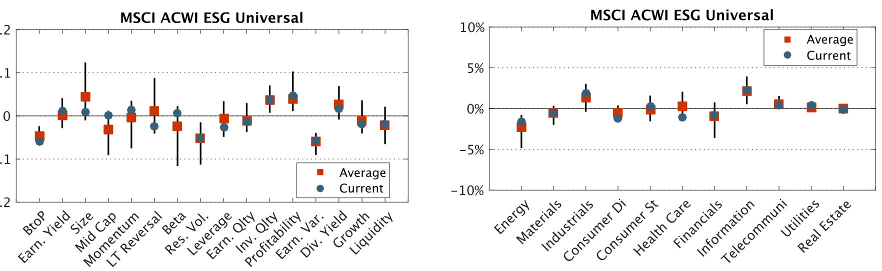
In terms of sector exposures, except in the case of the GICS®[17] Energy Sector, the MSCI ESG Universal Index's maintained very similar exposure compared to the MSCI ACWI Index (figure 6). Since the MSCI ESG Rating is a sector relative metric, sector exposures were maintained after reweighting of constituents.

In terms of geographical exposure (figure 7), the size of active exposures were more pronounced. The MSCI ESG Universal Index was underweight in MSCI Emerging Markets (EM)

[17] The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.

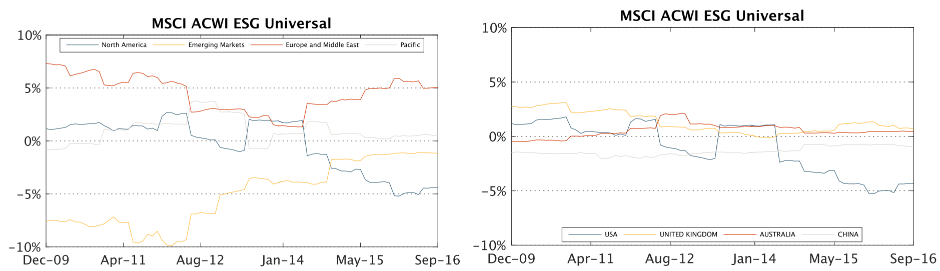
securities before 2012 since a large proportion of companies in the MSCI EM Index were not included in MSCI ESG Rating coverage universe. The overall weight of EM stocks increased in the MSCI ESG Universal Index from June 2012 through September 2016. The active exposure to countries was relatively small; the MSCI ESG Universal Index maintained small overweight in United Kingdom securities and underweight in USA securities.

Figure 6 - Relative Style and Industry Exposure of ESG Universal Index Dec 2009 – Sept. 2016



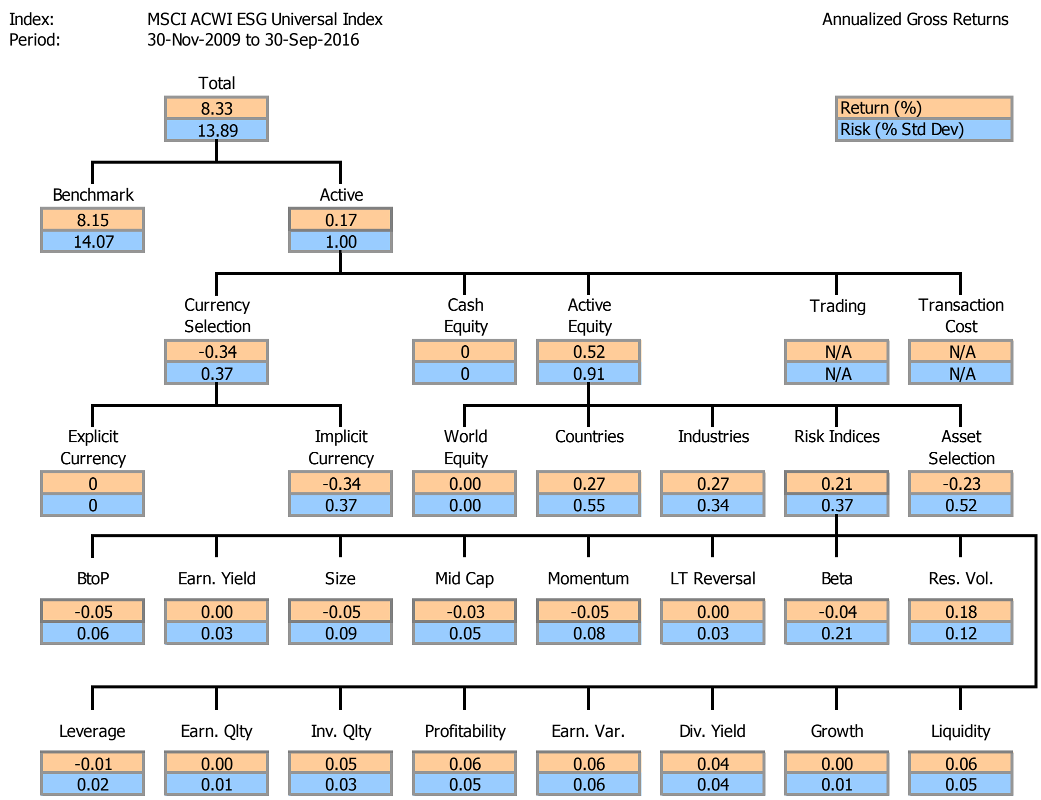
Source: MSCI

Figure 7 - Relative Region and Country Exposure of the MSCI ESG Universal Index



Source: MSCI

Figure 8 - Performance Attribution of MSCI ESG Universal Index under MSCI GEM LT Model

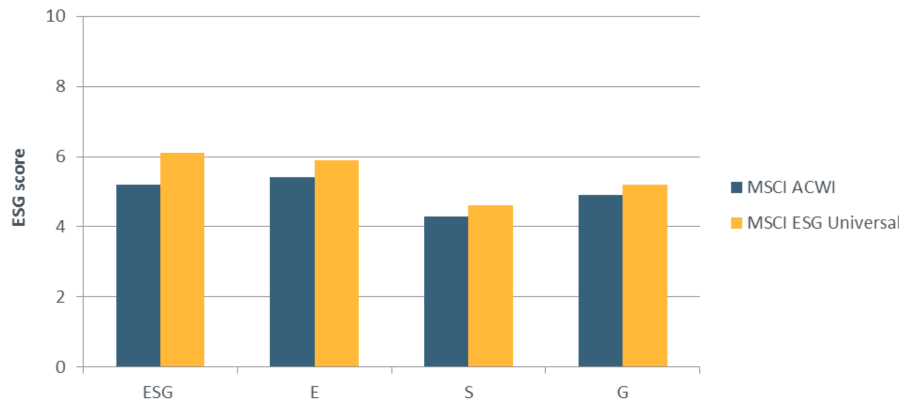


Source: MSCI

From an ESG perspective, the MSCI ESG Universal Index demonstrated an enhanced ESG profile compared to the MSCI ACWI Index as of September 30, 2016:

- **Higher exposure in ESG leaders**: MSCI ESG Universal Index included 36.7% of ESG leaders as opposed to 20.8% in the MSCI ACWI Index. In addition, the MSCI ESG Universal Index demonstrated better performance on each of the underlying E, S and G pillars.

Figure 9 – ESG Performance Comparison, MSCI ACWI vs. MSCI ESG Universal, Sept 30th, 2016



Source: MSCI

- **Higher exposure to companies with a positive ESG trend:** MSCI ESG Universal Index included 20.8% of upgrade as opposed to 18.1 % in the MSCI ACWI Index. It was also less exposed to companies that experienced an ESG downgrade, which accounted for 8.3% of the MSCI ESG Universal index vs 10.3% for the MSCI ACWI Index.
- **No exposure to ESG worst performers** as defined by involvement in controversial weapons and companies in breach of international norms.
- **Lower carbon footprint:** MSCI ESG Universal Index was 14% less carbon intensive that the MSCI ACWI Index.

CONCLUSION

As institutional investors search for ways to account for ESG issues in their investment decision-making process as a way to enhance long-term returns, mitigate long-term risks, or advance societal objectives, many large asset owners may look to enhance their exposure to ESG while maintaining a broad and diversified universe in which to invest. In this paper, we outlined an approach to increase exposure to high ESG performers while maintaining minimal exclusions.

We defined an index methodology that aims first to identify the minimal core for exclusion among investors and second, tilt the weight of companies demonstrating leading ESG practices and positive ESG momentum. The resulting Index demonstrated superior risk/returns characteristics with a reasonable tracking error using back tested data during a seven year period. It also demonstrated higher ESG scores both overall and on each E, S and G pillar.

As more investors look to integrate ESG considerations into their investment decisions, new approaches that thoughtfully balance both short- and long-term ESG and financial considerations can help make ESG investment strategies more appealing to a broader and increasingly mainstream audience.

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