Perspective from
Franklin Templeton Investment Solutions

THE DEVIL IS IN THE DETAILS

The divergence in ESG data and implications for sustainable investing

April 2021

An estimated $30 trillion of assets under management today consider some form of Environmental, Social and Governance (ESG) data;[1] however, the question of whether sustainable investing delivers only perceived value or can really enhance overall risk/return remains. Much of the challenge in answering this question arises from a lack of standardization in terms of the definition of ESG and the approach to measuring it. In this paper, we discuss the divergence in ESG ratings across different agencies as well as methods investors can use to solve for the unintended exposures this may lead to. Our analysis supports the hypothesis that by considering the key ESG factors relevant to each industry, one can potentially improve overall portfolio results by reducing risk.

SUSTAINABILITY MAY BE IN THE EYE OF THE BEHOLDER!

Increased demand for sustainable investing has yielded a proliferation of rating agencies offering sustainability data. An estimated $30 trillion of assets under management today are invested considering some form of ESG data, a figure that has grown by 34% since 2016.[2] In contrast to the consensus regarding the importance of ESG investing, the divergence around what makes an investment sustainable is remarkable. Rating agencies differ in the identification of relevant factors, the granularity at which they assess the information, where the data is sourced, and how the factors are measured and weighted. Rating agencies use proprietary scoring methods which break down E, S and G pillars into key indicators which they map across industries. Core ESG metrics can vary from as few as 24 performance indicators[3] to as many as 1,000 for other rating agencies.[4] Furthermore, the lack of both standardized rules for environmental and social disclosures and formal auditing processes to verify reported data adds to the subjective nature of ratings.

Robust data are essential to concrete investment analysis; therefore, understanding how data are generated is crucial. As explained in a 2017 McKinsey and Company article: "Among institutional investors who have embraced sustainable investing, some have room to improve their practices. Certain investors—even large, sophisticated ones—integrate ESG factors into their investment process using techniques that are less rigorous and systematic than those they use for other investment factors."[5] Investors glossing over these issues and

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blindly aligning their strategies to a single rating agency may end up with a portfolio of companies that is only "subjectively" sustainable, i.e., sustainable in the eyes of one rating agency but not others. In addition to these dramatically divergent views, sustainability data often carry important unintended exposures, typically a size and region bias, favoring large capitalization (cap) and European-based companies. Separating noise from data is imperative for the construction of a truly sustainable portfolio.

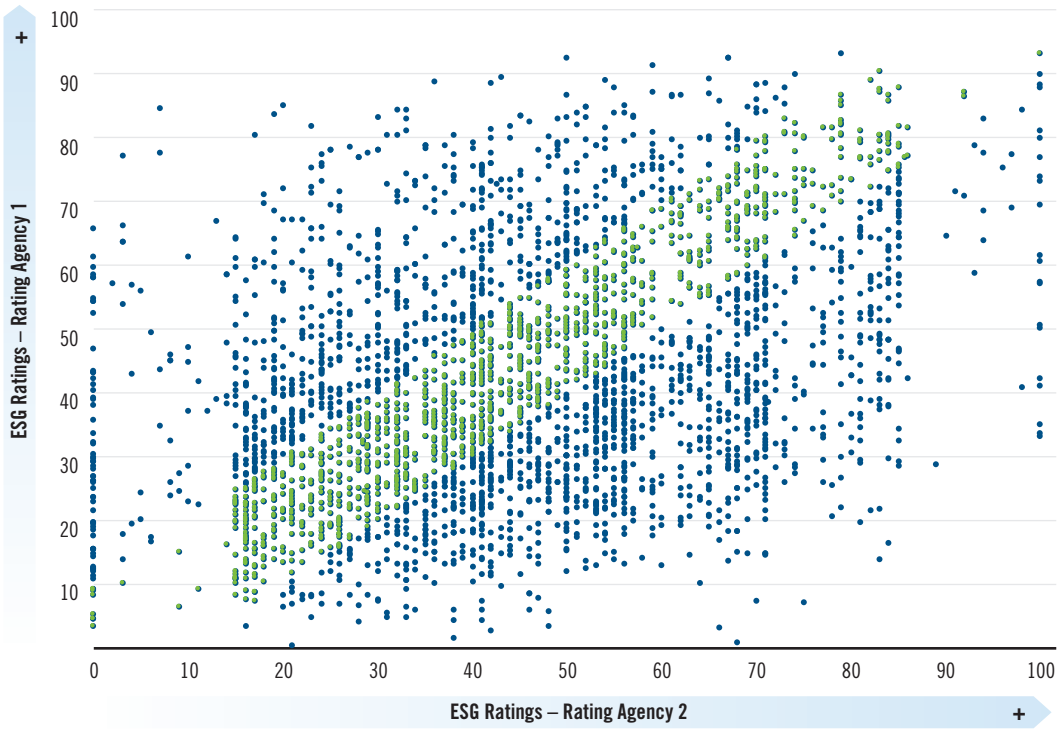
DRAMATIC DIVERGENCE IN SUSTAINABILITY RATINGS

Unlike financial information where the development of reporting standards has led to some degree of investor consensus, sustainability information is still lacking in terms of standardization and formalization, and in many instances assessing sustainability invites more than a fair dose of subjectivity. While the data are still evolving, organizations such as the Global Reporting Initiative (GRI), Sustainable Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD) have encouraged company-level transparency and continue to help drive a framework toward increased standardization in reporting.

The sources of these discrepancies are multiple. For example, how does an agency rate factors for which there is no information available? Some rating agencies assume that lack of public information implies that the company is hiding negative data and therefore penalizes companies without sufficient information available. Other agencies assume that when there is no information, companies will generally follow the practice in their industry and therefore use the industry average as a proxy. Overall, ESG rating schemes tend to reward companies with more disclosures. It is possible for companies with historically weak ESG practices and robust disclosures to score in line with or above peers despite

EXHIBIT 1: DIVERGENCE OF TWO ESG DATA RATING AGENCIES ACROSS A GLOBAL UNIVERSE

MSCI All Country World Index (ACWI) December 2020



Each dot represents each security within global universe.

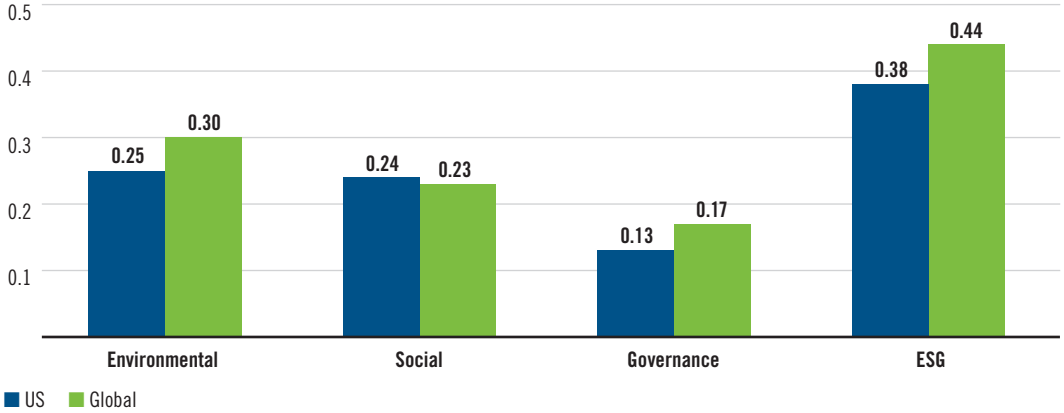
Source: Refinitiv, MSCI. Rating Agency 1 represents Thomson Reuters ESG ratings; Rating Agency 2 represents MSCI ESG ratings. Universe: MSCI ACWI. Data as of December 31, 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

realizing greater ESG risk. In addition, purely disclosure-based rating methodologies allow companies to manipulate the process. Self-reported and unaudited sustainability reports tend to showcase companies in the best light and may draw less attention to material risks. Exhibit 1 illustrates the divergence in composite ESG ratings across two large rating agencies.

This divergence stems from discrepancies in views, and thus weightings, on the importance of key E, S and G indicators for various industries as well as the methods and factors used to measure those indicators. For example, ESG data rating agencies may all have a varying view on how important Health and Safety is as a risk to manage for various industries, and within Health and Safety, differences in how they measure whether a company is effectively managing it. The disparity in views among rating agencies is equally dramatic at both the aggregate as well as underlying ESG level. This implies that the source of the discrepancy is not only the weighting of the factors but also in the variation of factor definitions and metrics. Exhibit 2 shows the only modest correlation of E, S, G and aggregate ESG ratings between two large rating agencies across US and global universes.

EXHIBIT 2: HISTORIC CORRELATION OF ESG RATINGS ACROSS UNIVERSE

December 2012 to December 2020



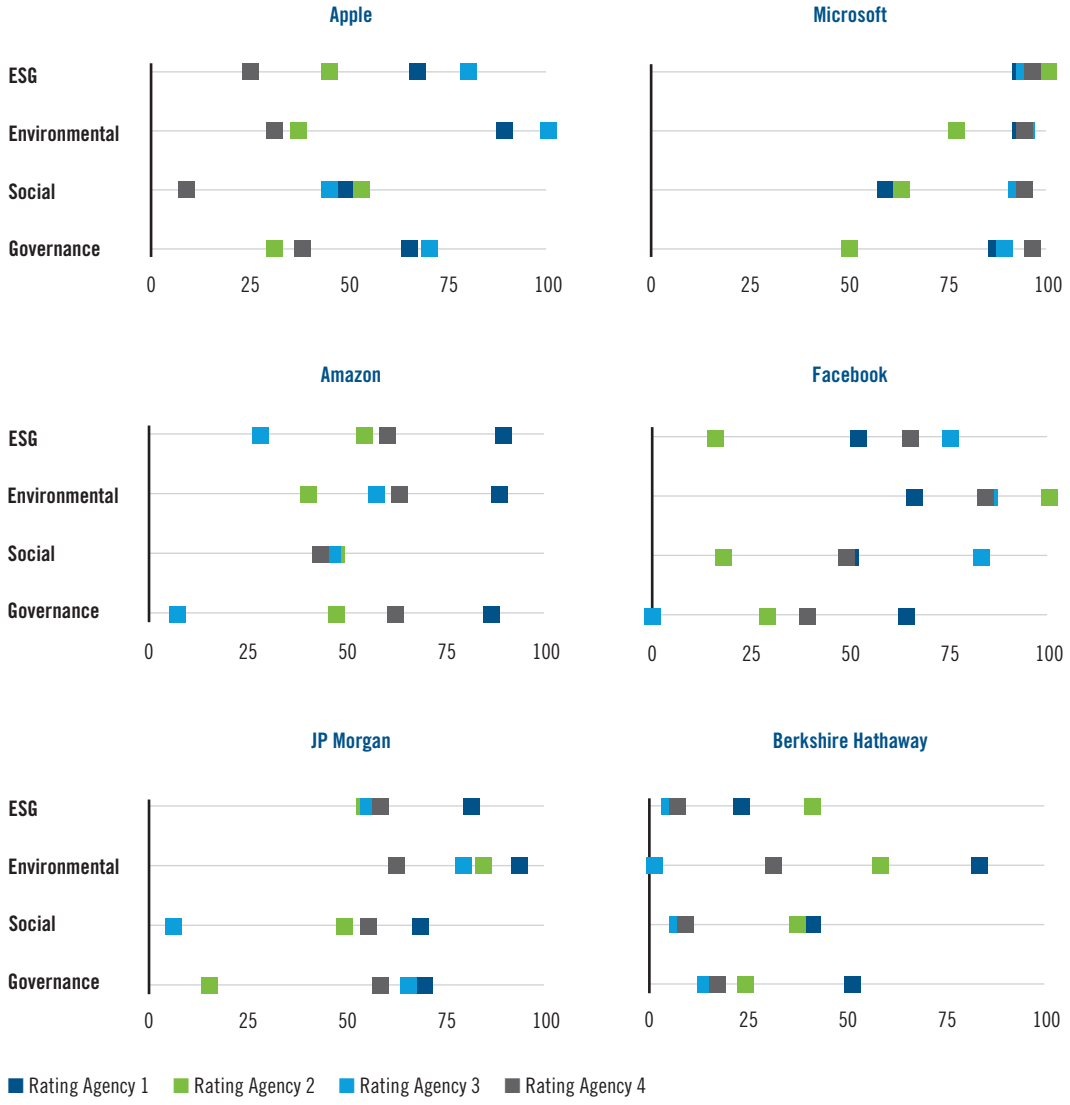
Sources: MSCI and Refinitiv, From December 2012 to December 2020 period. US data is based off MSCI US Index and global data is based off MSCI ACWI Investable Market Index (IMI). Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Many investors and analysts are tempted to treat ESG ratings like corporate credit ratings. In the purest sense, ESG ratings attempt to quantify a company's exposure to certain business risks. As more capital is allocated within an ESG framework, these ratings will start to impact companies' cost of capital. However, the correlation of ESG rating agencies is quite weak, approximately 0.40,[6] in contrast to the correlation of credit ratings, which is quite strong at 0.90.[7] We believe this impacts the ability of ESG factors to be properly reflected in corporate stock prices, as investors face challenges when trying to identify outperformers versus laggards. Even if a large fraction of investors have a preference to invest in strongly rated ESG companies, the divergence of ratings disperses the effect of these preferences on asset prices.[8] Considering this, it seems more appropriate to compare ESG ratings with sell-side stock analyst recommendations, where some may recommend "buy" and others "sell" based on the same or similar financial information.

Exhibit 3 shows the ratings for six of the largest global companies (by market cap) across four ESG rating providers.

EXHIBIT 3: SIX FIRMS. FOUR RATING AGENCIES. FOUR VERY DIFFERENT ESG PROFILES.

February 2021



Source: MSCI, Sustainalytics, Robeco and Refinitiv. Ratings as of February 2021. Rating Agency 1 represents Thompson Reuters ratings; Rating Agency 2 represents MSCI ESG ratings; Rating Agency 3 represents Sustainalytics ESG ratings; Rating Agency 4 represents Robeco ESG ratings.

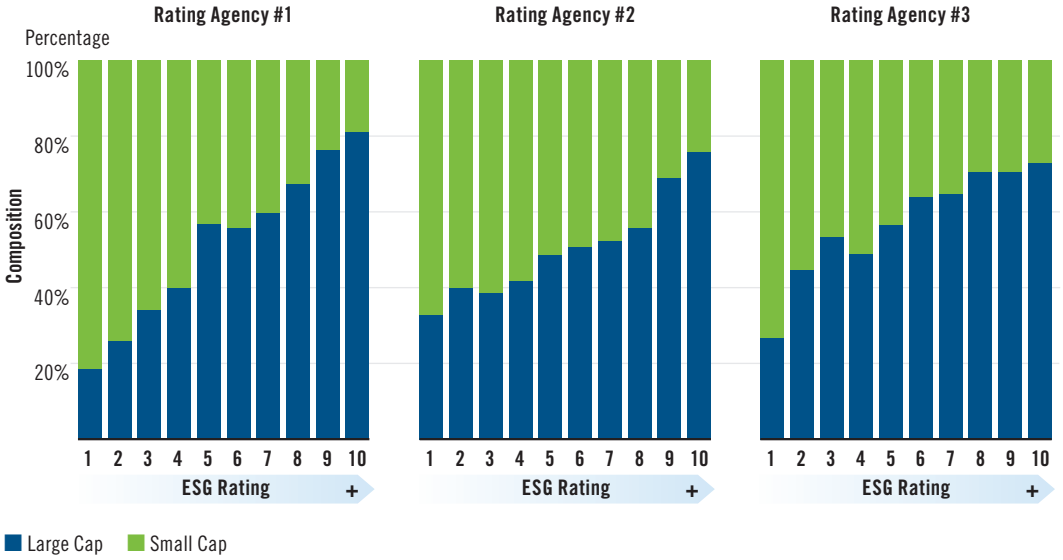
UNINTENDED EXPOSURES

Despite the discrepancy in ratings, there are certain biases that affect data from all agencies and which will decidedly have an impact on the overall portfolio. Two of the most notable unintended exposures are in company size and geography. Rating agencies' reliance on survey and policy disclosure data has led to consistent skew favoring large and multinational companies. Many companies have started documenting their policies in publicly available sustainability disclosures; however, producing such disclosures is resource intensive and financially burdensome. As a result, larger companies rate better as they generally have increased transparency and resources to dedicate to such initiatives.

To examine company size bias, Exhibit 4 shows the distribution of ESG scores across deciles for a global portfolio. The result of this bias is that a simple portfolio built from companies with the highest ESG scores will typically contain a higher proportion of large-cap companies than the benchmark. The magnitude of this bias will also be determined by the data agency used, as some agencies rely more heavily on survey data compared to others which look to consider alternative data sources.

EXHIBIT 4: LARGE-CAP BIAS EMBEDDED WITHIN ESG RATINGS

December 2020



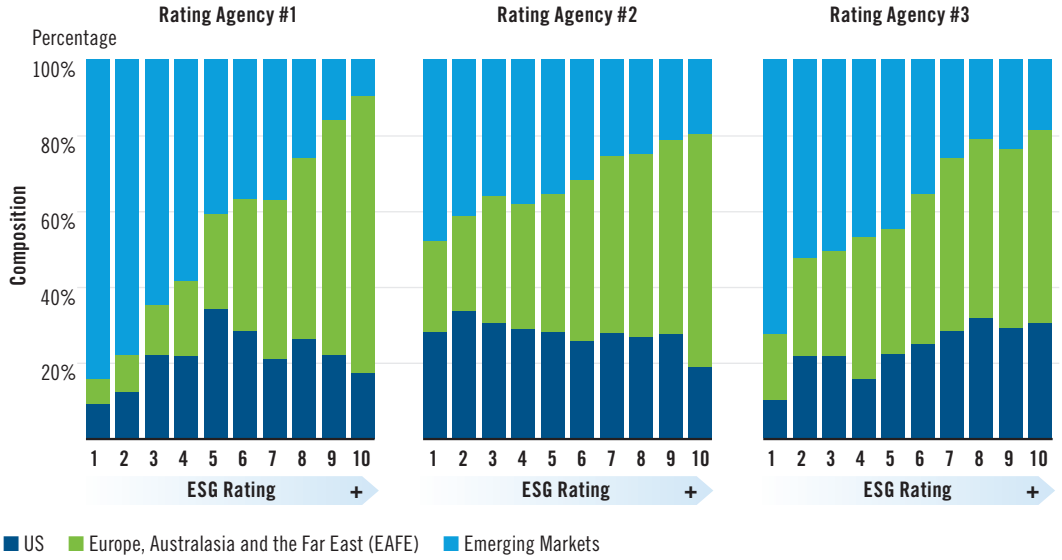
Sources: MSCI, Refinitiv, Sustainalytics. Universe is MSCI ACWI. Data as of December 2020. Global universe is ranked by ESG and divided into deciles, where decile 10 is comprised of the stocks with highest ESG rating. Rating Agency 1 represents MSCI ESG ratings; Rating Agency 2 represents Thomson Reuters ESG ratings; Rating Agency 3 represents Sustainalytics ESG ratings. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Additionally, rating agencies show a clear bias favoring developed markets outside of the United States, particularly European companies over North American, emerging markets and developed Asian counterparts. The source of this bias may not fully reflect the quality of ESG practices, but rather the existence and quality of formal reporting requirements in various jurisdictions. Regulatory requirements vary widely by region; therefore, two companies in the same industry with similar characteristics but different jurisdictions may receive different ratings. Exhibit 5 illustrates this effect, across agencies.

These unintended exposures may not result in the desired ESG impact or risk and return profile. This underscores the importance of thorough data analysis and a robust investment process that truly distinguishes information from noise and controls for unintended bets during the portfolio construction process.

EXHIBIT 5: GEOGRAPHIC BIAS EMBEDDED WITHIN ESG RATINGS

MSCI ACWI December 2020



Sources: MSCI, Refinitiv, Sustainalytics. Universe is ACWI. Data as of December 2020. Global universe is ranked by ESG and divided into deciles, where decile 10 is comprised of the stocks with highest ESG rating. Rating Agency 1 represents MSCI ESG ratings; Rating Agency 2 represents Thomson Reuters ESG ratings; Rating Agency 3 represents Sustainalytics ESG ratings. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

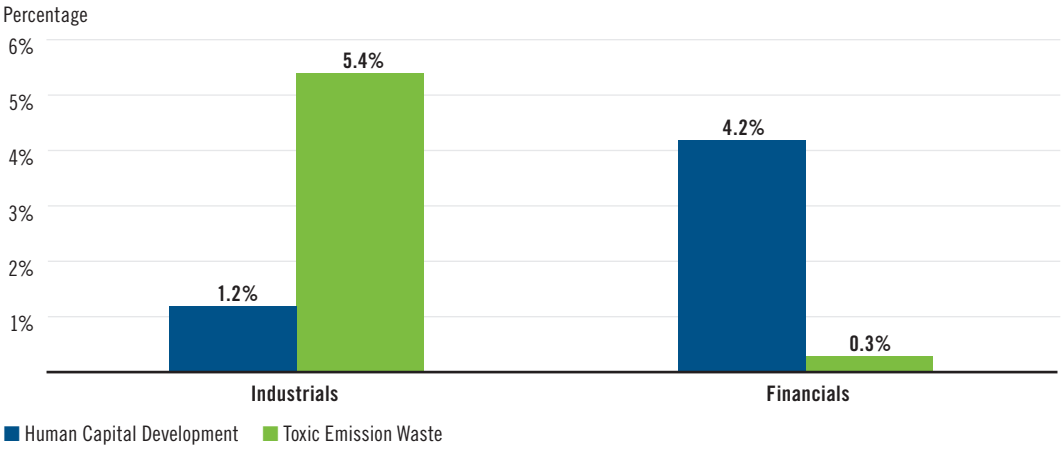
NOT ALL ESG ISSUES MATTER EQUALLY

In accounting, something is deemed to be material if its omission would have an impact on financial outcomes. In a similar vein, we define an ESG indicator to be material if it affects the risk and/or return characteristics of a company. For example, companies that protect employee health and safety are generally at lower risk of litigation and work stoppages which affect their ability to produce profits.

We determine materiality of key ESG indicators on an industry basis, given that companies within a sector are likely to share, to some extent, business models and confront similar sustainability challenges. For instance, human capital development is vitally important for financial institutions. But does human capital development have a material and empirically quantified impact on industrial companies? Our research shows that financial institutions that facilitate human capital development average 4.2% lower volatility, while industrial companies with strong human capital development see virtually no volatility reduction, on average. Conversely, industrial companies that focus on reducing toxic emission waste are 5.4% less volatile on average while financial companies with similar policies are only about 1.2% less volatile (Exhibit 6). Furthermore, we find that a company's carbon emission levels have a significant impact on its risk-adjusted return if the company is in a material-intensive industry, while it has no bearing on its risk-adjusted returns if the company is in the commercial and professional services industry. Thus, a one-size-fits-all approach to sustainable investing will likely fall short, as it obscures some of these important distinctions.

EXHIBIT 6: CONSIDERING ESG INDUSTRY MATERIALITY HAS RESULTED IN VOLATILITY REDUCTION

S&P Global BMI; January 2013–December 2020



Source: Proprietary ESG ratings, MSCI. Universe: S&P Global BMI. Average forecasted volatility from January 1, 2013 to December 31, 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com. There is no assurance any forecast, projection or estimate will be realized.

We have designed a comprehensive and flexible framework to evaluate the effectiveness of multiple ESG risk metrics across industries and calculate high-level ESG scores. We start with a systematic analysis of the relationship between various ESG factors and company risk (forward volatility). We explore the connection between a specific ESG factor and a company's overall expected volatility. Also, we isolate the risk explained by an ESG factor after controlling for traditional fundamental factors (aka idiosyncratic risk). This helps us understand the value-add of ESG risk metrics and how useful they can be in explaining stock risk. In certain cases, additional considerations, such as fundamental analysis, are taken into account when factoring ESG materiality.

After determining ESG materiality we calculate ESG scores by combining select metrics that are important for specific companies. As our materiality process uses ESG data from various sources and vendors, the ESG coverage is substantial, currently including about 8,000 companies across geographic regions and size segments.

INVESTMENT IMPLICATIONS

Without the framework described in the section above, trying to determine the effect of sustainability on stock prices would have been a rudimentary and imprecise exercise. However, once an idiosyncratic ESG effect is determined on a company, and proprietary ratings are derived by utilizing industry materiality, it becomes possible to answer the question: "What effect does sustainability have on a stock's risk and return profile?"

In selecting ESG factors, we first assess the historical impact on realized risk and return to determine if they are pertinent in the evaluation of a particular industry. For this analysis, we utilized a global universe of large- and mid-cap sized companies. On an annual basis, we ranked companies relative to their sector and region peers (US, emerging markets, and developed markets ex-US) to mitigate unintended exposures driven by varying regulation and reporting requirements. From these ranks, we organized the universe into quintile groups spanning low- to high-scoring ESG companies.

We explored expected risk and return for the global universe and for regional subsets from 2012 to 2020.

HIGH-LEVEL RESULTS

The results of our analysis were mixed in respect to returns, showing a small, however statistically insignificant, increase in expected returns for companies that scored higher on our ESG ratings within emerging markets, but slightly negative returns in all other universes. Returns were further obscured when accounting for common factor exposures (such as value, quality, etc.) with idiosyncratic returns lower still. However, we observed that these higher-rated ESG companies provided a substantial and statistically significant risk (volatility) reduction before and after accounting for common factor exposures. Based on the overall characteristics of the ESG quintiles, high-scoring ESG companies appear to offer traditionally defensive characteristics such as high dividend yield, larger market cap and higher return on equity (ROE). However, these tilts do not explain all observed risk reductions as seen by the idiosyncratic forecasted risk reduction, which accounts for these common factor exposures. Similarly, from a downside risk perspective, the evidence of risk reduction is strong and statistically significant. Tail risk appears to be less severe in companies with higher ESG scores and historically such companies have experienced smaller draw-downs and lower downside volatility.

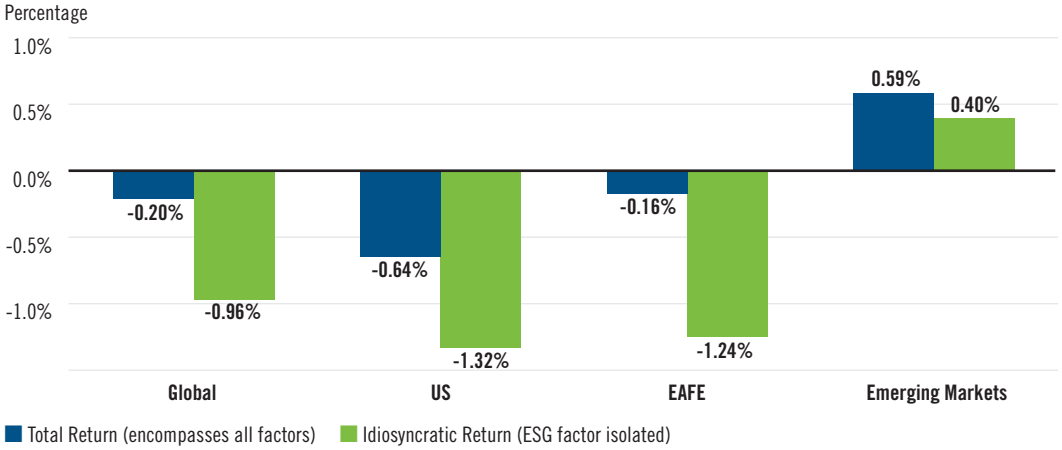
RETURNS

Exhibit 7 shows the spread across 12-month average expected total return and idiosyncratic return, defined as the return not attributable to traditional factors such as size, value and growth. While the excess return results were mixed, neither was considered to be statistically significant.

EXHIBIT 7: AVERAGE EXPECTED RETURNS OF ESG FACTORS

Highest Quintile–Lowest Quintile

December 2012 to December 2020



Source: Datastrean, Refinitiv, Franklin Templeton Investment Solutions. High ESG is equivalent to the top quintile scoring ESG names based on proprietary ESG ratings. Low ESG is equivalent to the bottom quintile scoring ESG names based on proprietary ESG ratings. Return on a 12-month forward-looking basis. December 2012 through December 2020. Indexes are unmanaged, and one cannot invest directly in an index. They donot include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

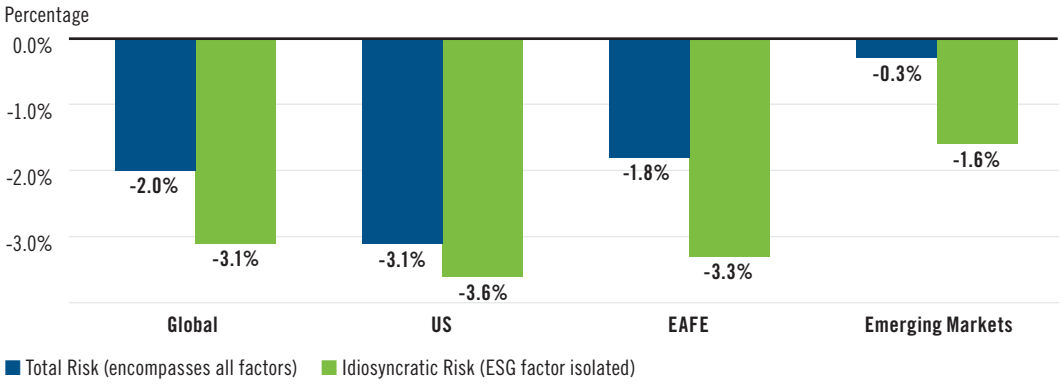
RISK

Exhibit 8 shows the 12-month average expected volatility for companies in the high- and low-ESG grouping. Across all regions, there are reductions in the forecasted volatility of higher-scoring ESG companies relative to lower-scoring ESG companies. Most interestingly, these results not only persist but grow in magnitude when considering idiosyncratic risk. This implies that the reduction in risk is truly attributable to ESG factors, rather than explained by common risk factors. These results are substantial and statistically significant for all regions, except emerging markets where statistical significance is weaker.

EXHIBIT 8: AVERAGE EXPECTED RISK OF ESG FACTORS

Highest Quintile–Lowest Quintile

December 2012 to December 2020



Source: Datastrean, Refinitiv, Franklin Templeton Investment Solutions. US is represented by the MSCI USA Index; developed markets is represented by the MSCI EAFE Index; emerging markets is represented by the MSCI Emerging Markets Index; global is represented by the combination of the MSCI USA Index, MSCI EAFE Index, and MSCI Emerging Markets Index. High ESG is equivalent to the top-quintile-scoring ESG names based on proprietary ESG ratings. Low ESG is equivalent to the bottom-quintile-scoring ESG names based on proprietary ESG ratings. Bars represent the difference in average forward one-year risk / return for a high ESG company minus a low ESG company. Difference in absolute and idiosyncratic risk between high- and low-ESG companies was statistically significant, defined by a p-stat of 0. ESG data baskets as of December 2012 through December 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exhibits 9A and 9B show average characteristics of high- and low-ESG quintiles. Valuations are mixed with the high-ESG group realizing slightly higher price-to-book and lower price-to-earnings ratios. For all regions, companies with higher ESG ratings show a sizable improvement in dividend yield and ROE.

EXHIBIT 9A: PORTFOLIO CHARACTERISTICS, HIGH ESG QUINTILE

December 2012 to December 2020

	Price/Book	Price/Earnings	Dividend Yield (%)	Return on Equity (%)
Global	3.55	18.83	3.04%	20.27%
US	4.00	19.67	2.24%	23.45%
EAFE	3.10	17.82	3.61%	17.61%
Emerging Markets	3.70	19.47	3.32%	20.09%

Source: Franklin Templeton Investment Solutions. High ESG is equivalent to the top-quintile-scoring ESG names based on proprietary ESG ratings. US represented by the MSCI USA Index; developed markets represented by the MSCI EAFE Index; emerging markets represented by the MSCI Emerging Markets Index; global is represented by the combination of the MSCI USA Index, MSCI EAFE Index, and MSCI Emerging Markets Index. ESG data baskets as of December 2012 through December 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

EXHIBIT 9B: PORTFOLIO CHARACTERISTICS, LOW ESG QUINTILE

December 2012 to December 2020

	Price/Book	Price/Earnings	Dividend Yield (%)	Return on Equity (%)
Global	3.21	21.27	2.20%	14.35%
US	4.01	21.55	1.68%	15.23%
EAFE	2.61	21.09	2.30%	12.86%
Emerging Markets	2.99	21.14	2.98%	16.06%

Source: Franklin Templeton Investment Solutions. Low ESG is equivalent to the bottom-quintile-scoring ESG names based on proprietary ESG ratings. US represented by the MSCI USA Index; developed markets represented by the MSCI EAFE Index; emerging markets represented by the MSCI Emerging Markets Index; global is represented by the combination of the MSCI USA Index, MSCI EAFE Index, and MSCI Emerging Markets Index. ESG data baskets as of December 2012 through December 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

This indicates that even after accounting for sector bias, positive ESG signals are picking defensively oriented companies with quality characteristics represented by higher ROE and stronger dividend yielding profile of the high-ESG quintile.

After accounting for rating agency dispersion, unintended exposures and factor materiality, our proprietary ESG ratings show that higher-rated ESG companies realize returns in line with lower-scoring ESG companies with less risk. These risk-reducing benefits provide a significant opportunity to complement traditional financial metrics in the evaluation of both fundamental and quantitative investment processes. Given the orthogonal nature of ESG information, we believe integrating material non-financial factors alongside financial factors provides investors an additional lens to develop a complete understanding of the opportunities and risks faced by companies.

DO STRONGER (WEAKER) ESG RATINGS RESULT IN LOWER (HIGHER) DOWNSIDE RISK?

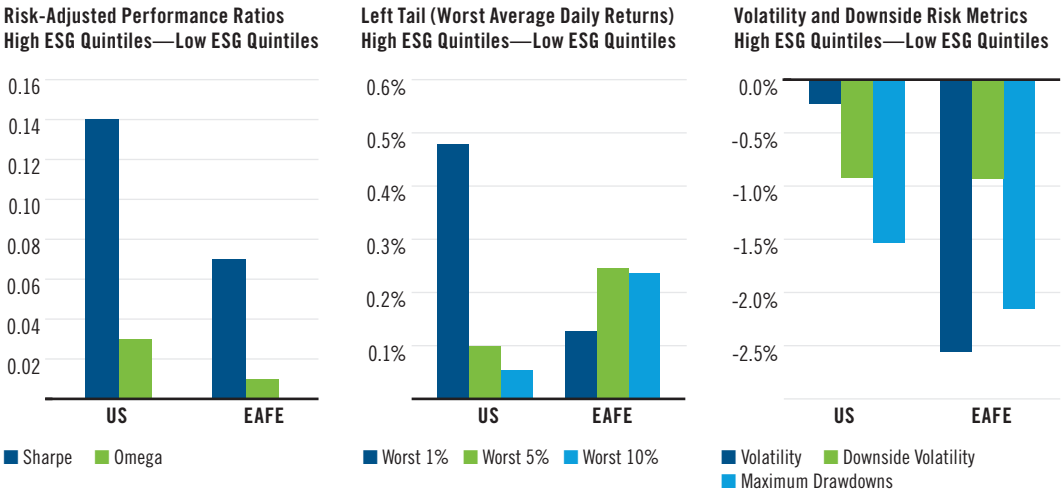
ESG factors can also provide further color about stock downside and tail risks in addition to that of overall stock volatility. Exhibit 10 presents the analysis of how different various risk metrics are across companies with high and low ESG scores. As downside risk cannot be easily described by a single number—we have considered several metrics. Specifically, and presented in Exhibit 10, we assess:

- Omega ratio (which takes into account probability-weighted stock gains and losses and helps to convey whether a return distribution is skewed toward positive or negative outcomes)
- Average returns from the worst (bottom) 1%, 5% and 10% of the stock return distribution (this portrays the severity of left tails)
- Downside volatility (volatility calculated over periods when returns are negative)
- Stock maximum drawdowns

Our results consistently illustrate how useful ESG is in gauging adverse investment outcomes. Higher-scoring ESG companies have higher risk-adjusted performance (as measured by Sharpe ratio), consistent with our previous volatility analysis. Furthermore, their returns are skewed toward positive outcomes (higher Omega ratio). Also, tail risk appears to be less severe in companies with higher ESG scores. Lastly, such companies historically had smaller drawdowns and lower downside volatility.

EXHIBIT 10: AVERAGE PERFORMANCE AND RISK METRICS, HIGH- MINUS LOW-ESG QUINTILES

MSCI USA Index and MSCI EAFE Index December 2012 to December 2020



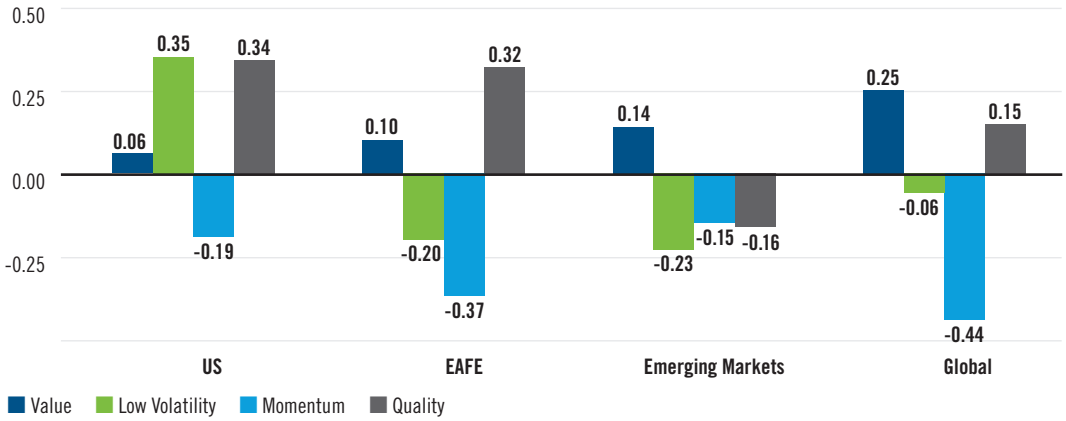
Sources: Franklin Templeton Investment Solutions. Sustainalytics, Refintiv, MSCI. US is represented by the MSCI USA Index; EAFE is represented by the MSCI EAFE Index. High ESG is equivalent to the top-quintile-scoring ESG names based on proprietary ESG ratings. Low ESG is equivalent to the bottom-quintile scoring ESG names based on proprietary ESG ratings. Performance and risk metrics considered on a 12-month forward-looking basis. Bars represent the difference in average forward one-year metric for a high ESG company minus a low ESG company. ESG data baskets as of December 2012 through December 2020. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com. There is no assurance any forecast, projection or estimate will be realized.

CORRELATION OF ESG TO FUNDAMENTAL EQUITY FACTORS

Fundamental factors are observable behavioral anomalies or market risk characteristics that exhibit a return premium supported by decades of empirical evidence. Our current research concludes that there is not enough evidence yet to clearly define ESG as a fundamental factor based on the expectation of excess return; however, ESG does exhibit positive risk characteristics and low correlations to traditional fundamental factors. When looking at the correlation of monthly returns of the high-ESG quintile from 2013–2020 we find the relationship to be low or negative for most factors across the investment universe. The highest correlations were to low volatility and quality in the US universe, which aligns with the observed portfolio characteristics (dividend yield; ROE), however, the correlations for these were still below 0.4. This is strong evidence that ESG factors are an inalienable component in single stock and portfolio analysis. This result provides for the potential opportunity of combining ESG factors with fundamental factors to achieve return enhancements of fundamental factors with the risk enhancements seen within ESG.

EXHIBIT 11: CORRELATION OF ESG TO FUNDAMENTAL EQUITY FACTORS

2013–2020



Sources: Proprietary ESG ratings, Sustainalytics, Refintiv, MSCI. US represented by the MSCI USA Index; developed markets represented by the MSCI EAFE Index; emerging markets represented by the MSCI Emerging Markets Index; global represented by the combination of the MSCI USA Index, MSCI EAFE Index, and MSCI Emerging Markets Index. Factors are long / short (Value – Book to Price, Low Vol – 12M realized volatility, Momentum – 12M return, Quality – Return on Equity). Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

CONCLUSION

With trillions of dollars pledged to sustainable practices, shifting demographic trends, and a new revolution in non-financial data, sustainable investing will likely avoid the graveyard of financial fads. The space will continue to evolve and provide opportunities to better understand specific risks, performance potential, and company reputation. Our analysis shows that there is less risk among companies that scored higher on ESG metrics. As it becomes evident that the market is starting to price in company-specific ESG risks, we expect to see further integration of ESG considerations alongside traditional financial analysis. However, as always, the devil is in the details. Therefore, it is critical for investors interested in sustainable data to educate themselves on the vast amount of information available, the varying methodologies and nuanced processes used by ratings agencies, as well as on the best way of embedding these considerations within the investment process.

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Definitions

An **investment factor** is a characteristic that can explain the risk and return performance of an asset. It is considered a driver of return for an asset.

Tail risk refers to an event with a low probability of happening. Under normal distribution (a type of probability distribution), probability is symmetric about the mean. Events closer to the mean occur more frequently. In graph form, this is illustrated by a bell curve. The "tails" refer to the end portion of the distribution (or bell curve). These events are more than three standard deviations from the mean.

Idiosyncratic risk/return refers to the risk or return attributable to, or explained by, one specific factor, or characteristic.

The **price/book (P/B) ratio** is a company's current stock price divided by its book value (net assets of a company). This is a metric used to evaluate whether a company's stock could be over-or-undervalued.

The **price/earnings (P/E) ratio**: is a company's current stock price divided by its earnings per share. This is a metric used to evaluate whether a company's stock could be over-or-under-valued. The measure could be calculated on a trailing basis (trailing P/E), where historical earnings are used. It could also be calculated on a forward-looking basis (forward P/E) where projected, or predicted earnings are used.

Dividend yield is a ratio that expresses the values of a company's annual dividends relative to its stock price. This is a metric used for estimating return from cashflows.

Return on equity is a ratio that measures a company's annual net income dividend by the value of its total **shareholders' equity**, expressed as a percentage. Shareholders' equity is a company's assets minus its liabilities (net assets), therefore, return on equity is income received per net assets of the company. This metric could be used to better understand how efficiently a company is utilizing its assets to generate return.

Volatility refers to the dispersion (or range) of returns for an asset or asset class. Put simply, volatility is the movement (up and/or down) of an investment's return or price. More movement is associated with greater levels of volatility. It can be associated with positive as well as negative outcomes. For example, a stock with a large range of returns to the upside or downside may be viewed as volatile, just as a stock with "choppy" returns up and down may also be viewed as volatile. Relatively stable returns are associated with low volatility.

Endnotes

1. Source: Global Sustainable Investment Alliance, "Global Sustainable Investment Review," 2018.
2. Source: Ibid.
3. Source: Corporate Knights, "The 2021 Global 100: Overview of Corporate Knights Rating Methodology," 2021.
4. Source: MSCI, MSCI ESG Ratings Methodology, December 2020.
5. Source: S. Bernow, B. Klempner, C. Magnin. "From 'why' to 'why not': Sustainable Investing as the New Normal," McKinsey & Company, October 25, 2017.
6. Source: Franklin Templeton Investment Solutions.
7. Source: R. Kerber, M. Flaherty. "Investing with 'green' ratings? It's a gray area," Reuters, June 26, 2017.
8. Source: R. Gibson, P. Krueger, P. Schmidt. (2021). "ESG rating disagreement and stock returns," Swiss Finance Institute Research Paper Series (19–67).

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