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The Role of ESG Criteria in the Asset Management Industry

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Portfolio Management – Webinar

EMFI Angola's Sovereign Fund 2019

Outline and objectives

- What is ESG in asset management?
- Branch, Goldberg, and Hand (2019)
- Statman and Glushkov (2009)
- Giese, Lee, Melas, Nagy, and Nishikawa (2019)
- Amel-Zadeh and Serafeim (2019)

What is ESG/SRI?

- Exponential growth in the number of companies that report
 - ① **environmental** data (e.g., carbon emissions, water consumption, waste generation)
 - ② **social** data (e.g., employee composition, product information, customer-related information)
 - ③ **governance** data (e.g., political lobbying, anticorruption programs, board diversity)—that is, ESG data. Whereas fewer than
- In short, **ESG data**
 - From 20 companies that disclosed ESG data in the early 1990s, the number of companies issuing sustainability or integrated reports has increased to nearly 9,000 by 2016
 - As of 2016, the 2006 UN Principles for Responsible Investment had been subscribed by firms with an AUM of about \$60 trillion, <https://www.unpri.org/signatories/signatories/>
- A literature has shown that ESG has deep economic effects
 - ESG disclosures are associated with lower capital constraints, lower costs of capital, and large price movements around mandatory ESG disclosures

What is ESG/SRI?

- The Social Investment Forum (2006) describes socially responsible investing as “an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis”
- Typical socially responsible investors (SRIs) tilt their portfolios toward stocks with high scores on SR characteristics and shun companies associated with tobacco, alcohol, gambling, firearms, and the military
- **Screening** is the most prevalent form of SR investing
 - Negative screening excludes/reduces the portfolio weights of companies with weak environmental, social, or governance records
 - Positive screening includes/increases weights of strong records
- A literature compares the returns of SRIs and aggregate indices, such as the S&P 500, but informativeness is limited as indices overlap
 - E.g., the Domini 400 Social Index and the S&P 500 share approximately 250 companies
 - SRI criteria and their relative weights vary among indices, e.g., the Calvert Social Index excludes all tobacco companies, the Dow Jones Sustainability Index (DJSI) does not

What is ESG/SRI?

- Three hypotheses address the relative returns of the stocks of SRI vs. conventional companies
- **“Doing Good but Not Well”**: the returns of SR stocks are lower than those of conventional stocks as the benefits of company actions that tilt it toward ESG fall short of the costs
 - Barnea and Rubin (2006) suggest that managers engage in SR actions whose costs exceed the benefits to shareholders because they reap private benefits, such as awards and other expressions of appreciation
 - Insiders in companies that rank high on SR hold few shares of their company and thus bear little of the cost of the accolades they receive
- **“Doing Good While Doing Well”**: the returns of SR stocks are higher than those of conventional stocks as managers and investors underestimate the benefits of being SR or overestimate its costs
- **“No Effect”**: the expected returns of SR stocks are equal to conventional stocks, as actions are costless, such as when actions amount to no more than words
 - Hypothesis might also be true if costly company actions increase benefits by as much as they increase costs

Implementing ESG Portfolios: Branch et al. (2019)

- Branch, Goldberg, and Hand (2019) discuss how to customize ESG portfolios to meet investors' goals and emphasize the trade-off between risk control and unintended exposures that may emerge in the portfolio construction process
 - Incomplete data are a material issue in ESG studies: btw. 2002 and 2016, the average proportion of firms with ESG ratings ranged from 7% for Singapore to 35% for Ireland; for the U.S., the country with the largest average number of firms, the average fraction with ESG ratings was 21%
- Excluding securities leads to the simplest ESG portfolios, but the growing library of scored data allows ESG investors to develop strategies that go beyond exclusion
- Branch et al. outline six ESG portfolio implementations
- The first two strategies are the simplest and rely on binary (in or out) data to exclude unwanted securities
- The most basic ESG strategy is cap-weighted exclusion, which omits unwanted securities from a diversified benchmark and then weights remaining securities in proportion to their market capitalizations

Implementing ESG Portfolios: Branch et al. (2019)

- An optimized exclusion strategy also begins by omitting unwanted securities, but it differs from cap-weighted exclusion by weighting remaining securities to minimize tracking error
 - In many cases, tracking error in an optimized exclusion is so low that the portfolio will tend to deliver benchmark-like returns
- Excluding/underweighting unwanted securities in combination with risk minimization leads to overweights in securities that are correlated with the rejects, and this is a dangerous bias if exposures are undesirable
- The second pair relies on scored data, see example
- The third pair combines exclusion and scoring, leading to the most complex implementations

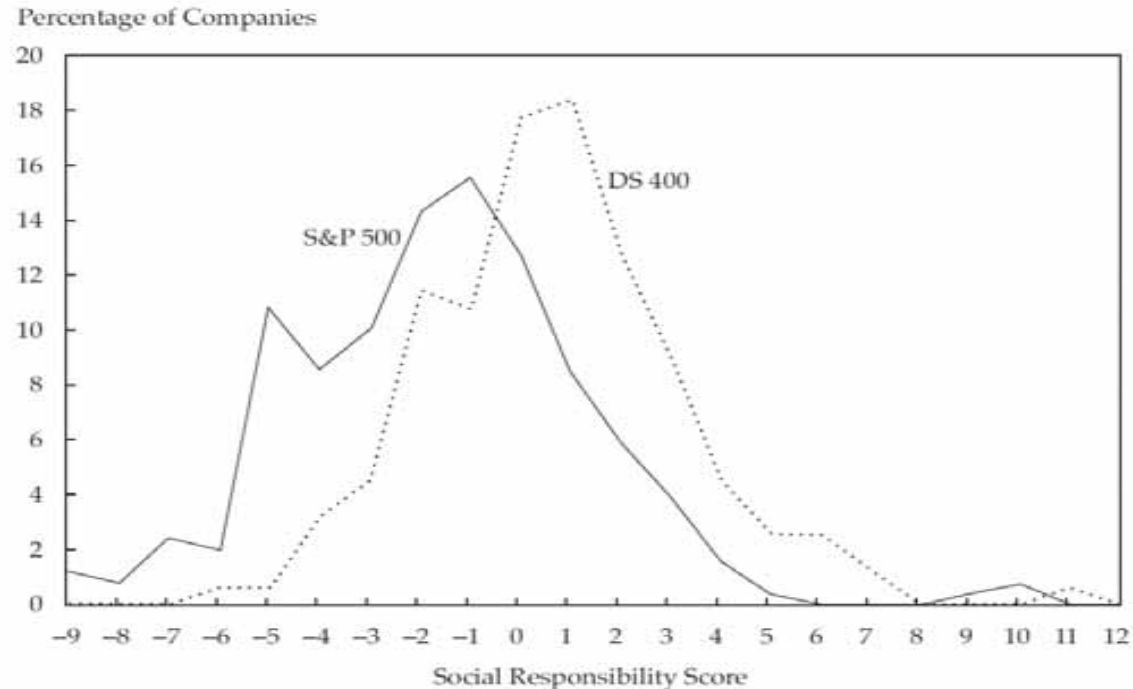
Technical Goal	Data Granularity	Risk Aversion	Strategy	Trade-Off
Exclude Unwanted Securities	Binary	Low	Cap-Weighted Exclusion	Excess Tracking Error
		High	Optimized Exclusion	Risk of Unwanted Exposure
Tilt on a Theme	Scored	Low	Maximum Score	Excess Tracking Error
		High	Minimum Risk	Risk of Unwanted Exposure
Exclude and Tilt	Binary and Scored	Low	Custom Tilt Exclusion	Excess Tracking Error
		High	Tilt Exclusion	Risk of Unwanted Exposure

KLD Social Responsibility Indices

- Statman and Glushkov (2009) use KLD Research & Analytics data
- KLD is a company that produces social investment research, rates companies on strengths and concerns in the following list:
 - **Corporate governance** (e.g., limited compensation to executives and members of the board, lack of tax disputes)
 - **Community** (e.g., generous giving, support for housing)
 - **Diversity** (e.g., promotion of women and minorities, family benefits)
 - **Employee relations** (e.g., strong union relations, cash profit sharing)
 - **Environment** (e.g., pollution prevention, recycling)
 - **Human rights** (e.g., labor rights in outsourcing)
 - **Products** (e.g., product quality and safety, provision of products for the economically disadvantaged)
- KLD analyzes information relevant to each indicator of strength
 - It assigns a score of 1 when a company demonstrates strength on an indicator and 0 if it does not
 - Similarly, it assigns a score of 1 when a company's record raises a concern on an indicator and 0 otherwise

Statman and Glushkov (2009)

- The score of a company on a given characteristic is the difference between the number of its strength indicators and concern indicators
- Companies with same overall KLD score differ in their characteristics scores
- Statman and Glushkov (2009) formed year-end portfolios on the basis of 1992-2007 KLD scores
 - By the nature of industries, companies in some industries have lower scores, on average, than companies in other industries
 - Therefore, they classified companies by best-in-class industry-adjusted scores, where the score in each characteristic is the difference between its score and the mean score of all companies in its industry that year
- Divide companies into 3 groups of the same number and calculate the returns of an equally weighted ptf long the stocks of the companies in the top-third group by a characteristic and short the bottom-third



Statman and Glushkov (2009)

- These long-short ptf's are rebalanced every year
- They present abnormal returns by each of three performance benchmarks: CAPM, 3-factor Fama-French, and four-factor Carhart's model
- Stocks of companies with high SR scores yielded higher returns than stocks of companies with low scores
- The alphas are positive and statistically significant for the community, employee relations, and environment characteristics but not for diversity and products

Table 4. The Performance of Equally Weighted Portfolios by Top-Overall minus Bottom-Overall, Accepted minus Shunned, and DS 400 minus S&P 500, January 1992–September 2007

Performance Benchmark	Annualized Excess Returns	Market Factor	Small–Large Factor	Value–Growth Factor	Momentum Factor	Adjusted R ²
<i>Top-overall minus bottom-overall</i>						
CAPM	3.18% (0.08)	-0.01 (0.84)				-0.01
3-Factor	6.12% (0.00)	-0.14 (0.00)	-0.02 (0.78)	-0.31 (0.00)		0.19
4-Factor	5.54% (0.00)	-0.13 (0.00)	-0.03 (0.65)	-0.30 (0.00)	0.05 (0.11)	0.19
<i>Accepted minus shunned</i>						
CAPM	-3.34% (0.02)	0.1583 (0.00)				0.13
3-Factor	-2.62% (0.07)	0.1090 (0.01)	0.07 (0.15)	-0.08 (0.07)		0.19
4-Factor	-2.27% (0.13)	0.0996 (0.02)	0.07 (0.13)	-0.09 (0.06)	-0.03 (0.45)	0.19
<i>DS 400 minus S&P 500</i>						
CAPM	0.48% (0.52)	0.0370 (0.01)				0.02
3-Factor	1.32% (0.11)	-0.0002 (0.99)	0.00 (0.97)	-0.09 (0.00)		0.09
4-Factor	1.20% (0.15)	0.0030 (0.87)	0.00 (0.95)	-0.08 (0.00)	0.01 (0.49)	0.09

Opposite result! Negative screens (shunning) do not work...

Statman and Glushkov (2009)

- The abnormal excess returns for the human rights and governance characteristics are negative, but not significant
- They find no statistically significant relationship between governance and stock returns
- The generally higher returns of stocks of companies with high social responsibility scores are especially evident in a long-short portfolio of top-overall and bottom-overall companies
 - A top-overall company is one in the top third of companies by two or more SR characteristics and not in the bottom third by any characteristic
 - A bottom-overall company is one in the bottom third of companies by two or more SR characteristics and not in the top third by any characteristic
- The annualized excess return of the “top-overall minus bottom-overall” portfolio is 5.54%, with a 0.00 p-value, by a 4-factor model
- The portfolio is tilted toward growth stocks and stocks with high momentum, with no significant tilt toward large- or small-caps
- These findings are consistent with the “doing good while doing well” hypothesis: **ESG is on average a good investment idea!**

Why Would ESG Work? Giese et al. (2019)

- One unexplained fact is how and why picking companies with high ESG score could lead to a stronger ex-post realized performance
 - One problem is **lack of differentiation btw. correlation and causality**: a correlation between ESG and financial variables is interpreted as ESG \Rightarrow financial effect, although the transmission easily could also be reversed
 - For instance, one can argue that companies with high ESG scores are better at managing their risks, leading to higher valuations
 - But companies with higher valuations may be in better shape and therefore able to invest more in measures that improve their ESG profile
- Giese, Lee, Melas, Nagy, and Nishikawa (2019) provide a link between ESG information and the valuation and performance of companies, by examining 3 channels within a standard discounted cash flow model:



- Analysis of the channels mitigates confusion btw. correlation and causality

Why Would ESG Work? Giese et al. (2019)

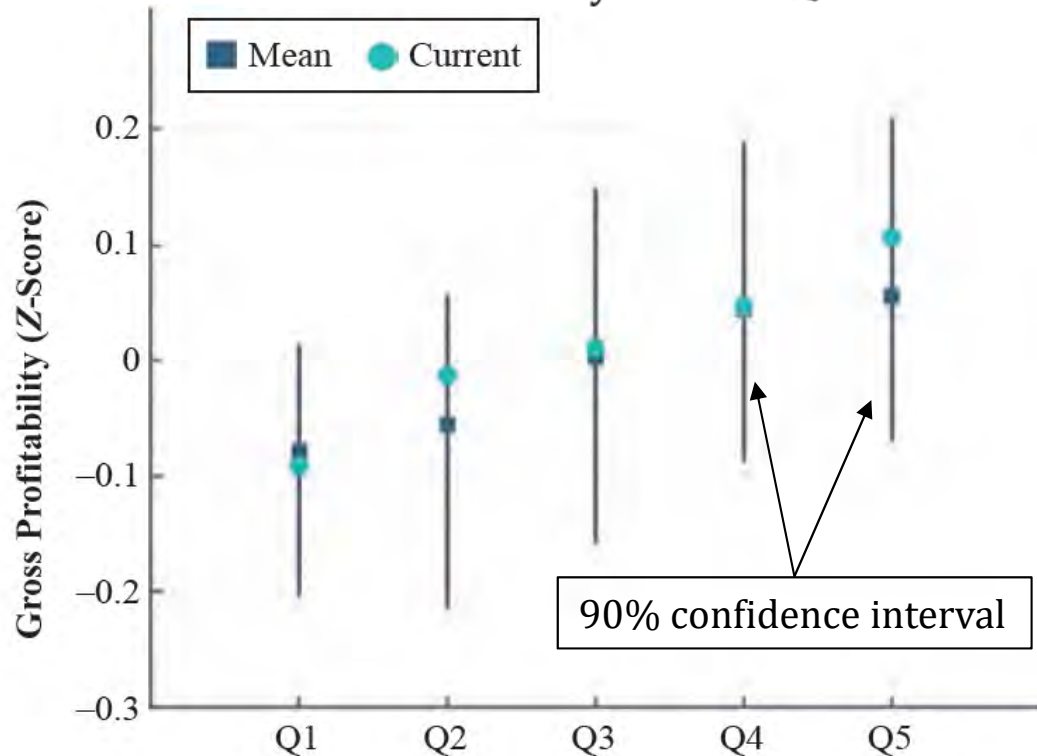
- A discounted cash-flow (DCF) model describes a company's value as the sum of future cash flows, discounted at the cost of capital

$$V_0 = \left[\frac{CF_1(1+g)}{(1+r)^1} + \frac{CF_2(1+g)^2}{(1+r)^2} + \dots + \frac{CF_n(1+g)^n}{(1+r)^n} \right] = \frac{CF_1}{r-g}$$

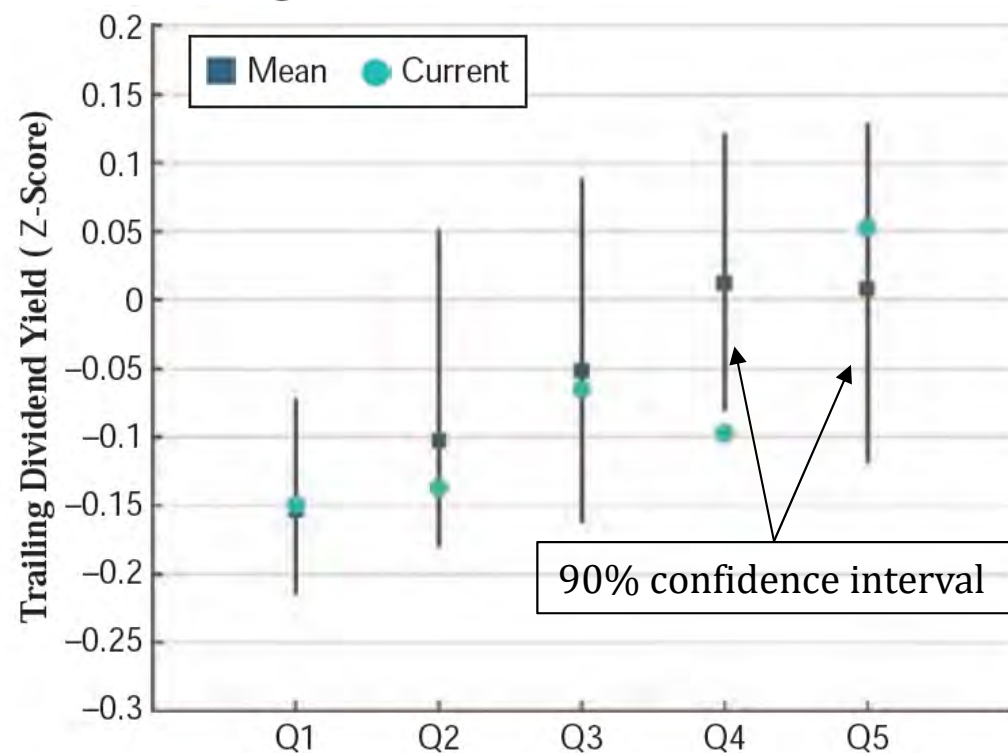
- The distinction between **systematic** vs. **firm-specific risk** is highly important for analyzing the impact of ESG characteristics on corporate valuation because investors can typically diversify away firm-specific risk
- In a DCF model, systematic risk is typically captured through the cost of capital (i.e., the denominator in the model), whereas firm-specific risk is linked to the numerator of the model, future cash flows
- They test each of these transmission channels using Morgan Stanley Capital International ESG Ratings data for a Jan. 2007 – May 2017 sample and find they are all important
- Analysis is based on the distribution of variables across 5 size-adjusted ESG score quintiles (Q1 to Q5), with Q1 indicating companies with lowest ESG rating and Q5 the highest-rated companies
 - The universe contains over 1,600 stocks
 - Results are neutralized for industry exposure and size

Why Would ESG Work? Giese et al. (2019)

Gross Profitability of ESG Quintiles



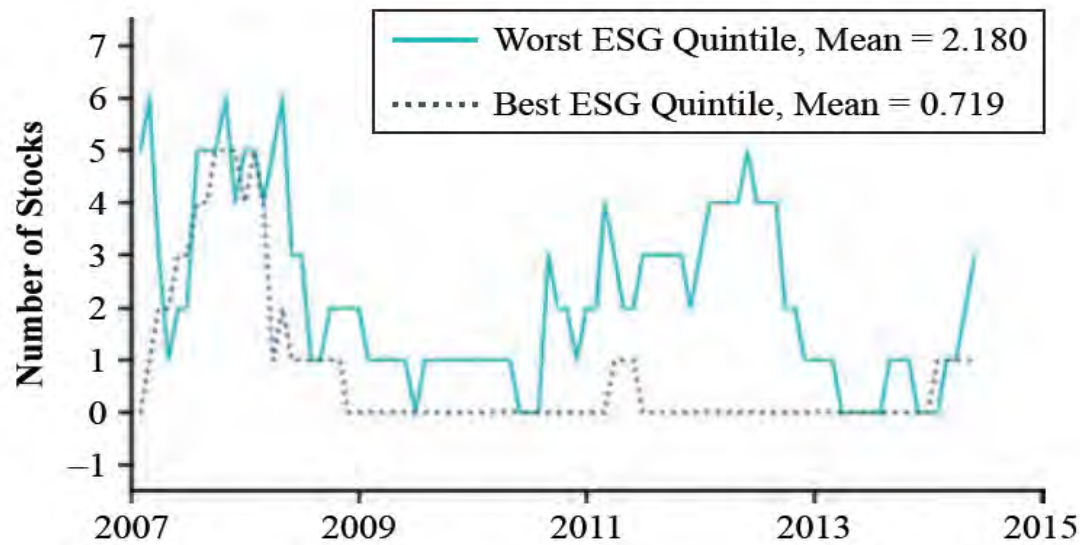
Trailing Dividend Yield of ESG Quintiles



- They found data supporting the assertion that high ESG-rated companies (Q5) were more profitable and paid higher dividends, especially when compared to bottom quintile (Q1) companies
- For the 10-year sample, they identify companies in the MSCI World Index that had a drawdown of more than 95% or went bankrupt in the 3-years after the company was categorized in either the top or bottom ESG rating quintile == idiosyncratic risk incident

Why Would ESG Work? Giese et al. (2019)

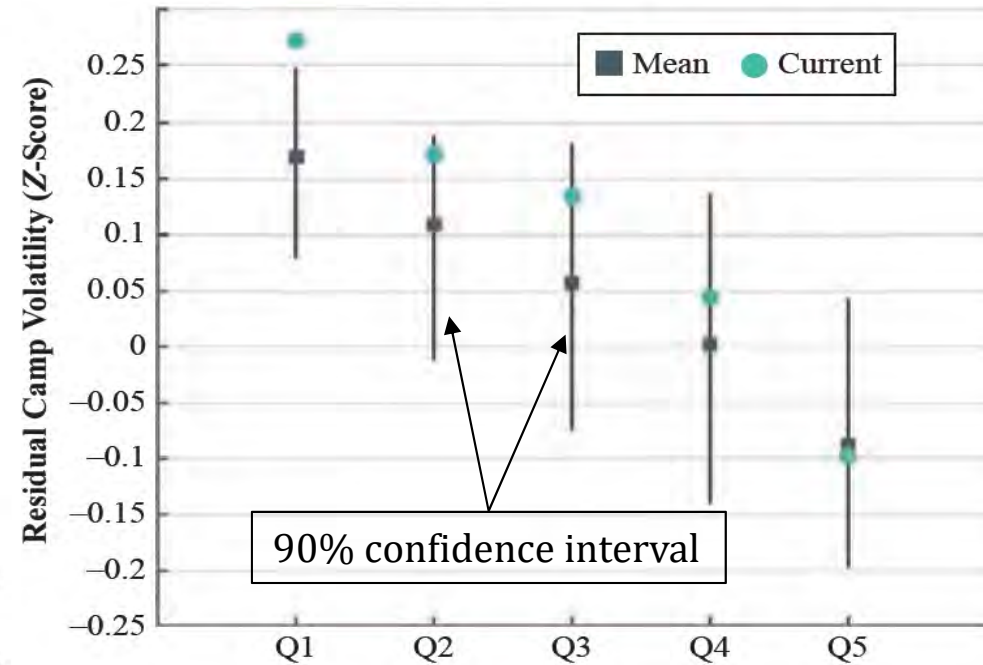
Idiosyncratic Incident Frequency of Top and Bottom ESG Quintiles



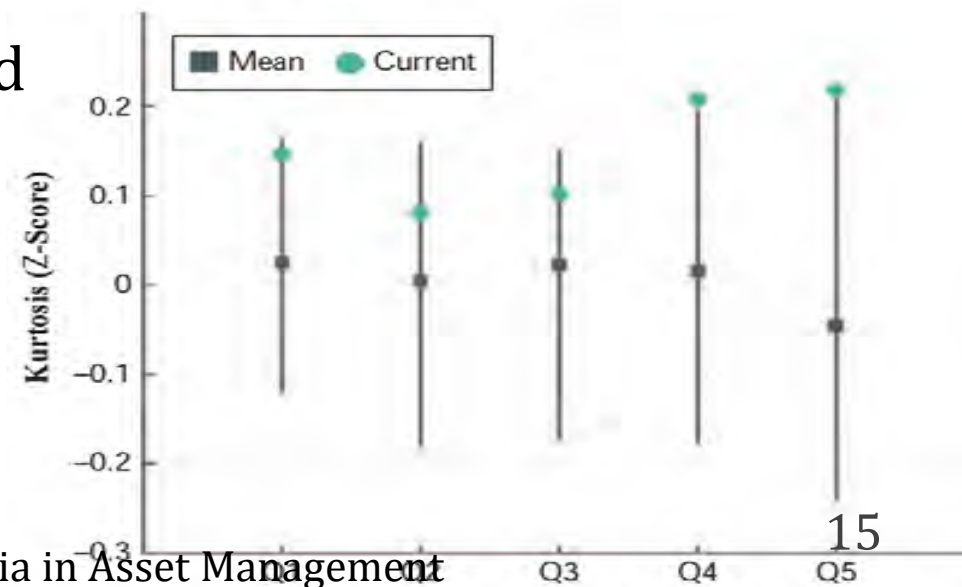
Note: For each month, we report the number of stocks that realized a more than 95% cumulative loss over the next 3 years, taking the price at month end as the reference point for return calculation.

- Higher ESG-rated companies showed a lower frequency of idiosyncratic risk incidents
- The residual volatility not explained by systematic risk factors and tail thickness (kurtosis) are lower for higher ESG scored-companies

Residual CAPM Volatility of ESG Quintiles

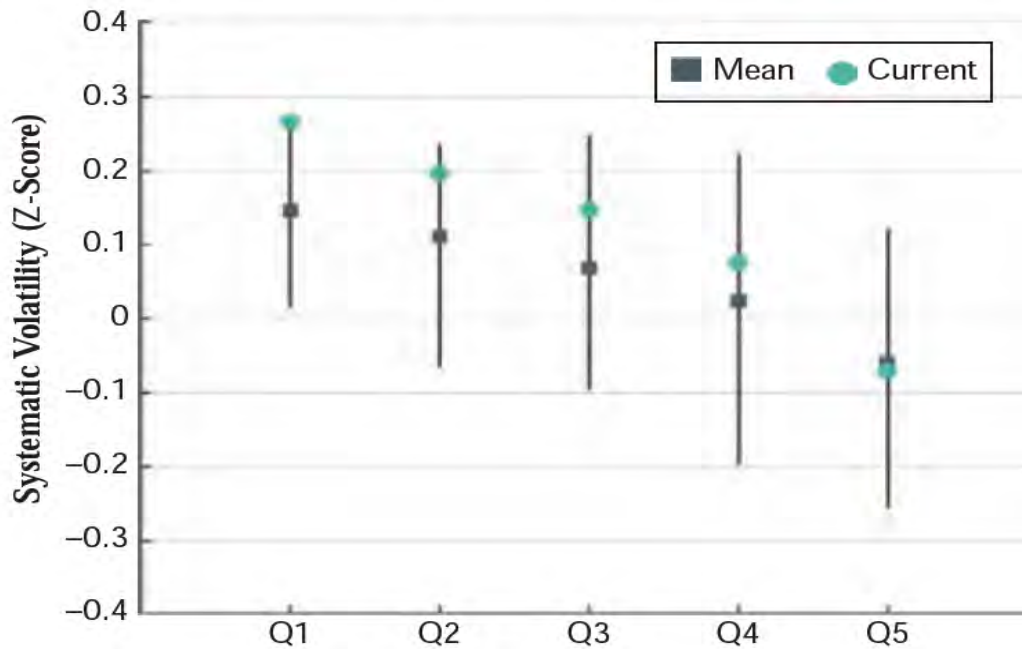


Kurtosis of ESG Quintiles

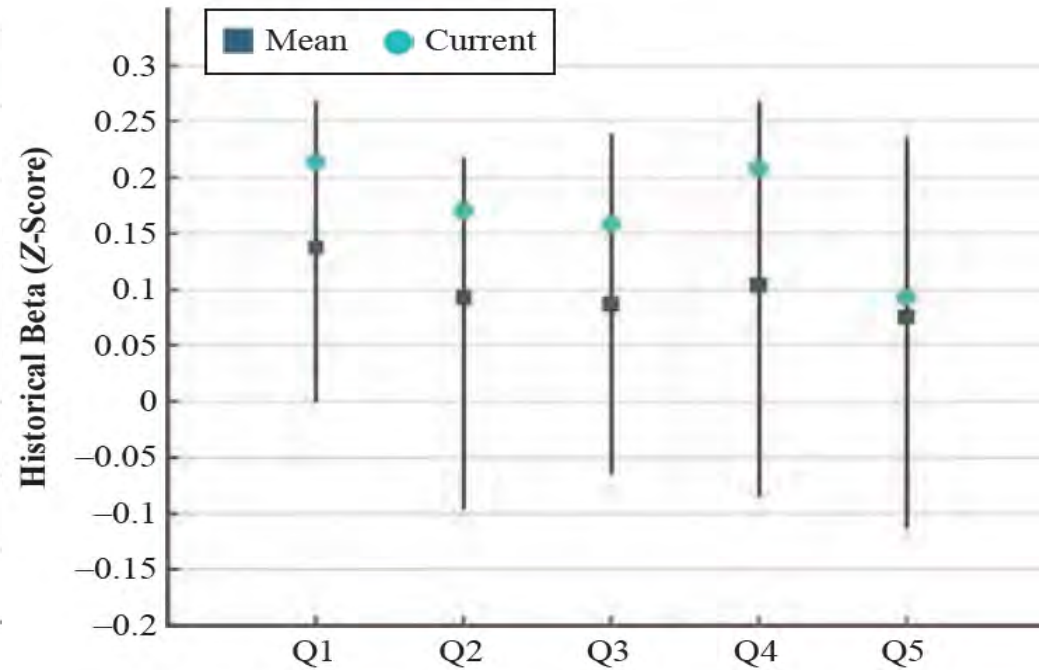


Why Would ESG Work? Giese et al. (2019)

Systematic Volatility of ESG Quintiles

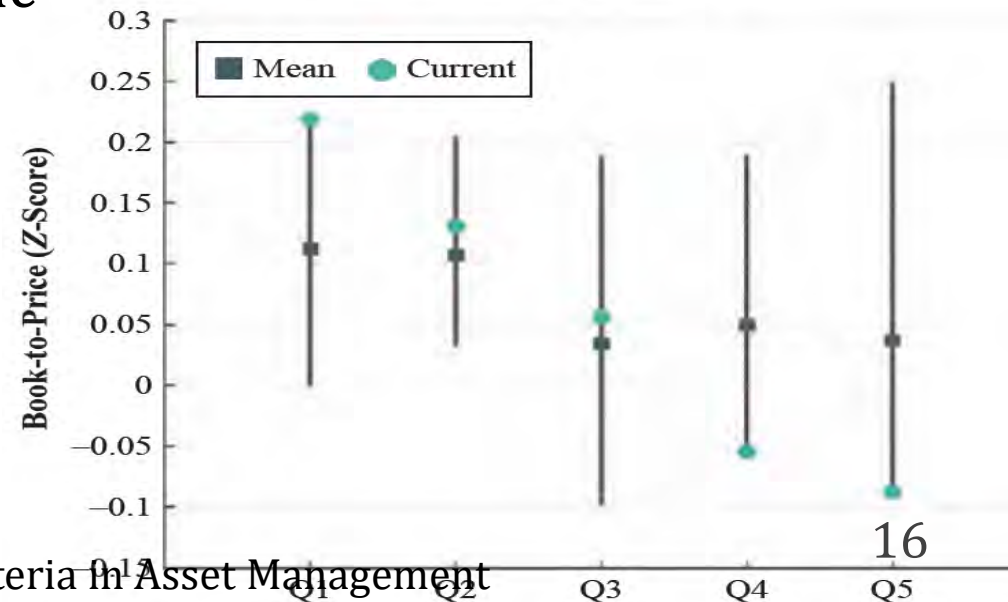


Historical Beta of ESG Quintiles



- High ESG firms have less systematic risk and somewhat lower beta
- Therefore their cost of capital is lower
- The book-to-price ratios of ESG quintiles show that high ESG ratings coincided with higher valuations

Book-to-Price Ratio of ESG Quintiles

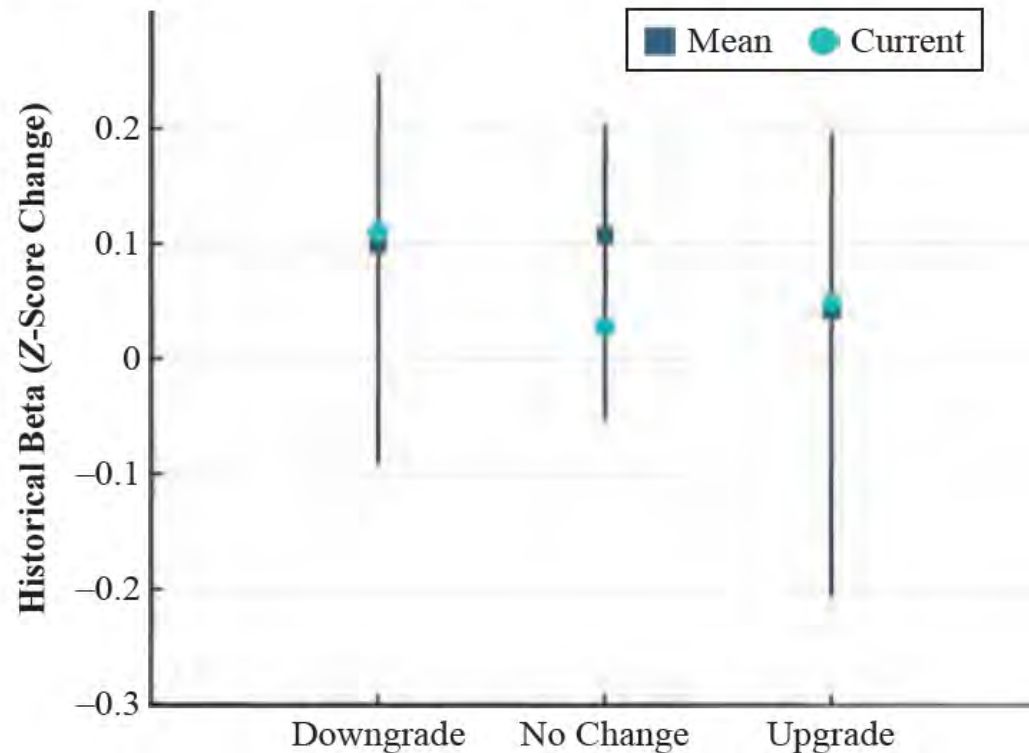


Why Would ESG Work? Giese et al. (2019)

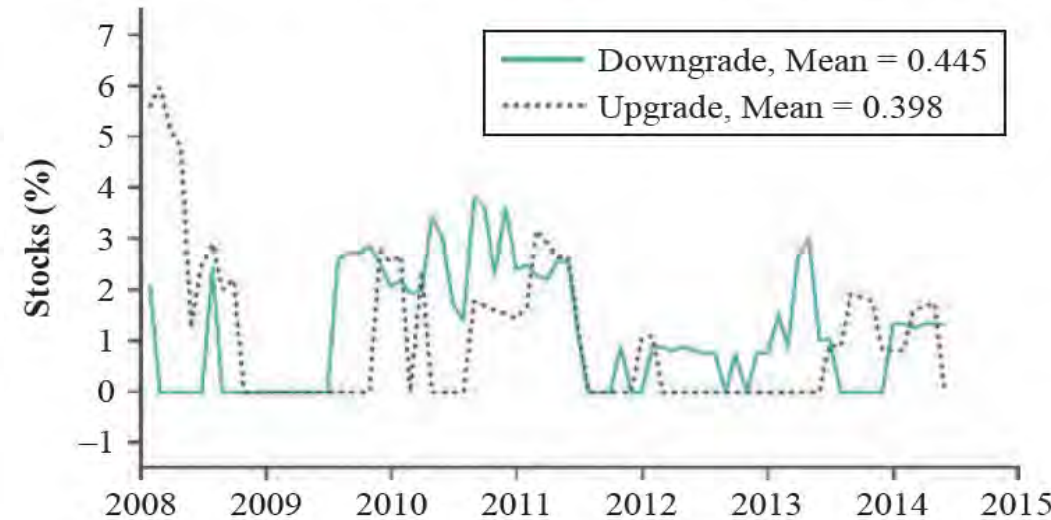
- Unfortunately, the direction of causality between positive correlations for ESG rating and corporate valuation is not clear
 - Higher ESG ratings can lead to higher valuations but higher valuations can also indicate successful companies that have more money to invest in sustainability-related areas, leading to a higher ESG rating
- Understanding causality requires an analysis of whether changes in the ESG profile leads to (predicts) changes in systematic risk, changes in the cost of capital, and changes in the valuation of companies
 - They plot the change of key variables over three buckets of changes in ESG ratings—downgrades, neutral (no change), and upgrades
 - Because ESG characteristics are expected to influence financial profiles mainly in the medium-term, we look at changes in financial variables over a 3-year time period after the change in ESG rating
- Companies with a rating upgrade demonstrated a relative improvement in their systematic risk profile compared to neutral or downgraded companies, although differences are rather small
- Rating upgrades led to a relative decrease in the predicted earning-to-price ratio compared to rating downgrades \Rightarrow increase in valuation

Why Would ESG Work? Giese et al. (2019)

Change in Companies' Beta



Proportion of Large Losses by Rating Notch Changes

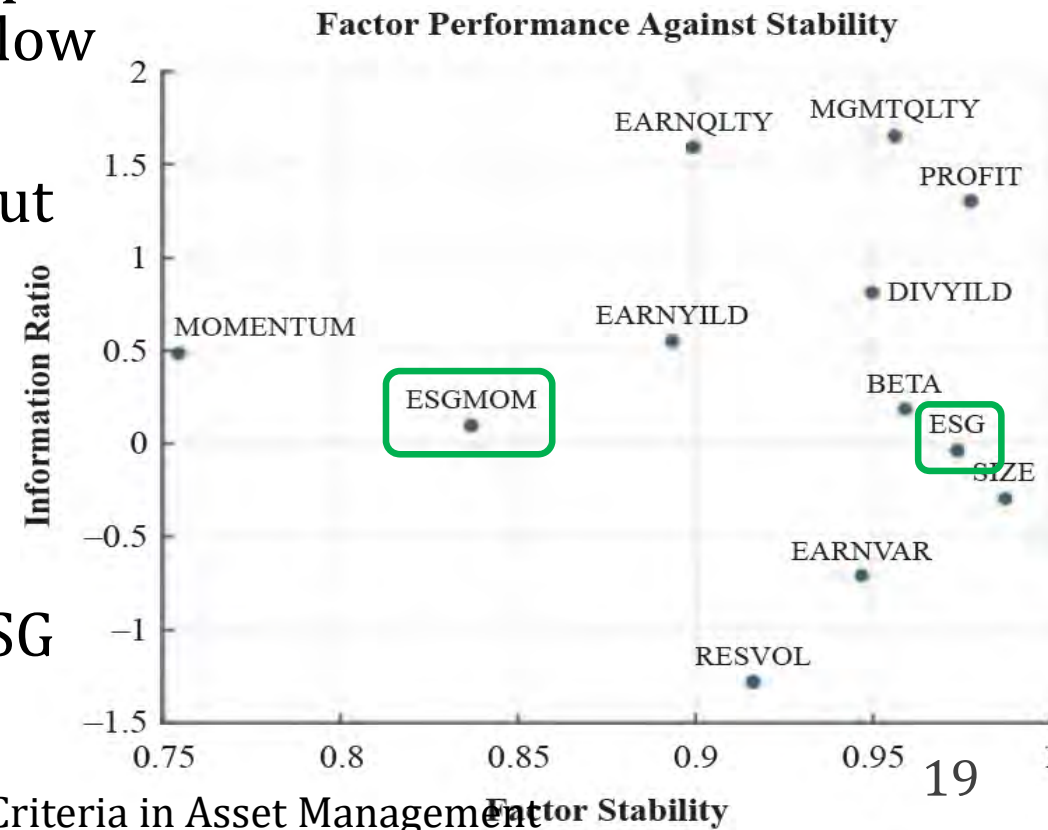


Notes: For each month, stocks are sorted into three groups—rating upgrades, neutral, and downgrades over the previous 12 months. For each group, we then compute the proportion of stocks that realized a more than 95% cumulative loss over the next three years, assuming the price at month end as the reference point for return calculation. The exhibit shows only the time series of upgrades and downgrades (see also Exhibit 12).

- Rating upgrades had a lower incident frequency than rating downgrades, supporting the assertion that rating changes are a leading indicator for idiosyncratic risks
- A strategy that tilts a market ptf toward companies with a positive ESG rating trend significantly outperformed both the benchmark and a strategy that tilted toward companies with high ESG ratings

Is ESG a New Factor? Giese et al. (2019)

- One wonders whether ESG may represent a new “smart beta” factor comparable to those we have examined back in July
- They assess the differences between ESG and common factors in terms of information ratio (IR) and factor stability
- Dynamic factors, such as momentum, are quite intense (i.e., high IR), but their lifespan is relatively short
- The factors with the longest lifespan are ESG and size, but their intensity (their IRs) is relatively low
- ESG momentum shows higher intensity levels than ESG itself, but also a shorter lifespan
- Whereas standard factors have become popular in quant strategies but strategies replicating factor indexes experienced high turnover, the longevity of ESG ratings makes them especially suitable



Amel-Zadeh and Serafeim (2019)

- Amel-Zadeh and Serafeim (2019) survey investment firms that are customers of Bank of NY Mellon, for a AUM value of US\$31 trillion
 - The majority of the responding institutions have no or only a small allocation to ESG specific funds so that the sample reflects the views of largely mainstream investment professionals
 - They distributed the survey via email to senior investment professionals at 4,523 asset-managing and asset owning institutions compiled by Bank of NY Mellon and Ipreo on 18 January 2016
 - They received 652 responses, for a response rate of 14.4%
- The majority of respondents (82%) suggest that they use ESG information because it is material to investment performance

Percentage of AUM Allocated to ESG

0%	35%
1%-5%	27
5%-10%	7
10%-25%	16
25%-50%	5
50%-99%	10
100%	0
Total	100%

Type of Organization

Asset management company	65%
Corporate pension fund	13
Public/local authority pension fund	6
Charity/endowment/religious organization	4
Insurance/financial institution	4
Sovereign wealth fund/government agency	3
Family office	2
Other	2
Total	100%

Amel-Zadeh and Serafeim (2019)

- Little is known about investors' motivations for considering corporate prosocial behavior in investment decisions; if they do, whether they have performance motives (i.e., performance), financial motives (i.e., product strategy), or norms-based (i.e., ethical) motives is unclear
- A large majority (82%) of respondents consider ESG information

		All (N = 419)	AUM Size			Region		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Response			Large	Small	Diff.	US	Europe	Diff.
<i>Yes, because ...</i>		82.1%	85.9%	80.3%		75.2%	84.4%	
1	... ESG information is material to investment performance	63.1	60.3	64.5		55.7	64.4	
2	... of growing client/stakeholder demand	33.1	54.3	22.4	**	33.0	39.3	
3	... we believe such policy to be effective in bringing about change at firms	32.6	31.9	32.9		25.8	40.7	*
4	... it is part of our investment product strategy	32.6	43.1	27.2	**	47.4	30.4	**
5	... we see it as an ethical responsibility	32.6	25.0	36.4	*	18.6	40.7	**
6	... we anticipate it to become material in the near future	31.7	31.9	31.6		29.9	37.0	
7	... of formal client mandates	25.0	37.1	18.9	**	23.7	30.4	
<i>No, because ...</i>		17.9%	14.1%	19.7%		24.8%	15.6%	
1	... there is no stakeholder demand for such policy	26.7	15.8	30.4		21.9	24.0	
2	... we lack access to reliable nonfinancial data	21.3	21.1	21.4		18.8	32.0	
3	... ESG information is not material to investment performance	13.3	5.3	16.1		21.9	4.0	
4	... we believe such policy to be ineffective in inducing change at firms	12.0	15.8	10.7		12.5	16.0	
5	... it would violate our fiduciary duty to our stakeholders	12.0	5.3	14.3		21.9	8.0	
6	... such information is not material to a diversified investment portfolio	10.7	5.3	12.5		6.3	16.0	
7	... including such information is detrimental to investment performance	4.0	5.3	3.6		6.3	4.0	

p-Value of difference (yes vs. no)

<0.001

<0.001 <0.001

<0.001 <0.001

Amel-Zadeh and Serafeim (2019)

- The use of ESG information is driven **primarily by financial rather than ethical motives** but motives vary considerably by geographical area

- The greatest challenges investors face in integrating ESG into their

investment processes are the lack of cross-company comparability and the lack of standards governing the reporting of ESG information

- Slightly less weight to ESG information being costly to gather and analyze, lacks detail, and is difficult to quantify

- A lack of standardization and quantification are the main obstacles to ESG data integration; other respondents noted the lack of “sector-specific ESG data and industry adjusted scoring.”

Response	All (N = 368)	AUM Size			Region		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Large	Small	Diff.	US	Europe	Diff.
1 Lack of comparability across firms	44.8%	49.2%	42.7%		45.8%	49.3%	
2 Lack of standards in reporting ESG information	43.2	51.6	39.0	*	42.1	48.6	
3 The cost of gathering and analyzing ESG information	40.5	41.8	39.8		40.2	45.0	
4 ESG information disclosed by firms is too general to be useful	39.4	45.1	36.6		42.1	42.1	
5 Lack of quantifiable ESG information	37.8	43.4	35.0		40.2	40.0	
6 Lack of comparability over time	34.8	38.5	32.9		38.3	35.7	
7 The disclosure of ESG information by firms is too infrequent to be useful	28.3	27.9	28.5		31.8	28.6	
8 Lack of reliability of data/lack of audit and assurance	26.4	46.7	16.3	**	31.8	27.1	
9 There is too much disclosure, making it difficult to filter out what is material	16.6	16.4	16.7		14.0	20.0	
10 Our clients' mandates prevent us from using ESG information	1.4	0.8	1.6		1.9	1.4	

Amel-Zadeh and Serafeim (2019)

- Little is known about how investors use ESG information
- The literature has concentrated on comparing the performance of self-labeled socially responsible investing (SRI) funds with that of conventional mutual funds, with emphasis on negative screening
- In general, these studies have found that performance does not differ between SRI and conventional funds!

- Full integration** into individual stock valuation is the explicit inclusion of ESG factors into traditional financial analysis
- Negative screening** is the exclusion of certain sectors or companies from a fund or portfolio on the basis of specific ESG criteria

Response	All (N = 337)	AUM Size			Region		
	(1)	(2) Large	(3) Small	(4) Diff.	(5) US	(6) Europe	(7) Diff.
1 Engagement/active ownership	37.1%	42.7%	34.4%		27.1%	48.1%	**
2 Full integration into individual stock valuation	34.4	37.3	33.0		27.1	35.9	
3 Negative screening	30.0	50.0	20.3	**	40.2	32.8	
4 Thematic investment	20.8	29.1	16.7	*	15.9	26.7	*
5 Overlay/portfolio tilt	14.2	20.0	11.5	*	13.1	19.1	
6 Positive screening	13.4	22.7	8.8	**	17.8	14.5	
7 Risk factor/risk premium investing	11.3	9.1	12.3		6.5	11.5	
8 Relative screening/best-in-class screening	9.2	10.9	8.4		11.2	9.9	
9 We do not use ESG information in our investment process	16.6	10.9	19.4	*	21.5	11.5	*

Notes: This table reports responses to the question, How do you integrate material ESG information in your investment process/ how do you use ESG information to define your investment universe?

Amel-Zadeh and Serafeim (2019)

- The literature provides mixed evidence on the financial effects of integrating ESG information into the investment process
- Some studies have found that portfolios that exclude certain companies on the basis of ethical norms or are formed on the basis of aggregate ESG measures underperform their peers
- Others have found that portfolios formed after **positively screening** on material ESG issues or formed on the basis of individual ESG data points, such as employee satisfaction, outperform their peers
- Full ESG integration is considered the most beneficial strategy by investors in terms of its impact on performance

Response		All (N = 295)		AUM Size			Region		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		% Moderately or Significantly Positive (Ranks 5 and 4)	% Moderately or Significantly Negative (Ranks 1 and 2)	Large	Small	Diff.	US	Europe	Diff.
1	Full integration into individual stock valuation	61.2%	5.8%	3.70	3.71		3.54	3.81	*
2	Engagement/active ownership	52.7	6.5	3.47	3.70	*	3.46	3.80	**
3	Positive screening	59.6	10.5	3.64	3.51		3.60	3.56	
4	Risk factor/risk premium investing	42.4	8.4	3.43	3.52		3.26	3.52	*
5	Relative screening/best-in-class screening	49.7	11.0	3.34	3.52		3.38	3.49	
6	Thematic investment	42.4	10.4	3.35	3.38		3.34	3.36	
7	Overlay/portfolio tilt	37.4	11.0	3.24	3.35		3.17	3.31	*
8	Negative screening	39.1	28.2	3.07	3.09		3.07	3.12	

Notes: This table reports survey responses to the question, Which of the following ESG strategies do you believe improve or reduce investment returns compared to a market benchmark?

Amel-Zadeh and Serafeim (2019)

- Negative screening is considered to be the least financially beneficial ESG investment method, albeit with a neutral impact on returns
 - The results for this strategy contrast with results in Table 4, which found negative screening to rank as the third most used investment style
- Investors in Europe are generally more optimistic about the financial impact of the various ESG strategies than are US investors
- Ethical motivations are associated with a higher likelihood of negative and positive screening and with a significantly lower probability of thematic investment or integration
- The survey contained a question about how important the ESG investment strategies will be for investors in the next five years
- Overall, investors ranked positive screening as the most important strategy in the future, although its rating is not statistically higher than the ratings for active ownership (the second ranked), negative screening (the third ranked), and full integration (the fourth)
- Thematic investment, relative screening, risk factor, and portfolio tilt are considered to be less important in the next five years