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ESG

ESG investing in emerging markets

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**WEALTH & ASSET
MANAGEMENT**

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DEAR READER,

Welcome to edition 51 of the Capco Institute Journal of Financial Transformation.

The global wealth and asset management industry faces clear challenges, and a growing call for innovation and transformation. Increased competition, generational shifts in client demographics, and growing geopolitical uncertainty, mean that the sector needs to focus on the new technologies and practices that will position for success, at speed.

There is no doubt that technology will be at the forefront of a responsive and effective wealth and asset management sector in 2020 and beyond. The shift to digitization, in particular, will see the speeding up of regulatory protocols, customer knowledge building, and the onboarding process, all of which will vastly improve the client experience.

This edition of the Journal will focus closely on such digital disruption and evolving technological innovation. You will also find papers that examine human capital practices and new ways of working, regulatory trends, and what sustainability and responsible investment can look like via environmental, social and corporate governance.

As ever, I hope you find the latest edition of the Capco Journal to be engaging and informative. We have contributions from a range of world-class experts across industry and academia, including renowned Nobel Laureate, Robert C. Merton. We continue to strive to include the very best expertise, independent thinking and strategic insight for a future-focused financial services sector.

Thank you to all our contributors and thank you for reading.

A handwritten signature in black ink, appearing to read 'Lance Levy', with a stylized, flowing script.

Lance Levy, **Capco CEO**

ESG INVESTING IN EMERGING MARKETS¹

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ABSTRACT

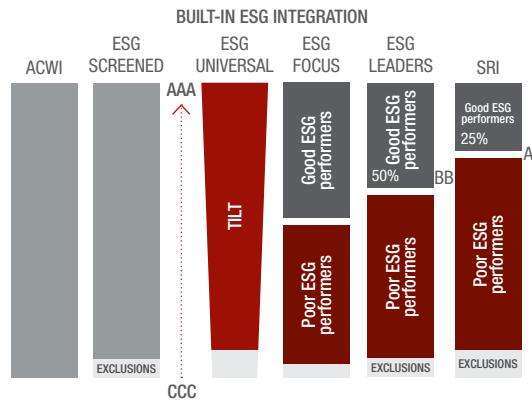
Recent studies by MSCI ESG Research LLC have shown historical positive links between environmental, social, and governance considerations and corporate financial performance. Because investors might still question whether ESG historically added value in emerging markets, where companies' consideration of ESG risks is a more recent phenomenon, we compared the performance of four ESG indexes to their MSCI emerging-market parent. Overall, we found that despite emerging-market companies' tending to have lower MSCI ESG Ratings than global peers on average, ESG characteristics measured by MSCI ESG Ratings had contributed to performance overall.

INTRODUCTION: MSCI ESG INDEXES²

In principle, MSCI ESG indexes are based on a standard market-capitalization parent index. Depending on stated objectives, different ESG indexes can be designed or customized using one or more of the following index-methodology components:

- 1. Exclusions:** removing certain companies from the underlying index universe to align the portfolio with investors' values and constraints. All index methodologies start with an exclusionary screen. It is important to mention that exclusions can follow different investor motivations, such as (a) values-based reasons (e.g., divesting from weapons manufacturing or to comply with international standards such as the U.N. Global Compact); (b) constraints (e.g., institutional investors who may face legal restrictions to invest in controversial weapons manufacturer)s; and (c) economic reasons (e.g., investors who may want to

Figure 1: MSCI ESG indexes and their possible applications



All the above MSCI ESG Index methodologies apply certain exclusion screens (based on controversies and business-involvement screens) marked in gray. Light blue indicates companies that are not selected for the index due to low MSCI ESG ratings. Gradient fills denote indexes that use optimization techniques.

Source: MSCI ESG Research

¹ This article contains analysis of historical data, which may include hypothetical, back-tested or simulated performance results. There are frequently material differences between back-tested or simulated performance results and the actual results subsequently achieved by any investment strategy. The analyses and observations in this article are limited solely to the period of the relevant historical data, back-test, or simulation. Past performance — whether actual, back-tested or simulated — is no indication or guarantee of future performance. None of the information or analysis herein is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision or asset allocation and should not be relied on as such.

² While we selected these four indexes due to their breadth and size representation, MSCI also offers several more focused or thematic ESG indexes that we did not analyze here. The performance of these indexes is not represented by our analysis and may differ. For more information on the performance of other regions, including developed markets, please see: Giese, G., L.-E. Lee, D. Melas, Z. Nagy, and L. Nishikawa, 2019, "Foundations of ESG investing: how ESG affects equity valuation, risk, and performance." *Journal of Index Investing* 9:4, 46-57.

mitigate certain business risks, such as those who may want to avoid exposure to fossil fuels to mitigate the risk of stranded assets). It is important to point out that some of these exclusions can be industrywide — such as the exclusion of tobacco producers — whereas others are company-specific, such as the exclusion of companies that have breached the U.N. Global Compact.

- 2. Selection of the best-rated companies:** the MSCI ESG Leaders Index selects the best-rated 50 percent of companies in terms of free-float market capitalization, whereas the MSCI SRI Index selects the best 25 percent. Both indexes perform the selection per Global Industry Classification Standard (GICS®)³ sector and subregion to avoid regional and sector biases.
- 3. Weight tilt of companies within the index universe:** the MSCI ESG Universal Index tilts the market-cap weights of components using a scaling factor in the range between 0.5 and 2.0, which aggregates companies' MSCI ESG rating and ESG-rating trend in a simple robust combined ESG score.
- 4. Optimization:** the MSCI ESG Focus Index maximizes the index-level ESG score within the index universe subject to

a tracking-error constraint. In addition to this, optimization also offers the possibility to combine equity style-factor exposures with ESG exposure.

Table 1 summarizes the index methodology for each of these standard ESG indexes. The range of MSCI ESG Indexes covers approaches that perform a best-in-class selection of MSCI ESG Ratings and result in market-capitalization weights (the MSCI ESG Leaders Index and MSCI SRI Index); approaches that reflect MSCI ESG Ratings and MSCI rating changes by tilting the market-capitalization weights of the index components toward better-rated companies and rating upgrades (MSCI ESG Universal Index); and approaches that use optimization techniques that focus on higher MSCI ESG Ratings and change the weights away from market-capitalization weights (MSCI ESG Focus Index).

As per Table 2, four out of the four emerging-market ESG indexes reviewed outperformed the parent index during the study period.⁴

In this paper we will focus on the MSCI Emerging Markets ESG Leaders Index since it has the longest live history of all the indexes mentioned above.

Table 1: Standard MSCI ESG Indexes and construction methodology

| INDEX | INDEX CONSTRUCTION |
|--------------------|---|
| MSCI ESG SCREENED | Market-capitalization weighted |
| MSCI ESG UNIVERSAL | Market-cap Weight-tilt from 0.5 to 2.0 depending on <ul style="list-style-type: none"> • MSCI ESG rating • MSCI ESG rating change (upgrade, neutral, or downgrade) |
| MSCI ESG FOCUS | Optimize index-level ESG score under tracking-error and sector constraints |
| MSCI ESG LEADERS | Best-in-class selection of top 50% of ESG-rated companies in terms of free-float market cap per <ul style="list-style-type: none"> • GICS sector and • Sub-region (to avoid regional or sector biases) Market-capitalization-weighted |
| MSCI SRI | Best-in-class selection of top 25% of ESG-rated companies in terms of free-float market cap per <ul style="list-style-type: none"> • GICS sector and • Sub-region (to avoid regional or sector biases) Market-capitalization-weighted |

³ GICS is the global industry classification standard jointly developed by MSCI and Standard & Poor's.

⁴ The analysis extends the analysis of emerging markets ESG indices featured in Giese et al. (2019).

Table 2: Key metrics in emerging-market ESG indexes

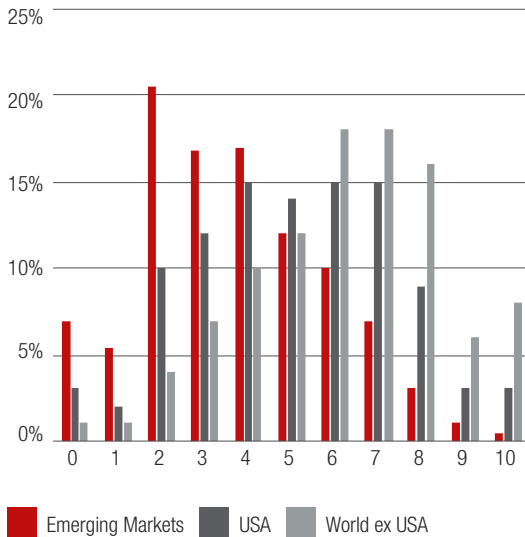
| | MSCI EM INDEX | MSCI EM ESG UNIVERSAL INDEX | MSCI EM ESG LEADERS INDEX | MSCI EM SRI INDEX | MSCI EM SRI INDEX |
|---------------------------------|---------------|-----------------------------|---------------------------|-------------------|-------------------|
| TOTAL RETURN ^a (%) | 3.3 | 3.8 | 6.0 | 5.3 | 4.4 |
| TOTAL RISK (%) | 14.8 | 14.5 | 14.3 | 13.7 | 14.8 |
| RETURN/RISK | 0.23 | 0.26 | 0.42 | 0.39 | 0.3 |
| SHARPE RATIO | 0.17 | 0.2 | 0.36 | 0.32 | 0.24 |
| ACTIVE RETURN (%) | 0.00 | 0.5 | 2.6 | 1.9 | 1.1 |
| TRACKING ERROR (%) | 0.00 | 1.3 | 2.6 | 5 | 1.2 |
| INFORMATION RATIO | NaN | 0.36 | 1.00 | 0.39 | 0.86 |
| HISTORICAL BETA | 1.00 | 0.98 | 0.95 | 0.87 | 1 |
| NO OF STOCKS ^c | 899 | 755 | 378 | 176 | 313 |
| TURNOVER ^b (%) | 6.5 | 23.1 | 11.7 | 9.8 | 27.8 |
| PRICE TO BOOK ^c | 1.6 | 1.6 | 1.9 | 2.1 | 1.6 |
| PRICE TO EARNINGS ^c | 13.4 | 13.7 | 15.3 | 15.8 | 14 |
| DIVIDEND YIELD ^c (%) | 2.7 | 2.6 | 2.6 | 2.8 | 2.7 |

Data from November 30, 2012 to October 31, 2019.

^aGross returns annualized in U.S.\$, ^bannualized one-way index turnover over index reviews, and ^cmonthly averages.

Source: MSCI ESG Research

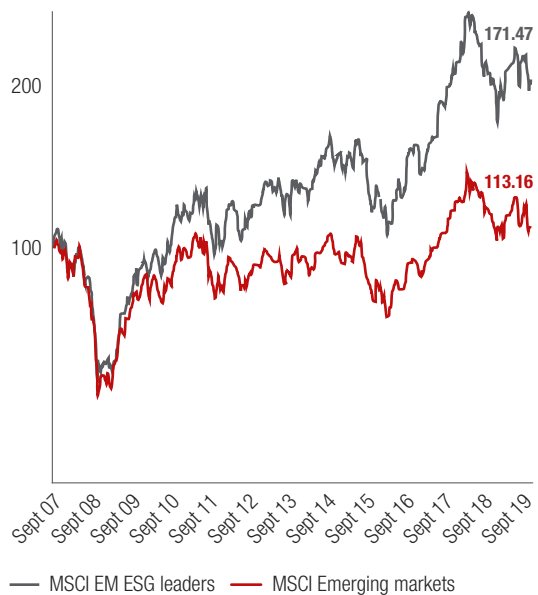
Figure 2: Distribution of industry-adjusted ESG scores for three subregions



Data as of July 31, 2019

Source: MSCI ESG Research

Figure 3: Cumulative index performance



U.S.\$ gross returns from September 2007 to August 2019

2. UNDERSTANDING DIFFERENCES IN ESG CHARACTERISTICS ACROSS REGIONS

The distribution of MSCI ESG Ratings is not the same in all regions or market types. As can be seen in Figure 2, constituents of the MSCI Emerging Markets Index tended to have lower MSCI ESG Ratings as of July 31, 2019, compared to constituents within the MSCI USA Index and MSCI World ex USA Index. However, the ESG ratings (and the industry-adjusted scores that they are based on) are calculated relative to industry peers across a global set (the MSCI ACWI Index), which means that we can still compare companies within regions or markets. While few emerging-market companies have received top MSCI ESG Ratings, companies within this universe can still be differentiated based on the actual distribution of their MSCI ESG Ratings. Companies with an industry-adjusted score of 7 or 8 out of 10, for example (equivalent to ESG ratings in the A to AA range), may be considered “best in class” within the MSCI Emerging Markets Index context.

The MSCI Emerging Markets ESG Leaders Index is a market-capitalization-weighted index that is designed to target companies with high ESG performance relative to their

sector peers. The MSCI Emerging Markets ESG Leaders Index consists of large- and mid-cap companies across 26 emerging-market countries.

The MSCI Emerging Markets ESG Leaders Index outperformed the regional MSCI Emerging Markets Index from the time it went live in June 2013 through August 2019 (see Figure 3). It also outperformed in historical simulations for the period of September 2007 through June 2013.

The MSCI Emerging Markets ESG Leaders Index was launched in June 2013. Data prior to the launch date is back-tested (i.e., calculations of how the index might have performed over that time, had the index existed). Please see footnote 4 and the disclaimers at the end of this report for information regarding back-tested or simulated history.

On the other hand, the MSCI World ex USA ESG Leaders Index performed in line with the MSCI World ex USA Index while the MSCI USA ESG Leaders Index underperformed the MSCI USA Index. This underperformance can be explained by the fact that the MSCI USA ESG Leaders Index is comparatively underweight in larger technology companies.

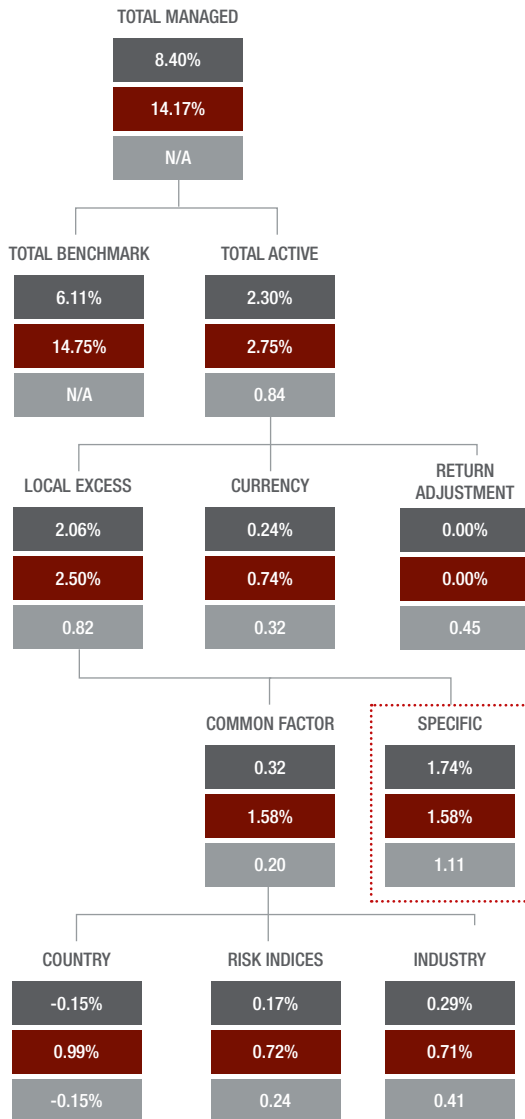
Table 3: Historical regional performance comparison

| | MSCI EM | MSCI EM ESG LEADERS | MSCI WORLD EX-USA | MSCI WORLD EX USA ESG LEADERS | MSCI USA | MSCI USA ESG LEADERS |
|---------------------------------|---------|---------------------|-------------------|-------------------------------|----------|----------------------|
| TOTAL RETURN ^a (%) | 3.6 | 6.9 | 6.5 | 7.0 | 14.8 | 14.0 |
| TOTAL RISK (%) | 17.1 | 16.2 | 14 | 13.7 | 12.1 | 11.8 |
| RETURN/RISK | 0.21 | 0.42 | 0.46 | 0.52 | 1.22 | 1.18 |
| SHARPE RATIO | 0.17 | 0.38 | 0.41 | 0.47 | 1.17 | 1.12 |
| ACTIVE RETURN (%) | 0 | 3.3 | 0 | 0.6 | 0 | -0.8 |
| TRACKING ERROR (%) | 0 | 2.8 | 0 | 1.1 | 0 | 1.7 |
| INFORMATION RATIO | NaN | 1.17 | NaN | 0.51 | NaN | -0.48 |
| HISTORICAL BETA | 1 | 0.9 | 1.0 | 0.97 | 1 | 0.97 |
| NO OF STOCKS ^c | 868 | 351 | 1019 | 474 | 615 | 333 |
| TURNOVER ^b (%) | 6 | 10.1 | 2.3 | 8.7 | 2.7 | 10.7 |
| PRICE TO BOOK ^c | 1.6 | 2 | 1.6 | 1.7 | 2.7 | 2.9 |
| PRICE TO EARNINGS ^c | 13.1 | 14.9 | 16.1 | 16.2 | 18.6 | 19.4 |
| DIVIDEND YIELD ^c (%) | 2.6 | 2.6 | 3.2 | 3.3 | 2.0 | 2.0 |

Data from Aug. 31, 2010 to July 31, 2019. Historical data is provided for informational purposes only. Past performance is not indicative of future results, which may differ materially. ^aGross returns annualized in U.S.\$, ^bannualized one-way index turnover over index reviews, and ^cmonthly averages.

Source: MSCI ESG Research

Figure 4: Performance attribution analysis
(June 2013 – July 2019)



[Full-time-span] [Annualized] [Net] Return
 [Full-time-span] [Annualized] [Net] Risk
 [Full-time-span] [Annualized] [Net] Information ratio

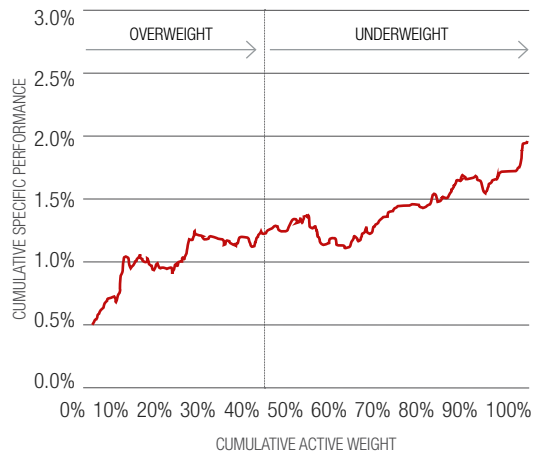
Analysis as of July 31, 2019. The white box displays the annualized return contribution of assets and the gray box displays the active risk, which is composed of the standard deviation of common factors and a stock specific component.

Source: MSCI's Barra PortfolioManager

3. STOCK-SPECIFIC PERFORMANCE CONTRIBUTION FROM ESG FACTORS

To better understand the contribution of which ESG factors made to the actual performance of the MSCI Emerging Markets ESG Leaders Index, we ran a performance attribution analysis in MSCI's Barra® PortfolioManager. As highlighted in Figure 4, a significant portion of the outperformance was stock-specific. The outperformance was driven by either overweighting or underweighting stocks based on ESG criteria. Results are net of systematic factors. More specifically, we have used MSCI's Barra PortfolioManager tool to perform attribution analysis that captures most of the known alpha sources. Anything that is left over – i.e., that is stock-specific – relates to the way the index was constructed. In the case of the MSCI Emerging Markets ESG Leaders Index, this reflects the stock selection based on the MSCI ESG Ratings.

Figure 5: Contributions from overweighting versus underweighting



Data from June 6, 2013 to July 31, 2019. The figure shows the cumulative specific performance contribution of the MSCI Emerging Markets Leaders Index versus the cumulative average of overweight and underweight stocks (sorted from largest to smallest based on the active weight).

Source: MSCI ESG Research

More specifically, we then tried to understand whether this outperformance and stock-specific contribution was driven by including high-rated stocks or by excluding low-rated stocks from the index. Figure 5 shows that both underweighting low-rating stocks and overweighting high-performing stocks had a significant, positive impact on returns. That is, the stocks included in the index, which had high MSCI ESG Ratings, performed better on average than the stocks included in parent index, the MSCI Emerging Markets Index. The reverse logic applies for the excluded stocks.

Table 4: Top contributors consistently excluded or consistently included in the MSCI Emerging Markets ESG Leaders Index since inception

| COUNTRY | INDUSTRY | COMPANY | AVERAGE ACTIVE WEIGHT | ANNUALIZED NET SPECIFIC CONTRIBUTION |
|------------------|-----------------|---------------------------------------|-----------------------|--------------------------------------|
| ALWAYS IN | | | | |
| CHINA | Software & Svc | Tencent Holdings Ltd | 3.33% | 0.51% |
| TAIWAN | Semiconductors | Taiwan semiconductor | 3.27% | 0.22% |
| BRAZIL | Banks | Itaú Unibanco Holding SA | 0.90% | 0.07% |
| RUSSIA | Oil & Gas E&P | Novatek PAO | 0.27% | 0.07% |
| INDONESIA | Banks | Bank Central Asia TBK PT | 0.34% | 0.06% |
| INDONESIA | Banks | Bank Rakyat Indonesia (ersero) TBK PT | 0.26% | 0.06% |
| CHINA | Banks | China Merchants Bank Co. Ltd. | 0.28% | 0.05% |
| NEVER IN | | | | |
| CHINA | Software & Svc | Baidu Inc. | -0.60% | 0.19% |
| CHINA | Integ Oil & Gas | Petrochina Co, Ltd. | -0.45% | 0.08% |
| SOUTH KOREA | Automobiles | Hyundai Motor Co. | -0.56% | 0.05% |
| CHINA | Integ Oil & Gas | China Petroleum & Chemical Corp. | -0.48% | 0.05% |
| BRAZIL | Beverages | Ambev SA | -0.59% | 0.04% |
| SOUTH KOREA | Steel | POSCO | -0.41% | 0.04% |

Data from June 6, 2013 to July 31, 2019. Stock selection based on always in/out of the index and positive annualized net specific contribution.

Source: MSCI Emerging Markets Index, MSCI Emerging Markets ESG Leaders Index

To better understand the contribution of the over- and underweight stocks, we then looked at the ESG characteristics of the top contributors that had been excluded during the full period or had been included during the full period in the MSCI Emerging Markets ESG Leaders Index since inception in June 2013. Several of the companies that were consistently excluded from the index are state-owned enterprises like PetroChina and China Petroleum & Chemical Corp (see Table 4). Taiwan Semiconductors (TSMC), Tencent, and a few banks are among those that were consistently included.

When we look at the annualized net contributions, the most significant positive contributors have been Tencent (always included) and Baidu (always excluded). As of July 2019, Tencent had an MSCI ESG Rating of BBB while Baidu was rated CCC. The biggest MSCI ESG Rating divergence between these two companies was in management of privacy and data security risks, with additional difference being caused by differences in human capital management (Table 5).

Table 5: Comparison of performance on key ESG issues (quartiles relative to MSCI ACWI industry peers)

| KEY ESG ISSUES | TENCENT = BBB | BAIDU = CCC |
|----------------------|---------------|-------------|
| CORPORATE GOVERNANCE | * | * |
| CORRUPTION | * | * |
| DATA SECURITY | *** | ** |
| HUMAN CAPITAL | **** | * |

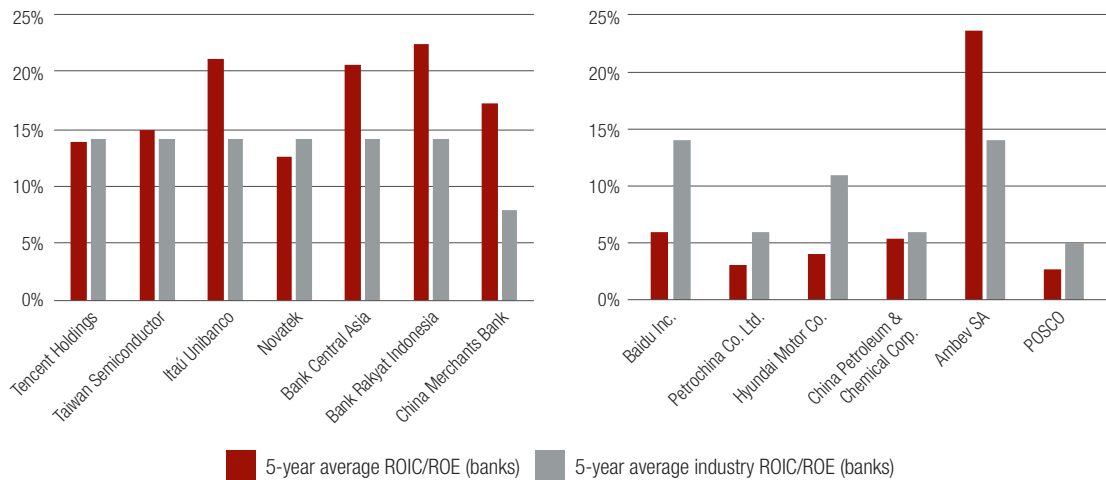
**** - top quartile; * - bottom quartile

Data as of July 2019

Source: MSCI ESG Research

Over the period from June 2013 to August 2019, the constituents of the MSCI Emerging Markets ESG Leaders Index with high MSCI ESG Ratings tended to perform better than their market peers with low MSCI ESG Ratings in terms of share-price performance.

Figure 6: Corporate performance of top contributors vs. industry peers
(based on ROIC for all companies except banks and ROE for banks)



Data from July 2019. Source: MSCI ESG Research, Thomson Reuters, SNL

The five-year corporate performance, which considers both the return on invested capital and return on equity, records of the individual companies always included or always excluded from the MSCI Emerging Markets ESG Leaders Index further bolster the idea that MSCI ESG Ratings may have helped differentiate companies within the same or different sectors, including in the emerging markets, where the overall distribution of ratings tended to be lower during the six-year study period. This observation holds for emerging markets, even though the overall distribution of MSCI ESG Ratings tended to be narrower than for companies in developed markets during the six-year study period. Comparing these companies to their industry peers (Figure 6), we see that, in most cases, the five-year average return on invested capital and return on equity of the companies always included in the MSCI Emerging Markets ESG Leaders Index was higher than for their industry peers. In contrast, nearly all the companies always excluded from the MSCI ESG Leaders Index (except for Ambev) had lower returns than their industry peers.

4. ESG INVESTING IN EMERGING MARKETS

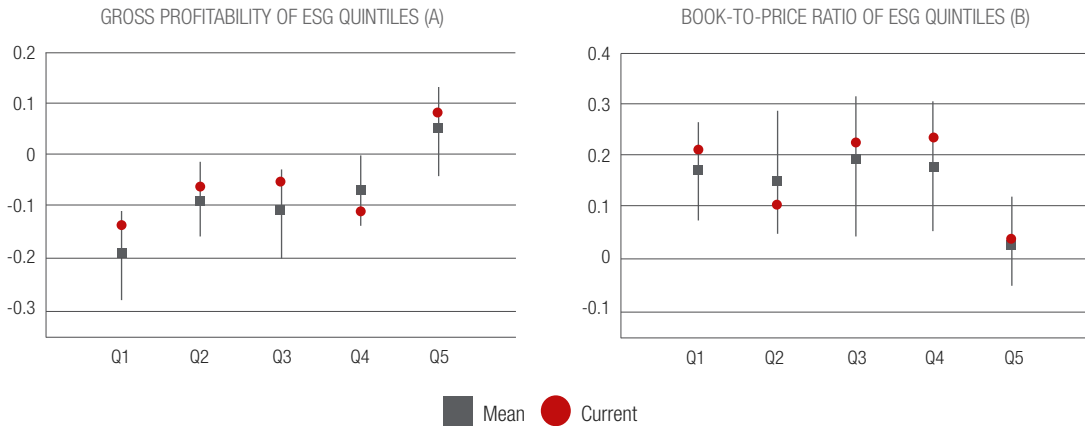
Thus far, we have extensively analyzed the MSCI Emerging Markets ESG Leaders Index and the added value of ESG Ratings in stock selection. This leads us to the question of what the transmission channels that led to the superior performance over this period might be. To address this, we studied the three transmission channels examined in our 2017 study [Giese et al. (2017)]. These three transmission channels are based on the following rationales:

- **Cash-flow channel:** companies with a high ESG rating may be more competitive and may be able to generate abnormal returns, leading to higher profitability and dividend payments.
- **Idiosyncratic risk channel:** companies with a high ESG rating may be better at managing company-specific business and operational risks and, therefore, may have a lower probability of suffering incidents that can impact their share price. Consequently, their stock prices display lower idiosyncratic tail risks.
- **Valuation channel:** companies with a high ESG rating may have lower exposure to systematic risk factors. Consequently, their expected cost of capital may be lower, leading to higher valuations in a discounted-cash-flow model framework.

The former two channels are transmitted through corporations' idiosyncratic risk profiles, whereas the latter channel is linked to companies' systematic risk profiles.

The analysis in Giese et al. (2017) focused on developed markets (as represented by the MSCI World Index), where we have a longer time series of data available, going back to 2007. In this paper, we asked whether evidence of these relationships could also be identified in emerging markets, where we have available data since June 2013. All the results shown in this paper are neutralized for industry exposure (using industry-adjusted ESG scores) and firm size. More specifically, we created size-adjusted ESG scores as the residuals from regressing standard MSCI ESG scores on the

Figure 7: ESG quintiles



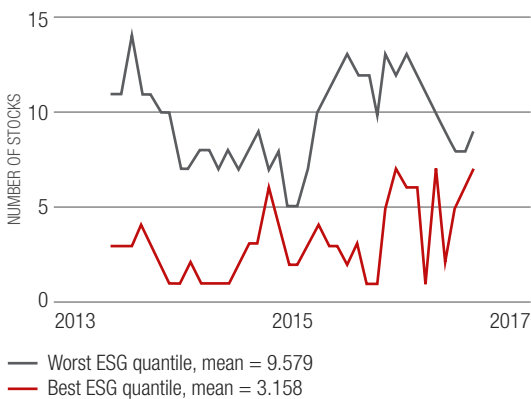
MSCI Emerging Markets Index constituents, data from June 2013 to July 2019. Left: Gross profitability (z-score) of size-adjusted ESG quintiles is computed as most recently reported sales less cost of goods sold, divided by most recently reported company total assets. Right: Book-to-price ratio is computed as the last reported book value of common equity divided by current market capitalization.

The average value over the period is represented by gray squares. The current exposure is represented by red dots. The vertical bars represent the 5% to 95% range of observed values.

size exposure in MSCI's Global Equity Model for Long-Term Investors model and an intercept variable. In our analysis, we show the distribution of financial variables across five size-adjusted ESG score quintiles (Q1 to Q5), with Q1 indicating the companies with the lowest MSCI ESG Rating and Q5 indicating the highest-rated companies.

Similar to Giese et al. (2017), we found that high ESG-rated companies (Q5) were more profitable, especially when compared to the bottom-quintile (Q1) companies (Figure 7(a)). Furthermore,

Figure 8: Idiosyncratic incident frequency of top and bottom ESG quintiles

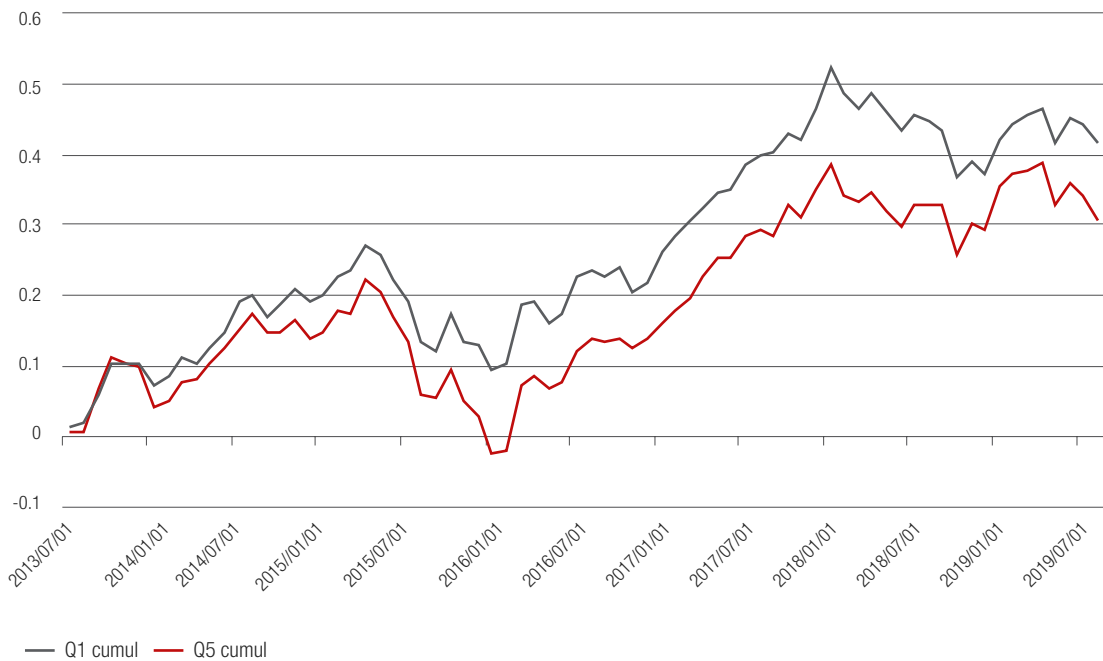


MSCI Emerging Markets Index constituents, data from June 2013 to July 2019. For each month, we report the number of stocks that realized a more than 50% cumulative loss over the next three years, taking the price at month end as the reference point for return calculations.

Q5 companies were also valued at a premium (Figure 7(b)) over the period of June 1, 2013, to July 31, 2019.⁵ To assess idiosyncratic risk, we identified companies in the MSCI Emerging Markets Index that experienced a drawdown of more than 50 percent or went bankrupt in the three-year period after the company was categorized in either the top or bottom MSCI ESG Rating quintile. We consider these events to be an idiosyncratic risk incident. We found that companies with high ESG Ratings (top quintile of MSCI Emerging Markets Index constituents) had a significantly lower incident frequency than companies with poor MSCI ESG Ratings (Figure 8). In line with Giese et al. (2017), we also tested the robustness of the idiosyncratic risk results by using a 50 percent drawdown threshold. This analysis achieved similar results to the original paper, though it must be noted that analysis could only be conducted using a significantly reduced sample size.

Finally, we found that the MSCI ESG Ratings change (ESG momentum) might also be a useful indicator for emerging markets. ESG momentum is defined as the change in ESG industry-adjusted score in the previous 12 months. Figure 8 shows the returns for the top ESG momentum quintile (companies with the biggest improvement in ratings) versus the bottom ESG momentum quintile (biggest negative change in ratings), equally weighted, from July 2013 to July 2019.

⁵ Bioy, H., and E. Stuart, 2020, "European sustainable fund flows: a record-shattering year," January 30, Morningstar

Figure 9: Financial performance of top and bottom ESG momentum quintiles

MSCI Emerging Markets Index constituents, data from June 2013 to July 2019. The figure shows the cumulative performance of the top and bottom ESG momentum quintiles. ESG momentum is defined as the 12-month change in the ESG score.

5. CONCLUSION

In emerging markets, companies tended to have lower MSCI ESG Ratings than global peers, but the performance premium associated with better ESG ratings was stronger than in developed markets over the six-year period examined in this paper.

- MSCI ESG Ratings are designed to identify industry-specific, financially relevant issues in addition to corporate governance risks.
- The MSCI Emerging Markets ESG Leaders Index, which was launched in June 2013, outperformed the MSCI Emerging Markets Index between June 2013 and August 2019. We found that a significant part of this outperformance was driven by stock-specific selection, based on ESG factors.
- We also found that emerging-market companies with high ESG ratings had higher profitability, lower idiosyncratic risk, and a premium on their valuation over the same time period when compared to emerging-market companies with low ESG ratings.

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