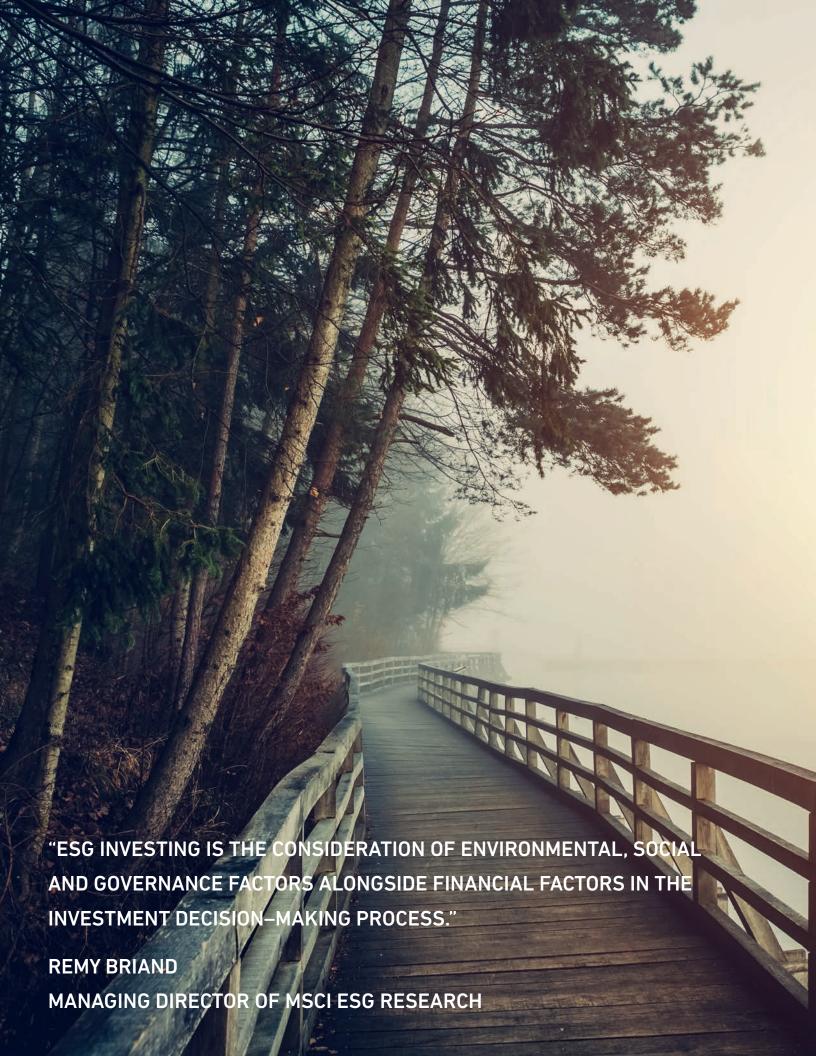


INTRODUCING ESG INVESTING





WHAT IS ESG?

ESG Investing is a term that is often used synonymously with sustainable investing, socially responsible investing, mission-related investing, or screening. At MSCI ESG Research we define it as the consideration of environmental, social and governance factors alongside financial factors in the investment decision-making process.

Under the ESG investing umbrella, MSCI ESG Research has identified three common investor objectives or motivations when considering an ESG strategy: Integration, Values and Impact. In order to achieve these objectives, institutional investors may pursue different approaches such as ESG integration, exclusionary or negative screening, or thematic investing, to name a few. While not a comprehensive glossary of all ESG terms in the market, we look to cover the most relevant terms. Please see the end of this document for a complete Glossary.

THREE COMMON ESG INVESTOR OBJECTIVES

ESG can mean different things to different people. However, we see the objectives of investors converging around three main categories.

INTEGRATION

I believe that incorporating ESG may improve my investment results.

Growing research suggests that ESG factors have contributed to long-term financial performance. ESG factors can be used to identify better-managed companies or to flag companies with business models that are likely to face headwinds or tailwinds driven by rapidly evolving regulatory, environmental, demographic or technological trends. Institutional investors are increasingly looking to ESG factors as a way to manage these risks and to achieve long-term sustainable financial performance.

PERSONAL VALUES

My investments should reflect my values.

Some investors consider ESG issues a means for aligning investments with their ethical, religious or political beliefs. They have typically used ESG research to screen for controversial activities such as tobacco, weapons, alcohol, gambling or fossil fuels, and to help exclude such activities from their investment universe. Unlike the ESG integration goals described above, where ESG factors are considered on the basis of their potential economic impact, values-based goals are intentionally aligned to match an investor's beliefs.

POSITIVE IMPACT

I want my investments to make a difference in the world. A third group of investors focuses on the impact of their investments on the world around them. These investors may seek to direct their capital toward companies that provide solutions to environmental or social challenges and, through formal frameworks such as the UN Sustainable Development Goals (SDGs), monitor the extent to which their investments are generating positive social or environmental impacts alongside their financial returns.

THE EVOLUTION OF ESG INVESTING

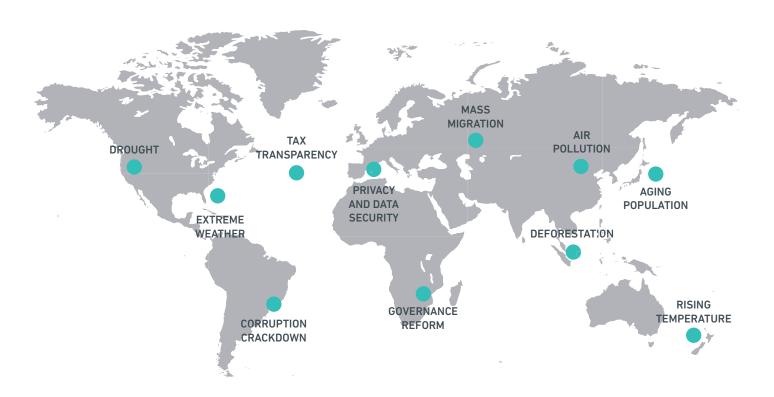
ESG is growing in significance amongst both institutional and retail investors. The practice of ESG investing began in the 1960s as socially responsible investing, with investors excluding stocks or entire industries from their portfolios based on business activities such as tobacco production or involvement in the South African apartheid regime. Today, ethical considerations and alignment with values remain common objectives of many ESG investors. The field is rapidly growing and evolving, however, to include the practice of incorporating financially relevant ESG factors into the investment process alongside traditional financial analysis.

WHY IS ESG INVESTING GROWING?

In recent years, institutional investor adoption of ESG and the subsequent growth in ESG assets under management has accelerated. While much has contributed to this growth, we focus on three primary drivers of ESG investment:

THE WORLD IS CHANGING

Global sustainability challenges such as flood risk and sea level rise, privacy and data security, demographic shifts, and regulatory pressures, are introducing new risk factors for investors that may not have been seen previously. As companies face rising complexity on a global scale, the modern investor may reevaluate traditional investment approaches.

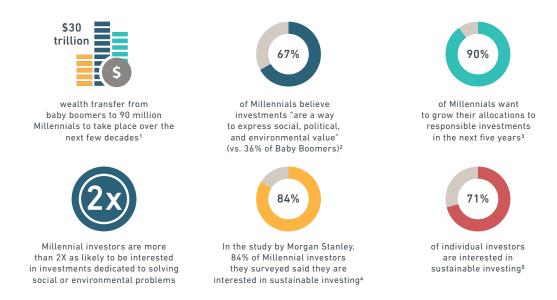


"WE'RE IN THE MIDDLE OF A \$30 TRILLION INTERGENERATIONAL WEALTH TRANSFER FROM BABY BOOMERS TO THEIR CHILDREN. AND THOSE KIDS - NOT REALLY MILLENNIALS ONLY, BUT PEOPLE FROM 25 TO 40 YEARS OLD - SIMPLY THINK ABOUT THEIR INVESTMENT DECISIONS DIFFERENTLY."

DAVE NADIG, CEO OF ETF.COM

INVESTORS ARE CHANGING

Over the next two to three decades, the millennial generation could put between \$15 trillion and \$20 trillion into U.S.-domiciled ESG investments, which would roughly double the size of the U.S. equity market. A growing body of studies suggest that millennials - as well as women - are asking more of their investments.



DATA AND ANALYTICS ARE EVOLVING

With better data from companies combined with better ESG research and analytics capabilities, we are seeing more systematic, quantitative, objective and financially relevant approaches to ESG key issues. Better data and analytics have paved the way for numerous studies that explore ESG investing.

MSCI ESG Research provides research and ratings on over 13,000 equity and fixed income issuers linked to over 590,000 equity and fixed income securities on a 'AAA' to 'CCC' scale according to their exposure to industry specific ESG risks and their ability to manage those risks relative to peers. MSCI ESG Ratings is designed to help investors identify ESG risks and opportunities within their portfolio.



HAS ESG HISTORICALLY COMPROMISED FINANCIAL RETURNS?

A common debate with ESG investing revolves around the idea that incorporating ESG factors into the investment process will hurt performance. However, some studies suggest that companies with robust ESG practices displayed a lower cost of capital, lower volatility, and fewer instances of bribery, corruption and fraud over certain time periods. Conversely, studies have shown that companies that performed poorly on ESG have had a higher cost of capital, higher volatility due to controversies and other incidences such as spills, labor strikes and fraud, and accounting and other governance irregularities.

It may come as no surprise then that numerous academic and investor studies (visit msci.com/esg-investing for the full list) in recent years have found historically lower risk and even outperformance over the medium to long term for portfolios that integrated key ESG factors alongside rigorous financial analysis.

In a recent study titled "Foundation of ESG Investing Part 1: How ESG Affects Equity Valuation, Risk and Performance," MSCI researchers focused on understanding how ESG characteristics have led to financially significant effects. The study examined how ESG information embedded within stocks is transmitted to the equity market. Borrowing from central banks, we created three "transmission channels" within a standard discounted cash flow (DCF) model. We call these the cash-flow channel, the idiosyncratic risk channel and the valuation channel. The former two channels are transmitted through corporations' idiosyncratic risk profiles, whereas the latter transmission channel is linked to companies' systematic risk profiles.

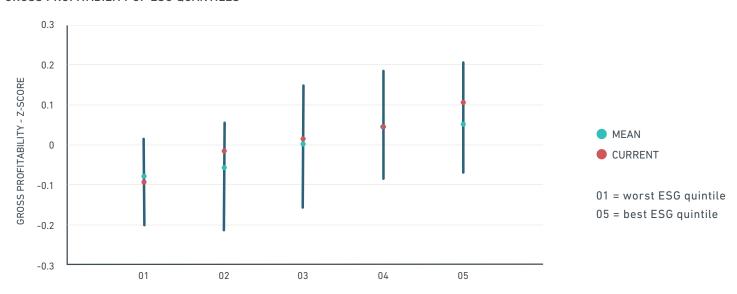
Our research showed that ESG did have an effect on valuation and performance of many of the companies in the study.

We identified three major channels from ESG to financial value. Companies with higher ESG ratings were associated with:

1. HIGHER PROFITABILITY

Cash-flow channel: High ESG-rated companies studied were more competitive and generated abnormal returns, often leading to higher profitability and dividend payments especially when compared to companies with low ESG Ratings.

GROSS PROFITABILITY OF ESG QUANTILES



2. LOWER TAIL RISK

Idiosyncratic risk channel: High ESG-rated companies experienced a lower frequency of idiosyncratic risk incidents such as major drawdowns. Conversely, companies with low ESG Ratings were more likely to experience major incidents.

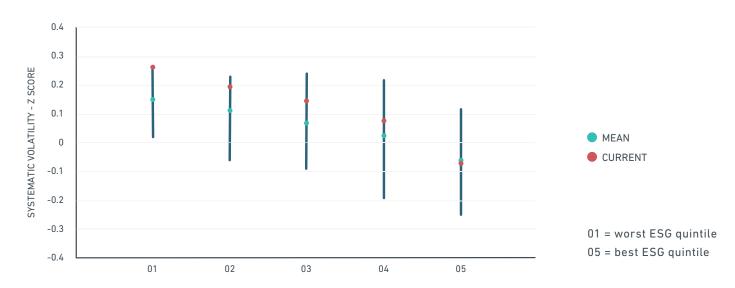
LARGE DRAWDOWN FREQUENCY OF TOP VS. BOTTOM ESG QUINTILE



3. LOWER SYSTEMATIC RISK

Valuation channel: High ESG-rated companies tended to have lower systematic risk exposure, evidenced by less volatile earnings and less systematic volatility. Compared to low ESG-rated companies, they also experienced lower betas and lower costs of capital.

SYSTEMATIC VOLATILITY OF ESG QUINTILES



Lastly, we identified a dynamic channel that we call ESG momentum, which is the 12-month change in ESG Ratings. ESG momentum can be a useful financial indicator in its own right. Companies experiencing positive ESG momentum outperformed companies experiencing negative ESG momentum over the last ten years.



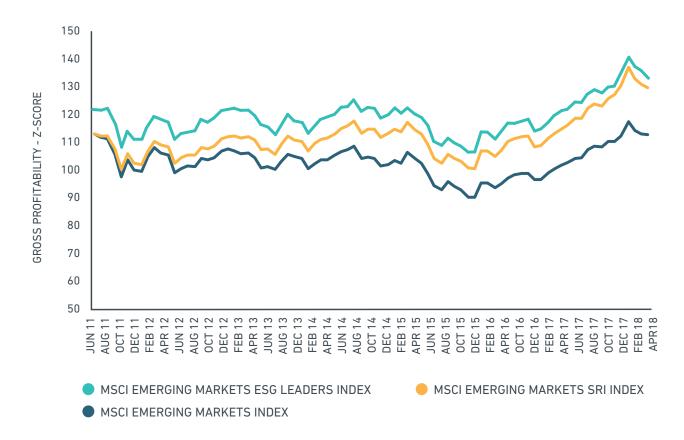
ESG IN EMERGING MARKETS

Investing in emerging markets can carry a high degree of risk, not least from the threat of environmental, social and political instability. Research suggests that "tail risk" - the risk of unlikely events causing catastrophic damage - may be reduced in an emerging markets portfolio that has limited its exposure to these ESG risks. Emerging market asset managers keen to utilize ESG analysis have historically faced significant information problems; however, with the introduction of stewardship codes in the Asia Pacific region and an emphasis on reporting and disclosure globally, this is changing.

MSCI ESG Ratings are used in the construction of over 700 MSCI ESG Indexes.

The MSCI ESG Leaders Indexes are designed to represent the performance of companies that have high Environmental, Social and Governance (ESG) performance. The MSCI ESG Leaders Indexes aim to target sector weights that reflect the relative sector weights of the underlying indexes to limit the systematic risk introduced by the ESG selection process.

EMERGING MARKETS CASE STUDY: PERFORMANCE OF SAMPLE MSCI ESG INDEXES



Disclaimer: Date as of October 31, 2017. Index returns are for illustrative purposes only. Index performance returns do not reflect any any fees, costs or expenses. Indexes are unmanaged and one cannot invest in an index. Past performance does not guarantee future results. Index returns do not represent any actual portfolio performance.

GLOSSARY

COMMON ESG INVESTING OBJECTIVES

ESG integration

Investing with a systematic and explicit inclusion of ESG risks and opportunities in investment analysis.

Impact investing

Investing with the intention to generate measurable positive social or environmental benefits alongside a financial return.

Values-based investing

Investing in alignment with an organization or individual's moral values and beliefs.

COMMON ESG INVESTING APPROACHES

Exclusionary or negative screening

Avoiding securities on the basis of an organization or individual's values, standards and norms, or other ESG considerations.

Best-in-class selection

Preferring companies with better or improving ESG profiles relative to sector peers.

Thematic investing

Investing based on trends or structural shifts, such as social, industrial and demographic trends.

Active ownership

Entering into a dialogue with companies on ESG issues and exercising both ownership rights and voice to effect change.

Socially responsible investing (SRI)

A traditional umbrella term that can be used to describe a values-based approach to investing, with an eye towards reducing exposure to negative externalities. Falls under "values-based investing," also known as "ethical investing" or "norms-based investing."

Faith-based investing

Aligning investments with faith-based values. Faith-based investing often involves avoiding investments in companies whose business activities are viewed as violating the teachings of a given faith. It may also include aims to generate measurable social (or occasionally environmental) impacts. Falls under "values-based investing."

Mission-related investing

Aligning investments with organizational values or to further philanthropic goals. Mission-related investments often aim to generate measureable positive social or environmental impacts. Often interchangeable with "impact investing".





For more information, visit msci.com/esg-investing

ABOUT MSCI

For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset-class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real-estate benchmarks and ESG research.

MSCI serves 99 of the 100 largest money managers, according to the most recent Pensions & Investments ranking.

For more information, visit us at www.msci.com.

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