ISSUE BRIEF

FROM MSCI ESG RESEARCH INC.

2016 ESG TRENDS TO WATCH

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EXECUTIVE SUMMARY

- **Tide Turns on Credit?:** Academic research indicates that strong governance mechanisms may have led to reduced default risk and lower bond yields. A recent study by Barclays also found that investment-grade bonds with higher ESG scores outperformed those with low ESG scores between 2007 and 2015. *In 2016, we anticipate that if credit spreads widen, identifying ESG-related exposures and potential governance failures will play a bigger role as bond investors reprice underlying risks.*
- **Divide and Conquer:** After the Paris climate agreement, how will institutional investors align their portfolio exposure to a low-carbon economy? One issue is that companies with the largest renewable energy capacities also often have significant operations powered by fossil fuels such as coal, oil and gas. *In 2016, we may see utilities increasingly split their assets in order to separate renewable assets from legacy generation assets as investors seek allocation to other asset classes that could provide them the exposure to low-carbon energy assets of the future.*
- **Wealth of Data:** Wealth management, particularly in the U.S., is looking to serve a new generation of investors, some of whom are focused on making a measurable social and environmental impact with their dollars. *In 2016, wealth managers may seek to differentiate themselves by offering new insight at the fund level, enabling advisers to more closely align products to their clients' individual values and philosophies. Such information might tilt toward ESG data, including values-based judgments, impact-based preferences, or risk-based convictions for long-horizon investors.*
- **Power in Numbers:** For years, asset owners have targeted governance problems at individual companies. More recently, some large pension funds have banded together to push for fundamental changes in boardrooms across the market. *In 2016, we expect that the power of "beta engagement" could expand beyond areas such as declassification and proxy access to include board diversity and refreshment of long-tenured boards.*
- **Mind the Pay Gap:** The growing disparity in pay between CEOs and median workers may be coming home to roost. The ratio has climbed to more than 300:1, from 30:1, over the past four decades, according to some measures. *In 2016, we may be near a tipping point as companies start to release pay-ratio data and wage shocks occur. As a result, we expect that investor and academic focus could shift to how intra-company pay structures are linked to economic growth from sector- and country-level impacts of income inequality.*

TIDE TURNS ON CREDIT? – ESG UPSIDE OPPORTUNITIES IN A MARKET OF DOWNSIDE RISK

If interest rates rise, corporate defaults accelerate and credit spreads widen, evidence shows ESG integration can help identify risks and differentiate investment opportunities.

Years of cheap borrowing for companies across the quality spectrum could be coming to an end. In the latter half of 2015, anticipation of rising interest rates compounded by weakness in commodity sectors and high-profile governance failures drove corporate default rates up from their historic lows. In 2016, we anticipate that if credit spreads widen, identifying ESG-related exposures and potential governance failures may play a bigger role as bond investors reprice underlying risks.

While research over the years has demonstrated that in equities, material ESG factors can contribute to excess returns over time[1], new research in 2015 showed that links may extend to credit markets as well. A recent study by Barclays found that investment grade bonds with higher ESG scores outperformed those with low ESG scores between 2007 and 2015, after controlling for systematic exposures such as sector, duration and quality. Further, the study found that high environmental, social and governance scores each generated a statistically significant return premium, with governance emerging as the strongest signal of the three.[2]

This concurs with academic research indicating that strong governance mechanisms may have led to reduced default risk and lower bond yields.[3] Governance challenges at Volkswagen and Valeant coincided with spreads widening by up to 220 and 490 basis points within one month of a major ESG event,[4] underscoring these effects in 2015.

[1] Zoltan Nagy, Linda-Eling Lee, and Altaf Kassam, *Can ESG Add Alpha: An Analysis of ESG Tilt and Momentum Strategies*, MSCI ESG Research. June 2015; Deutsche Bank Markets Research. *The Socially Responsible Quant*. April 2013; Credit Suisse Asia Pacific/Australia Equity Research. *ESG-α Series: Finding Alpha in ESG.* June 2015.

[2] Albert Desclée, Lev Dynkin, Anando Maitra, and Simon Polbennikov, *ESG Ratings and Performance of Corporate Bonds*, Barclays Research, November 2015.

[3] See, for example, Bhojraj, Sanjeev, and Partha Sengupta (2001) , *Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and Outside Directors* ; Anderson, Ronald C., Sattar A Mansi, and David M. Reeb (2004). Board Characteristics, Accounting Reporting Integrity, and the Cost of Debt. *Journal of Accounting and Economics* 37-3; Frantz, Pascal, and Instefjord Norvald (2013). Corporate Governance and the Cost of Borrowing. *Journal of Business Finance & Accounting*, 40-7-8.

[4] Based on the option-adjusted spreads on senior USD 5-year bonds observed one month following initial announcements by U.S. regulators (September 18, 2015 and October 15, 2015).

For high-yield borrowers, the importance of ESG factors may be magnified. The $1.2 trillion high-yield bond market posted a 4.5% loss for 2015,[5] with significant outflows from high-yield funds. The primary focus of bond investors at the end of 2015 has been on downside credit risks in the energy sector, with good reason: protracted low commodity prices have led to several high-profile corporate defaults (with Arch Coal and Walter Energy as prime examples), and commodity-related sectors, which together make up around 15% of the market value of the Barclays High Yield Corporate Index, have lost more than 23% in total return since January 2015.[6]

We segmented the Barclays U.S. High Yield Corporate Bond index based on companies' MSCI ESG GovernanceMetrics scores as of the end of 2014, dividing bonds into four categories: Worst in Class (bottom 5% globally), Below Average, Above Average and Best in Class (top 5% globally).[7]

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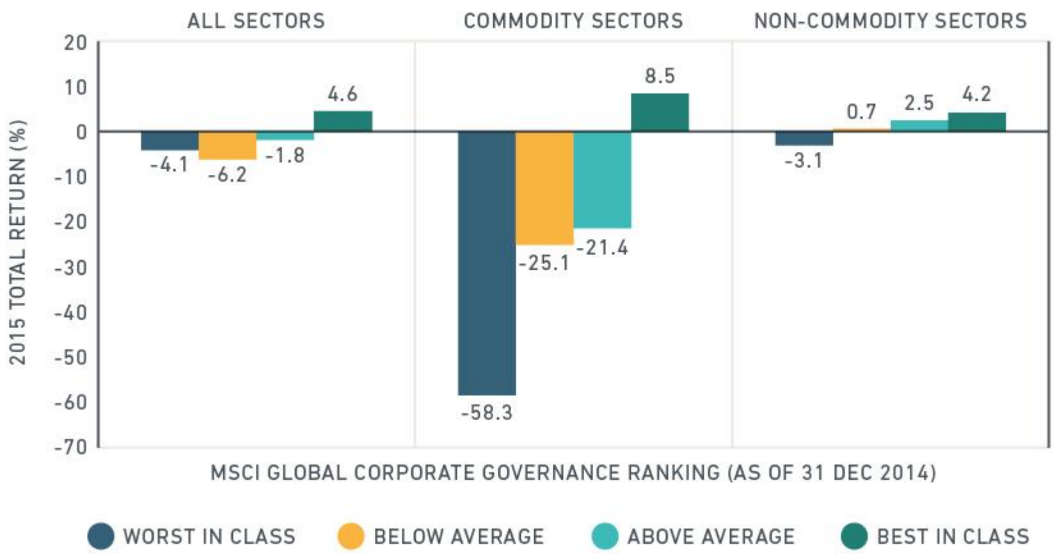
[5] Total Return of the Barclays U.S. High Yield Corporate Bond Index.

[6] MSCI ESG Research and Barclays Research: as of December 19, 2015, the Energy sub-index represented 10.8% of market value and YTD total return of -23.6%; the Metals and Mining sub-index represented 4.5% of market value and YTD total return of -23.7%.

[7] Issuers were ranked relative to global peers based on MSCI ESG Corporate Governance scores as of December 31, 2014 and segmented into four categories: Worst in Class (bottom 1-5th percentile), Below Average (6th to 49th percentile), Above Average (50th to 95th percentile) and Best in Class (96th to 100th percentile). Applying these issuer rankings to the Barclays US High Yield Corporate Bond Index, MSCI ESG Research simulated four sample market value weighted portfolios. Sample portfolios were rebalanced and total returns were calculated on a monthly basis. Approximately 35% of index constituents did not have MSCI ESG Corporate Governance scores as of December 2014, and were thus excluded from analysis.

Exhibit 1: Total Returns of High-Yield Fixed Income Securities in 2015 by Sector and Corporate Governance Ranking



Source: MSCI ESG Research, Barclays; as of December 31, 2015.

In the last year, the bonds of high-yield energy and mining companies that ranked in the bottom 5% on governance factors globally showed negative returns of 58.3%, compared with a positive 8.5% total return among the top 5%. Interestingly, this relationship was also demonstrated in non-commodity sectors, where the total return differential between top- and bottom-ranked companies was 7.3% in 2015.

In 2016, we are likely to see the fixed income market accelerate the integration of ESG risk factors, playing catch up with the equities market, as governance in particular emerges as a clearer differentiator in credit quality analysis.

Fixed income managers have traditionally lagged their equities counterpart in integrating ESG risk factors. A potential contributor to this lag might have been the loose credit environment of recent years, which has placed less emphasis on differentiating quality beyond credit fundamentals. In 2016, if the credit cycle does begin to contract, institutional investors looking at ESG factors to differentiate credit quality may be better positioned to identify opportunities in a market dominated by downside risk.

DIVIDE AND CONQUER – DECOUPLING CLEAN FROM DIRTY IN POWER GENERATION ASSETS

In the wake of the Paris climate agreement, will more utility companies split their high and low carbon operations in response to investor demand for clean energy alternatives?

Post-Paris, the spotlight has shifted to the corporate community. The companies of the MSCI ACWI Index collectively accounted for roughly 20% of global carbon emissions in 2014. Our analysis shows a significant gap between current corporate commitments to reduce emissions and the country-level commitments made in Paris.

Where does that leave institutional investors looking to align their portfolio exposure to an eventual low-carbon economy? In 2016, we expect that investors will bump up against limits in availability of the publicly listed universe as they seek exposure to new energy opportunities. Companies in the utilities sector may well respond to investor demand to decouple their power generation assets – effectively creating "good" utilities or specialized structures consisting of renewables to attract investment.

Currently, the most obvious options for investors to address their portfolio carbon exposure remain engagement with companies that lag their targets for carbon emissions and a tilt toward companies that lead. We found that 550 companies among MSCI ACWI Index constituents were already "ahead of the curve" when accounting for their carbon emissions targets relative to country targets.[8] Similarly, we found 112 out of 146 companies in the energy sector have set no carbon reduction targets at all. The lag by these companies renders them potentially vulnerable to costs associated with meeting new regulatory standards. Both engagement and tilting can help achieve significant reductions in the carbon footprint of investors' portfolios.[9] Yet, neither can likely steer portfolios to reflect the underlying energy mix that will undergird an economy in which nations commit to limiting global warming to less than 2 degrees Celsius as agreed to in Paris.

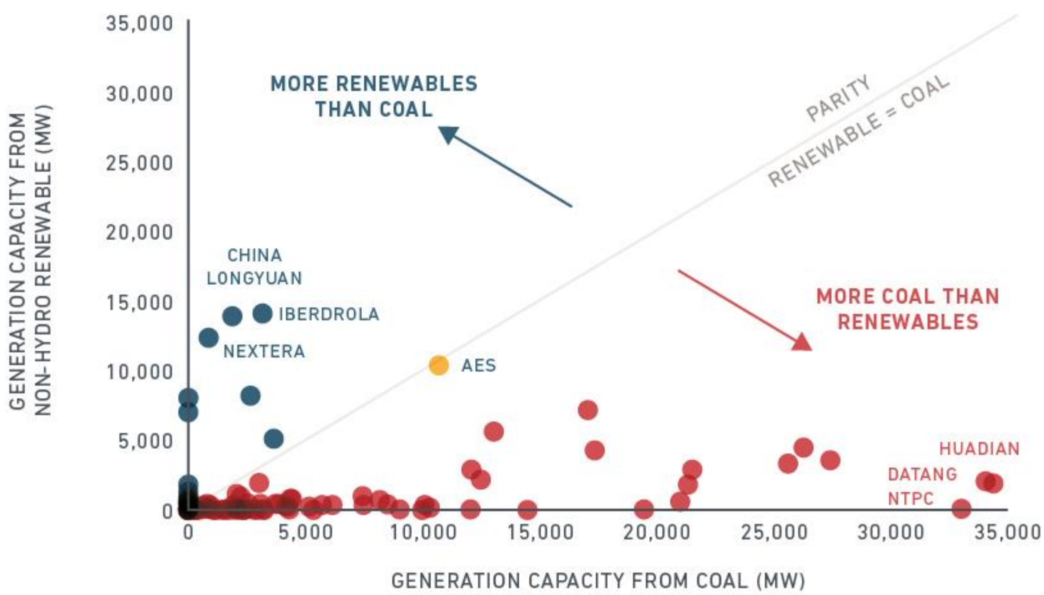
This is because in the listed equities universe, companies with the largest renewable capacities also often have significant operations powered by fossil fuels such as coal, oil and gas. Currently, non-hydro renewable sources such as wind, solar and geothermal represent approximately 8% of the generation capacity of the Utilities[10] sector companies[11] among MSCI ACWI Index constituents. The 20 companies with the largest generation capacity from non-hydro renewable sources – accounting for more than 80% of the aggregate non-hydro

[8] Sayani, Ankit, Laura Nishikawa, and Manish Shakwipee. *Implications of COP21: How do corporate carbon reduction targets stack up?* MSCI ESG Research, December 2015.
[9] See Briand, Remy, Linda-Eling Lee, Sébastien Lieblich, Véronique Menou, and Anurag Singh, *Beyond Divestment: Using Low Carbon Indexes*. MSCI Research Insight, March 2015.
[10] Based on the Global Industry Classification Standard (GICS), developed by MSCI and Standard & Poor's
[11] Based on 96 companies that disclose their generation capacity

renewable capacity of MSCI ACWI Index constituents – also account for roughly 43% of the aggregate generation capacity from coal.

What this means for investors is that funding one megawatt of generation capacity from wind, solar and other non-hydro renewable power among these top 20 companies comes with 2.2 MW of generation capacity from coal.[12] In short, the current portfolio of power generation assets in the publicly listed universe makes it difficult to decouple investments in renewable energy sources from investments in fossil-fuel based generation.

Exhibit 2: Renewable vs. Coal Generation Capacity of MSCI ACWI Utility Companies (as of December 15, 2015)



Source: MSCI ESG Research

Enter a concept that could advance in the post-U.N. climate change conference environment: splitting off renewables assets into a separate entity. Companies have already

[12] Differences in utilization factor imply that generation output is potentially even more skewed toward coal versus renewable power. The estimates here use data on generation capacity, which does not account for different utilization rates. Among the top 20 companies in the MSCI AWCI Index with the largest non-hydro renewables capacity, utilization rates for solar range from 11% to 22%; for wind power, from 18% to 36%; for coal, from 35% to 92%. It is possible that for selected companies, some power plants have been mothballed but are still accounted for in generation capacity data. However, with the data available for the top 20 companies with the largest non-hydro renewables capacity, the latest estimates of their generation output indicate that the average capacity utilization factor for these companies is 61% for coal, 24% for wind and 18% for solar.

been experimenting with new investment structures such as green bonds (fixed income instruments used to finance ring-fenced "green" projects) and yield-oriented investment vehicles.

Large players such as SunEdison, NRG Energy and NextEra were among the first to drop down renewable energy assets to YieldCos – dividend yielding companies formed to operate assets with predictable cash flows – in order to access capital for future growth in the renewable energy space. E.ON SE and RWE AG, two German utility companies, had announced different approaches[13] to a split of their assets in order to separate renewables assets from legacy generation assets. RWE AG has roughly 6% of generation capacity from non-hydro renewables.[14] The company proposed in December 2015 to hive off those assets into a subsidiary and plans to float 10% of the subsidiary's shares. YieldCos are still a tiny market[15] and it's unclear whether approaches followed by E.ON and RWE will find favor, particularly in light of liabilities associated with nuclear and other non-renewable assets.

But unless large utilities explore initiatives to allow decoupling of clean from dirty assets, we expect institutional investors will increasingly seek allocation to other asset classes that could provide them the exposure to low-carbon energy assets of the future that the public equities universe may not.

[13] E.ON and RWE's approaches have been likened by some financial analysts as taking a "bad bank" approach by the former, and a "good bank" approach by the latter. E.ON announced in December 2014 that it would spin off its fossil-fuel and nuclear assets into a publicly listed company. The approach has since met resistance from investors concerned about liabilities associated with its nuclear assets. RWE announced in December 2015 that it would spin off a subsidiary company dedicated to its renewables business.

[14] Based on the company's 2014 Annual Report, published on March 10, 2015.

[15] We estimate that as of January 4, 2016, the market capitalization of YieldCos in the MSCI ACWI IMI total less than $25 billion.

WEALTH OF DATA – GREATER PORTFOLIO TRANSPARENCY FOR WEALTH MANAGERS

Wealth managers seek to provide a new level of transparency that goes beyond fund-by-fund aggregate metrics.

In our ESG Trends to Watch for 2015,[16] we highlighted an emphasis on impact investing, demonstrated throughout the year in acquisitions,[17] products,[18] and reporting tools.[19] The interest in impact investing has been a reflection of several trends, one of which is the changing competitive landscape of the wealth management business model. In 2016, we expect that the battle for wealth holders will increasingly involve arming financial advisers with a new dimension of fund-level transparency.

Wealth management, particularly in the U.S., has been anticipating the convergence of demographic, technological and ideological shifts. With the looming wealth transfer between baby boomers and millennials, advisers are serving an increasingly diverse client pool of women (projected to control two-thirds of wealth by 2020) and younger investors who, according to several studies, are more financially conservative, distrustful of the financial sector and demanding of technology-based solutions.[20] Robo-advisory platforms are gaining market share by pitching their lower costs and increased transparency.[21]

To appeal to new wealth holders, we anticipate that wealth managers will seek to provide advisers and their clients a new dimension of fund-level transparency. Insights into funds are likely to go beyond traditional descriptors such as cap size, market exposure and historical returns. Instead, wealth managers may differentiate themselves by gleaning new

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[16] https://www.msci.com/www/blog-posts/esg-trends-to-watch-for-2015/0151061042

[17] http://www.bloomberg.com/news/articles/2015-07-13/goldman-sachs-agrees-to-acquire-asset-manager-imprint-capital

[18] http://www.businesswire.com/news/home/20151013006790/en/BlackRock-Launches-Impact-Equity-Funds

[19] http://www.fa-mag.com/news/merrill-lynch-launches-new-impact-portfolio-22087.html

[20] See for example: https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/lu-millennials-wealth-management-trends-challenges-new-clientele-0106205.pdf

https://www.cfasociety.org/arkansas/Documents/Microsoft%20PowerPoint%20-%20WealthManagement2015BeyondJan2015.pdf

https://www.ubs.com/content/dam/WealthManagementAmericas/documents/us-equities-the-rising-millennials-2015-06-23.pdf

[21] A.T. Kearney's projects that Robo Advisers will grow from .5% in 2015 to 5.6% in 2020 of total US investable assets. http://invest.events/wp-content/uploads/2015/06/Invest15-Hedges.pdf

understanding at the company level – which might allow advisers to more closely and overtly align products to their clients' individual values and philosophies.

Take an example in practice – we compared three mid- or large-cap European equity value-themed mutual funds (out of 48 covered on MSCI's BarraOne platform).[22] Overall, these funds share many similarities, including similar universe of holdings, similar cap sizes and even similar fund-level aggregate ESG scores. But beneath the aggregation, the components inside the fund are allocated to different themes of interest to specific investor preferences. We can categorize investor preferences along three dimensions:

- **Values-based investors** with a preference to avoid businesses involved in tobacco, weapons manufacturing, or human rights violations;
- **Impact-based investors** with a preference to capture measurable social returns per dollar invested including clean technology exposure, community building, or access to health care;
- **Long-horizon investors** with a goal of limiting potential financial costs connected with issues like water scarcity, energy costs, or carbon regulations.

The ability to look through portfolios along these multiple lenses could enable a more tailored approach to matching the holistic goals and preferences of specific wealth holders. Beyond conversations about risk tolerance and time horizons, wealth holders and financial advisers could explore alignment of holdings to preferences that might include values-based judgments related to weapons, impact-based preferences related to environmental reponsibility, or risk-based convictions related to coal investments. In our own sample, each of the funds exhibited nuanced differences along these topics. As wealth managers seek a differentiator to bolster their competitive position for the next decade of investors, a new dimension of information beyond traditional aggregate metrics could play a key role in 2016 and beyond.

[22] Value investing may be defined differently or use different metrics within different mutual funds, but each of the 48 funds advertised itself as a "value" fund in contrast to a "growth" stock approach.

Exhibit 3: Select European Value-Themed Mutual Fund Allocations to ESG Themes, as of December 20, 2015

Mutual Fund*	ESG Score (0-10)	Generates revenue from Controversial Weapons?	Generates revenue from Clean Technology?	Is reliant on carbon intense coal reserves?
European Value Fund 1	6.5	0.0%	21.8%	2.08%
European Value Fund 2	6.6	1.4%	24.9%	1.98%
European Value Fund 3	6.6	2.5%	23.7%	1.27%

** Three funds were chosen from 48 funds covered by MSCI BarraOne platform that focused on European equities using a Value investment theme - fund allocations are actual positions as of December 20, 2015*
Source: MSCI ESG Research, MSCI BarraOne

POWER IN NUMBERS – THE RISE OF BETA ENGAGEMENT TO IMPROVE LONG-TERM MARKET GROWTH

Asset owners are increasingly using collective "beta" engagement to shift market practice in contrast to individual company targeting.

Even as market attention has fixated on hedge fund activism, some of the largest institutional investors with big passive portfolios have begun to attack key governance weaknesses in the most active way possible: they have banded together to push for some fundamental changes in boardrooms across the market. Rather than "alpha activism" these investors are shifting toward what we would term "beta engagement."

Case in point: the campaign dubbed "proxy access" in the U.S. during the 2015 proxy season saw the Comptroller of the City of New York, who oversees pension funds with a combined $160 billion in assets under management (AUM), target 75 U.S. public companies as part of its Boardroom Accountability Project. CalPERS, CalSTRS, Illinois SBA, Philadelphia Board of Pensions & Retirement, The Firefighters' Pension System of Kansas City and The Miami Firefighters' Relief and Pension Fund publicly supported the campaign. The results of their effort have been striking, with more than half of the proposals subject to a vote winning by a simple majority and several more losing by only a narrow margin.

The Boardroom Accountability Project follows an earlier effort by the Harvard-based Shareholder Rights Project, which sought and won the declassification of more than 100 U.S. boards between 2011-2014, leading to directors at the majority of the 500 largest U.S. companies now being subject to annual elections rather than on staggered terms that can keep poorly performing directors on boards longer than desired by shareholders.

While shareholder engagements aimed at multiple companies around a single issue have existed for many years, most have been focused on social and environmental rather than financial concerns. In contrast, both of these two recent campaigns have explicitly cited the enhancement of shareholder value as their ultimate goal. In fact, the CFA Institute's assessment of proxy access in other markets concluded that proxy access "has the potential to raise overall U.S. market capitalization by up to $140.3 billion if adopted market wide."[23] These campaigns are also far more sweeping in scale than previous engagement on governance issues, such as those related to executive compensation, which tend to take a company-by-company approach.[24]

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[23] CFA Institute, *Proxy Access in the United States: Revisiting the Proposed SEC Rule* (August 2015).

[24] According to the Shareholder Rights Project website, "Annual elections are widely viewed as corporate governance best practice. Board declassification and the resulting annual elections could make directors more accountable and thereby contribute to improving performance and increasing firm value." The New York City Comptroller's Office focus on

We see these campaigns as the beginning of a notable shift in how institutional investors are approaching their role as active owners. Direct engagement with companies has, and will continue to be, an important tool for investors in improving portfolio performance of individual underperforming companies. But we have observed that institutional investors with large diversified portfolios increasingly recognize that they depend on overall market growth and stability to meet their long-term funding obligations. Some have noted that addressing system-wide risks and practices – rather than just company specific concerns – could help underpin their portfolio performance in the long run.[25]

Exhibit 4: Characteristics of Alpha versus Beta Engagement

	Alpha Engagement	Beta Engagement
Goals	Improve company specific performance	Improve overall market performance
Scope	Individually selected underperforming or undervalued companies	Multiple market leader companies with specific governance weaknesses
Tactics	Private dialogue, public identification, shareholder resolutions, activist campaigns / proxy contests	Private dialogue, public identification, shareholder resolutions, collaboration and coordination with other investors
Capital Involvement	Activist campaigns typically require large, actively managed, but often short-term positions	Any size long-term holdings, actively or passively managed
Time Horizon	Short to medium	Long to infinite
2014	General Motors, Allergan, Darden Restaurants, Cliff's Natural Resources	Board declassification, majority voting, and proxy access (U.S.)
2015	DuPont, Tempur Sealy, BNY Mellon, Alliance Trust, Altera, Valeant, Shutterfly	Proxy access (U.S.), political disclosure
2016	---	Board diversity / refreshment (U.S.), proxy access (U.S. & Canada), political disclosure

Source: MSCI ESG Research

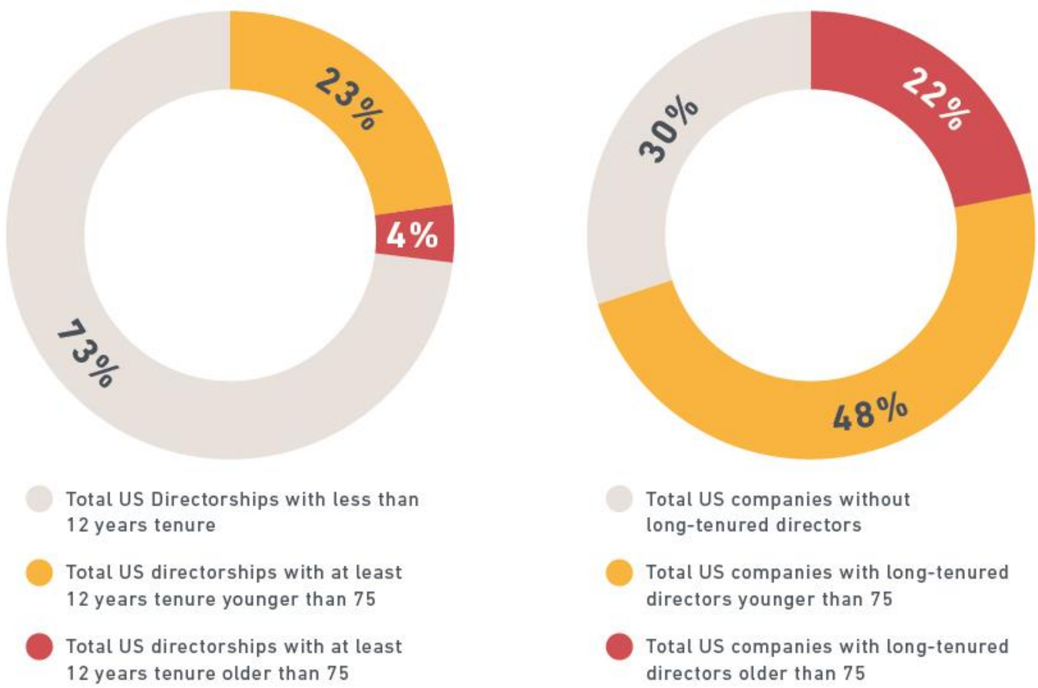
proxy access was even more specifically positioned: "We believe proxy access is a fundamental shareholder right that will make directors more accountable and contribute to increased shareholder value."

[25] See for example the statement of principles from University Superannuation Scheme (USS) in the U.K., referencing its role as a universal investor. "USS as one of the largest global pension funds can be considered a Universal Investor. Universal investors have holdings that are so diversified that their investment returns are impacted by the returns from the economy as a whole, as much as any specific industries or companies. Thus, the Fund has an interest in ensuring that externalities and market failures (for example, in the form of pollution or systemic / weak corporate governance controls) do not affect market wide long term economic performance."
http://www.uss.co.uk/UssInvestments/Responsibleinvestment/BackgroundRationale/Pages/default.aspx

Another possible target of beta engagement? Board refreshment. As of October 15, 2015, our analysis shows that two in three U.S. company boards[26] have at least one director who has served 12 or more years, and 26% of all U.S. directorships are currently held by an individual with 12 or more years of tenure.

The upside of targeting long-tenured board members is that it often aligns with active engagement efforts, as both active and beta engagement styles generally seek to decrease conflicts of interest on corporate boards. While active institutional investors are still more likely to use a scalpel, we expect that the power of beta engagement could induce a broader shift in governance practices similar to those in the areas of board declassification and proxy access.

Exhibit 5: Directors of U.S. Companies with Tenure of at Least 12 Years, October 2015



Source: MSCI ESG Research

[26] Based on the U.S. company coverage universe for MSCI ESG GovernanceMetrics, which currently consists of approximately 3,000 U.S. companies.

MIND THE PAY GAP - TURNING THE SPOTLIGHT ON PAY INEQUALITY AND PERFORMANCE

Investor focus could shift from sector- and country-level impacts of income inequality to links between intra-company pay structures and economic growth.

Eighty individuals globally owned the same wealth as the bottom half of the world population as of 2014, down from 388 individuals in 2010, according to Oxfam.[27] The magnitude of that disparity and the centralization of global wealth are hard to overstate. Leading economic researchers have entered into a vigorous debate in recent years on whether inequality promotes or depresses economic growth. The Organization for Economic Cooperation and Development estimates that growing inequality has cumulatively shaved almost nine percentage points from growth of gross domestic product in the U.K., Finland and Norway, and between six and seven percentage points in the U.S., Italy and Sweden between 1990 and 2010.[28]

Macro trends in income inequality are increasingly well studied; less well understood is how corporations are feeding into inequality, whether or not they know it. Income inequality faces the paradoxical tragedy of the commons – each company is acting in its best interest by pushing down costs and maximizing shareholder returns, but the aggregate effect has been wage stagnation for the broader population that could impact economic growth and stability.

The "tragedy" part of a tragedy of the commons problem means that at some point, some cross-section of companies ends up bearing the negative impact of aggregate effects. In fact, we are beginning to see evidence that socio-political pressure from growing inequality is precipitating calls for sharp wage adjustments in some markets that had not been anticipated by companies and their shareholders. From campaigns for a so-called living wage in the U.K. and now Canada, to worker protests across the U.S., the targeted level of wage increases in some cases represent a multiple of current wage rates.

As of November 2015, the London-based Living Wage Foundation had signed up more than 1,000 U.K. companies that pledge to pay a living wage of 8.80 pounds[29] in London, a 35% premium over the national minimum. U.S. worker protests and proposed legislation are demanding $15 per hour, more than double the federal minimum wage of $7.25.[30] Faced

[27] http://policy-practice.oxfam.org.uk/publications/wealth-having-it-all-and-wanting-more-338125

[28] http://www.oecd.org/social/in-it-together-why-less-inequality-benefits-all-9789264235120-en.htm

[29] The living wage set by the foundation is 8.80 pounds for London and 7.65 pounds elsewhere in the U.K.

[30] In the U.S., the state-level minimum wage is often higher than the federal minimum wage. 14 states recently enacted increases to their state minimum wage, effective January 1, 2016. Currently, the states with the highest minimum wage are District of Columbia ($10.50), California and Massachusetts (both $10.00).

with these pressures, both Wal-Mart and McDonald's have already announced significant pay increases, sending a ripple effect throughout the retail and restaurant industries.[31]

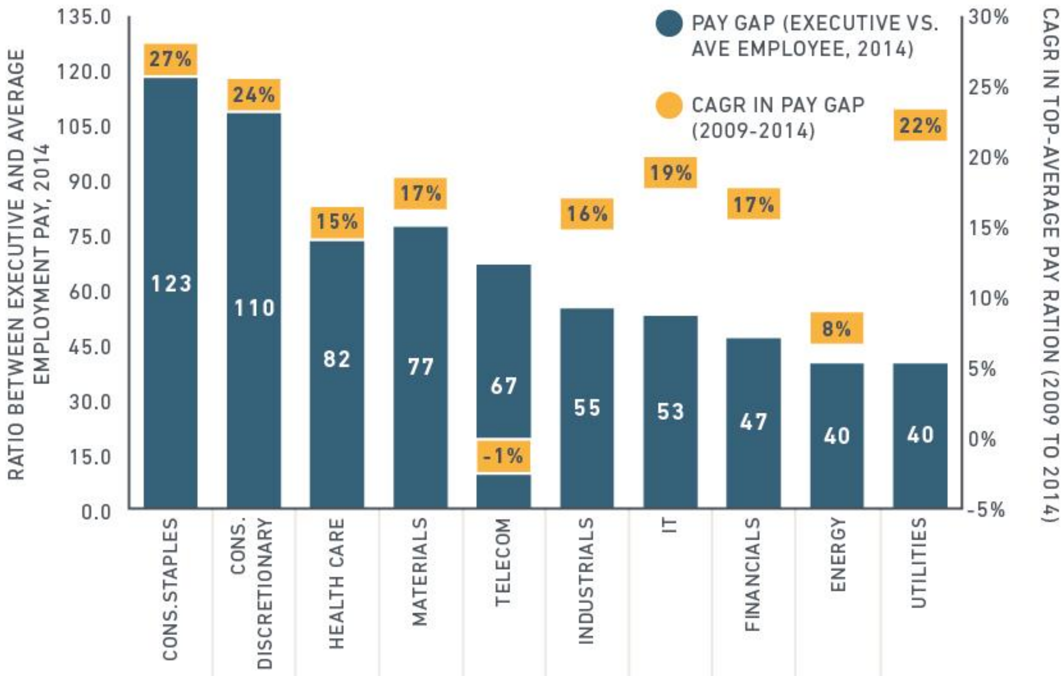
Political pressure is being brought to bear in other ways, too. Companies will begin disclosing the CEO pay ratio – the ratio between CEO pay and median worker salary – in January 2017, as part of new rules dictated by the Dodd-Frank Act in the U.S. Critics contend that the ratio will only be used to feed the name-and-shame antics of advocacy groups and the media, and not by investors. Supporters argue that in light of the escalating ratio – climbing from 30:1 to over 300:1 over the past four decades by some estimates[32] – the new disclosure may illuminate potential linkages between inequality and long term economic growth, a particular concern for large institutional investors or 'universal owners'.

Between the wage effects on some sectors and a broad increase in disclosure of the pay ratio, investors will be armed with information to better gauge the relationship between macroeconomic income inequality, intra-company wage structures and corporate performance. For example, we analyzed data from 591 companies among MSCI ACWI IMI Index constituent companies that have consistently disclosed some pay information for employees between 2009 and 2014. Our preliminary analysis indicates that a high corporate pay gap did not achieve the intended cost-savings, as indicated by the lack of significant difference in operating profit margins between companies with a high pay gap and a low pay gap. In fact, on average companies with low pay gaps had higher operating profit margins over 2009 to 2014 than companies with high gaps in pay between their CEOs and average workers. In our data, sectors with the largest pay gaps – Consumer Discretionary, for instance – are also getting squeezed by wage pressure and likely to face both political and investor pressure on wage structures.

[31] Wal-Mart increased its minimum wages paid from $7.25 to$ 9.00 in 2015 and to $10.00 in 2016; similarly, McDonald's raised its hourly wages by $ 1.00 to an average of $9.90 per hour.

[32] http://www.epi.org/publication/ceo-pay-continues-to-rise/

Exhibit 6: Pay Gap between Executive and Average Employee Pay for 519 Companies in MSCI ACWI IMI, as of December 31, 2014



Source: MSCI ESG Research

In 2016, we may be nearing a tipping point in the ever widening pay gap as companies start to release pay-ratio data and wage shocks come to a head. As a result, we expect that investor and academic focus could shift from sector- and country-level impacts of income inequality to how intra-company pay structures are linked to economic growth.

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